



# **MICROMEDEX® CLINICAL KNOWLEDGE SUITE**

## **MICROMEDEX SOLUTIONS**

### **USER GUIDE**

FEBRUARY 2016

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# PREFACE

## CONVENTIONS USED IN THIS MANUAL

Certain standards and conventions have been employed in this user guide to communicate in the most effective manner possible. These standards have been used whenever possible.

### Bold Text

Normally, bolded text is used:

- to emphasize an important concept  
- or -
- to denote a clickable item on the user interface (for example, the directions may state: "Click the **Button Name** button...")  
- or -
- to specify a menu item (for example, "...from the **File > Print** menu item...")
- to identify another Truven Health Analytics product by name

### Italicized Text

Generally, italics are used to denote:

- field names on the user interface (e.g., "Type 'digoxin' in the *Field\_Name* field")
- an "either-or" situation (denoted: - or -)

window, dialog box, or page name (e.g., "the *IV Compatibility Results* page") or a hypertext link (e.g., "the *Contact* link")

### Examples, Scenarios, Screen Captures

All examples shown or described in this guide are for training and illustration purposes only.

### Printing this Guide

This user guide has been designed in book layout, to print double-sided. If you print the guide single-sided, blank pages will print. These blank pages are intentional. You are not missing any information.

## Implementation Requirements

The data and software implementation described in this manual are furnished under license and may be used only in accordance with the terms of such license. See your license for all terms and conditions that apply.

## CONTACT TRUVEN HEALTH ANALYTICS

### Office Locations

#### Corporate Office

777 East Eisenhower Parkway  
Ann Arbor, MI 48108  
USA

#### Colorado Office

6200 South Syracuse Way, Suite 300  
Greenwood Village, CO 80111  
USA

#### North Carolina Office

4819 Emperor Boulevard  
Durham, NC 27703  
USA

## CUSTOMER RESOURCE CENTER

### Technical & Customer Support

At Truven Health Analytics, our staff of technical and service experts has one goal - to quickly take care of your needs so that you are back to optimal performance with our solutions.

Our Customer Resource Center is available to all of our customers free of charge, and can be your single point of contact for the following services:

- Clinical Content Requests
- Technical Support Requests
- Product Use Support
- Product Enhancement Requests



## 24/7 Phone Support

### United States & Canada:

Phone: **1-800-525-9083**

Select option 3 for the Support Services menu.

For urgent technical inquiries select 3,3

### Outside the United States & Canada:

Phone: +1 303 486-6444

## Email Support (Business Hours Only)

[www.micromedex.com/request](http://www.micromedex.com/request)

Email requests are answered during normal business hours.

Requests received outside of normal business hours are answered the next business day.

### Normal Business Hours

Monday through Thursday: 7:00 am through 5:00 pm (Mountain Time Zone).

Friday: 7:00 am through 2:00 pm (Mountain Time Zone).

Outside of normal business hours, technical support calls will be managed according to the guidelines shown below:

General Guidelines	Priority	Maximum Initial Response and Assessment
<b>After business hours:</b>  <b>Voice mail messages</b> will be returned in the order they are received. Priority is assigned at that time.  <b>Email</b> requests received outside of business hours will be assigned a priority level the following business day.	<b>Critical Priority</b> Multiple users cannot access or use major product functionality	Within 4 hours
	<b>High Priority</b> Missing or inaccurate data or functionality	Within 1 business day
	<b>Medium Priority</b> One user cannot access or use major product functionality	Within 2 business days
	<b>Low Priority</b> General questions or enhancement requests	Within 5 business days

For Knowledge Base Articles, FAQs, System Requirements, Technical Documentation, and other miscellaneous support information, please visit [www.micromedex.com/support](http://www.micromedex.com/support)

For information on our products or services, visit our Web site at: [www.micromedex.com](http://www.micromedex.com) or contact your local distributor.

## TOTAL SUPPORT SOLUTIONS

We stand behind our products and our customers and believe that the *total* customer-experience is what differentiates us from the competition. Our solutions are the fastest, most reliable, accurate evidence-based clinical decision support solutions on the market. Our Total Support Solution offers top-notch service, training, and support to ensure you are able to realize all the benefits our products offer.

Our **Total Support Solution** includes dedicated personnel and robust tools and training to help you get the most from your investment in Micromedex® Solutions.

As part of our **Total Support Solution** we will:

- Provide flexible training opportunities, such as webinars, on-site classes, unit-to-unit specialized training, eLearning, and more, to help you and all users at your site stay current on Micromedex Solutions.
- Solve questions and issues promptly with our 24/7 technical support
- Ask you for your input on how we can continue to improve our products and services
- Make it easy to do business with us - on all fronts

Ask your Client Relationship Manager or Sales Executive how we can help you with our **Total Support Solution!**



# CHAPTER 1: MICROMEDEX SOLUTIONS OVERVIEW

Designed specifically for point-of-care clinicians, the Micromedex® Solutions browser-based interface is intuitive and easy-to-use, providing quick access to evidence-based content at any point in the patient care process. Micromedex Solutions understands clinicians need common questions answered quickly and accurately to provide the best patient care possible. You can also access the same, evidence-based content directly from your mobile device(s).

With the latest release it is easier than ever to access the information you trust – when and where you need it with an updated and modernized user experience. Now you can enjoy streamlined access to essential functions and faster access to routine and frequently used features with fewer steps.

In designing the next generation of Micromedex Solutions, we listened to the needs of you, our customers. In this version we focused on key enhancements that we hope will improve your experiences with our application. The new Micromedex Solutions provides a single interface to access, search, and navigate to drug, disease, toxicology, and patient education information. This single interface ensures clinical consistency across our fortified evidence. You now have direct access to the most used drug information, such as: dosing, adverse effects, indications, and interactions. There is also direct access to other useful information such as: “drugs that treat” and “drugs that cause” when searching for a condition.

In addition, we have updated the look and feel and made it more intuitive. Fewer clicks and better searching make it easier to find the information you need...fast.

## **Micromedex Offers:**

- Fewer clicks to get the answer you need
- No lengthy documents to scan
- Seamless searching across drug, disease, toxicology, and other content areas (without re-entering your search term)
- Spelling help

Plus, Micromedex provides enhanced summary drug information:

- Indications and Dosing – includes efficacy, strength of evidence, and strength of recommendation ratings
- Regulatory Status and Generic Availability – displayed in the summary document
- Drug Toxicity – provides information on clinical effects, treatment, and range of toxicity
- Patient Education – offers point-of-care counseling information for clinicians to use when educating patients about their medications

## **Evidence You Can Trust**

In critical situations, Micromedex Solutions always delivers. Our unparalleled in-house editorial process references the most clinically relevant evidence available. It is aggregated, filtered, and synthesized to virtually eliminate any gaps in information. The result is information that is consistent in format, presentation, and context; and relevant, current, and uniform across the patient continuum.

For clinical decision support, it delivers consistent, high-quality information that sets the industry standard for everyday use as well as in the most difficult situations. You get both standard-level and expanded evidence — within context — so you can get to answers quickly. Components include robust drug information the entire staff routinely uses, such as dosing and interactions, as well as the evidence that the most experienced clinicians need in difficult or unusual situations, including off-label uses and specialty populations. The at-a-glance Micromedex Rating System helps clinicians readily identify the strength of key factors needed in making treatment decisions — strength of evidence, efficacy, and recommendation. The Micromedex Rating System is the result of thousands of man-hours reviewing medical literature to provide an easy-to-use guide that supports fast, informed decision-making.

## **Designed for Experts Like You**

Teams of on-staff experts bring real-world experience to our decision support resources. Doctors, nurses, pharmacists, and other industry professionals help create Micromedex Solutions to meet your specific needs.

### **Who can benefit from Micromedex?**

#### Point-of-care clinicians

- Quick on-the-floor access
- Intuitive workflow-based interface
- Trusted summary-level information

#### Pharmacists

- Facility-wide access to trusted drug information
- Improved searching and navigation

#### Medical Librarians

- One comprehensive resource for clinical decision support
- Consistent information throughout the entire hospital

## **Only Micromedex Solutions Is:**

- Evidence-based for more than 40 years
- Trusted in more than 5,000 hospitals and healthcare institutions in 83 countries
- Used for toxicology content in 100 percent of U.S. Poison Control Centers, and most centers around the world
- Integrated into nearly 2,000 provider EMR systems
- On the list of statutorily named compendia in the U.S. Medicaid program and is used to determine a “medically-accepted indication” of an off-label drug
- Used in most of the U.S. accredited Schools of Pharmacy and many more worldwide

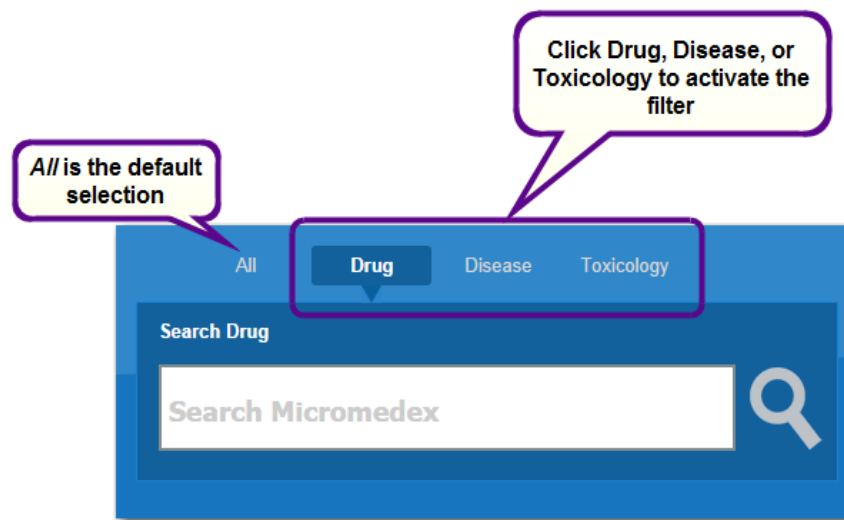
# CHAPTER 2: MICROMEDEX SOLUTIONS

## HOME PAGE

Usability experts and clinical focus groups were utilized to develop the intuitive, easy-to-use Micromedex® Solutions interface. Extra care was used to ensure that users don't have to re-enter the same search over and over. It's simple to jump from a disease state, to a drug, and then to the relevant patient education document, all from one search. The home page offers quick and direct access to the most important and relevant items.

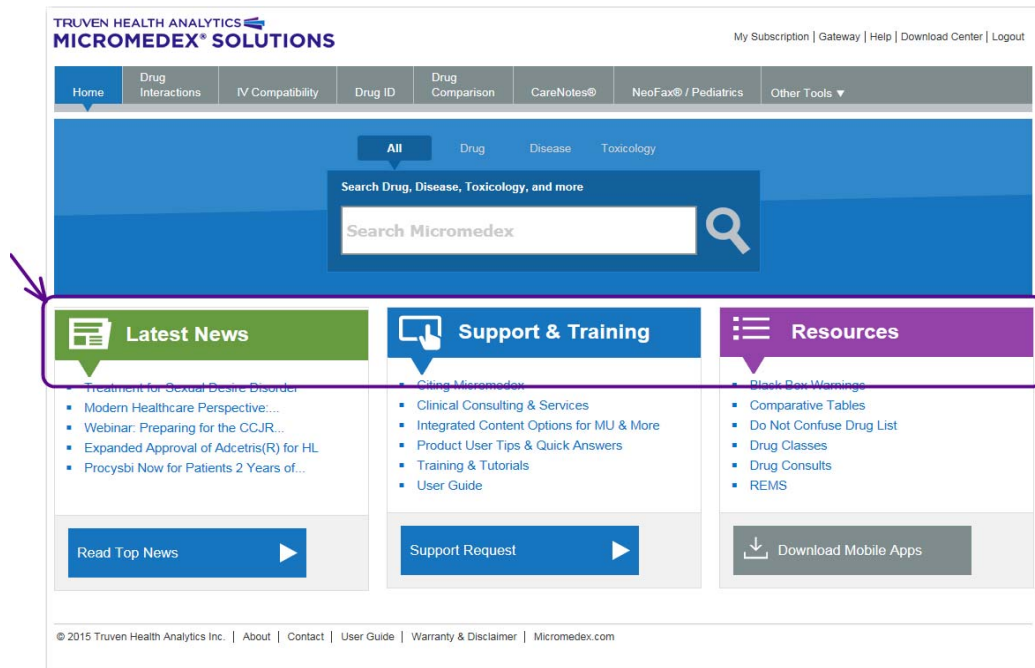
With the prominently displayed *Search Micromedex* search box that is available on every page in Micromedex Solutions you have direct access to the information you need. It also provides intelligent searching with in-line spelling suggestions.

By default you can quickly perform one search to get all the relevant results for the content to which you subscribe, or you can specify a filter option to search specifically within the drug, disease, or toxicology content, which will provide you with more targeted results.



**Note:** The filter is only applied when searching from the home page. For more details on searching in Micromedex Solutions see [Chapter 3: Searching Micromedex Solutions on page 13](#).

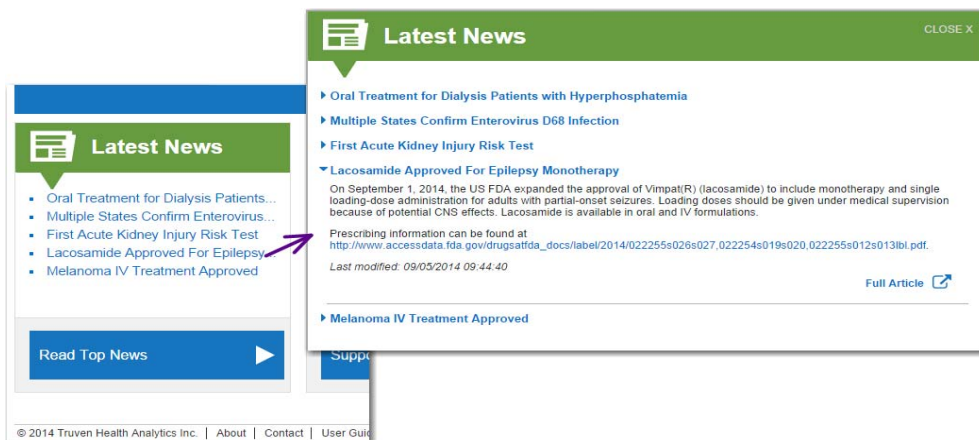
From beneath the *Search Micromedex* search box on the Home Page you can access: the **Latest News** from Micromedex Solutions and across the industry, **Support & Training** and other Micromedex Solutions information, and **Resources** (targeted searches) to take you directly to the most accessed drug content.



## Latest News

### Late-breaking clinical news, Micromedex events, and product announcements

Stay informed with late-breaking clinical news and information about Truven Health Analytics products and events. The *Latest News* column on the Micromedex Solutions home page is intended to provide you with front-of-mind information on important topics identified by our clinical staff, keep you informed on important additions to our product-line, communicate upcoming events, and provide tips to help you utilize our tools for better patient care. Select a topic from the Latest News column to see a summary, which contains a link to the full article.





### Support and Training

Help is only a click away. Access support and training for help with using Micromedex Solutions, additional services and consulting, and how to cite Micromedex Solutions content.

- **Citing Micromedex** - Learn how to properly cite Micromedex Solutions databases and the copyright protections that should be used.
- **Clinical Consulting & Services** - Micromedex Solutions Consulting Practice offers professional services in key areas to help hospitals advance their organizational goals from identifying cost efficiencies in medication management to designing compliance and population management programs that meet clinical imperatives while driving toward financial objectives.
- **Integrated Content Options for MU & More** - Micromedex Integrated Evidence options result in improved clinical outcomes and increased patient satisfaction — and help meet compliance goals. By providing the information caregivers need in a format they want, at the point of care, integrated solutions help satisfy Meaningful Use objectives and create efficiencies for the clinical staff.
- **Product User Tips & Quick Answers** - To help you get the most out of your Micromedex Solutions subscription, use these resources as a quick reminder of some of the helpful and relevant information available at your fingertips.
- **Training & Tutorials** - Learn about the powerful features and functions available in our products. Our Training center offers an extensive variety of training options, FREE OF CHARGE for you and your staff. Classes and courses are available in a variety of types and formats to offer a training solution that meets your individual need.

#### Hands On Tutorials -

eLearning courses give you the flexibility to learn at your pace and within your schedule with hands-on practice. These courses offer an interactive learning experience. Many courses also offer the option of audio narration.

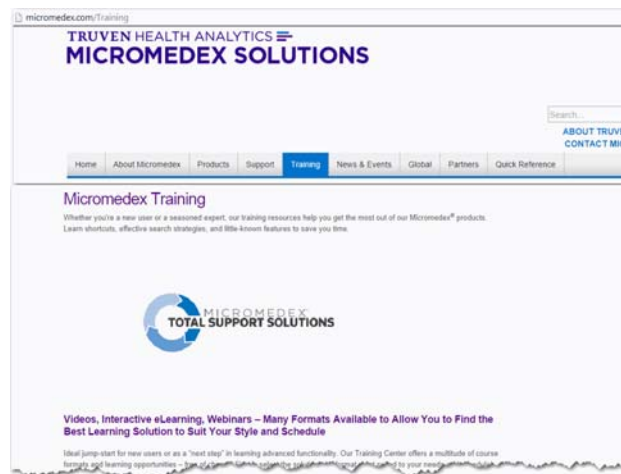
#### Video Demonstrations -

For the student who learns best with a brief on-demand video demonstration, this area offers overviews of major features, functions, and the tools to get the most out of your Micromedex Solutions subscription.

**Web Seminars (Live and Recorded)** - Offered monthly, our live training seminars give you the opportunity to speak directly to an expert as well as interact with other Micromedex Solutions customers during an online class. Recorded seminars can be attended at any time to fit your schedule.

**Train the Trainer Materials** - Training guides provide step-by-step script and instructions for instructors conducting training to staff.

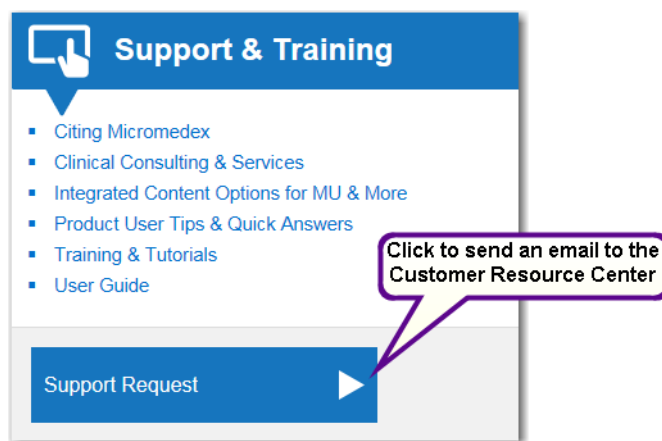
**On Site Training\*** - Our Education Services team members will develop a personalized presentation based on your audience and hold sessions at your



preferred location. If customized online training is what you are looking for, we would be happy to speak with you and create a program that will fulfill your training needs exactly. Complete the Training Support form to help us create the right training solution for you and your organization.

\* Travel/Consulting Fees may apply.

- **User Guide** - As with the **User Guide** link at the bottom of the page, this link opens the latest Micromedex Solutions User Guide in Adobe® Acrobat (.pdf) format.
- **Support Request** - Do you need technical help? Do you want to submit a topic or idea to the Truven Health Editorial staff? Click the **Support Request** link (or the **Contact** link at the bottom of the page) to send an email to the Customer Resource Center.



This link opens an online support request form. Use this form for:

- Non-urgent requests for Technical Support
- Submission ideas (e.g., topic or content suggestions)
- Password reset requests
- Training requests

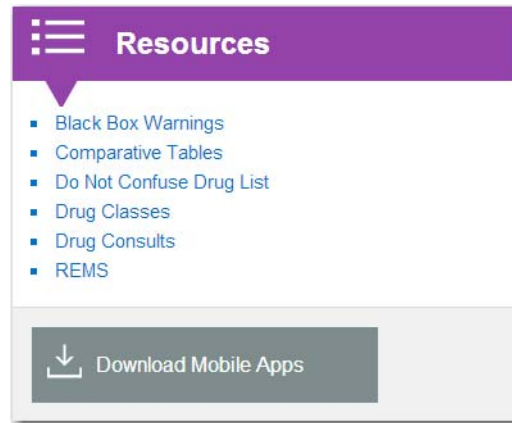
Online Support requests are handled during business hours. Most requests are responded to within one business day. Editorial content inquiries may take three to five business days depending on the complexity of the inquiry.

For urgent matters, please contact our Customer Resource Center. See [“Contact Truven Health Analytics” on page ii](#) for phone and other contact information.



## Resources (Targeted Searches)

This column provides direct links to clinical information that is valuable and commonly requested. You can go straight to the information without performing a search.



- **Black Box Warnings** - This link provides an alphabetical list of all the drugs in Micromedex Solutions that have a black box warning. Use the **Jump To:** menu to display the list of drug titles beginning with a specific letter, allowing you to open directly to the black box warning topic in the associated drug information. You can also perform a search in the main *Search Micromedex* search box to find this information. For more details see [“Black Box Warning List” on page 45](#).
- **Comparative Tables** - This link displays an alphabetical list of Drug Consults documents that contain a comparative table. Click on a title to open the Drug Consults document. You can also perform a search in the main *Search Micromedex* search box to find this information. For more details see [“Comparative Tables” on page 46](#).
- **Do Not Confuse Drug List** - This link displays an alphabetical list of frequently confused drug names, including look-alike and sound-alike name pairs. Drug name pairs that are often confused are listed on the same line, in alphabetical order. Tall man lettering is used to further aid in discerning between common look-alike drugs. To move to a title later in the alphabet, use the **Jump To:** menu. Click any link to open the associated drug landing page. You can also perform a search in the main *Search Micromedex* search box to find this information. For more details see [“Do Not Confuse Drug List” on page 47](#).
- **Drug Classes** - This link provides an alphabetical list of drug classes contained in Micromedex Solutions. Use the **Jump To:** links to quickly display the list of drug classes beginning with the selected letter. Click a drug class to display the drugs in the class. Click on a drug name to display the associated drug information. You can also perform a search in the main *Search Micromedex* search box to find this information. For more details see [“Drug Classes” on page 49](#).
- **Drug Consults** - This link provides an alphabetical list of all the Drug Consult articles available in Micromedex Solutions. Click on a title to open the associated Drug Consult document or use the **Jump To:** menu to display the list of drug consults whose titles begin with the selected letter. You can also perform a search in the main *Search Micromedex* search box to find this information. For more details see [“Drug Consults” on page 52](#).
- **REMS** - This link provides an alphabetical list of drugs with current Risk Evaluation and Mitigation Strategy (REMS) requirements. To display titles from a specific letter in

the alphabet use the **Jump To:** menu. Click on the drug name link to open the document positioned in the REMS section. You can also perform a search in the main *Search Micromedex* search box to find this information. For more details see [“REMS: List of Drugs With a Risk Evaluation and Mitigation Strategy” on page 53.](#)

- **Download Mobile Apps** - Click this link (or the **Download Center** link at the top of the page) for information on the Micromedex Solutions mobile offerings. Much more than quick drug look-ups, *mobileMicromedex®* powers your mobile device with a wealth of clinical knowledge from Micromedex Solutions, the industry's leading provider of evidence-based clinical information.

In the examination room, at the nurse's station, or in the pharmacy, with *mobileMicromedex* you take the trusted content you rely upon with you every step of the way.

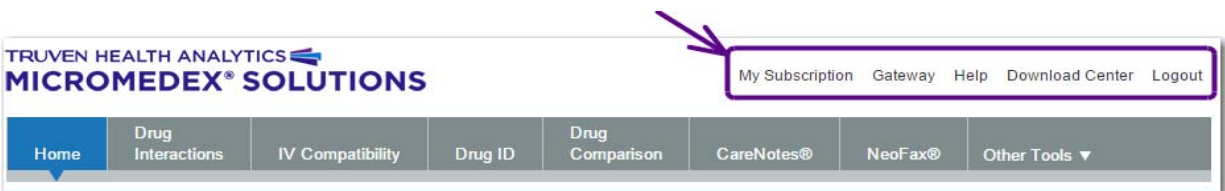
See [“Micromedex Solutions for Mobile Devices” on page 245](#) to learn more about these exciting offers from Micromedex:

- Web-based access to Micromedex Solutions
- Apps available for download from the iTunes® App Store, Google Play®, and the Windows Store®

## Other Page Elements

Many elements on the Micromedex Solutions interface appear throughout the application.

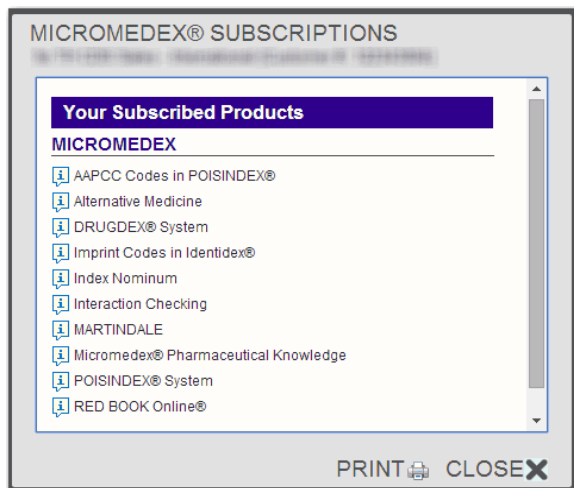
## Header Links





### My Subscription

View all of the Micromedex Solutions products to which you subscribe by clicking the **My Subscription** link. Your customer name and account number are shown near the top of the window.



Subscribed products (and external applications) are shown on the left side of the window. Products and applications to which you do not subscribe are shown on the right.

Hover your mouse over the “i” icon to view a general description of the product or application.

### Gateway

The **Gateway** link allows you quick access to other applications available to you from Truven Health Analytics. Click the **Gateway** link to go to the Micromedex Solutions Web Application Access page.

### Help

Help is always just a click away. Click the **Help** link to open the help application for Micromedex Solutions. Navigate to any topic by clicking on the books (chapters). Use the **Index** or **Search** tabs to search for help by a keyword.

### Download Center

Click this link (or the **Download Mobile Apps** link under *Resources* on the home page) for information on the Micromedex Solutions mobile offerings. Much more than quick drug look-ups, *mobileMicromedex* powers your mobile device with a wealth of clinical knowledge from Micromedex Solutions, the industry's leading provider of evidence-based clinical information.

In the examination room, at the nurse's station, or in the pharmacy, with *mobileMicromedex* you take the trusted content you rely upon with you every step of the way.

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- Apps available for download from the iTunes® App Store, Google Play®, and the Windows Store®

## Logout

It is good practice to log out of the Micromedex Solutions application when you are away from the workstation for an extended period of time. Use the **Logout** link to close your session.

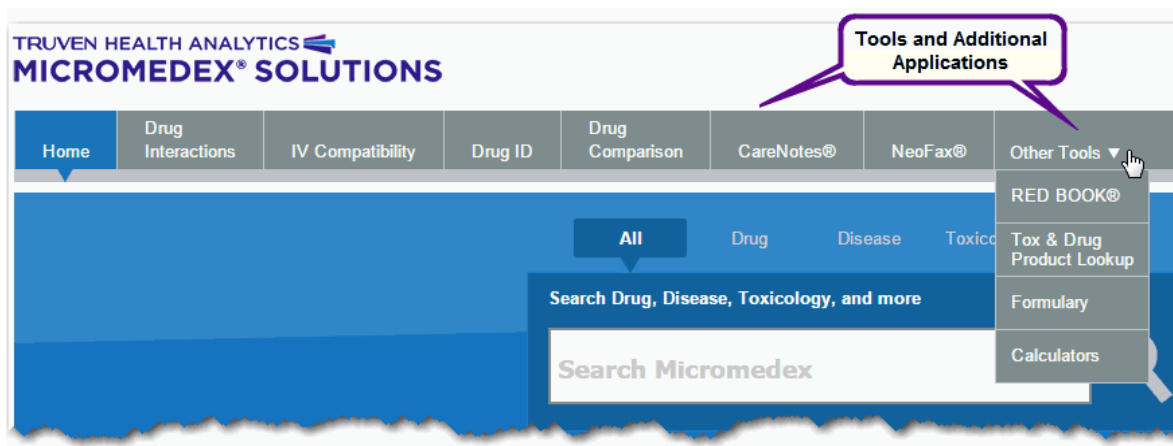
## Home Button

Click on the **Home** button from any page to return to the Micromedex Solutions home page.



## Tools and Additional Applications

To the right of the Home button on every page in Micromedex Solutions are links to tools and additional Micromedex applications. The most frequently used tools are shown on the toolbar. Depending on your subscription, the tool you want may be visible or it may in the Other Tools drop-down menu.



The possible tools are:

- **Drug Interactions** - allows you to check for interacting drug ingredients, their effects, and their clinical significance. Interaction information can be displayed for a single drug or between multiple drugs.
- **IV Compatibility** - provides easy access to proven Trissel's 2 data to assist with accurate IV compatibility decisions
- **Drug ID** - finds drugs based on their imprint code or physical description
- **Tox & Drug Product Lookup** - to find product, manufacturer contact, and related toxicologic management information on: drugs, commercial/household products and chemicals, plants and animals, and slang terms/street names for drugs or substances
- **Drug Comparison** - provides a side-by-side drug information comparison
- **Calculators** - includes: antidote and dosing calculators and nomograms, lab values, dosing tools, clinical calculators, and measurement calculators



All of these tools provide features and functions not found within the main search in Micromedex Solutions\*.

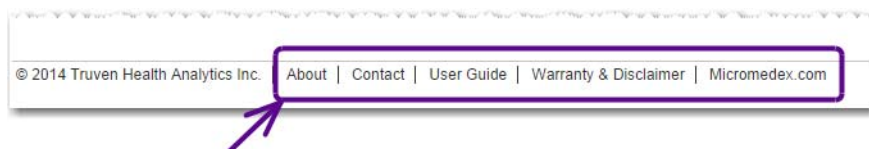
The additional applications that are available from within Micromedex Solutions are: Formulary, CareNotes®, RED BOOK®, and NeoFax®/Pediatrics. These links allow you to launch the application and continue your work.



**Note:** \* Single drug interactions and single IV compatibility information is also available from the Quick Answers tab on a drug landing page.

### Page Footer Links

At the bottom of every page in Micromedex Solutions are links to the following information:



#### About

Click this link to open a page with information about Truven Health Analytics and Micromedex Solutions.

#### Contact

Do you need technical help? Do you want to submit a topic or idea to the Truven Health Editorial staff? Click this link (or the **Support Request** link under *Support & Training* on the home page) to send an email the Customer Resource Center.

This link opens an online support request form. Use this form for:

- Non-urgent requests for Technical Support
- Submission ideas (e.g., topic or content suggestions)
- Password reset requests
- Training requests

Online Support requests are handled during business hours. Most requests are responded to within one business day. Editorial content inquiries may take three to five business days depending on the complexity of the inquiry.

For urgent matters, please contact our Customer Resource Center. See [“Contact Truven Health Analytics” on page ii](#) for phone and other contact information.

### **User Guide**

As with the **User Guide** link under *Support & Training* on the home page, this link opens the latest Micromedex Solutions User Guide in Adobe® Acrobat (.pdf) format.

### **Warranty & Disclaimer**

This link opens a page on warranty and disclaimer information for our products.

### **Micromedex.com**

On the Micromedex home page you can learn about Micromedex products, support, training, events, and more.

# CHAPTER 3: SEARCHING MICROMEDEX SOLUTIONS

This chapter describes search techniques that can be used in Micromedex® Solutions for all types of content. For more details on the content, see the following chapters:

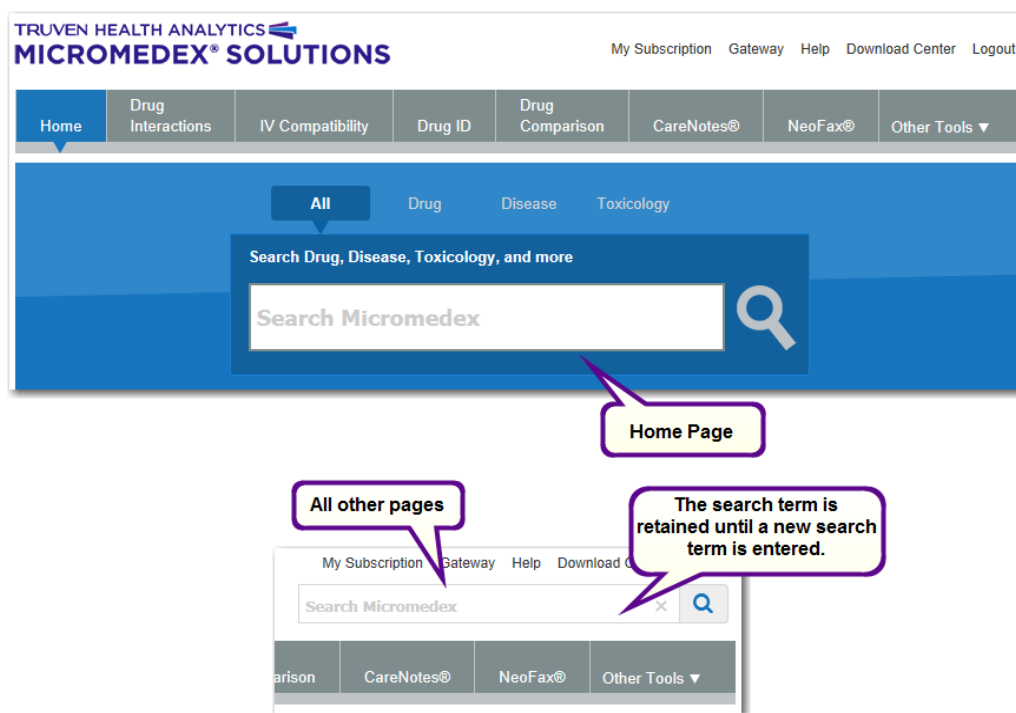
- [Chapter 4: Drug Information on page 61](#)
- [Chapter 5: Disease Information on page 97](#)
- [Chapter 6: Toxicology Information on page 113](#)
- [Chapter 7: Alternative Medicine Information on page 123](#)
- [Chapter 8: Lab Information on page 135](#)
- [Chapter 9: Reproductive Risk Information on page 145](#)

## SEARCHING BASICS

Micromedex Solutions makes finding answers as simple as a single query. The smart search functionality includes a single search box on every page so you can perform searches and have results displayed on a single page. By default you can quickly perform one search to get all the relevant results for the content to which you subscribe, or you can specify a filter option to search specifically within the drug, disease, or toxicology content, which will provide you with more targeted results.

The *Search Micromedex* search box is available on every page in Micromedex Solutions. On the *Home Page* it is prominently displayed below the toolbar. On all other pages it is located in the upper right of the page.

**Search Term Retention** - When you enter a search term it stays in the *Search Micromedex* search box until you enter another term or until you select a tool from the toolbar. This helps to give context to search results as you navigate through subsequent pages.



Whether you are looking for information about a drug, a condition, reproductive risk, toxicity or overdose, alternative medicine or therapy, you can use the *Search Micromedex* search box to quickly find the information you need.

Typically, the more information you can provide, the faster we can move you directly to the answer to your question. Not all searches have a direct link to a topic in our data, but all searches return results that are ranked by relevancy to your search terms.

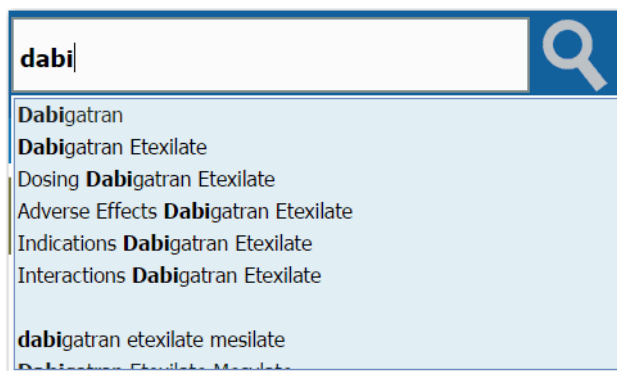


**Note:** Searches are NOT case-sensitive.




## CHAPTER 3: SEARCHING MICROMEDEX SOLUTIONS

When you type in the *Search Micromedex* search box the drop-down list opens as soon as you enter three or more characters and makes suggestions based on what you type. For example, if you begin typing "dabigatran," the drop-down list suggests a drug name in addition to dosing, adverse effects, indications, and interactions for the drug.



Once you find a match in the drop-down list, do any one of the following:

- **Start the search with the mouse**  
Click on an item in the drop-down list, and the search starts immediately.
- **Start the search with the keyboard**  
Use the **arrow up/down** keys to select an item and then press the **Enter** key (or click the search button ) to start the search.
- **Keep typing**  
The list narrows with each match to the characters you type.

## SEARCH TECHNIQUES

The *Search Micromedex* search box that is available on every page in Micromedex Solutions has intuitive search capabilities to provide you with quick, direct access to the most relevant, useful drug information, specifically things such as dosing, adverse effects, indications, and interactions. The single interface allows you to search and navigate to essential drug, disease, toxicology, and patient education information. A single interface ensures clinical consistency across our fortified evidence.

The following search techniques are explained in this section:

- **Landing Pages** - Go directly to a landing page where you can see all the relevant and related information at a glance. See [“Landing Pages” on page 17](#).
- **Direct Access Searching** - These searching suggestions are intended to provide you with shortcuts to important and frequently used drug information. See [“Direct Access Searching” on page 30](#).
- **Brand Name Drugs** - Search on a brand name drug to see a list of the corresponding generic drugs being displayed on a *Brand Name Results* page. See [“Brand Name Drugs” on page 39](#).
- **Intelligent Searching** - The Micromedex Solutions intelligent searching provides in-line spelling suggestions in real time while you are conducting your search. See [“Intelligent Searching” on page 41](#).
- **Filtered Searching** - Specify a filter option to search specifically within the drug, disease, or toxicology content to receive more targeted results. See [“Filtered Searching” on page 42](#).
- **Targeted Searches** - Several tightly-focused, targeted searches are available for clinicians to quickly gain access to highly sought-after information such as black box warnings and comparative tables. See [“Targeted Searches” on page 44](#).
- **Salt/Base Forms, Combinations, Kits** - When searching on a base of a salt/base form, Micromedex Solutions returns a landing page with links to allow you to choose the specific substance. When searching on a combination drug or a kit you are taken directly to the content landing page, which includes links to other substance choices. See [“Salt/Base Forms, Combinations, Kits” on page 55](#).
- **Intermediate Search Results** - All results are displayed if the search does not employ one of the other techniques. See [“Intermediate Search Results” on page 57](#).
- **International Drug Searching** - Subscribers to international drug databases can search using local brand names. [“International Drug Searching” on page 59](#).



## Landing Pages

**Metformin Hydrochloride** [Your search: Metformin HCl]

Drug Classes: [Antidiabetic](#) | [Biguanide](#) | [All](#)

Routes: [Oral](#)

**Quick Answers** | **In-Depth Answers** | **All Results**

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions

**Dosing/Administration** [Print](#)

See 'In-Depth Answers' for detailed results.

**Polycystic ovary syndrome**

- 1500 to 2000 mg/day ORALLY in divided doses (guideline dose) [4]

**Type 2 diabetes mellitus**

- (immediate-release tablets, oral solution) initial, 500 mg ORALLY twice daily or 850 mg ORALLY once daily [5] [6]
- (immediate-release tablets, oral solution) maintenance, titrate in 500 mg increments weekly, or 850 mg increments every 2 weeks; divided dose range, 1000 to 2550 mg ORALLY daily in 2 to 3 divided doses; MAX 2550 mg/day [5] [6]

**Related Results**

- [Alternative Medicine](#)
- [Disease](#)
- [Toxicology](#)
- [Consumer Drug Information](#)
- [Drug Consults](#)
- [eMC SmPC \(UK\)](#)
- [Index Nominum](#)
- [IT- Dialogo Sui Farmaci](#)
- [Martindale](#)
- [PDR®](#)
- [Product Lookup - Martindale](#)
- [Product Lookup - RED Book Online](#)
- [Product Lookup - Town Drug](#)

The purpose of a landing page is to show all relevant and related information at a glance, so you can quickly navigate to your specific area of interest. It intuitively displays tabs for summary information and detailed information. Micromedex Solutions takes you directly to the landing page when the application deems it highly likely that this is your area of interest. There are landing pages for Drug, Disease, Toxicology, and Alternative Medicine information.

Whether you arrived on the landing page directly from your search or you clicked on a link on the *Intermediate Search Results* page (see [“Intermediate Search Results” on page 57](#)), the landing page gathers all the related results for the search together into one compact view.

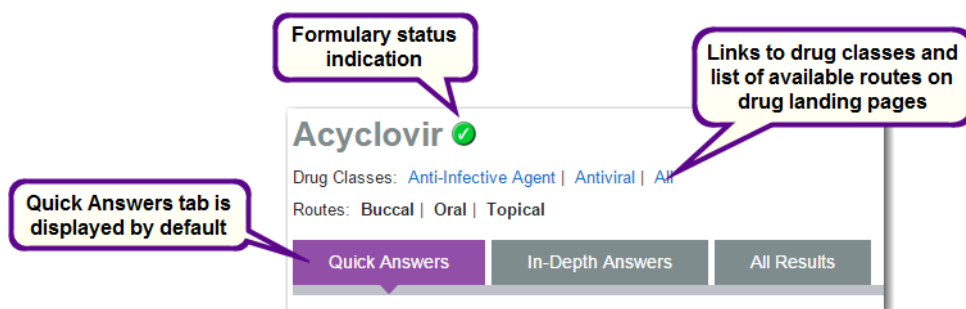
The amount and layout of the information shown on a landing page will vary by your subscription and content availability. Landing pages consist of three tabs:

- Quick Answers (see [page 18](#))
- In-Depth Answers (see [page 20](#))
- All Results (see [page 24](#))

Landing pages for drugs also include the following information:

- Available routes
- Links to drug classes associated with the drug. Click a link to see all the drugs in the class.
- Formulary status designated by an icon (Formulary Status customers only)

The Micromedex® Formulary Status product provides immediate access to formulary information throughout your facility. It guides prescribing clinicians toward formulary drugs, saving your pharmacists, nurses, and physicians time – and your facility money. Formulary Status is integrated with Micromedex® Solutions, so that a drug's designated formulary status displays on the drug landing page in the form of an icon. Examples of formulary status, which are maintained by your facility's formulary administrators and are customizable, include: Formulary, Non-Formulary, Preferred, Restricted. To find out more about the Formulary Status product contact your Client Service Manager or Truven Health Customer Support (see [“Contact Truven Health Analytics” on page ii](#)).



### Quick Answers Tab

The *Quick Answers* tab is the default display for the landing page. It consists of three panels, which are all displayed by default. The middle panel contains the text of the summary monograph. Depending on the search term this may be a monograph for Summary Drug Information, Summary Disease Information, Summary Toxicology Information, or Summary Alt Med Info. Click the **In-Depth Answers** link, if available, to view the same section in the detailed monograph on the *In-Depth Answers* tab.


The left panel contains links for navigating the sections of the summary monograph.





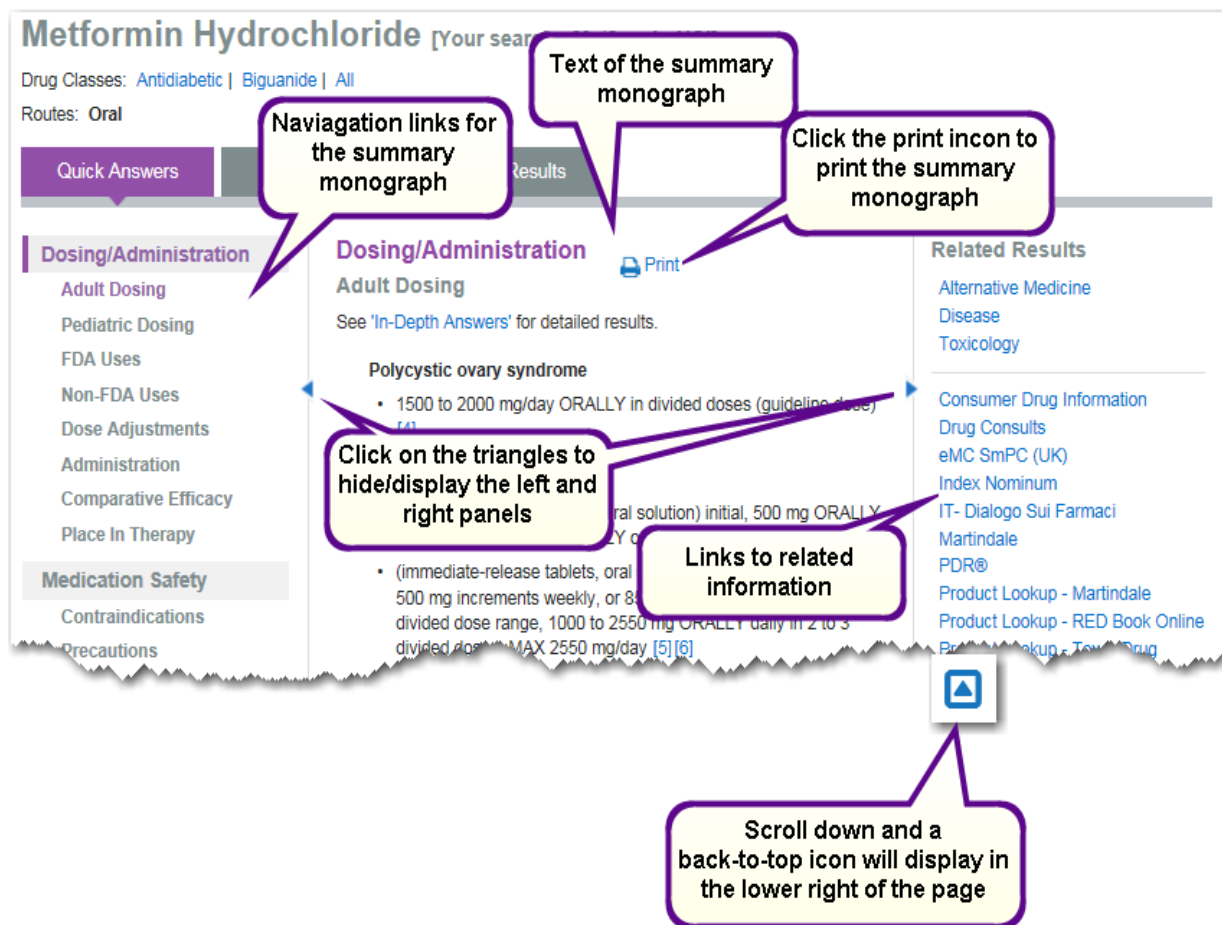
## CHAPTER 3: SEARCHING MICROMEDEX SOLUTIONS

The right panel contains links to:

- Related information in other subscribed databases, such as: Alternative Medicine, Disease, Drug, Toxicology, Patient Handouts, PDR, Index Nominum, Drug Consults, Martindale, Consumer Drug Info, P&T QUIK, Studies & Alerts, IT-Dialogo sui Farmaci, eMC SmPC (UK)
- Product lookup tools - Clicking the **Tox & Drug**, **Martindale** or **RED BOOK Online** links result in searches in the associated tool or application using the drug used in the initial search. See [Chapter 14: Tox & Drug Product Lookup Tool](#) or [Chapter 4: Drug Information on page 61](#) or [Chapter 16: RED BOOK Online on page 209](#) for additional information.

Click the **Print** icon (  ) to print the summary monograph. For more details on printing see ["Printing" on page 60](#).

You can hide/display the left and right panels to maximize the viewing area by clicking the **blue triangles** (   ). If you hide or display a panel while viewing the *Quick Answers* tab, the action will also apply to the *In-Depth Answers* tab.



**Metformin Hydrochloride** [Your search results]

Drug Classes: [Antidiabetic](#) | [Biguanide](#) | [All](#)

Routes: [Oral](#)

**Quick Answers** | **Results**

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions

**Dosing/Administration**

Adult Dosing

See "In-Depth Answers" for detailed results.

**Polycystic ovary syndrome**

- 1500 to 2000 mg/day ORALLY in divided doses (guideline dose) [4]
- (immediate-release tablets, oral solution) initial, 500 mg ORALLY
- 500 mg increments weekly, or 8
- divided dose range, 1000 to 2550 mg ORALLY daily in 2 to 3
- divided doses MAX 2550 mg/day [5] [6]

**Text of the summary monograph**

**Click the print icon to print the summary monograph**

**Navigation links for the summary monograph**

**Click on the triangles to hide/display the left and right panels**

**Links to related information**

**Related Results**

- [Alternative Medicine](#)
- [Disease](#)
- [Toxicology](#)
- [Consumer Drug Information](#)
- [Drug Consults](#)
- [eMC SmPC \(UK\)](#)
- [Index Nominum](#)
- [IT-Dialogo Sui Farmaci](#)
- [Martindale](#)
- [PDR®](#)
- [Product Lookup - Martindale](#)
- [Product Lookup - RED Book Online](#)
- [Product Lookup - Tox & Drug](#)

**Scroll down and a back-to-top icon will display in the lower right of the page**

For more details on the links under Related Results in the right panel see the following chapters:

- [Chapter 4: Drug Information on page 61](#)
- [Chapter 5: Disease Information on page 97](#)
- [Chapter 6: Toxicology Information on page 113](#)
- [Chapter 7: Alternative Medicine Information on page 123](#)

## In-Depth Answers Tab


Click the **In-Depth Answers** tab to view the detailed monograph. Depending on the search term this may be a monograph for Detailed Drug Information, Disease Emergency or General Medicine, Detailed Toxicology Information, or In-Depth Alt Med Info. As with the *Quick Answers* tab the *In-Depth Answers* tab consists of three panels, which are all displayed by default. The middle panel contains the text of the detailed monograph. Click the **Quick Answers** link, if available, to view the same section in the summary monograph on the *Quick Answers* tab.

The left panel contains links for navigating the sections of the detailed monograph.

The right panel contains links to:

- Related information in other subscribed databases, such as: Alternative Medicine, Disease, Drug, Toxicology, Patient Handouts, PDR, Index Nominum, Drug Consults, Martindale, Consumer Drug Info, P&T QUIK, Studies & Alerts, IT-Dialogo sui Farmaci, eMC SmPC (UK)
- Product lookup tools - Clicking the **Tox & Drug**, **Martindale** or **RED BOOK Online** links result in searches in the associated tool or application using the drug used in the initial search. See [Chapter 14: Tox & Drug Product Lookup Tool](#) or [Chapter 4: Drug Information on page 61](#) or [Chapter 16: RED BOOK Online on page 209](#) for additional information.

Click **View Full Document** to view the entire detailed monograph. Click **View Document Sections** to return to the panel view.

Click the **Print** icon (  **Print** ) to print the detailed monograph. For more details on printing see [“Printing” on page 60](#). This is available when viewing the document sections or the full document.



## CHAPTER 3: SEARCHING MICROMEDEX SOLUTIONS

You can hide/display the left and right panels to maximize the viewing area by clicking the **blue triangles** ( ◀ ▶ ). If you hide or display a panel while viewing the *In-Depth Answers* tab, the action will also apply to the *Quick Answers* tab.

The screenshot shows the Micromedex interface for a search on "Metformin Hydrochloride". The search bar at the top shows "Your search: Metformin" with a green checkmark. Below the search bar, there are tabs for "Quick Answers" and "In-Depth Answers", with "In-Depth Answers" being the active tab. The left sidebar contains a list of navigation links for the detailed monograph, including "Dosing/Administration", "Medication Safety", and "Related Results". The main content area displays the "Dosing/Administration" section, which includes "Adult Dosing" and "Normal Dosage". A callout points to the "Dosing/Administration" link in the sidebar, stating "Navigation links for the detailed monograph". Another callout points to the "Adult Dosing" section, stating "Text of the detailed monograph". A third callout points to the "View Full Document" link, stating "Click to view the entire detailed document". A fourth callout points to the "Print" icon, stating "Click the print icon to print the detailed monograph". A fifth callout points to the blue triangles in the sidebar, stating "Click on the triangles to hide/display the left and right panels". A sixth callout points to the "back-to-top" icon in the lower right of the page, stating "Scroll down and a back-to-top icon will display in the lower right of the page". The right sidebar contains a list of "Related Results" including "Alternative Medicine", "Disease", "Toxicology", "Consumer Drug Information", "Drug Consults", "eMC SmPC (UK)", "Index Nominum", "IT- Dialogo Sui Farmaci", "Martindale", "PDR®", "Product Lookup - Martindale", "Product Lookup - RED Book Online", and "Product Lookup - Tox & Drug".

For more details on the links under Related Results in the right panel see the following chapters:

- [Chapter 4: Drug Information on page 61](#)
- [Chapter 5: Disease Information on page 97](#)
- [Chapter 6: Toxicology Information on page 113](#)
- [Chapter 7: Alternative Medicine Information on page 123](#)

## Searching Within a Document

When viewing the full detailed monograph you can search within the document. Simply enter a word or phrase in the search box located below the landing page tabs and click the **search button** or press the **Enter** key. The first occurrence of your search term is highlighted in orange, and subsequent occurrences are highlighted in yellow. Use the **up/down** buttons or the **arrow up/down** keys to move from one highlighted occurrence to another.

The screenshot shows the Micromedex interface for **Metformin Hydrochloride**. The search bar contains the text "intervention" and the search button (magnifying glass) is visible. The results show the word "intervention" highlighted in orange in the first occurrence and yellow in subsequent ones. Annotations with arrows point to the search bar and the highlighted text.

**Annotations:**

- Enter a search term and click the search button or press the Enter key** (points to the search bar)
- Use the up/down buttons or arrow up/down keys to navigate to the highlighted occurrences of the search term** (points to the highlighted text)

**Document Content:**

2 of 67 results for intervention

...follow-up period. Compared with placebo, the intensive lifestyle **intervention** reduced the incidence of diabetes by 58%...  
 ...min group reduced the incidence of diabetes by 31%. The incidence of diabetes was 11, 7.8, and 4.8 cases per 100...  
 ...the placebo, metformin, and lifestyle groups, respectively. The intensive lifestyle **intervention** was more effective than...  
 ...metformin at reducing the development of diabetes. The estimated number of people who would need to be treated to...  
 ...prevent one case of diabetes during a period of 3 years would be 6.9 for the intensive lifestyle-**intervention** program, and 13.9 for...  
 ...metformin. Fifty percent of participants in the lifestyle modification group achieved the weight-loss target at their latest visit; 74% and...  
 ...58% of participants met the goal of at least 150 minutes of physical activity per week at the 24-week and latest visit, respectively.  
 ...Gastrointestinal side effects were highest in the metformin treatment group, and musculoskeletal symptoms were highest in the...  
 ...intensive lifestyle modification group. No deaths were attributed to the study **intervention** [55].

2) 10-Year Follow-Up

a) Due to the benefits demonstrated with intensive lifestyle **intervention** (ILS) of the Diabetes Prevention Program, at the 2.8 year...  
 ...follow-up, treatment was unblinded, and all 3 groups were offered a group-administered version of the lifestyle **intervention** and then...  
 ...followed long-term in the Diabetes Prevention Program Outcomes Study (DPPPOS). Compared with placebo, the ILS **intervention**...  
 ...reduced the incidence of diabetes by 34% (95% CI, 24% to 42%), and the metformin group reduced the incidence of diabetes by 18%...  
 ... (95% CI, 7% to 28%) at the 10-year follow-up. The incidence of diabetes during the DPPPOS was 5.6 (95% CI, 4.8 to 6.5), 4.9 (95% CI...



## Navigating the Full Document

When viewing the full detailed monograph you have the following options for moving within the document:

- Arrow Up/Down keys
- Page Up/Page Down keys
- Browser scroll bar
- Drop-down box under the landing page tabs - Select a document section from this list to go directly to that section.
- Click the back-to-top icon to return to the top of the document.

The screenshot displays the Micromedex interface for Metformin Hydrochloride. The left sidebar shows the document structure with sections like Adverse Effects, Drug Interactions, and Patient Education. The main content area shows the Patient Education section, specifically the Medication Counseling subsection. Three callouts provide navigation instructions: 1) A callout pointing to the 'Patient Education' dropdown menu in the left sidebar, stating 'Select a document section from the drop-down list'. 2) A callout pointing to the browser scroll bar on the right side of the document, stating 'Use the browser scroll bar or the up/down arrow keys or the Page Up/Page Down keys'. 3) A callout pointing to a small upward-pointing arrow icon at the bottom right of the document, stating 'Click the back-to-top icon to return to the top of the document'.

**Metformin Hydrochloride**

Drug Classes: [Antidiabetic](#) | [Biguanide](#) | [Oral](#)

Routes: Oral

Quick Answers | In-Depth Answers

Search within Document

0 of 0 results

**Thyroid**

- 1) Interaction Effect: decreased
- 2) Summary: Concomitant use of a thyroid hormone agent, including insulin, may result in reduced efficacy of the antidiabetic agent. If concurrent use of a thyroid hormone agent is required, an increase in the antidiabetic agent dose may be required. Carefully monitor diabetic control, especially when a thyroid hormone agent is initiated, changed or discontinued [149][227][228][229].
- 3) Severity: moderate
- 4) Onset: unspecified
- 5) Substantiation: theoretical
- 6) Clinical Management: Concomitant use of a thyroid hormone agent, such as levothyroxine or liothyronine, and an antidiabetic agent, such as glyburide, nateglinide, or insulin, may result in reduced efficacy of the antidiabetic agent. As a result, an increase in the antidiabetic agent dose may be required. Carefully monitor diabetic control, especially when a thyroid hormone agent is initiated, changed or discontinued [149][227][228][229].
- 7) Probable Mechanism: unknown

**Timolol**

- 1) Interaction Effect: hypoglycemia, hyperglycemia, or hypertension
- 2) Summary: Beta blocking agents appear to present minimal risk of altering glucose control in nondiabetic patients, although severe hypoglycemia has been reported in a nondiabetic patient receiving pindolol [127]. Blockade of beta-2 receptors by non-cardioselective beta blockers during episodes of hypoglycemia inhibits the mobilization of glucose from hepatic stores (glycogenolysis), blocks peripheral manifestations of hypoglycemia (with the exception of sweating), and leads to hypertension due to intense unopposed alpha adrenergic stimulation. Beta-2 receptors are also involved in insulin secretion and thus these drugs may decrease glucose tolerance in type II diabetes. They may also reduce peripheral circulation due to blockade of vasodilating beta-2 receptors [128][129][130]. However, there is evidence that cardioselective (beta-1 selective) beta blockers (atenolol, metoprolol, betaxolol) cause such problems much less frequently [131][132].
- 3) Severity: moderate
- 4) Onset: delayed


## All Results Tab

Click the **All Results** tab to view all results associated with your search term. The *All Results* tab consists of two panels, which are both displayed by default. The left panel contains links to:

- Related information in other subscribed databases, such as: Alternative Medicine, Disease, Drug, Toxicology, Patient Handouts, PDR, Index Nominum, Drug Consults, Martindale, Consumer Drug Info, P&T QUIK, Studies & Alerts, IT-Dialogo sui Farmaci, eMC SmPC (UK)
- Product lookup tools - Clicking the **Tox & Drug**, **Martindale** or **RED BOOK Online** links result in searches in the associated tool or application using the drug used in the initial search. See [Chapter 14: Tox & Drug Product Lookup Tool](#) or [Chapter 4: Drug Information on page 61](#) or [Chapter 16: RED BOOK Online on page 209](#) for additional information.
- Filters for limiting the results by: Drug, Disease, Toxicology, Alternative Medicine, Lab, Reproductive Risk

The right panel displays all matches found for the search term and is organized exactly like the Intermediate Search Results page. (See [“Intermediate Search Results” on page 57](#) for more details.) Matches are ranked by relevance, and each result is organized as follows:

- Title, which links to the associated landing page or document
- Route (if applicable)
- The type of information (drug, disease, lab, etc.), the type of document (detailed, summary, etc.),

You can hide/display the left panel to maximize the viewing area by clicking the **blue triangle** (  ).



**Aspirin** ✓

Drug Classes: [Analgesic](#) | [Antipyretic](#) | [All](#)

Routes: [Oral](#) | [Rectal](#)

**Links to related information**

**Related Results**

[Alternative Medicine](#)  
[Disease](#)  
[Toxicology](#)

[Drug Consults](#)  
[eMC SmPC \(UK\)](#)  
[Index Nominum](#)  
[IT- Dialogo Sui Farmaci](#)  
[Martindale](#)  
[PDR®](#)  
[Product Lookup - Martindale](#)  
[Product Lookup - RED Book Online](#)  
[Product Lookup - Tox & Drug](#)

**Filter by**

**All (1877)**  
[Drug \(1382\)](#)  
[Disease \(238\)](#)  
[Toxicology \(6\)](#)

**All matches for the search term**

1-15 of 1877 Results for "Aspirin"

**ASPIRIN**  
Drug: Detailed evidence-based information

**Aspirin**  
Oral, Rectal  
Drug: Summary topic

**Click on the triangle to hide/display the left panel**

**Filter the results**

[ACIDO ANGENERICO 20 cpr 500 mg](#)  
Informazioni del Prodotto (*Dialogo sui Farmaci*)

[ACIDO ACETILSALICILICO DOC 30 cpr 100 mg](#)  
Farmaco: Sintesi delle Informazioni del Prodotto (*Dialogo sui Farmaci*)

[ACIDO ACETILSALICILICO LABORATORIO FARMACOLOGICO MILANESE 20 cpr 500 mg](#)  
Farmaco: Sintesi delle Informazioni del Prodotto (*Dialogo sui Farmaci*)

[ACIDO ACETILS EG 30 cpr 100 mg](#)  
Farmaco: Sintesi delle Informazioni del Prodotto (*Dialogo sui Farmaci*)

[ACIDO ACETILS SANDOZ 30 cpr 100 mg](#)  
Farmaco: Sintesi delle Informazioni del Prodotto (*Dialogo sui Farmaci*)

[ASPEGIC os 20 buste 500 mg](#)  
Farmaco: Sintesi delle Informazioni del Prodotto (*Dialogo sui Farmaci*)



### Multiple Landing Pages


When multiple landing pages exist for a search term (drug, disease, toxicology, alternative medicine), the landing page that is displayed by default is determined by a landing page hierarchy. For details see [Appendix E: Landing Page Hierarchy on page 309](#).

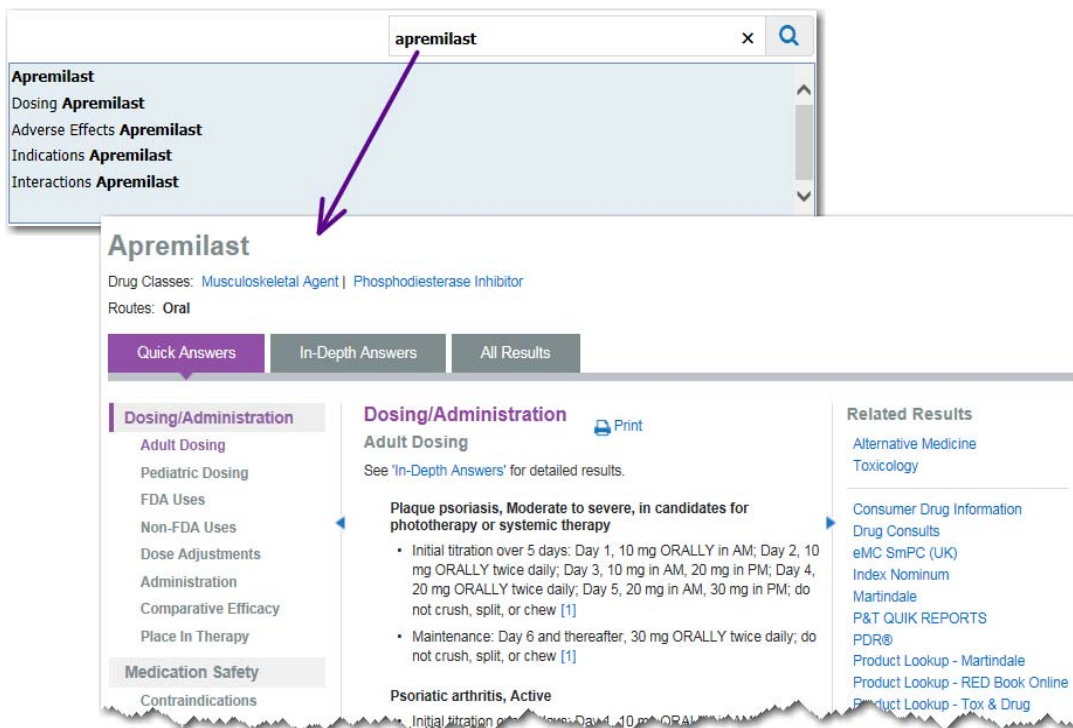
### Landing Page Examples

The following landing page search examples are provided:

- [“Example 1 - Landing Page for a Drug” on page 26](#)
- [“Example 2 - Landing Page for a Disease” on page 27](#)
- [“Example 3 - Landing Page for Toxicology” on page 28](#)
- [“Example 4 - Landing Page for Alternative Medicine” on page 29](#)

### Example 1 - Landing Page for a Drug

1. Start by typing the drug name "apremilast." The drop-down list makes suggestions.
2. Click "Apremilast" in the drop-down list.  
-OR-  
Use the **arrow up/down** keys to select "Apremilast." Then click the **Search** button (  ) or press the **Enter** key.
3. The Apremilast drug landing page displays.




The screenshot displays the Micromedex search interface. At the top, a search bar contains the text "apremilast". Below the search bar, a dropdown menu lists several categories: Apremilast, Dosing Apremilast, Adverse Effects Apremilast, Indications Apremilast, and Interactions Apremilast. A purple arrow points from the search bar to the "Apremilast" option in the dropdown. Below the dropdown, the main content area shows the "Apremilast" drug landing page. The page includes drug classes (Musculoskeletal Agent, Phosphodiesterase Inhibitor), routes (Oral), and tabs for Quick Answers, In-Depth Answers, and All Results. The "Quick Answers" tab is selected, showing dosing and administration information for plaque psoriasis and psoriatic arthritis. A sidebar on the left lists various topics under "Dosing/Administration" and "Medication Safety". A sidebar on the right lists "Related Results" including Alternative Medicine, Toxicology, and Consumer Drug Information.



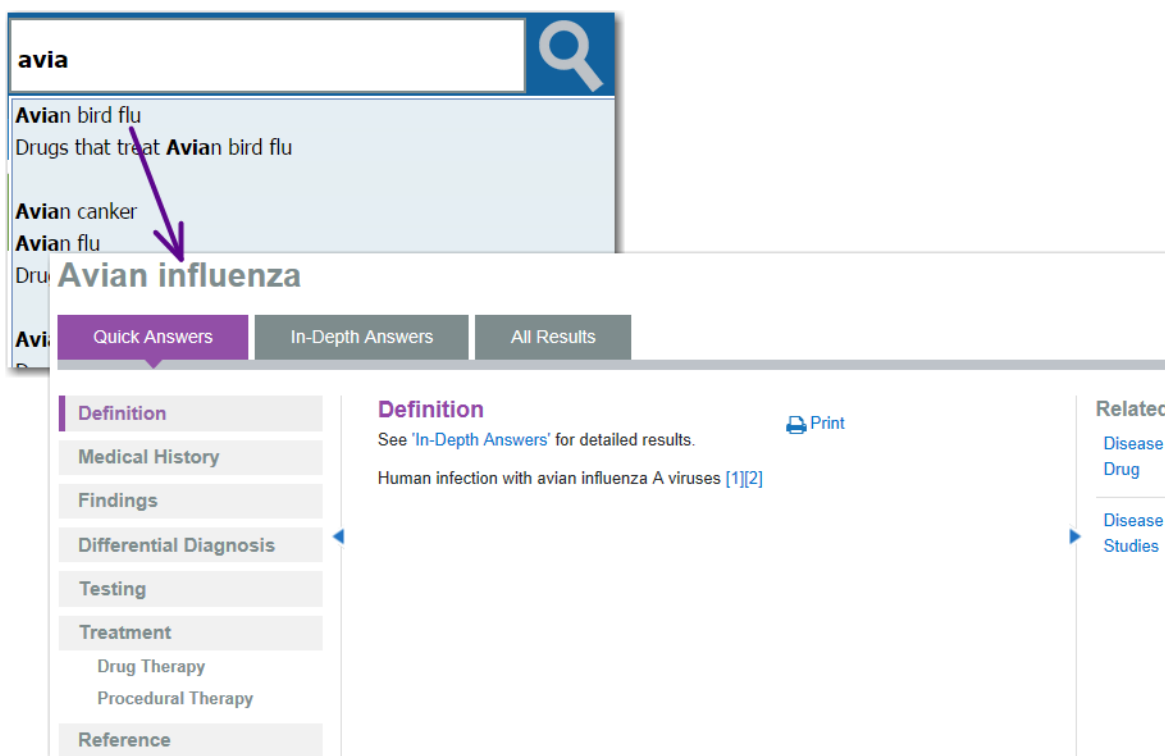
### Example 2 - Landing Page for a Disease


1. Start by typing the disease “avian bird flu.” The drop-down list makes suggestions.
2. Click “Avian bird flu” in the drop-down list.

-OR-

Use the **arrow up/down** keys to select "Avian bird flu." Then click the **Search** button (  ) or press the **Enter** key.

3. The Avian influenza disease landing page displays.



**avia** 

Avian bird flu  
Drugs that treat Avian bird flu


Avian canker  
Avian flu  
Drugs that treat Avian flu

**Avian influenza**

Avian influenza

Quick Answers In-Depth Answers All Results

**Definition**

See 'In-Depth Answers' for detailed results.  Print

Human infection with avian influenza A viruses [1][2]

**Related**

Disease  
Drug  
Studies


Definition  
Medical History  
Findings  
Differential Diagnosis  
Testing  
Treatment  
Drug Therapy  
Procedural Therapy  
Reference

### Example 3 - Landing Page for Toxicology

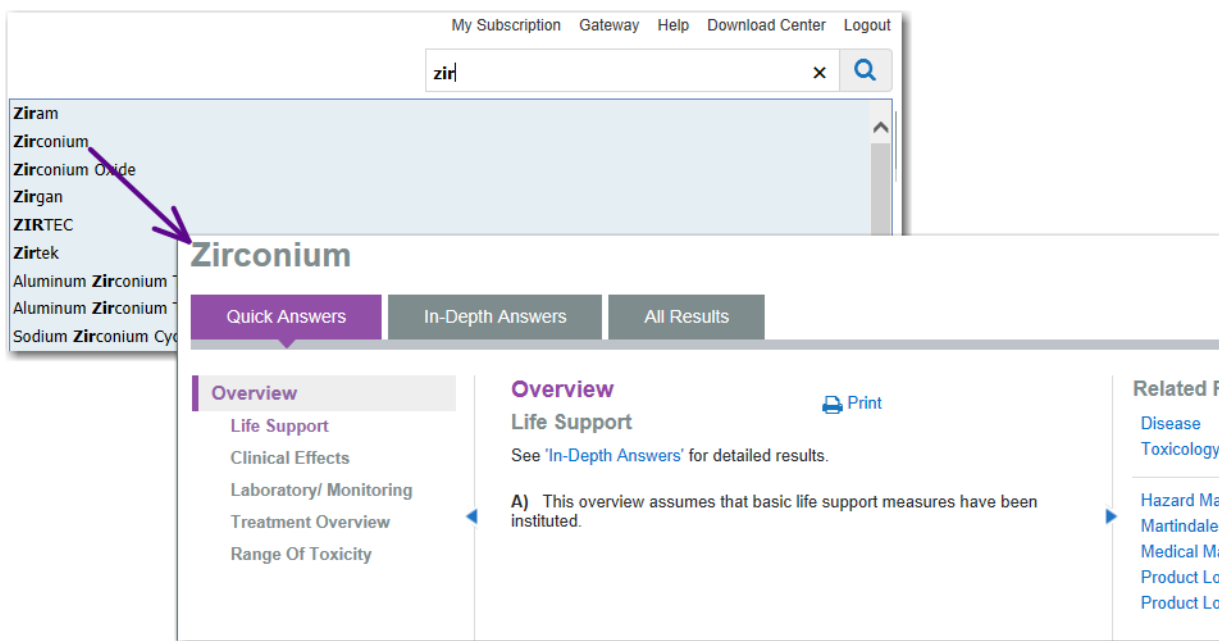
1. Start by typing “zir.” The drop-down list makes suggestions.
2. Click “Zirconium” in the drop-down list.

**-OR-**

Use the **arrow up/down** keys to select "Zirconium." Then click the **Search** button

(  ) or press the **Enter** key.

3. The Zirconium toxicology landing page displays.



My Subscription Gateway Help Download Center Logout

zir

Ziram  
Zirconium  
Zirconium Oxide  
Zirgan  
ZIRTEC  
Zirtek  
Aluminum Zirconium  
Aluminum Zirconium  
Sodium Zirconium Cyc


**Zirconium**

Quick Answers In-Depth Answers All Results

**Overview**

Life Support  
Clinical Effects  
Laboratory/ Monitoring  
Treatment Overview  
Range Of Toxicity

**Overview**

Life Support  Print

See 'In-Depth Answers' for detailed results.

A) This overview assumes that basic life support measures have been instituted.

**Related f**


Disease Toxicology  
Hazard Ma  
Martindale  
Medical M  
Product Lc  
Product Lc



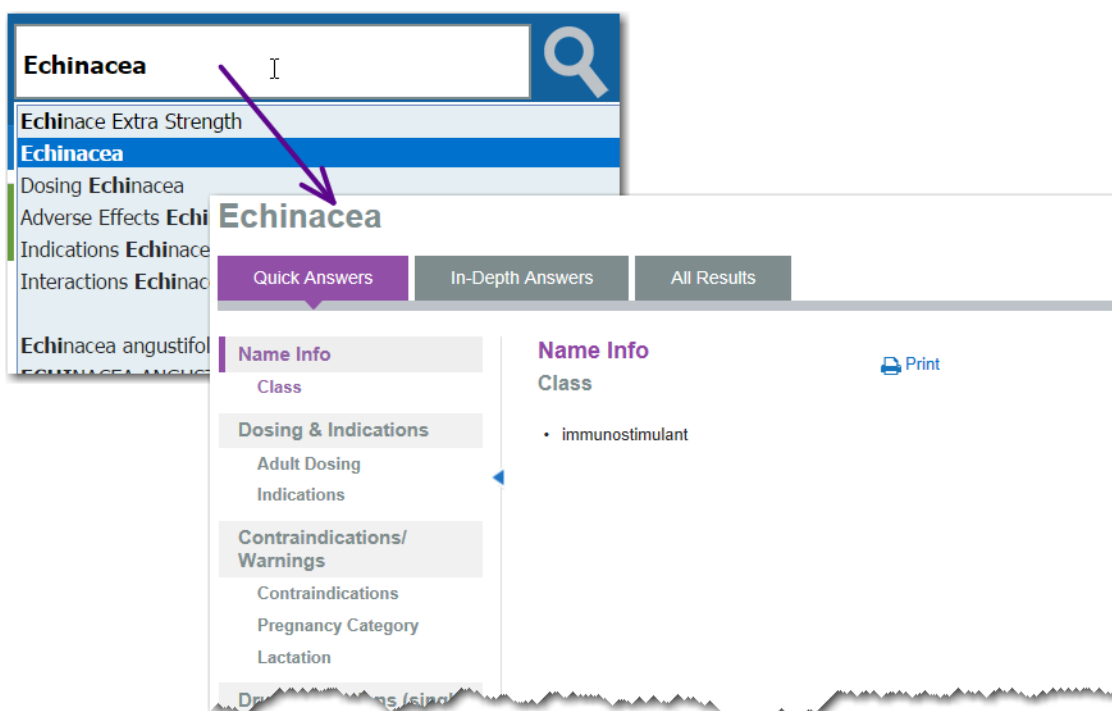
### Example 4 - Landing Page for Alternative Medicine

1. Start by typing “echi.” The drop-down list makes suggestions.
2. Click “Echinacea” in the drop-down list.

-OR-

Use the **arrow up/down** keys to select "Echinacea." Then click the **Search** button () or press the **Enter** key to begin the search.

3. The Echinacea alternative medicine landing page displays.



## Direct Access Searching

Direct Access searching suggestions are intended to provide you with shortcuts to important and frequently used drug information. Simply type a generic drug name or disease/condition in the *Search Micromedex* search box, and you are immediately presented with additional suggestions. When selecting a direct access topic, you are routed directly to information on the topic of interest, bypassing some navigation and search results selection steps.

For example, searching on “dosing amlodipine” results in the Amlodipine Detailed Drug Information document opened to the Dosing Information topic.

### Search Examples

The following Direct Access Searching examples are presented:

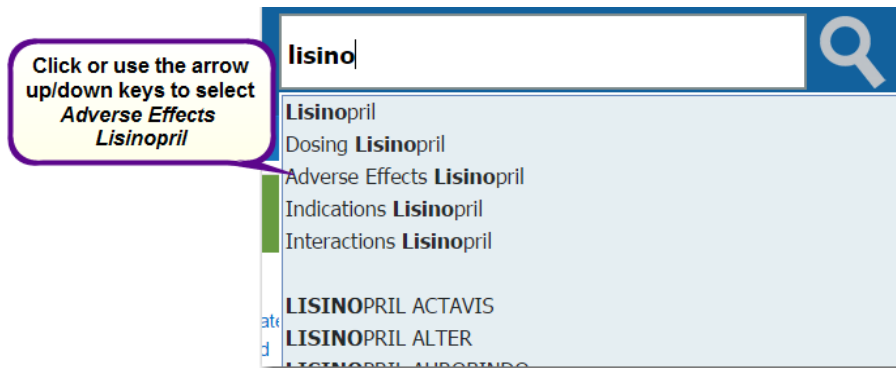
- [“Example 1 - Adverse Effects of a Drug” on page 31.](#)
- [“Example 2 - Drugs That Cause” on page 32.](#)
- [“Example 3 - Drugs That Treat” on page 36.](#)



### Example 1 - Adverse Effects of a Drug

Search for adverse effects of a generic drug.

1. Begin typing “lisinopril.” The drop-down list provides suggestions.



2. Click on “Adverse Effects Lisinopril,” or use the **arrow up/down** keys to select it and then click the **Search** button (🔍) or press the **Enter** key.
3. You are taken directly to the Adverse Effects section on the Quick Answers tab on the landing page for Lisinopril.

**Lisinopril** ✓

Drug Classes: [ACE Inhibitor](#) | [Antihypertensive](#) | [All](#)

Routes: [Oral](#)

**Quick Answers** | In-Depth Answers | All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects**
- Black Box Warning
- REMS
- Drug Interactions (single)
- Drug Compatibility (single)

**Medication Safety Adverse Effects** [Print](#)

See 'In-Depth Answers' for detailed results.

**Common**

- **Cardiovascular:** Chest pain, Hypotension (up to 11% ), Syncope
- **Neurologic:** Dizziness (12% to 19% ), Headache
- **Respiratory:** Cough

**Serious**

- **Cardiovascular:** Hypotension (Severe) (9% )
- **Dermatologic:** Stevens-Johnson syndrome (1% or more )  
necrolysis (1% or more )
- **Endocrine metabolic:** Hyperkalemia (2.2% to 6% )
- **Gastrointestinal:** Intestinal angioedema
- **Immunologic:** Anaphylaxis due to hymenoptera venom, Drug-induced anaphylactoid reaction
- **Renal:** Acute renal failure, Renal impairment (2.4% )

## Example 2 - Drugs That Cause

Search for drugs that cause a particular adverse effect or condition, and the results are grouped alphabetically.

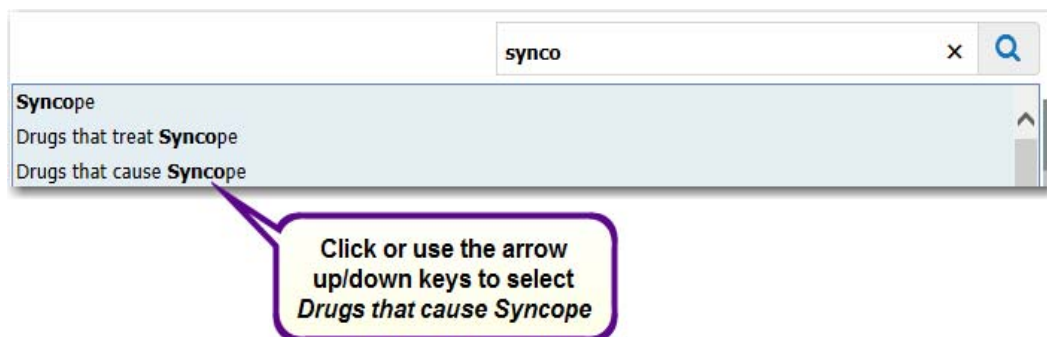
Type a phrase using the noun “drugs”, “medications”, or “substances” with the words “that cause” and the adverse effect or condition. Example searches:


- Drugs that cause skin rash
- Medications that cause insomnia
- Substances that cause edema

**- OR -**

Type an adverse effect or condition and select the phrase “Drugs that cause...” from the drop-down list.

1. Begin typing “syncope.” The drop-down list makes suggestions.



2. Click on “Drugs that cause Syncope,” or use the **arrow up/down** keys to select it and then click the **Search** button (  ) or press the **Enter** key.



## CHAPTER 3: SEARCHING MICROMEDEX SOLUTIONS

3. Search results are displayed on a *Drugs That Cause xxx* page where xxx is the adverse effect or condition.

Drugs That Cause Syncope	
Jump To: <a href="#">A</a> <a href="#">B</a> <a href="#">C</a> <a href="#">D</a> <a href="#">E</a> <a href="#">F</a> <a href="#">G</a> <a href="#">H</a> <a href="#">I</a> <a href="#">J</a> <a href="#">K</a> <a href="#">L</a> <a href="#">M</a> <a href="#">N</a> <a href="#">O</a> <a href="#">P</a> <a href="#">Q</a> <a href="#">R</a> <a href="#">S</a> <a href="#">T</a> <a href="#">U</a>	
Displaying 24 of 339 results for "Drugs That Cause Syncope"	
ACAMPROSATE	
ALFUZOSIN	
Alfuzosin Hydrochloride	
ALISKIREN/AMLODIPINE	
ALPROSTADIL	
AMIFOSTINE	
Amiloride Hydrochloride/Hydrochlorothiazide	
AMILORIDE HYDROCHLORIDE/HYDROCHLOROTHIAZIDE	

4. If the drug you are looking for begins with a letter occurring later in the alphabet, click on the **Jump To:** letter link, shown at the top of the list.

- Click on a title to go to the Adverse Effects (Summary Drug Information) or Adverse Reactions (Detailed Drug Information) information on the drug landing page.



**Note:** If the drug name is displayed in the list using mixed case letters, clicking on it will display the Summary Drug Information document. If the drug name is displayed using all uppercase letters, clicking on it will display the Detailed Drug Information monograph.

## BETHANIDINE

Drug Classes: [Adrenergic](#) | [Adrenergic Blocker](#) | [All](#)

Routes:

In-Depth Answers

All Results

Dosing/Administration

[Adult Dosing](#)  
[Pediatric Dosing](#)  
[FDA Uses](#)  
[Non-FDA Uses](#)  
[Dose Adjustments](#)  
[Administration](#)  
[Comparative Efficacy](#)  
[Place In Therapy](#)

Medication Safety

[Contraindications](#)  
[Precautions](#)  
**[Adverse Effects](#)**  
[Black Box Warning](#)  
[REMS](#)  
[Drug Interactions \(single\)](#)  
[IV Compatibility \(single\)](#)

Medication Safety

Adverse Effects

[Cardiovascular Effects](#)  
[Dermatologic Effects](#)  
[Gastrointestinal Effects](#)  
[Hematologic Effects](#)  
[Neurologic Effects](#)  
[Reproductive Effects](#)  
[Respiratory Effects](#)  
[Other](#)

Cardiovascular Effects

[Hypotension](#)  
[Syncope](#)

Hypotension

1) ORTHOSTATIC HYPOTENSION is a common occurrence during bethanidine therapy [16][17][18][19] which may occur to a greater d than with guanethidine [20]. Severe orthostatic hypotension has resu in discontinuation of therapy in several patients [21][18].

2) Some studies have reported the efficacy of protriptyline in preventi the orthostatic hypotension secondary to bethanidine [22]; however, studies have not indicated any benefit of protriptyline [19].

3) Orthostatic and exertional hypotensive effects of bethanidine were compared with those of guanethidine and debrisoquine in 448 patient

[View Full Document](#)  
[Print](#)



6. Click on the link for the adverse effect or condition that was searched in Step 1 to view additional information.

### Cardiovascular Effects

#### [Hypotension](#)

#### [Syncope](#)

##### Hypotension

- 1) ORTHOSTATIC HYPOTENSION is a common occurrence during bethanidine therapy [16][17][18][19] which may occur to a greater degree than with guanethidine [20]. Severe orthostatic hypotension has resulted in discontinuation of therapy in several patients [21][18].
- 2) Some studies have reported the efficacy of protriptyline in preventing the orthostatic hypotension secondary to bethanidine [22]; however, other studies have not indicated any benefit of protriptyline [19].
- 3) Orthostatic and exertional hypotensive effects of bethanidine were compared with those of guanethidine and debrisoquine in 448 patients with hypertension [23]. Dosage of bethanidine ranged from 105 to 111 mg daily for periods of 2.9 to 3 years. Guanethidine was administered to 205 patients, debrisoquine to 85 patients, and bethanidine to 158 patients. Postural hypotensive symptoms were observed in 50 patients receiving guanethidine, 15 receiving debrisoquine, and 30 receiving bethanidine. Exertional hypotensive symptoms, early morning symptoms, and attacks of angina without hypotension were observed in a significantly higher number of patients receiving guanethidine than those receiving bethanidine or debrisoquine. The authors concluded that hypotensive effects were more significant in patients receiving guanethidine.
- 4) Extreme alternating patterns of high blood pressure during rest and very low blood pressure seen with exertion during normal daily activities with bethanidine could result in cerebral or myocardial infarction [24]. These authors reported decreases in cerebral and myocardial blood flow during hypotensive episodes in 4 of 11 patients receiving either bethanidine, guanethidine, or debrisoquine sulfate.

##### Syncope

- 1) Syncope has been reported during initiation of therapy with bethanidine [25][20]. Syncope was reported with rapidly escalating doses from 10 to 25 mg daily in 2 of 12 patients [26]. These symptoms were avoided if the patient was confined to bed for several hours.

### Example 3 - Drugs That Treat

Search for drugs that treat a particular condition on disease, and the results are grouped alphabetically within an efficacy rating.

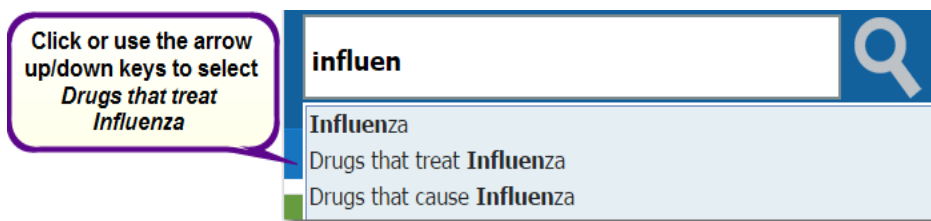
Type a phrase using the noun “drugs”, “medications”, or “substances” with the words “that treat” and the condition or disease. Example searches:


- Drugs that treat skin rash
- Medications that treat insomnia
- Substances that treat edema

- OR -

Type a condition or disease and select the phrase “Drugs that treat...” from the drop-down.

1. In this example begin typing “influenza.” The drop-down list makes suggestions.



2. Click on “Drugs that treat Influenza,” or use the **arrow up/down** keys to select it and then click the **Search** button (  ) or press the **Enter** key.
3. Search results are displayed on a *Drugs That Treat xxx* page where xxx is the condition searched. Medications are grouped by efficacy: Effective, Evidence Favors Efficacy, Evidence is Inconclusive, Ineffective, and Not Rated.





## CHAPTER 3: SEARCHING MICROMEDEX SOLUTIONS

- View the drugs associated with a specific efficacy rating by clicking on the accordion bar (or the Efficacy heading link at the top of the page) to expand the list. The drug is shown as a link, with associated indications followed by the indicated age group.

**Drugs That Treat Influenza** [Print](#)

Display: [Effective \(10\)](#) | [Evidence Favors Efficacy \(5\)](#) | [Evidence is Inconclusive \(3\)](#) | [Ineffective \(0\)](#) | [Not Rated \(0\)](#)

Displaying 18 results for "Drugs That Treat Influenza"

▼ Effective (10 results)

Drug Name	Indication	Age Group
<a href="#">Amantadine Hydrochloride</a>	Influenza due to Influenza A virus	Adult, Pediatric
	Influenza due to Influenza A virus; Prophylaxis	Adult, Pediatric
<a href="#">Haemophilus B Conjugate and Hepatitis B Vaccine</a>	Haemophilus influenza B and hepatitis B vaccination	Pediatric
<a href="#">Influenza Virus Vaccine (Subvirion)</a>	Influenza; Prophylaxis	Adult, Pediatric
<a href="#">Oseltamivir Phosphate</a>	Influenza, Virus types A and B	Adult, Pediatric
	Influenza, Virus types A and B; Prophylaxis	Adult, Pediatric
<a href="#">Rimantadine Hydrochloride</a>	Influenza due to Influenza A virus	Adult
	Influenza due to Influenza A virus; Prophylaxis	Adult, Pediatric
<a href="#">Zanamivir</a>	Influenza, Virus types A and B	Adult, Pediatric
	Influenza, Viruses Types A and B; Prophylaxis	Adult, Pediatric

- Click on a drug name to go the Dosing/Administration section on the Quick Answers tab on the drug landing page.

**Amantadine Hydrochloride**

Drug Classes: [Adamantane](#) | [Anticholinergic](#) | [All](#)

Routes: [Oral](#)

[Quick Answers](#) | [In-Depth Answers](#) | [All Results](#)

**Dosing/Administration**

- [Adult Dosing](#)
- [Pediatric Dosing](#)
- [FDA Uses](#)
- [Non-FDA Uses](#)
- [Dose Adjustments](#)
- [Administration](#)
- [Comparative Efficacy](#)
- [Place In Therapy](#)

**Medication Safety**

- [Contraindications](#)
- [Precautions](#)

**Dosing/Administration** [Print](#)

**Adult Dosing**

See ["In-Depth Answers"](#) for detailed results.

**Extrapyramidal disease - Medication-induced movement disorders**

- 100 mg ORALLY twice a day, up to 300 mg/day in divided doses [2].

**Influenza due to Influenza A virus**

- 100 mg ORALLY twice daily or 200 mg once daily, started within 48 hours after symptoms begin and continued for 5 days after symptoms disappear [2]

**Influenza due to Influenza A virus; Prophylaxis**

- 100 mg ORALLY twice daily or 200 mg once daily, continued for 6 weeks

## **Additional Direct Access Search Techniques and Examples**

Examples of other searches that can be performed using the direct access searching technique include:

- dosing (Example: dosing of Ampicillin)
- indications (Example: indications Dabigatran Etexilate)
- interactions (Example: interactions Metformin)
- FDA approved (Example: FDA approved simvastatin)
- non-FDA approved (Example: non FDA approved hydrochlorothiazide)



## Brand Name Drugs

Micromedex Solutions allows you to search for drug information using either the common generic or the brand name as the search term.



**Note:** Brand names available in the United States or Canada are required, except for subscribers to Italian Drug Database (Dialogo sui Farmaci) or United Kingdom Drug Information (eMC SmPC), where local drug names are acceptable for use as a search term. See [“International Drug Searching” on page 59](#).

Searching on a brand name drug that has only one generic drug counterpart will result in the landing page for the generic drug being displayed (e.g., “Imbruvica”). See [“Landing Pages” on page 17](#) for more information.

Searching on a brand name drug that has multiple generic drug counterparts or is comprised of many different formulations and/or routes will result in a list of the corresponding generic drugs being displayed on a *Brand Name Results* page.

This example shows typical Brand Name Results when searching on a brand name (e.g., “Tylenol”). The page displays the brand names in alphabetical order. The ingredients that comprise the drug are shown to the right of the brand name and displayed as hypertext links. Tylenol has many variations of the brand name (such as: Children’s Tylenol, Tylenol Cold Severe Congestion, Tylenol with Codeine, etc.) as well as a multitude of formulations of ingredients (such as: Acetaminophen, or Acetaminophen | Dextromethorphan Hydrobromide | Guaifenesin | Pseudoephedrine Hydrochloride, or Acetaminophen | Codeine Phosphate, etc.).

**Brand Name Results** Print

Display: **All (142)** | United States (47) | Global (95)

Jump To: A B **C** D E F G H I J K L M N O P Q R S T U V W X Y Z 0-9

Tox & Drug: [tylenol](#)  
Martindale: [tylenol](#)  
RED BOOK Online: [tylenol](#)

Displaying 17 of 142 results found for "tylenol" Not looking for a brand name drug? [Click here](#) to expand your search to free-text results.

Children's Tylenol (US)	<a href="#">ACETAMINOPHEN</a>
Children's Tylenol (Global)	<a href="#">PARACETAMOL</a>
Children's Tylenol Cold Plus Cough (Global)	<a href="#">CHLORPHENAMINE MALEATE</a>   <a href="#">DEXTROMETHORPHAN HYDROBROMIDE</a>   <a href="#">PARACETAMOL</a>   <a href="#">PSEUDOEPHEDRINE HYDROCHLORIDE</a>
Children's Tylenol Meltaways (US)	<a href="#">ACETAMINOPHEN</a>
Children's Tylenol Plus Cold (US)	<a href="#">ACETAMINOPHEN</a>   <a href="#">CHLORPHENIRAMINE MALEATE</a>   <a href="#">PHENYLEPHRINE HYDROCHLORIDE</a>

Drug information in Micromedex Solutions exists at the generic and ingredient level (not for the brand name), so to view information, click the appropriate ingredient link to view the drug information.

Links that open the Tox & Drug, Martindale, or RED BOOK product lookup results are available to subscribers from the top right corner of the page.



**Note:** There may be isolated cases where an ingredient does not have a corresponding drug information document available. When this occurs, the ingredient is not shown as a hypertext link.

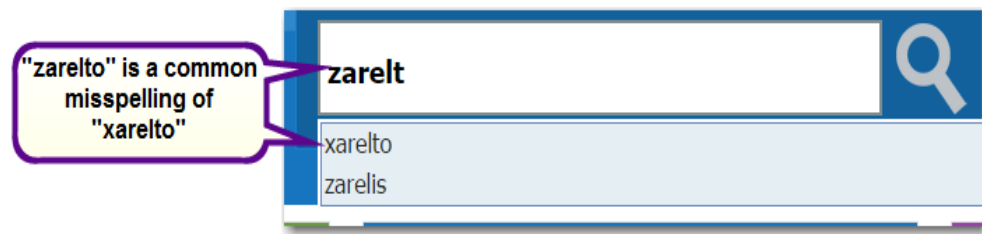
---

To move to a different location in the alphabetical list of brand name results, click on the letter link in the **Jump To:** menu, shown at the top of the *Brand Name Results* page.

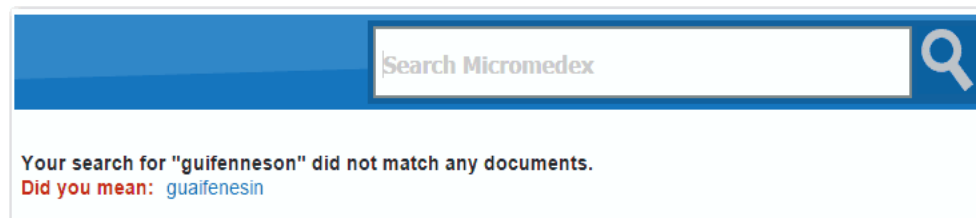


## Intelligent Searching

The Micromedex Solutions intelligent searching provides in-line spelling suggestions in real time while you are conducting your search. It anticipates what you need, even with a misspelling. If you type a term (greater than three characters) and it does not match a term in Micromedex Solutions, the drop-down list may offer alternatives. Click on a term in the drop-down list to begin the search.



In addition, if you enter and perform a search that does not produce any results, the application may make suggestions if the search term you typed is close or similar to a drug name. The search term is shown, along with the message that no matches were found. Suggested terms are listed as links.



If there were neither matches to your keyword(s) nor similar matches found in spelling help, the *No Matches Found* message is displayed.

Check your spelling and try again, or modify your keyword(s) to a more common search term and try again.

**There were no results found for:**

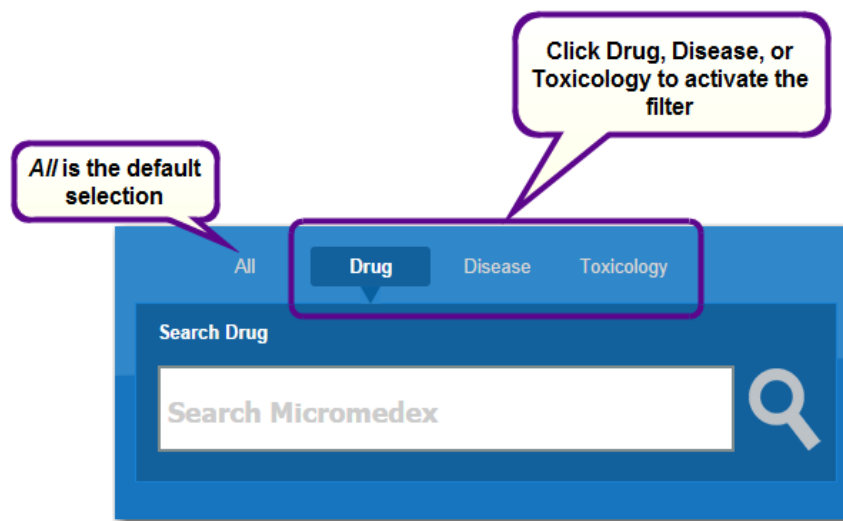
"steamboat"

**Please refine your search by trying the following suggestions or entering a new query above:**

- Check your spelling.
- Use the suggestions listed in the search dropdown list.

## Filtered Searching

By default you can quickly perform one search to get all the relevant results for the content to which you subscribe, or when on the Home Page you can specify a filter option to search specifically within the drug, disease, or toxicology content, which will provide you with more targeted results.



Selecting the Drug filter returns results from the following content sets only:

- DRUGDEX® Detailed Drug Information
- DRUGDEX Drug Consults
- Summary Drug Information
- Martindale
- Index Nominum
- PDR
- P&T Quik
- Consumer Drug Information
- International drug databases (IT-Dialogo sui Farmaci and eMC SmPC (UK))





Selecting the Disease filter returns results from the following content sets only:

- Disease Emergency Medicine
- Disease General Medicine
- Summary Disease Information
- Studies and Alerts
- Emergency Medical Abstracts



Using brand names in a filtered search of the disease content will generally result in fewer results. For example, if the Disease filter is selected, a search for “acetaminophen treatment of choice for fever” will return more results than a search for “tylenol treatment of choice for fever.”

Selecting the Toxicology filter returns results from the following content sets only:

- Summary Toxicology Information
- POISINDEX® Managements
- MSDS
- HAZARDTEXT® Hazard Managements
- MEDITEXT® Medical Managements



Toxicology content generally refers to generic drug names. Using brand names in a filtered search of this content will generally result in fewer results. For example, if the Toxicology filter is selected, a search for “overdose of diphenhydramine” will return more results than a search for “overdose of benadryl.”



**Note:** The filter is only applied when searching from the Home Page. When you use the *Search Micromedex* search box located in the upper right of all pages except the Home Page it is the same as searching with the *All* filter selected on the Home Page.

## Targeted Searches

Several tightly-focused, targeted searches are available for clinicians to quickly gain access to the following highly sought after information:

- List of drugs with a Black Box Warning - See [“Black Box Warning List” on page 45.](#)
- List of DRUGDEX® Drug Consults with comparative tables - See [“Comparative Tables” on page 46.](#)
- List of drugs that sound alike/look alike - See [“Do Not Confuse Drug List” on page 47.](#)
- Drug Classes - See [“Drug Classes” on page 49.](#)
- List of DRUGDEX Drug Consults - See [“Drug Consults” on page 52.](#)
- REMS - List of drugs that have FDA-approved Risk Evaluation and Mitigation Strategies - See [“REMS: List of Drugs With a Risk Evaluation and Mitigation Strategy” on page 53.](#)



## Black Box Warning List

Black box warnings are warnings that appear on package inserts for prescription drugs that may cause serious adverse effects. The text of the warning is normally printed within a solid black border to call attention to it; thus the name “black box warning.”

A drug with a black box warning means that studies have shown that the drug carries a significant risk of serious or even life-threatening adverse effects. It is the strongest warning that the Food & Drug Administration (FDA) requires.

Easy access to this list is helpful for medication safety officers and drug use policy coordinators to ensure awareness of special safety issues and develop programs to ensure safe use.


This search can be performed with just one click by using the Targeted Searches shortcuts under *Resources* on the Home Page. See [“Resources \(Targeted Searches\)” on page 7](#). An alphabetical list of all the drugs in Micromedex Solutions that have a black box warning is provided.

This search can also be performed with the following steps:

1. Type “BBW”, or begin typing “black box warning” into the *Search Micromedex* search box. Even just typing the first three characters (“bla”) will bring the black box warning into the drop-down suggestion list.

2. Click “black box warning” or “black box warnings” or “BBW” in the drop-down list.

**-OR-**

Use the **arrow up/down** keys to select “black box warning” or “black box warnings” or “BBW.” Then click the **Search** button () or press the **Enter** key.

3. The list of drugs with black box warnings is provided in alphabetical order as hypertext links.

Black Box Warnings	
Jump To:	<a href="#">A</a> <a href="#">B</a> <a href="#">C</a> <a href="#">D</a> <a href="#">E</a> <a href="#">F</a> <a href="#">G</a> <a href="#">H</a> <a href="#">I</a> <a href="#">J</a> <a href="#">K</a> <a href="#">L</a> <a href="#">M</a> <a href="#">N</a> <a href="#">O</a> <a href="#">P</a> <a href="#">Q</a> <a href="#">R</a> <a href="#">S</a> <a href="#">T</a> <a href="#">U</a> <a href="#">V</a> <a href="#">W</a>
Displaying 67 of 831 results for "Black Box Warnings"	
<a href="#">ABACAVIR</a>	
<a href="#">Abacavir Sulfate</a>	
<a href="#">ABACAVIR SULFATE/LAMIVUDINE</a>	
<a href="#">ABACAVIR SULFATE/LAMIVUDINE/ZIDOVUDINE</a>	
<a href="#">ABACAVIR/DOLUTEGRAVIR/LAMIVUDINE</a>	
<a href="#">ABARELIX</a>	
<a href="#">ABOBOTULINUMTOXINA</a>	



**Note:** If you print this list, the entire list of drugs with black box warnings will be printed - not just the ones currently displayed.


## Comparative Tables

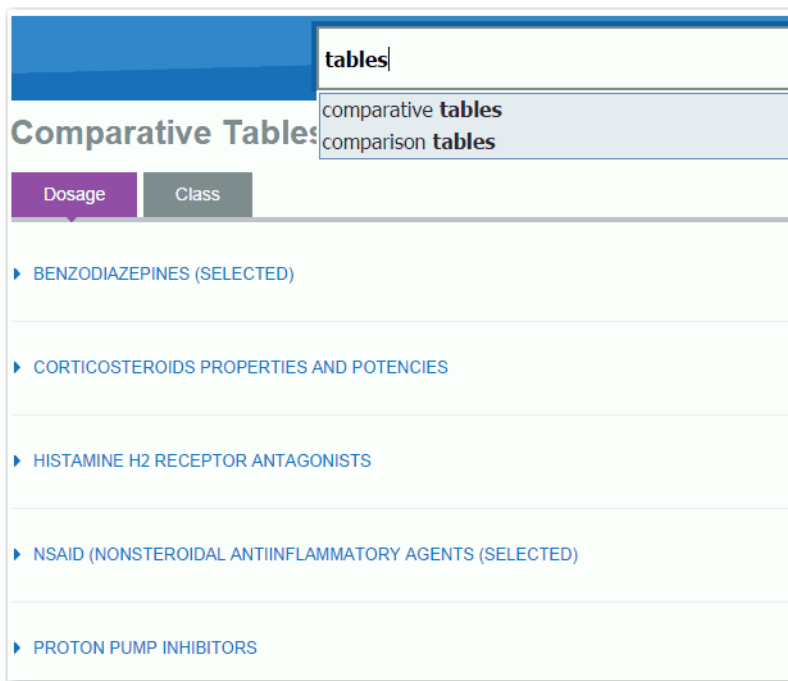
An alphabetical list of all of the DRUGDEX® Drug Consult articles with a comparative table can be accessed with just one click by using the Targeted Searches shortcuts under *Resources* on the Home Page. See [“Resources \(Targeted Searches\)” on page 7](#). These valuable and commonly requested resources are presented by dosage and class. This can be very helpful for clinicians who need to make treatment changes for patients.

This search can also be performed with the following steps:

1. Begin typing "comparative" or "tables" or "comparison" in the *Search Micromedex* search box. The drop-down list makes suggestions.
2. Click "comparative table" or "comparative tables" or "comparison tables" in the drop-down list.

**-OR-**

Use the **arrow up/down** keys to select "comparative table" or "comparative tables" or "comparison tables." Then click the **Search** button (  ) or press the **Enter** key.



3. The list of Drug Consults with a comparative table is shown in alphabetical order.
4. Click on a title to open the associated Drug Consults document.



### Do Not Confuse Drug List


The National Patient Safety Goal, established by the Joint Commission, requires each accredited organization to identify a list of look-alike or sound-alike drugs used in the organization.

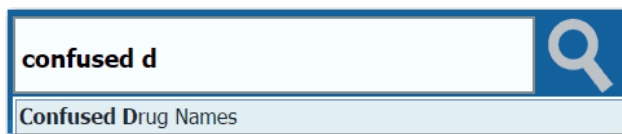
An alphabetical list of confused drug names, including look-alike and sound-alike name pairs can be accessed with just one click by using the Targeted Searches shortcuts under *Resources* on the Home Page. See [“Resources \(Targeted Searches\)” on page 7](#). The list consists of name pairs that have been involved in medication errors. The list also contains the names that appear on the Joint Commission's list of look-alike and sound-alike names.

This search can also be performed with the following steps:

1. Begin typing any of the following search terms in the search box: “Do Not Confuse”, “Confused Drug Names”, “Look alike sound alike”, “Do Not Confuse List”, “Look alike/sound alike”. The drop-down list makes suggestions.
2. Click “Confused Drug Names” or “Do Not Confuse” or “Do Not Confuse List” or “Look alike sound alike” in the drop-down list.

**-OR-**

Use the **arrow up/down** keys to select “Confused Drug Names” or “Do Not Confuse” or “Do Not Confuse List” or “Look alike sound alike.” Then click the **Search** button () or press the **Enter** key.



confused d

Confused Drug Names

- The *Do Not Confuse* results are provided. Drug name pairs that are often confused are listed on the same line, in alphabetical order. Tall man lettering is used to further aid in discerning between common look-alike drugs.


Do Not Confuse Drug List


Jump To:
[A](#)
[B](#)
[C](#)
[D](#)
[E](#)
[F](#)
[G](#)
[H](#)
[I](#)
[J](#)
[K](#)
[L](#)
[M](#)
[N](#)
[O](#)
[P](#)
[Q](#)
[R](#)
[S](#)
[T](#)
[U](#)
[V](#)

Displaying 74 of 925 results for "Do Not Confuse Drug List"

Drug Name	May be confused with
Abelcet (Amphotericin B Lipid Complex)	amphotericin B (Amphotericin B)
Accupril (Quinapril Hydrochloride)	Aciphex (Rabeprazole Sodium)
acetaZOLAMIDE (Acetazolamide)	acetoHEXAMIDE
Acetic Acid for Irrigation (Acetic Acid)	Glacial Acetic Acid (Acetic Acid)
acetoHEXAMIDE	acetaZOLAMIDE (Acetazolamide)
Aciphex (Rabeprazole Sodium)	Accupril (Quinapril Hydrochloride)

Drug Name	May be confused with
Abelcet (Amphotericin B Lipid Complex)	amphotericin B (Amphotericin B)





DO NOT CONFUSE Abelcet (Amphotericin B Lipid Complex) WITH amphotericin B (Amphotericin B)

- Click any link to open the associated drug landing page.
- To move to a title beginning with a letter from later in the alphabet, use the **Jump To** menu. Click on the letter (or number) link to position the page to the first document that begins with the selected letter.



**Note:** If you print this list, the entire list of Do Not Confuse drugs will be printed - not just the ones currently displayed.




## Drug Classes

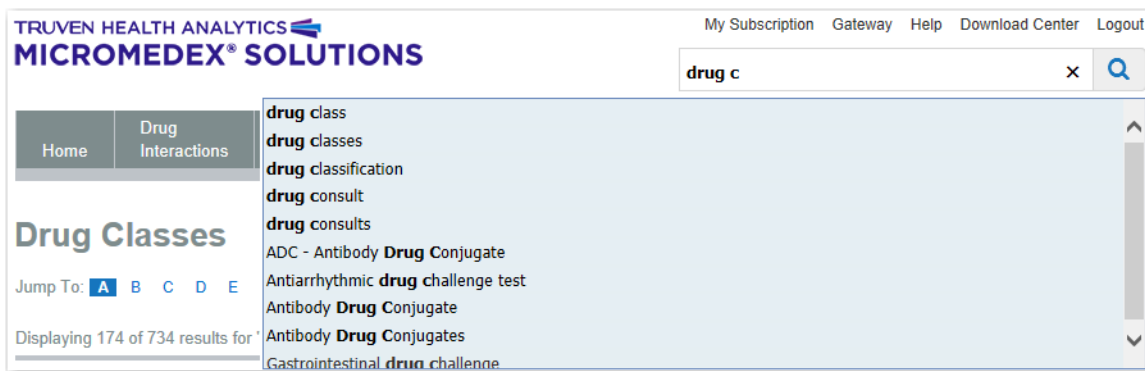
With just one click of the Drug Classes shortcut under *Resources* on the Home Page you can access an alphabetical list of the drug classes contained in Micromedex Solutions. You can then browse a list of therapeutic, chemical, and pharmacological classes. This can be very valuable for clinicians when it comes to determining alternative therapy options for a patient. See [“Resources \(Targeted Searches\)” on page 7](#).

This search can also be performed with the following steps:

1. Begin typing "drug class" or "drug classes" or "drug classification" in the *Search Micromedex* search box. The drop-down list makes suggestions.
2. Click "drug class" or "drug classes" or "drug classification" in the drop-down list.

**-OR-**

Use the **arrow up/down** keys to select "drug class" or "drug classes" or "drug classification." Then click the **Search** button (  ) or press the **Enter** key.



3. The list of drug classes is provided in alphabetical order.
4. Click a drug class to display the drugs in the class or use the **Jump To:** links to quickly move to a different position in the list of drug classes.

5. Click a drug to display the associated drug information.

Drug Class - ACE Inhibitor

Jump To: **A** B C D E F G H I J K L M N O P Q R S

Displaying 32 of 32 results for drugs in the ACE Inhibitor class

ALACEPRIL

Amlodipine/Benazepril

BENAZEPRIL

Benazepril Hydrochloride

Benazepril/Hydrochlorothiazide

Captopril



**Note:** If the drug name is displayed in the list using mixed case letters, clicking on it will display the Summary Drug Information document. If the drug name is displayed using all uppercase letters, clicking on it will display the Detailed Drug Information monograph.



**Note:** If you print the drug classes list, the entire list will be printed - not just the drug classes currently displayed.



In addition, you can perform a search by a drug class name.

The screenshot shows the Micromedex search interface. At the top, there are navigation links: "My Subscription", "Gateway", "Help", "Download Center", and "Logout". Below these is a search bar containing the text "immunological a". A dropdown menu is open, showing two options: "Immunological Agent" and "Immunological Agents". A purple arrow points from the "Immunological Agents" option to the main content area below.

The main content area is titled "Drug Class - Immunological Agents". Below the title is a "Jump To:" section with a list of letters: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U. The letter "A" is highlighted. Below this, it says "Displaying 193 of 193 results for drugs in the Immunological Agents class".

The list of drugs includes:

- Abatacept
- ABETIMUS
- Adenovirus Type 4 and Type 7 Vaccine, Live
- Alefacept
- Alemtuzumab
- Anakinra
- ANTHRAX VACCINE
- Anthrax Vaccine Adsorbed
- Antithymocyte Globulin Equine


## Drug Consults

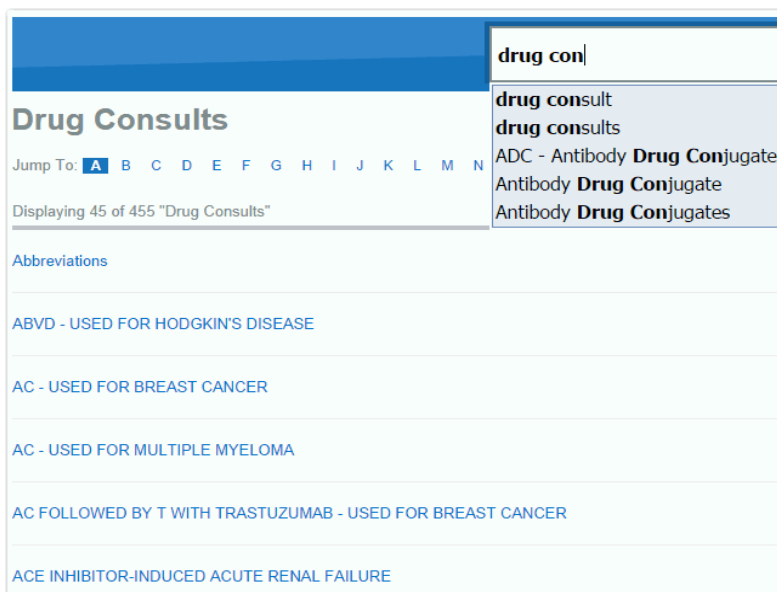
DRUGDEX® Drug Consults offer fully referenced, evidence-based articles that cover a wide range of topics on drug therapies and treatment guidelines. An alphabetical list of all the Drug Consults articles available in Micromedex® Solutions can be accessed with just one click by using the Targeted Searches shortcuts under *Resources* on the Home Page. See [“Resources \(Targeted Searches\)” on page 7](#).

This search can also be performed with the following steps:

1. Begin typing "consults" or "drug consults" in the *Search Micromedex* search box. The drop-down list makes suggestions.
2. Click “drug consult” or “drug consults” in the drop-down list.

**-OR-**

Use the **arrow up/down** keys to select “drug consult” or “drug consults.” Then click the **Search** button () or press the **Enter** key.



3. The list of Drug Consults is provided in alphabetical order.
4. Click on a title to open the associated Drug Consults document.
5. To move to a title for a specific letter in the alphabet, use the **Jump To:** menu. Click on the letter (or number) link to position the page to the first document that begins with the selected letter.



**Note:** If you print this list, the entire list of Drug Consults will be printed - not just the ones currently displayed.



## REMS: List of Drugs With a Risk Evaluation and Mitigation Strategy

For some FDA-approved drugs the manufacturer and/or the FDA have determined that a Risk Evaluation and Mitigation Strategy (REMS) is necessary to go beyond product labeling to manage risks and thereby ensure that the benefits outweigh the risks. A list of drugs with current REMS requirements can be obtained without leaving the Micromedex® Solutions workflow to perform a search of the FDA or a manufacturer information source. Just click the REMS shortcut under *Resources* on the Home Page. See [“Resources \(Targeted Searches\)” on page 7](#).


This search can also be performed with the following steps:

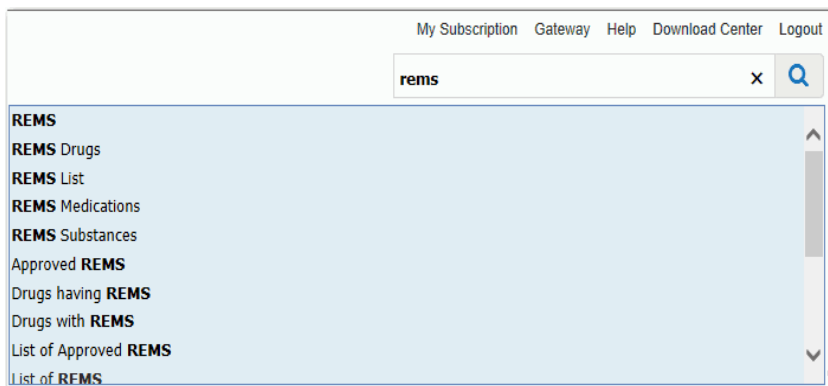
1. Type “REMS” in the *Search Micromedex* search box.
2. Press the **Enter** key.

**-OR-**

Click “REMS” in the drop-down list.

**-OR-**

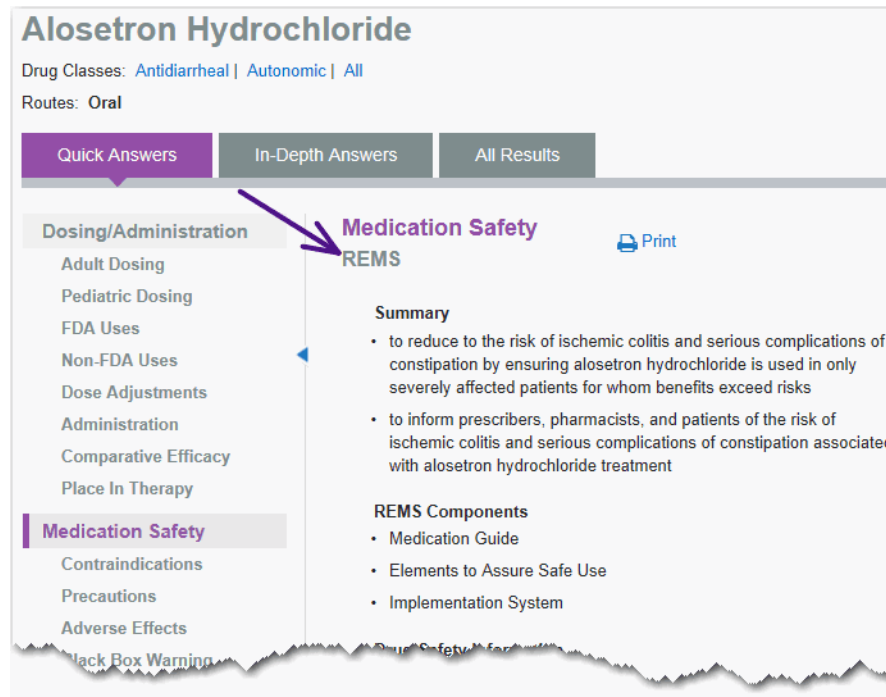
Use the **arrow up/down** keys to select “REMS.” Then click the **Search** button (  ) or press the **Enter** key.



3. The list of drugs with REMS requirements is provided, in alphabetical order, as hypertext links.

REMS	
Jump To: <a href="#">A</a> <a href="#">B</a> <a href="#">C</a> <a href="#">D</a> <a href="#">E</a> <a href="#">F</a> <a href="#">G</a> <a href="#">H</a> <a href="#">I</a> <a href="#">J</a> <a href="#">K</a> <a href="#">L</a> <a href="#">M</a> <a href="#">N</a> <a href="#">O</a> <a href="#">P</a> <a href="#">Q</a> <a href="#">R</a> <a href="#">S</a> <a href="#">T</a> <a href="#">U</a> <a href="#">V</a> <a href="#">W</a> <a href="#">X</a> <a href="#">Y</a> <a href="#">Z</a> <a href="#">0-9</a>	
Displaying 4 of 72 results for "REMS"	
<a href="#">Albiglutide</a>	Communication Plan
<a href="#">Alosetron Hydrochloride</a>	Elements to Assure Safe Use, Implementation System, Medication Guide
<a href="#">Alvimopan</a>	Communication Plan, Elements to Assure Safe Use, Implementation System
<a href="#">Ambisentan</a>	Elements to Assure Safe Use, Implementation System, Medication Guide

- Click the drug name link to open the Quick Answers tab on the landing page positioned in the REMS section of the information. REMS components are listed, as well as links to the US Food and Drug Administration (FDA) Web site for the detailed REMS information available for the drug.



**Alosetron Hydrochloride**

Drug Classes: [Antidiarrheal](#) | [Autonomic](#) | [All](#)

Routes: **Oral**

**Quick Answers** | In-Depth Answers | All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects
- Black Box Warning

**Medication Safety**

**REMS**

[Print](#)

**Summary**

- to reduce to the risk of ischemic colitis and serious complications of constipation by ensuring alosetron hydrochloride is used in only severely affected patients for whom benefits exceed risks
- to inform prescribers, pharmacists, and patients of the risk of ischemic colitis and serious complications of constipation associated with alosetron hydrochloride treatment

**REMS Components**

- Medication Guide
- Elements to Assure Safe Use
- Implementation System

- If the drug you are looking for begins with a letter occurring later in the alphabet, click on the **Jump To:** letter link, shown at the top of the list.



**Note:** If you print this list, the entire list of drugs with REMS requirements will be printed - not just the ones currently displayed.



## Salt/Base Forms, Combinations, Kits

When searching on a base in a salt/base form, such as calcium, a Salt/Base Form Results page is displayed with links to allow you to choose the specific salt form. Clicking on a link displays the landing page for that substance. From the landing page there is a drop-down list from which you can also select all salt forms.

The screenshot displays the 'Salt/Base Form Results' page for 'Calcium'. It shows a list of five results: Calcium Acetate, Calcium Carbonate, Calcium Chloride, Calcium Citrate, and Calcium Gluconate. A callout bubble points to the 'Calcium Carbonate' link, stating: 'Click a link to go to the appropriate landing page'. Below this, the 'Calcium Carbonate' landing page is shown. It includes a 'Quick Answers' tab, 'Dosing/Administration' section with 'Adult Dosing' and 'Pediatric Dosing', 'Medication Safety' section with 'Contraindications', and 'Related Results' section. A callout bubble points to the 'Calcium Carbonate' link in the 'Related Results' section, stating: 'Select one of the other salt/base forms'. The 'Calcium Carbonate' landing page also features a 'Print' button and a 'See 'In-Depth Answers' for detailed results' link.

**Salt/Base Form Results**  
Displaying 5 of 5 results for 'Calcium'

Calcium	
<a href="#">Calcium Acetate</a>	Intravenous, Oral
<a href="#">Calcium Carbonate</a>	Mucous Membrane, Oral, Sublingual, Topical
<a href="#">Calcium Chloride</a>	Intravenous
<a href="#">Calcium Citrate</a>	
<a href="#">Calcium Gluconate</a>	

**Calcium Carbonate**  
Drug Classes: [Antacid](#) | [Antacid, Calcium Containing](#) | [All](#)  
Routes: [Mucous Membrane](#) | [Oral](#) | [Sublingual](#) | [Topical](#)

[Quick Answers](#) | [In-Depth Answers](#) | [All Results](#)

**Dosing/Administration**  
Adult Dosing  
Pediatric Dosing  
FDA Uses  
Non-FDA Uses  
Dose Adjustments  
Administration  
Comparative Efficacy  
Place In Therapy

**Medication Safety**  
Contraindications

**Dosing/Administration** [Print](#)  
Adult Dosing  
See 'In-Depth Answers' for detailed results.

**Important Note**  
• Calcium carbonate is a designated orphan drug product for treatment of hyperphosphatemia in patients with ESRD.

**General Dosage Information**  
• recommended dietary allowance (RDA) applies to elemental calcium from all sources (ie, dietary plus supplements) [2]  
• calcium carbonate is 40% elemental calcium [3]; each mg calcium carbonate contains 0.4 mg of elemental calcium

**Related Results**  
[Alternative Medicine](#)  
[Disease](#)  
[Toxicology](#)  
[Drug Consults](#)  
[eMC SmPC \(UK\)](#)  
[Index Nominum](#)  
[IT- Dialogo Sui Farmaci](#)  
[Martindale](#)  
[PDR®](#)  
[Product Lookup - Martindale](#)  
[Product Lookup - RED Book Online](#)  
[Product Lookup - Tox & Drug](#)

When searching for a combination drug, such as acetaminophen/codeine phosphate, or a kit, such as norgestrel acetate/estradiol, you are taken directly to the landing page. From the landing page there may be a drop-down list from which you can select individual components of the kit or combination.

**Acetaminophen/Codeine Phosphate** ✓

Drug Classes: [Analgesic](#) | [Analgesic Combination, Opioid](#) | [All](#)

Routes: **Oral**

**Quick Answers** | In-Depth Answers | All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications

**Dosing/Administration** [Print](#)

**Adult Dosing**

See ["In-Depth Answers"](#) for detailed results.

**General Dosage Information**

- to protect consumers, the US Food and Drug Administration recommends no prescribing or dispensing of products with more than 325 mg of acetaminophen per tablet, capsule, or other dosage unit [1]

**Pain, Mild to moderately severe**

- tablets, acetaminophen 300 to 1000 mg/codeine 15 to 60 mg ORALLY every 4 hours as needed; MAX acetaminophen 4000 mg/codeine 360 mg daily [2]

**Related Results**

- Disease
- Toxicology
- Consumer Drug Information
- eMC SmPC (UK)
- Index Nominum
- IT- Dialogo Sui Farmaci
- Martindale
- PDR®
- Product Lookup - Martindale
- Product Lookup - RED Book Online
- Product Lookup - Tox & Drug

**Select an individual component of the combination drug**

- Acetaminophen/Codeine Phosphate
- Codeine Phosphate
- Acetaminophen



## Intermediate Search Results

If your search does not employ one of the other search techniques explained in this chapter, an intermediate search results page will be displayed.

The following example shows the intermediate search results for a very broad search. A search on just the term “flu” finds numerous matches in multiple content sets throughout Micromedex Solutions. Since no other parameters (terms or phrases) were included in the search for “flu,” it was not possible to focus the results on a specific type of flu. There were also no other terms in the search that could direct the results to a specific topic or area of information. Therefore, the application returns all possible matches on an intermediate search results page.

The total number of matches found for the search and the search term used are shown at the top of the page.

Search results are ranked by relevance. You can filter the results to only see results for a particular type of content by clicking a link on the left side of the page. Use the numbers at the bottom of the page to move forward and backward through multiple pages of results. The arrows allow you to jump five pages at a time.

**Search term**

**2159 results found for: "flu"**

**All Results**

**Filter by**

- All (2159)**
- Drug (1537)
- Disease (198)
- Toxicology (173)
- Lab (15)
- Alternative Medicine (164)
- Reproductive Risk (72)

**1-15 of 2159 Results for "flu"**

- [Avian influenza](#)  
Disease: Detailed evidence-based information
- [Seasonal influenza](#)  
Disease: Detailed evidence-based information
- [Avian influenza](#)  
Disease: Summary topic
- [Seasonal influenza](#)  
Disease: Summary topic
- [Avian influenza](#)  
Disease: List of essential care interventions (*Clinical Checklist®*)
- [Avian influenza - Prevention & Screening](#)  
Disease: Detailed evidence-based information
- [Seasonal influenza](#)  
Disease: Summary topic

**Filter the results to view only Drug, Disease, Toxicology, Lab, Alternative Medicine, or Reproductive Risk search results**

**Use the numbers and arrows to move forward and backward through the results**

« 1 2 3 4 5 »

The first line of each result contains the document title as a link, which goes to the associated landing page (see [“Landing Pages” on page 17](#)) or document.

The second line shows the content type (Drug, Disease, Toxicology, Lab, Alternative Medicine, Reproductive Risk), followed by one of the following identifiers:

- Summary topic - indicates that the title link goes to the Quick Answers tab on the landing page
- Detailed evidence-based information - indicates that the title link goes to the In-Depth Answers tab on the landing page
- Name of a specific database to which the title links



## International Drug Searching

Subscribers to international drug databases such as: Italian, United Kingdom, etc. are able to search using local brand names. Search results are displayed on a *Brand Name Results* page, showing local brand name drugs and U.S. drugs with the same brand name.

The manufacturer name is included below the international brand name to assist in discerning between products with identical brand names.

The international brand name drug is displayed as a link and, when clicked, opens the corresponding international drug document.

Links are available on the ingredient(s) for US drugs. When clicked, the corresponding landing page is displayed.

**Brand Name Results**

Display: [All \(15\)](#) | [United States \(2\)](#) | [Global \(3\)](#) | [Italia \(8\)](#) | [United Kingdom \(2\)](#)

Jump To: A B C D E F G H I J K L M **N** O P Q R S T U

Displaying **Brand Names** and **Ingredient(s)** for "Naprosyn". [Click here to view a brand name drug?](#)

Brand Names	Ingredient(s)
<a href="#">Naprosyn (US)</a>	<a href="#">NAPROXEN</a>
<a href="#">Naprosyn (Global)</a>	<a href="#">NAPROXEN</a>
<a href="#">Naprosyn (Global)</a>	<a href="#">NAPROXEN OR NAPROXEN SODIUM</a>
<a href="#">Naprosyn (Global)</a>	<a href="#">NAPROXEN SODIUM</a>
<a href="#">NAPROSYN 10 SUP 250 MG (IT)</a> RECORDATI	<a href="#">NAPROXEN</a>
<a href="#">NAPROSYN 10 SUP 500 MG (IT)</a> RECORDATI	<a href="#">NAPROXEN</a>

**Manufacturer**

Display links allow you to view All results, or just the results for a specific country

Links on US ingredients open the corresponding drug landing page

Links on the international drug open the drug product document


### Filter Results

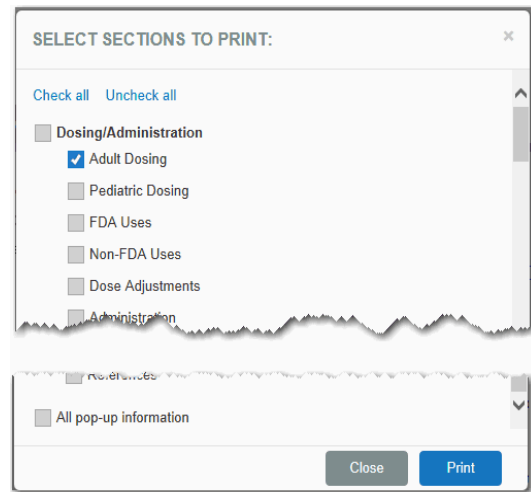
Results for both the United States (US) and the subscribed country are shown combined and in alphabetic order on the *Brand Name Results* page. View only results for the subscribed country by clicking on the appropriate **Display** link. View only results for US brand name drugs by clicking on the **United States** link.

## PRINTING

The option to print the page or document is available in Micromedex Solutions, whether you are viewing a landing page, a full document, intermediate search results or using a tool.

When you are viewing information presented using topics, or sections, you have the option of printing the entire document, or only selected topics.

- Click the **Print** icon (  **Print** ) to open the print options.
- The topic you are viewing is shown checked (selected). All topics are listed and can be included in the printed copy.



*All pop-up information:* Select this checkbox to include any supporting information, such as: Definitions for Strength of Evidence or Strength of Recommendations, Pregnancy Ratings, Risks, and Warnings.

- When you have selected the desired topics, click the **Print** button to see a preview of the printout.
- A typical print dialog opens, allowing you to change print preferences. Click the **Print** button to print the selection.



**Note:** When printing an intermediate search results page or the All Results tab on the landing page only the results shown on the page are printed.

# CHAPTER 4: DRUG INFORMATION

The number of drugs available today is enormous, and the vast amount of information about these drugs can be overwhelming. Micromedex® Solutions can help you find current, accurate, and concise drug information you can use with confidence.

Reviewed by international experts, our evidence-based information covers FDA-approved prescription and nonprescription drugs. Areas discussed include dosage, black box warnings, pharmacokinetics, cautions, interactions, patient education, adverse effects, comparative efficacy, and toxicology information.

We create a summary monograph and a detailed monograph for each topic. The Summary Drug Information monographs support quick decisions at the point of care, and DRUGDEX® Detailed Drug monographs support further research and aid clinicians when making difficult treatment decisions. Because one editorial group creates all the Micromedex content, treatment recommendations are consistent.

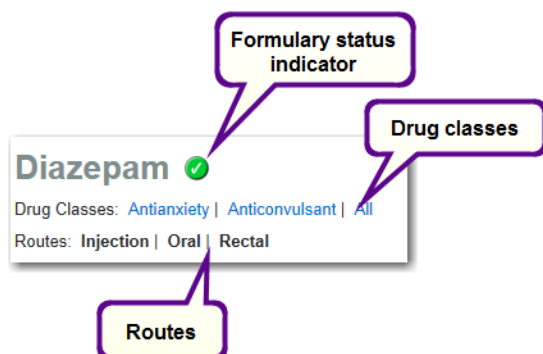
This chapter describes the types of drug information available in Micromedex Solutions. For information on how to search in Micromedex Solutions see ["Chapter 3: Searching Micromedex Solutions" on page 13](#).

## DRUG LANDING PAGES

For a detailed description on landing pages see [Chapter 3: Landing Pages on page 17](#). The following drug-specific information is provided on drug landing pages:

- Available routes
- Links to drug classes associated with the drug. Click a link to see all the drugs in the class.
- Formulary status designated by an icon (Formulary Status customers only)

The Micromedex® Formulary Status product provides immediate access to formulary information throughout your facility. It guides prescribing clinicians toward formulary drugs, saving your pharmacists, nurses, and physicians time – and your facility money. Formulary Status is integrated with Micromedex® Solutions, so that a drug's designated formulary status displays on the drug landing page in the form of an icon. Examples of formulary status, which are maintained by your facility's formulary administrators and are customizable, include: Formulary, Non-Formulary, Preferred, Restricted. To find out more about the Formulary Status product contact your Client Service Manager or Truven Health Customer Support (see [“Contact Truven Health Analytics” on page ii](#)).





## SUMMARY DRUG INFORMATION

Summary Drug Information is succinct, actionable at the point-of-care, and designed to get you an answer very quickly. It is displayed on the middle panel of the *Quick Answers* tab on the landing page. The left panel contains links for navigating the sections of the summary monograph. Click on a link to display that section in the middle panel.

For example, a search for “simvastatin” results in the following landing page:

The screenshot shows the Simvastatin Summary Drug Information page. The left panel contains a list of sections: Dosing/Administration, Medication Safety, and Adverse Effects. The middle panel displays the Medication Safety section, which includes a list of common and serious adverse effects. The right panel contains a list of links for further information, including Consumer Drug Information, Drug Consults, eMC SmPC (UK), Index Nominum, IT- Dialogo Sui Farmaci, Martindale, PDR®, Product Lookup - Martindale, Product Lookup - RED Book Online, and Product Lookup - Tox & Drug. Annotations include: a callout pointing to the 'Medication Safety' link in the left panel with the text 'Click a link to display a section of the monograph'; a callout pointing to the 'Text of the Summary Drug Information monograph' in the middle panel; and a callout pointing to a back-to-top icon in the lower right corner with the text 'Scroll down and a back-to-top icon will display in the lower right of the page'.

**Simvastatin** ✓

Drug Classes: [Antihyperlipidemic](#) | [Cardiovascular Agent](#) | [All](#)

Routes: [Oral](#)

**Quick Answers** | In-Depth Answers | All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects
- Black Box Warning

**Medication Safety**

See 'In-Depth Answers' for detailed results.

**Common**

- Gastrointestinal:** Abdominal pain (7.3% ), Constipation (6.6% ), Nausea (5.4% )
- Neurologic:** Headache (2.5% to 7.4% )
- Respiratory:** Upper respiratory infection (9% )

**Serious**

- Hepatic:** Cholestatic hepatitis, Increased liver enzymes (approximately 1% ), Jaundice, Liver failure
- Musculoskeletal:** Compartment syndrome of lower leg, Disorder of muscle (20 mg/day, 0.02% to 0.03%; 40 mg/day, 0.08%; 80 mg/day, 0.61% to 0.9% ), Rhabdomyolysis (20 mg/day, 0%; 80 mg/day, 0.4% ), Rupture of tendon

**Text of the Summary Drug Information monograph**

[Print](#)

**Additional Results**

- [Alternative Medicine](#)
- [Disease](#)
- [Toxicology](#)
- [Consumer Drug Information](#)
- [Drug Consults](#)
- [eMC SmPC \(UK\)](#)
- [Index Nominum](#)
- [IT- Dialogo Sui Farmaci](#)
- [Martindale](#)
- [PDR®](#)
- [Product Lookup - Martindale](#)
- [Product Lookup - RED Book Online](#)
- [Product Lookup - Tox & Drug](#)

**Click a link to display a section of the monograph**

**Scroll down and a back-to-top icon will display in the lower right of the page**

Clicking the links for the following sections in the left panel displays the information with a unique presentation, and they are explained in this chapter.

- [“Single Drug Interactions” on page 64](#)
- [“Single IV Compatibility” on page 69](#)
- [“Additional Information” on page 77](#)
- [“Trade Names” on page 78](#)
- [“Patient Education” on page 79](#)
- [“References” on page 82](#)

## Single Drug Interactions

Clicking the **Drug Interactions (single)** link under Medication Safety in the left panel checks the currently viewed drug for the following types of interactions:

- drug
- food
- ethanol
- lab
- tobacco
- pregnancy
- lactation

**Simvastatin** ✓

Drug Classes: [Antihyperlipidemic](#) | [Cardiovascular Agent](#) | [All](#)

Routes: **Oral**

**Quick Answers** | **In-Depth Answers** | **All Results**

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects
- Black Box Warning
- REMS
- Drug Interactions (single)**
- IV Compatibility (single)
- Precautions

**Medication Safety**

**Drug Interactions (single)**

See ['In-Depth Answers'](#) for detailed results.

[View multiple drug interactions](#)

Refine by: Severity: [All](#) | Documentation: [All](#)

Jump To: [Drug-Drug \(94\)](#) | [ALLERGY \(0\)](#) | [FOOD \(2\)](#) | [ETHANOL \(0\)](#) | [LAB \(0\)](#) | [TOBACCO \(0\)](#) | [PREGNANCY \(1\)](#) | [LACTATION \(1\)](#)

**Drug-Drug Interactions (94)**

Drugs:	Severity:	Documentation:	Summary:
POSACONAZOLE [Systemic] – SIMVASTATIN [Systemic]	<b>Contraindicated</b>	<b>Excellent</b>	Concurrent use of POSACONAZOLE and SIMVASTATIN may result in increased simvastatin plasma concentrations and increased risk of myopathy or rhabdomyolysis.



Drug interactions for the drug are grouped by interaction type. Interactions within each type are sorted by severity, displaying the most severe first. Use the **Jump To:** links at the top of the page to go to specific interaction type.

Jump To: [Drug-Drug \(88\)](#) | [ALLERGY \(0\)](#) | [FOOD \(2\)](#) | [ETHANOL \(0\)](#) | [LAB \(0\)](#) | [TOBACCO \(0\)](#) | [PREGNANCY \(1\)](#) | [LACTATION \(1\)](#)

The original drug and the interacting agent are shown in the first column, followed by the severity and documentation ratings. The summary column displays brief, high-level interaction information.





When an interaction occurs within a class or group of drugs, the group or class displays as an active link adjacent the interaction. Click the link to expand the group or class.

Drug-Drug Interactions (26)			
Drugs:	Severity:	Documentation:	Summary:
DIGITALIS GLYCOSIDES -- THIAZIDE DIURETICS Bendroflumethiazide interact(s) with: • <a href="#">Interacting substances</a>	 Major	Excellent	Concurrent use of DIGITALIS GLYCOSIDES and THIAZIDE DIURETICS may result in digitalis toxicity (nausea, vomiting, arrhythmias).
DOFETILIDE -- DIURETICS	 Major	Good	Concurrent use of DOFETILIDE and DIURETICS may result in an increased risk of cardiotoxicity (QT prolongation, torsades de pointes, cardiac arrest).

Complete Drug Interactions subscribers are able to view additional interaction information by clicking the link on the drug name to open interactions details. Additional information may include: clinical management, onset, probable mechanism, literature summaries, and references for this interaction.

**Drug-Drug Interactions (88)**

Drugs:	Severity:	Documentation:	Summary:
<a href="#">POSACONAZOLE [Systemic] -- SIMVASTATIN [Systemic]</a>	 Contraindicated	Excellent	Concurrent use of POSACONAZOLE and SIMVASTATIN may result in increased simvastatin plasma concentrations and increased risk of myopathy or rhabdomyolysis.
<a href="#">SIMVASTATIN [Systemic] -- ERYTHROMYCIN LACTONATE [Systemic]</a>	 Contraindicated	Excellent	Concurrent use of ERYTHROMYCIN LACTONATE and SIMVASTATIN may result in increased simvastatin plasma concentrations and increased risk of myopathy or rhabdomyolysis.
<a href="#">ITRACONAZOLE [Systemic] -- SIMVASTATIN [Systemic]</a>			Concurrent use of ITRACONAZOLE and SIMVASTATIN may result in increased simvastatin plasma concentrations and increased risk of myopathy or rhabdomyolysis.

INTERACTION DETAIL

**Warning:**

Concurrent use of POSACONAZOLE and SIMVASTATIN may result in increased simvastatin plasma concentrations and increased risk of myopathy or rhabdomyolysis.

**Clinical Management:**

Concomitant use of posaconazole and simvastatin is contraindicated as this has resulted in an approximately 10-fold increase in simvastatin plasma concentrations, which may lead to rhabdomyolysis (Prod Info NOXAFIL® oral suspension, 2012; Prod Info ZOCOR® oral tablets, 2012). If posaconazole therapy is necessary, suspend simvastatin during the course of treatment (Prod Info ZOCOR® oral tablets, 2012).

**Onset:**



Not Specified

**Severity:**

Contraindicated

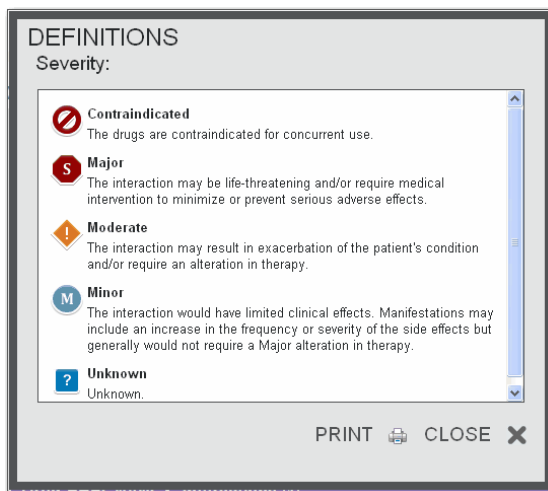
**Documentation:**

Excellent

PRINT  CLOSE 

## Interaction Severities

Click on any of the Severity icons to open the full legend with the full definition of each severity.



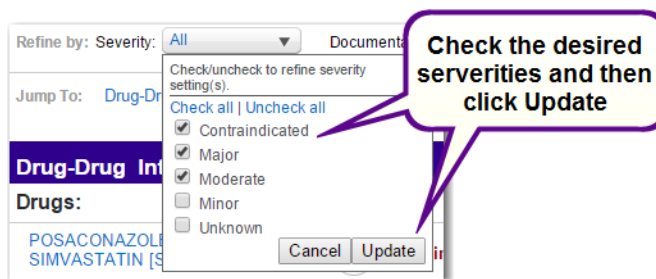
You can also hover your mouse over the Severity legend at the bottom of the page.

- *Contraindicated* - The drugs are contraindicated for concurrent use.
- *Major* - The interaction may be life-threatening and/or require medical intervention to minimize or prevent serious adverse effects.
- *Moderate* - The interaction may result in an exacerbation of the patient's condition and/or require an alteration in therapy.
- *Minor* - The interaction would have limited clinical effects. Manifestations may include an increase in the frequency or severity of side effects but generally would not require a major alteration in therapy.
- *Unknown* - Unknown.

## Filter Severities

By default, all Severities are displayed. To filter results for selected severities, select the levels desired from the **Severity** drop-down menu at the top of the page. Check the boxes for the desired severities, then click the **Update** button.

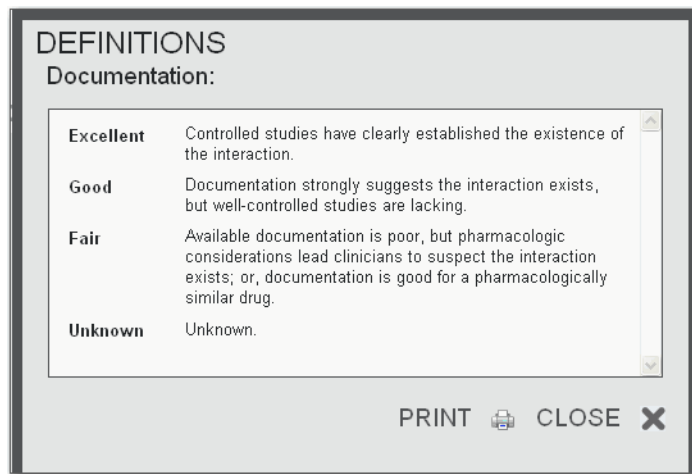
After refining the selections, the title of the drop-down changes from 'All' to '(#) Selected', and only the severities chosen display on the page.





## Documentation Ratings

Click on any of the Documentation links to open the full legend with the definition of each documentation rating.



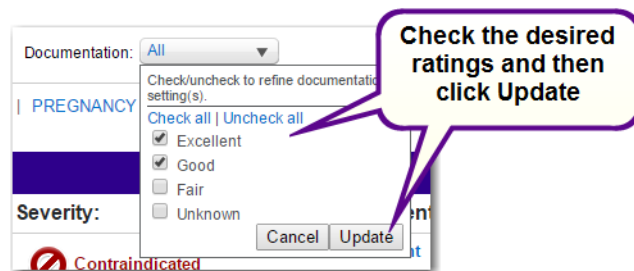
You can also hover your mouse over the Documentation legend at the bottom of the page.

- *Excellent* - Controlled studies have clearly established the existence of the interaction.
- *Good* - Documentation strongly suggests the interactions exists, but well-controlled studies are lacking.
- *Fair* - Available documentation is poor, but pharmacologic considerations lead clinicians to suspect the interaction exists; or, documentation is good for a pharmacologically similar drug.
- *Unknown* - Unknown

## Filter Documentation Ratings

By default, all Documentation Ratings are displayed. To filter results for selected ratings, select the levels desired from the **Documentation** drop-down menu at the top of the page. Check the boxes for the desired ratings, then click the **Update** button.

After refining the selections, the title of the drop-down changes from 'All' to '(#) Selected', and only the documentation ratings chosen display on the page.



## Multiple Drug Interactions

To access the Drug Interactions tool for checking multiple drugs for interactions click the **View multiple drug interactions** button at the top of the page. The Drug Interactions tool is displayed and your drug is automatically added to the *Drugs to check* list.

The image shows two screenshots of the Micromedex interface. The top screenshot is the 'Simvastatin' drug profile page. It features a sidebar with 'Dosing/Administration' options and a main content area with 'Medication Safety' and 'Drug Interactions (single)'. A button labeled 'View multiple drug interactions' is highlighted with a purple box. Below this button are filters for 'Severity' and 'Documentation', both set to 'All'. A 'Print' button is also visible. The bottom screenshot is the 'Drug Interactions' tool page. It has a search bar at the top. Below the search bar is a list of 'Matching drug names: (4363)'. The first item, 'A & D', is selected and highlighted in blue. To the right of this list is a 'Drugs to check:' section with a text area containing 'Simvastatin'. Above this text area is an 'Add Allergies' button. Below the text area are 'Clear' and 'Submit' buttons. A purple arrow points from the 'View multiple drug interactions' button in the top screenshot to the 'Drugs to check:' section in the bottom screenshot.

For more information on the Drug Interactions tool see ["Chapter 10: Drug Interactions Tool" on page 147](#).



## Single IV Compatibility

Clicking the **IV Compatibility (single)** link under Medication Safety in the left panel checks the drug for compatibility in common solutions. Compatibility information with proven data to support safe decisions for administering injectable drugs in combination is quickly provided.

Using information from leading IV compatibility expert, Lawrence Trissel, MS, FASHP, this feature presents results for Solution, Y-Site, and Admixture administration. Customers with subscriptions to Complete IV Compatibility also have results for Syringe and TPN/TNA compatibility.

**Quick Answers** | **In-Depth Answers** | **All Results**

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects
- Black Box Warning
- REMS
- Drug Interactions (single)
- IV Compatibility (single)**
- Pregnancy & Lactation

**Medication Safety**

**IV Compatibility (single)**

See 'In-Depth Answers' for detailed results.

**Check multiple IV compatibility**

**Solution** | **Y-Site** | **Admixture** | **Syringe** | **TPN/TNA** | Compatibility: All

**Common Solutions**

D5W (D5W-Dextrose 5%)	✓	Compatible
D10W (Dextrose 10%)	—	Not Tested
D5LR (Dextrose 5% in lactated Ringers)	—	Not Tested
D5NS (Dextrose 5% in sodium chloride 0.9%)	—	Not Tested
D5W - 1/2 NS (Dextrose 5% in sodium chloride 0.45%)	✓	Compatible
NS (Normal saline- Sodium chloride 0.9%)	✓	Compatible

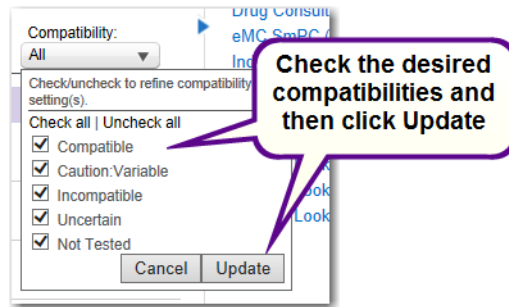
Compatibility is denoted by an icon and simple description. The full descriptions follow:

- *Compatible* - All studies showed these items as compatible.
- *Caution: Variable* - Study results show IV compatibility is variable.
- *Incompatible* - All studies showed these items as incompatible.
- *Uncertain* - Study results were inconclusive; compatibility wasn't determined.
- *Not Tested* - IV compatibility has not been tested.

## Filtering Results

By default, all compatibilities are displayed. To filter results for selected compatibilities, select the compatibilities desired from the **Compatibility** drop-down menu at the top of the page. Check the boxes for the desired compatibilities, then click the **Update** button.

After refining the selections, the title of the drop-down changes from 'All' to '(#) Selected', and only the compatibilities chosen display on the page.



## Solution Overview

Solution compatibility is calculated based on common and other typical IV solutions.

Common Solutions:

- D5W - D5W-Dextrose 5%
- D10W - Dextrose 10%
- D5LR - Dextrose 5% in lactated Ringers
- D5NS - Dextrose 5% in sodium chloride 0.0%
- D5W - 1/2 NS - Dextrose 5% in sodium chloride 0.45%
- NS - Normal saline - sodium chloride 0.9%
- 1/2 NS - sodium chloride 0.45%.



Where detailed results are available, the solution is shown as an active link. Click the solution link to view the additional information. References for the information can be found by clicking the numbered link.

The screenshot displays the 'IV COMPATIBILITY DETAIL' interface. At the top, there are tabs for 'Solution', 'Y-Site', 'Admixture', 'Syringe', and 'TPN/TNA'. The 'Solution' tab is selected and highlighted with a purple box and an arrow. Below the tabs, a list of 'Common Solutions' is shown, including 'D5W (D5W-Dextrose 5%)', 'D10W (Dextrose 10%)', 'D5LR (Dextrose 5%)', 'D5NS (Dextrose 5%)', and 'D5W - 1/2 NS (De)'. The 'D5W (D5W-Dextrose 5%)' solution is highlighted with a green checkmark and the word 'Compatible'. An arrow points to this solution link.

Below the list, the 'IV COMPATIBILITY DETAIL' table is displayed. The table has five columns: 'Drug 1', 'Drug 2', 'Status', 'Information', and 'Test Parameters'. The first row shows 'Diltiazem hydrochloride 0.05mg/mL (50 mcg/mL) Goedecke' as Drug 1 and 'D5W-Dextrose 5% See Container' as Drug 2. The 'Status' column shows a green checkmark and the word 'Compatible'. The 'Information' column contains the text 'Physical Compatibility: Physically compatible. No visible haze or particulate formation, color change, or gas evolution.' The 'Test Parameters' column contains the text 'Reference: [2289](#)', 'Study Period: 24 hours.', and 'Method: Visual observation and HPLC analysis of drug concentrations.' An arrow points to the reference link '2289'.

A popup window titled 'REFERENCE: [2289]' is shown in the foreground. It contains the text: 'Zeidler C, Dettmering D, Schrammer W, et al. Compatibility of various drugs used in intensive care medicine in polyethylene, PVC, and glass infusion containers. Eur Hosp Pharm. 1999. 5: 106-10.' At the bottom of the popup, there are 'PRINT' and 'CLOSE' buttons.

## Y-Site Overview

Overview information for single drug Y-Site compatibility is shown alphabetically by drug name, with the associated compatibility icon and description.

Click the drug name link to view a pop-up with the compatibility details, which are shown in a five-column table.

The screenshot shows the Micromedex Y-Site interface. At the top, there are tabs for 'Solution', 'Y-Site', 'Admixture', 'Syringe', and 'TPN/TNA'. The 'Y-Site' tab is selected. Below the tabs, there is a list of drugs with their compatibility status and description. A purple box highlights the 'Y-Site' tab, and a purple arrow points from it to the 'Acetazolamide sodium' link in the list. Another purple arrow points from the 'Acetazolamide sodium' link to the 'IV COMPATIBILITY DETAIL' pop-up window.

**IV COMPATIBILITY DETAIL**

Drug 1	Drug 2	Notes: Variable compatibility results have been reported for this drug combination possibly due to differing drug concentrations.		
Drug 1	Drug 2	Status	Information	Test Parameters
Acetazolamide sodium 100mg/mL 'in' Reconstituted solution undiluted Lederle Laboratories	Diltiazem hydrochloride 5mg/mL 'in' Undiluted Marion Merrell Dow	Incompatible	Physical Compatibility: Physically incompatible. Precipitation occurs.  Storage: Ambient conditions.	Reference: 1807  Study Period: Immediate observation.  Method: Visual observation.  Container: Tested in sample containers and also co-infused through the same IV line.
Acetazolamide sodium 100mg/mL 'in' Reconstituted solution undiluted Lederle	Diltiazem hydrochloride 1mg/mL 'in' Normal saline- Sodium chloride 0.9% Marion Merrell Dow	Compatible	Physical Compatibility: Physically compatible. No visible haze or particulate formation, color change.	Reference: 1807  Gayed AA, Keshary PR, Hinkle RI: Visual compatibility of diltiazem injection with various

PRINT CLOSE

- **Drug 1** - contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** - shows the secondary drug name, concentration, and manufacturer's name
- **Status** - lists the compatibility result icon and description
- **Information** - displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** - contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information



### Admixture Overview

Overview information for single drug admixture compatibility is shown alphabetically by drug name, with the associated compatibility icon and description.

Click the drug name link to view the pop-up with the compatibility details, which are shown in a five-column table.

**Admixture**

Meropenem

Ranitidine hydrochloride

**IV COMPATIBILITY DETAIL**

Drug 1	Drug 2	Status	Information	Test Parameters
Doxycycline hyclate 0.2mg/mL Roerig	Meropenem 1mg/mL Zeneca Pharmaceuticals	Compatible Normal saline-Sodium chloride 0.9%Baxter Healthcare Corporation	<b>Notes:</b> Variable compatibility results have been reported for this combination depending on the meropenem concentration. <b>Physical Compatibility:</b> Physically compatible. No visible haze or particulate formation, color change, or gas evolution. <b>Storage:</b> Room temperature exposed to fluorescent light.	<b>Reference:</b> 1994 <b>Study Period:</b> 4 hours. <b>Method:</b> Visual observation. <b>Container:</b> Polyvinyl chloride (PVC) infusion bags.
Doxycycline hyclate 0.2mg/mL Roerig	Meropenem 20mg/mL Zeneca Pharmaceuticals	Incompatible Normal saline-	<b>Notes:</b> Variable compatibility results have been reported for this combination depending on the meropenem concentration. <b>Physical Compatibility:</b> Physically incompatible. A brown discoloration appeared within 1 hour after mixing.	<b>Reference:</b> 1994 <b>Study Period:</b> 4 hours. <b>Method:</b> Visual observation.

PRINT CLOSE

- **Drug 1** contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** shows the secondary drug name, concentration, and manufacturer's name
- **Status** lists the compatibility result icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information

### Syringe Overview (available to Complete IV Compatibility subscribers only)

Overview information for single drug syringe compatibility is shown alphabetically by drug name, with the associated compatibility icon and description.

Click the drug name link to view the pop-up with the compatibility details, which are shown in a five-column table.

**IV COMPATIBILITY DETAIL**

Drug 1	Drug 2	Status	Information	Test Parameters
Doxapram hydrochloride 400mg/20 mL in Undiluted  A. H. Robins Company, Inc.	Doxycycline hyclate 100mg/5 mL in Reconstituted solution undiluted  Manufacturer Unspecified	 Compatible	<b>Physical Compatibility:</b> Physically compatible. No visible haze or particulate formation, color change, or gas evolution.  <b>Chemical Stability:</b> Chemically stable. No doxapram hydrochloride loss occurred within the study period. Doxycycline hyclate concentration was not tested.  <b>Storage:</b> Not specified.	<b>Reference:</b> <a href="#">1177</a>  <b>Study Period:</b> 24 hours.  <b>Method:</b> Visual observation and HPLC analysis of doxapram hydrochloride concentration.  <b>Container:</b> Not specified.

Powered by Triselle's™ 2 Clinical Pharmaceuticals Database (Parenteral Compatibility).

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PRINT CLOSE

- **Drug 1** contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** shows the secondary drug name, concentration, and manufacturer's name
- **Status** column lists the compatibility result icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information

### TPN/TNA Overview (available to Complete IV Compatibility subscribers only)

Overview information for single drug TPN (2-in-1) (total parenteral nutrition) is shown first, followed by TNA (3-in-1) (total nutritive admixture) compatibility.

**Note:** TPN and TNA results are not result type specific. They can be a Y-Site, Solution, or Admixture result. Results are comprised of all compatibility tests where the drug name searched is being included with a TPN or TNA solution.



Within each TPN or TNA section, the results are sorted alphabetically by the TPN or TNA admixture name, with each associated compatibility icon and description, followed by high-level notes, including composition of the TPN/TNA on these tests.

Click the admixture name link to view the details of these tests.

**TPN (2-in-1)**

**Notes:**  
Two TPN formulas (peripheral-line and central-line formulas) based on FreAmine III were evaluated for compatibility with the test drug.

(1) The peripheral-line formula had the following composition per liter:  
FreAmine III 3.5%  
Dextrose 5%  
Sterile water for injection 517 mL  
Sodium chloride 37.5 mEq  
Potassium chloride 40 mEq  
Magnesium sulfate 8 mEq  
Calcium gluconate 5 mEq  
M.V.I.-12 10 mL  
Trace elements

**1 mg/mL**

Compatible  
Y-Site

(2) The central-line formula had the following composition per liter:  
FreAmine III 4.25%  
Dextrose 25%  
Sterile water for injection 159 mL  
Sodium chloride 37.5 mEq

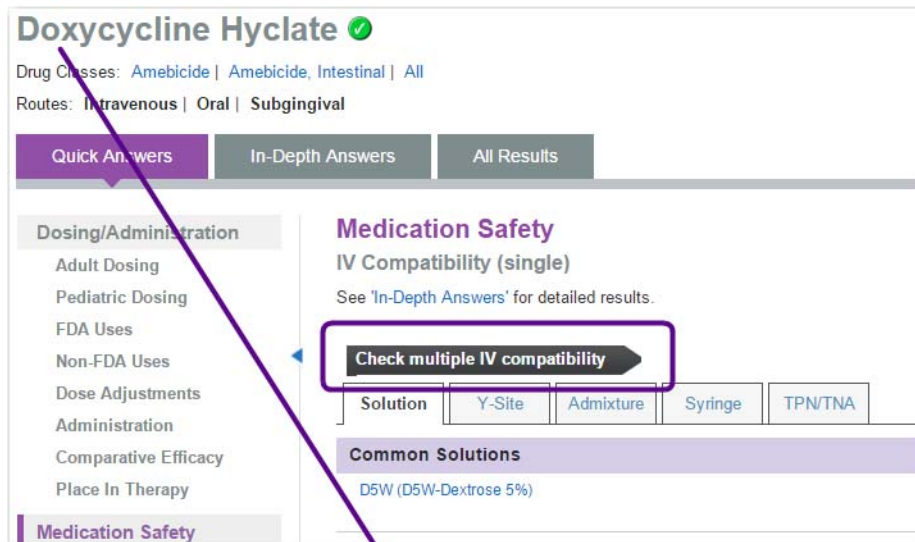
**IV COMPATIBILITY DETAIL**

<b>FreAmineIII</b>  Compatible Y-Site  <b>Notes:</b> Two TPN formulas (peripheral-line and central-line formulas) based on FreAmine III were evaluated for compatibility with the test drug.  (1) The peripheral-line formula had the following composition per liter: FreAmine III 3.5% Dextrose 5% Sterile water for injection 517 mL Sodium chloride 37.5 mEq Potassium chloride 40 mEq Magnesium sulfate 8 mEq Calcium gluconate 5 mEq M.V.I.-12 10 mL Trace elements  (2) The central-line formula had the following	<b>Doxycycline hyclate</b>  1 mg/mL 'in' D5W- Dextrose 5% Lypomed	<b>Physical</b> <b>Compatibility:</b> Physically compatible. No visible changes and no change in the measured haze level or particulates.  <b>Storage:</b> Room temperature of 23 °C exposed to fluorescent light.	<b>Reference:</b> 2109f  <b>Study Period:</b> 4 hours.  <b>Method:</b> Visual observation and electronic measurement of haze and particulates.  <b>Container:</b> Simulated Y-site administration in glass test tubes.
--	---	---	--

PRINT CLOSE

## Multiple Drugs IV Compatibility

To access the IV Compatibility tool for checking compatibility for multiple drugs click the **Check multiple IV compatibility** button at the top of the page. The IV Compatibility tool is displayed and your drug is automatically added to the *Drugs to check* list.



**Doxycycline Hyclate** ✓

Drug Classes: [Amebicide](#) | [Amebicide, Intestinal](#) | [All](#)

Routes: [Intravenous](#) | [Oral](#) | [Sublingual](#)

**Quick Answers** | In-Depth Answers | All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

**IV Compatibility (single)**

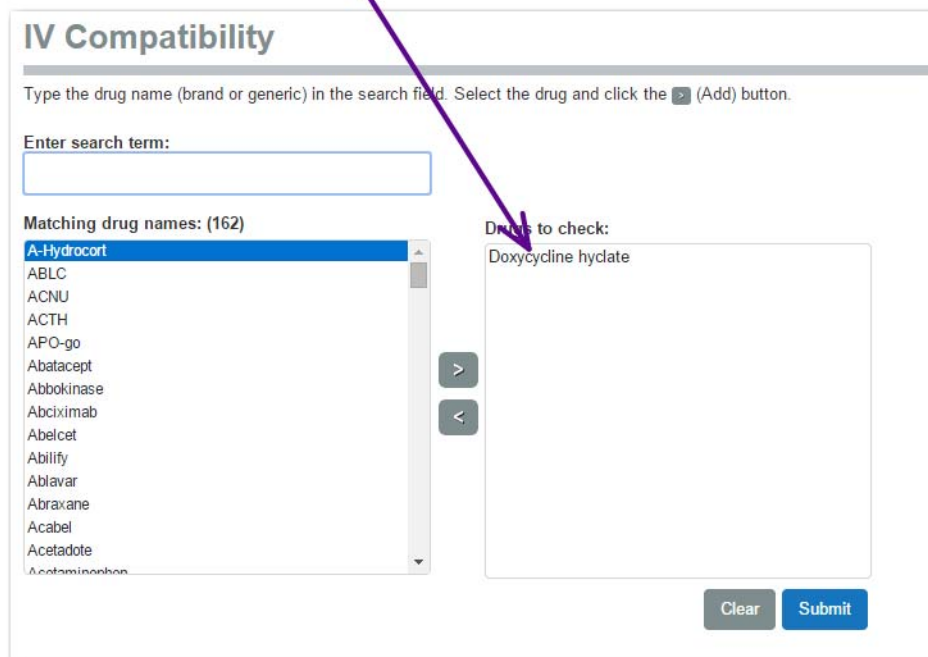
See 'In-Depth Answers' for detailed results.

**Check multiple IV compatibility**

Solution | Y-Site | Admixture | Syringe | TPN/TNA

**Common Solutions**

D5W (D5W-Dextrose 5%)



### IV Compatibility

Type the drug name (brand or generic) in the search field. Select the drug and click the **Add** button.

Enter search term:

Matching drug names: (162)

- A-Hydrocort**
- ABLC
- ACNU
- ACTH
- APO-go
- Abatacept
- Abbokinase
- Abciximab
- Abelcet
- Abilify
- Ablavar
- Abraxane
- Acabel
- Acetadote
- Acetaminophen

**Drugs to check:**

Doxycycline hyclate

Clear Submit

For more information on the IV Compatibility tool see ["Chapter 11: IV Compatibility Tool" on page 155](#).



## Additional Information

Links and infobutton icons within Summary Drug Information mean that more information exists. Click the link or icon to view the information. Examples are definitions for Strength of Evidence, Strength of Recommendation, and Pregnancy and Lactation Categories. This information is presented in a pop-up box that can be printed if desired.

**Dosing/Administration**  
FDA Uses  
See 'In-Depth Answers' for detailed results.

- Cardiovascular event risk, In patients with high co
- Cerebrovascular accident; Prophylaxis ⓘ
- Familial hypercholesterolemia - heterozygous ⓘ
- Familial hypercholesterolemia - homozygous ⓘ
- Familial type 3 hyperlipoproteinemia ⓘ
- Hypertriglyceridemia ⓘ
- Primary hypercholesterolemia, Or Mixed Hyperlipidemia ⓘ

**Simvastatin**

Cerebrovascular accident; Prophylaxis

FDA Approval:

- Adult, yes
- Pediatric, no

Efficacy:

- Adult, Effective

Strength of Recommendation:

- Adult, [Class IIa](#)

Strength of Evidence:

- Adult, [Category B](#)

**Strength of Recommendation**

**Class I - Recommended**

- The given test or treatment has been proven to be useful, and should be performed or administered.

**Class IIa - Recommended, In Most Cases**

- The given test, or treatment is generally considered to be useful, and is indicated in most cases.

**Class IIb - Recommended, In Some Cases**

- The given test, or treatment may be useful, and is indicated in some, but not most, cases.

**Class III - Not Recommended**

- The given test, or treatment is not useful, and should be avoided.

Print Close

## Trade Names

It is easy to display a list of all the trade names for the generic drug. In the left panel under About click the **Trade Names** link. Then click the All Trade Names link. The Tox & Drug Product Lookup tool is displayed with a list of brand name products containing the generic drug from the original landing page.

The screenshot illustrates the navigation process within the Micromedex interface. In the left sidebar, the 'About' section is expanded, and the 'Trade Names' link is highlighted. An arrow points from this link to the 'All Trade Names' link in the main content area. Another arrow points from 'All Trade Names' to the 'Tox & Drug Product Results' page.

**Tox & Drug Product Results**

Displaying results found for "Simvastatin"

Results from: United States | Other Countries    Display: **Product/Substance Names (743)** | Synonyms (0) | Manufacturer Contact Info (0)

Jump To: **ALL** | 0-9 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Results 1 - 50    Page 1 of 15 Go   Previous   Next

Name	Strength/Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. Actalipid (FM)	(Form Not Given)	Actavis, Port.	Portugal	8056772		<a href="#">SIMVASTATIN - DRUGDEX®</a>
2. Adacai (DI)	(Form Not Given)	MSD, Chile	Chile	7889511		<a href="#">EZETIMIBE/SIMVASTATIN - DRUGDEX®</a>
3. Adacai (DI)	(Form Not Given)	Schering-Plough, Venez.	Venezuela	8067166		<a href="#">EZETIMIBE/SIMVASTATIN - DRUGDEX®</a>
4. Adipur (FM)	(Form Not Given)	Medika, Switz.	Switzerland	8025944		<a href="#">SIMVASTATIN - DRUGDEX®</a>
5. Afordel	(Form Not Given)	Merck, Philipp.	Philippines	8077799		<a href="#">SIMVASTATIN - DRUGDEX®</a>
6. Alcosin	(Form Not Given)	Vir, Spain	Spain	7985743		<a href="#">SIMVASTATIN - DRUGDEX®</a>
7. Alpheus	(Form Not Given)	Boniscontro & Gazzone, Ital.	Italy	7977069		<a href="#">SIMVASTATIN - DRUGDEX®</a>
8. Altercor (FM)	(Form Not Given)	Farmaprojects, Neth.	Spain	8005460		<a href="#">SIMVASTATIN - DRUGDEX®</a>
9. Altovast	(Form Not Given)	Foramen, Philipp.	Philippines	7937670		<a href="#">SIMVASTATIN - DRUGDEX®</a>
10. Amlidul	(Form Not Given)	Sandoz, Mex.	Mexico	7972031		
11. Andever (FM)	(Form Not Given)	Gedeon Richter, Hung.	Hungary	8045740		<a href="#">SIMVASTATIN - DRUGDEX®</a>
12. Androp	(Form Not Given)		Brazil	8049255		<a href="#">SIMVASTATIN - DRUGDEX®</a>



## Patient Education

Medication counseling is an important aspect of the HCAHPS survey, which requires patient communication in the inpatient setting. The Patient Education section of a drug landing page provides a focused list of the most important factors to discuss with a patient, such as common or serious adverse effects, special administration instructions, and key warnings and monitoring recommendations.

Click on the **Medication Counseling** link under *Patient Education* in the left panel.

**Metformin Hydrochloride** [Your search: metformin] ✓

Drug Classes: [Antidiabetic](#) | [Biguanide](#) | [All](#)

Routes: **Oral**

**Quick Answers** | In-Depth Answers | All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Patient Teaching** [Print](#)

**Medication Consulting**

- Drug may cause diarrhea, dyspepsia, flatulence, nausea, vomiting, hyper- or hypoglycemia, or asthenia. [21]
- Instruct patient to report signs/symptoms of lactic acidosis (nausea, vomiting, abdominal pain, tachypnea). Elderly patients (80 years and older) are at increased risk. [21]
- Patient should take tablets with meals and extended-release tablets with the evening meal. [21]
- Tell patient to maintain adequate hydration to prevent renal dysfunction. [21]
- Tell patients to notify healthcare provider of metformin use before having radiologic studies using IV dye. [21]
- Patient should not drink alcohol while taking this drug. [21]

**Patient Education**

- Medication Counseling**
- Patient Handouts

**Toxicology**

- Clinical Effects
- Range of Toxicity
- Treatment

**About**

- How Supplied
- Drug Properties

In addition, if you subscribe to Micromedex® CareNotes®, you can link directly to the patient handouts for the drug. In the left panel under *Patient Education* click the **Patient Handouts** link. Then click the drug name and route link. The CareNotes application is opened to the list of applicable Medication Instructions.

The diagram illustrates the workflow for accessing patient handouts in CareNotes from the Micromedex interface.

**Micromedex Interface:**

- Left Panel (Patient Education):**
  - Medication Counseling
  - Patient Handouts** (highlighted)
  - Toxicology
    - Clinical Effects
    - Range of Toxicity
    - Treatment
- Right Panel (Patient Teaching):**
  - Patient Handouts** (highlighted)
  - See 'In-Depth Answers' for detailed results.
  - Simvastatin (Oral route, Tablet)** (highlighted)

**CareNotes® Interface:**

- Navigation Bar:** Keyword Search | Hot Lists | Care and Condition Titles | Drug Titles | Lab Titles | Conversion
- Location:** None
- Workflow Steps:** 1 Search → 2 Select Titles → 3 Select Documents → 4 Customize (optional) → 5 Print
- Your Search:** Simvastatin
- Go To:**
  - Care and Condition Titles (0 titles)
  - Drug Titles (4 titles)**
  - Lab Titles (0 titles)
- Drug Titles: (4 titles)**
  - ☐ Ezetimibe/Simvastatin (Oral) (Tablet) 🔍
  - ☐ Simvastatin/Niacin (Oral) (Tablet, Extended Release) 🔍
  - ☐ Simvastatin (Oral) (Tablet) 🔍
  - ☐ Sitagliptin/Simvastatin (Oral) (Tablet) 🔍



If you do not have access to CareNotes, click on the **In-depth Answers** link to display a Patient Handout within the detailed drug information, which can be printed for the patient.

The screenshot displays a web-based drug information interface. On the left is a navigation menu with categories: **Dosing/Administration** (Adult Dosing, Pediatric Dosing, FDA Uses, Non-FDA Uses, Dose Adjustments, Administration, Comparative Efficacy, Place In Therapy), **Medication Safety**, **Patient Education** (Medication Counseling, Patient Handouts), and **Toxicology** (Clinical Effects, Range of Toxicity, Treatment). The **Patient Handouts** link is highlighted with a red box. Two red arrows originate from this box: one points to the **Patient Teaching Patient Handouts** section in the main content area, and the other points to the **In-Depth Answers** tab at the bottom. The main content area shows the **Patient Teaching Patient Handouts** section for **Simvastatin (Oral route Tablet)**, with a link to 'See 'In-Depth Answers' for detailed results.'. Below this, the **In-Depth Answers** tab is selected, showing the **Patient Education Patient Handouts** section for **A) Simvastatin (By mouth) Simvastatin**. This section includes a description of the drug's use, contraindications, and instructions on how to use the medicine. Links for 'View Full Document' and 'Print' are visible in the top right corner of the content area.

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

**Patient Education**

- Medication Counseling
- Patient Handouts**

**Toxicology**

- Clinical Effects
- Range of Toxicity
- Treatment

**Patient Teaching Patient Handouts**

See 'In-Depth Answers' for detailed results.

Simvastatin (Oral route Tablet)

**In-Depth Answers** All Results

**Patient Education Patient Handouts**

See 'Quick Answers' for summary results.

**A) Simvastatin (By mouth) Simvastatin**

Treats high cholesterol and triglyceride levels. May reduce the risk of heart attack, stroke, and related health conditions. This medicine is a statin.

**When This Medicine Should Not Be Used:**  
This medicine is not right for everyone. Do not use it if you had an allergic reaction to simvastatin, you are pregnant or breastfeeding, or you have active liver disease.

**How to Use This Medicine:**  
Tablet

Take your medicine as directed. Your dose may need to be changed several times to find what works best for you.

Take the medicine in the evening, unless your doctor tells you otherwise.

**Missed dose:** Take a dose as soon as you remember. If it is almost time for your next dose, wait until then.

[View Full Document](#)

[Print](#)

## References

You can view the references by clicking on the **References** link in the left panel or by clicking a citation number within the text, which opens a pop-up window containing the reference.

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects
- Black Box Warning
- REMS
- Drug Interactions (selected)

**About**

References

See 'In-Depth Answers' for detailed results.

1. Institute for Safe Medication Practices: ISMP's list of confused drug names. Institute for Safe Medication Practices. Huntingdon Valley, PA. 2005. Available from URL: <http://ismp.org/T...>
2. Institute for Safe Medication Practices: ISMP's List of Confused Drug Names. Institute for Safe Medication Practices. Horsham, PA. 2009. Available from URL: <http://www.ismp.o...> As accessed 2009-09-14.
3. Product Information: ZOCOR(R) oral tablets, simvastatin oral tablets. Merck & Co., Inc. (Per manufacturer), Whitehouse Station, NJ, 2012.
4. Nseir W, Diab H, Mahamid M, et al: Randomised clinical trial: simvastatin as adjuvant therapy improves significantly the Helicobacter pylori eradication rate - a placebo-controlled study. Aliment Pharmacol Ther 2012; 36(3):231-238. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
5. Product Information: ZOCOR(R) oral tablets, simvastatin oral tablets. Merck & Co., Inc. (Per manufacturer), Whitehouse Station, NJ, 2008.

(Simvastatin and ZOCOR(R) are registered trademarks of Merck & Co., Inc. (Per manufacturer), Whitehouse Station, NJ, 2008. Disposition 2003; 24(5):183-189. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>

12. Product Information: ZOCOR(R) oral tablets, simvastatin oral tablets. Merck & Co., Inc. (Per manufacturer), Whitehouse Station, NJ, 2008.

13. Therapeutic Goods Administration: Prescribing medicines in pregnancy database. Therapeutic Goods Administration. Woden, Australian Capital Territory, Australia. 2011. Available from URL: <http://www.tga.gov...> As accessed 2011-06-20.

Last Modified: November 20, 2014

OR

**Medication Safety**

**Contraindications**

See 'In-Depth Answers' for detailed results.

- active liver disease, including in hepatic transaminases [7]
- concomitant use with gemfibrozil, CYP3A4 inhibitors (eg, boceprevir, HIV protease inhibitors, itraconazole, posaconazole, telaprevir, teliciclovir-containing products)
- hypersensitivity to any component
- nursing mothers [7]
- women who are pregnant or may become pregnant; may cause fetal harm [7]

**References**


[7] Product Information: ZOCOR(R) oral tablets, Merck Sharpe & Dohme, Corp. (per FDA), Whitehouse Station, NJ, 2012.

24. Batagol R/Batagol R (Ed): Australian Drug Evaluation of drug use in pregnancy, 3rd. Australian Government Publishing Service, Canberra, Australia, 2003.
  25. Anon: American academy of pediatrics committee on Drugs. Pediatrics 2001; 108(3):776-789.
  26. Anon: Breastfeeding and Maternal Medication. World Health Organization, Geneva, Switzerland, 2001.
- Last Modified: December 23, 2014

### Last Modified Date

Summary Drug Information includes a *last modified date* at the bottom of the References section.

## Printing

Click the **Print** icon (  **Print** ) to print the summary monograph. For more details on printing see ["Printing" on page 60.](#)



## DETAILED DRUG INFORMATION

DRUGDEX® Detailed Drug Information contains the details required to answer more complex questions, and it is clinically consistent with the Summary Drug Information.

From the landing page click the **In-Depth Answers** tab, and the detailed drug monograph is displayed in the middle panel. The left panel contains links for navigating the sections of the detailed monograph. Click on a link to display that section in the middle panel.

For example, a search for “olanzapine” results in the Olanzapine landing page, which defaults to the *Quick Answers* tab. Click the **In-Depth Answers** tab to view the detailed drug monograph.

The landing page defaults to the Quick Answers tab. Click the In-Depth Answers tab to see the detailed drug monograph.

Click a link to display a section of the monograph.

Text of the Detailed Drug Information monograph

Scroll down and a back-to-top icon will display in the lower right of the page.

**Olanzapine**

Drug Classes: [Antipsychotics](#) | [Central Nervous System Agents](#) | [All](#)

Routes: [Intramuscular](#) | [Oral](#)

[Quick Answers](#) | [In-Depth Answers](#) | [All Results](#)

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects**
- Black Box Warning
- Pregnancy & Lactation

**Medication Safety**

Adverse Effects

See 'Quick Answers' for summary results.

- [Cardiovascular Effects](#)
- [Dermatologic Effects](#)
- [Endocrine/Metabolic Effects](#)
- [Gastrointestinal Effects](#)
- [Hematologic Effects](#)
- [Hepatic Effects](#)
- [Immunologic Effects](#)
- [Musculoskeletal Effects](#)
- [Neurologic Effects](#)
- [Ophthalmic Effects](#)
- [Psychiatric Effects](#)
- [Renal Effects](#)
- [Reproductive Effects](#)
- [Respiratory Effects](#)
- [Other](#)

**Cardiovascular Effects**

- [Olanzapine](#)
- [Olanzapine Pamoate](#)

**Olanzapine**

- [Bradyarrhythmia](#)
- [Chest pain](#)
- [Edema](#)
- [Hypotension](#)

[View Full Document](#)

[Print](#)

**Related Results**

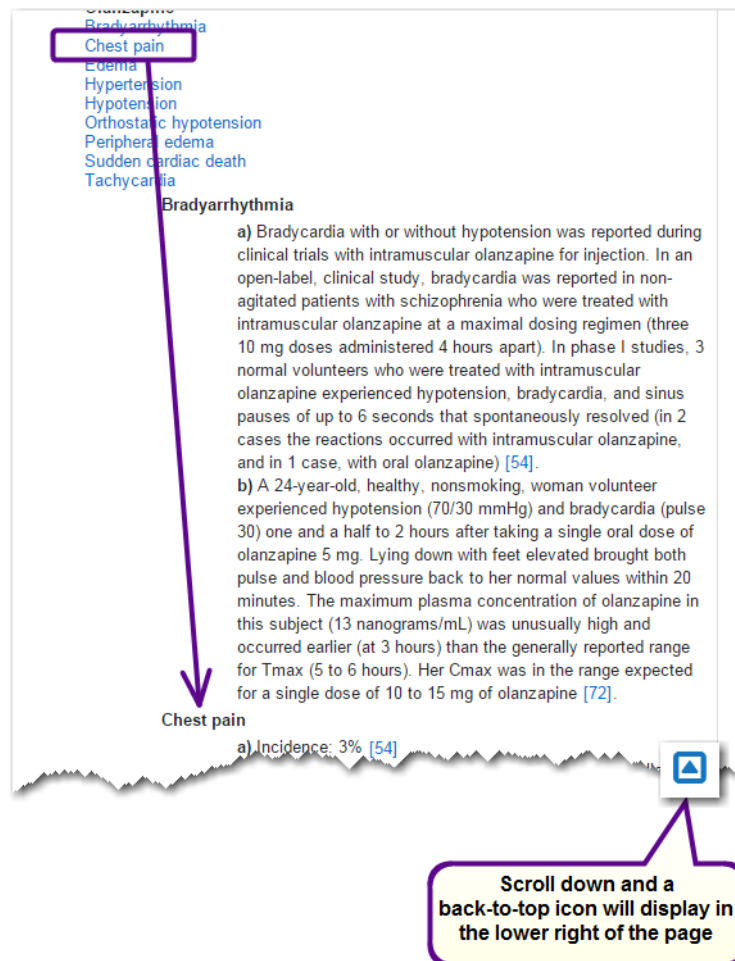
- [Alternative Medicine](#)
- [Case](#)
- [Pharmacology](#)
- [Consumer Drug Information](#)
- [Drug Consults](#)
- [eMC SmPC \(UK\)](#)
- [Index Nominum](#)
- [IT - Dialogo Sui Farmaci](#)
- [Martindale](#)
- [PDR®](#)
- [Product Lookup - Manufacturer](#)
- [Product Lookup - REI](#)
- [Product Lookup - Toxicology](#)

[Back to Top](#)

## Navigating Document Sections

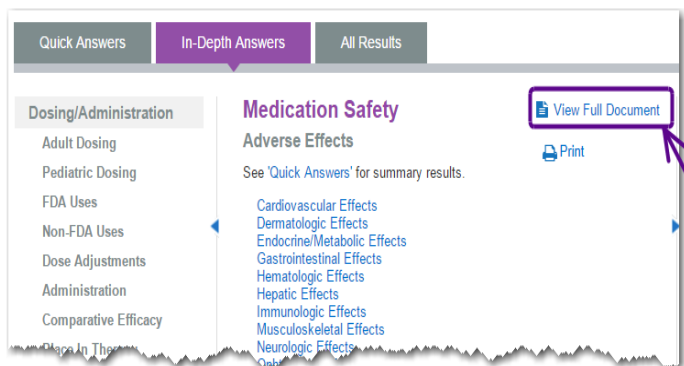
You can use the following methods to navigate within the detailed document sections:

- Arrow up/down keys
- Page up/down keys
- Browser scrollbar
- Click a sub-section link to go directly to that location
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

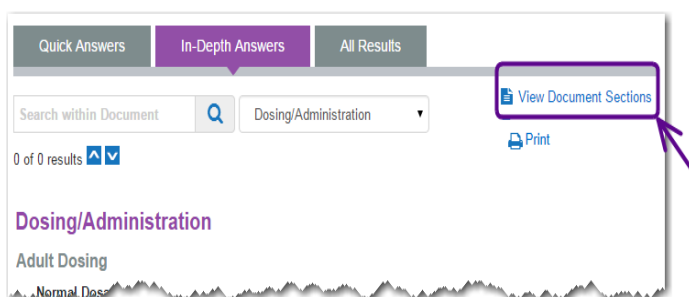




### Viewing the Full Document



Click **View Full Document** to view the entire detailed monograph.



Click **View Document Sections** to return to the panel view.

## Navigating the Full Document



When viewing the full detailed monograph you have the following options for moving within the document:

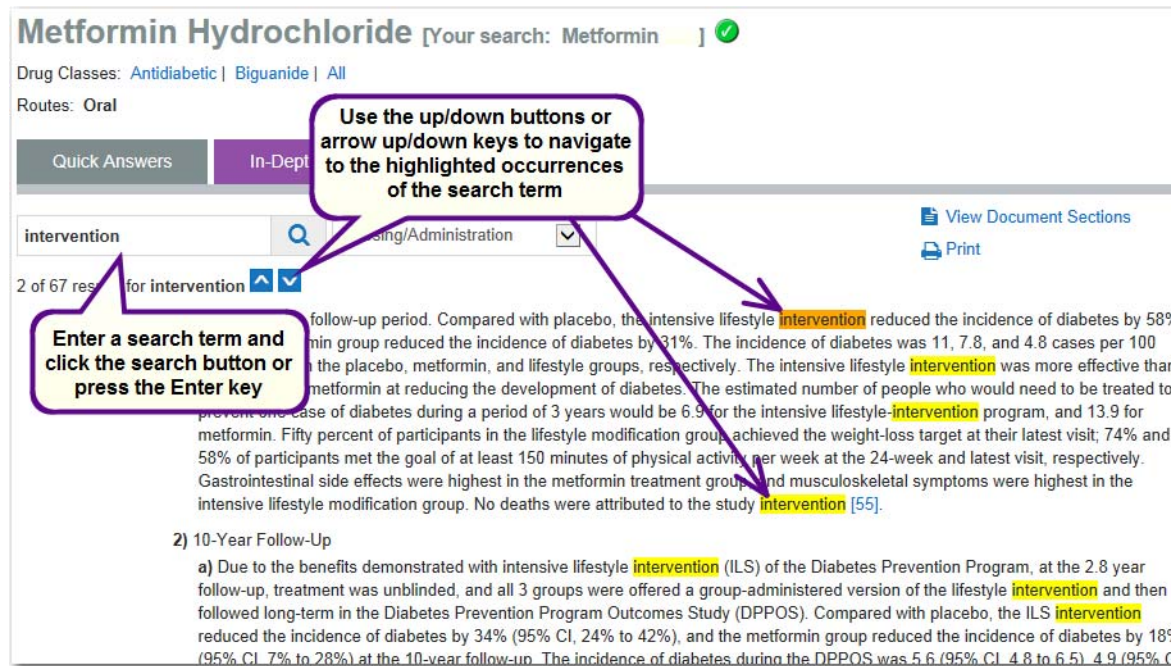
- Arrow Up/Down keys
- Page Up/Page Down keys
- Browser scrollbar
- Drop-down box under the landing page tabs - Select a document section from this list to go directly to that section.
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

The screenshot displays the full monograph for Metformin Hydrochloride. The interface includes a top navigation bar with tabs for 'Quick Answers' and 'In-Depth Answers'. A search bar is located below the tabs. On the left side, there is a list of document sections, with 'Patient Education' currently selected. A callout bubble points to this list with the text: 'Select a document section from the drop-down list'. The main content area shows the text of the monograph, including sections on 'Thyroid' and 'Timolol'. A callout bubble points to the browser scrollbar on the right side of the content area with the text: 'Use the browser scrollbar or the up/down arrow keys or the Page Up/Page Down keys'. In the bottom right corner of the content area, there is a small icon of a document with an upward-pointing arrow. A callout bubble points to this icon with the text: 'Click the back-to-top icon to return to the top of the document'.





## Searching Within a Document

When viewing the full detailed monograph you can search within the document. Simply enter a word or phrase in the search box located below the landing page tabs and click the **search** button or press the **Enter** key. The first occurrence of your search term is highlighted in orange, and subsequent occurrences are highlighted in yellow. Use the **arrow up/down** keys or the **up/down** buttons (   ) to move from one highlighted occurrence to another.



The screenshot shows the search results for "Metformin Hydrochloride" with the search term "intervention". The interface includes tabs for "Quick Answers" and "In-Depth", a search box with the term "intervention", and a "View Document Sections" link. Annotations with arrows point to specific features:

- A callout box says: "Use the up/down buttons or arrow up/down keys to navigate to the highlighted occurrences of the search term". Arrows point to the up/down arrow buttons next to the search results and to the highlighted word "intervention" in the text.
- Another callout box says: "Enter a search term and click the search button or press the Enter key". An arrow points to the search button.


2 of 67 results for intervention  

...follow-up period. Compared with placebo, the intensive lifestyle **intervention** reduced the incidence of diabetes by 58%...  
...min group reduced the incidence of diabetes by 31%. The incidence of diabetes was 11, 7.8, and 4.8 cases per 100...  
...the placebo, metformin, and lifestyle groups, respectively. The intensive lifestyle **intervention** was more effective than...  
...metformin at reducing the development of diabetes. The estimated number of people who would need to be treated to...  
...prevent one case of diabetes during a period of 3 years would be 6.9 for the intensive lifestyle-**intervention** program, and 13.9 for...  
...metformin. Fifty percent of participants in the lifestyle modification group achieved the weight-loss target at their latest visit; 74% and...  
...58% of participants met the goal of at least 150 minutes of physical activity per week at the 24-week and latest visit, respectively.  
...Gastrointestinal side effects were highest in the metformin treatment group, and musculoskeletal symptoms were highest in the...  
...intensive lifestyle modification group. No deaths were attributed to the study **intervention** [55].

2) 10-Year Follow-Up

a) Due to the benefits demonstrated with intensive lifestyle **intervention** (ILS) of the Diabetes Prevention Program, at the 2.8 year...  
...follow-up, treatment was unblinded, and all 3 groups were offered a group-administered version of the lifestyle **intervention** and then...  
...followed long-term in the Diabetes Prevention Program Outcomes Study (DPPOS). Compared with placebo, the ILS **intervention**...  
...reduced the incidence of diabetes by 34% (95% CI, 24% to 42%), and the metformin group reduced the incidence of diabetes by 18%...  
... (95% CI, 7% to 28%) at the 10-year follow-up. The incidence of diabetes during the DPPOS was 5.6 (95% CI, 4.8 to 6.5), 4.9 (95% CI, 4.1 to 5.7), and 4.8 (95% CI, 4.0 to 5.6) in the placebo, metformin, and lifestyle groups, respectively.

## Printing

Click the Print icon (  **Print** ) to print the detailed monograph. This is available when viewing the document sections or the full document. For more details on printing see ["Printing" on page 60](#).

## References

When in the panel view you can view the references by clicking on the **References** link in the left panel or by clicking a citation number within the text, which opens a pop-up window containing the reference.

The screenshot shows the Micromedex panel view. On the left, there is a sidebar with two main sections: 'Dosing/Administration' and 'Medication Safety'. Under 'Medication Safety', the 'References' link is highlighted with a purple box. An arrow points from this link to the 'References' section in the main content area. The main content area has a header with 'About' and 'References' tabs, and a 'View Full Document' button. Below the 'References' tab, there is a list of references, each starting with a citation number (1-10). The first reference is: 1. Navari RM, Gray SE, & Kerr AC: Olanzapine versus aprepitant for the prevention of chemotherapy-induced nausea and vomiting: a randomized phase III trial. J Support Oncol 2011; 9(5):188-195. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>

OR

The screenshot shows the 'Mechanism of Action' page for Olanzapine. The page has a header with 'Mechanism of Action' and 'References' tabs, and a 'View Full Document' button. Below the 'References' tab, there is a list of references, each starting with a citation number (1-10). The first reference is: 1. Navari RM, Gray SE, & Kerr AC: Olanzapine versus aprepitant for the prevention of chemotherapy-induced nausea and vomiting: a randomized phase III trial. J Support Oncol 2011; 9(5):188-195. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>



When viewing the full document you can view the references by selecting **References** from the section drop-down box or by clicking a citation number within the text, which takes you to that specific reference in the References section.

Quick Answers In-Depth Answers All Results

Search within Document

0 of 0 results

References

1. Navari RM, ... SE, & Kerr AC: Olanzapine in the treatment of schizophrenia. Support Oncol 2011; 9(5):188-195. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/21511111> PubMed Article: <http://www.ncbi.nlm.nih.gov/pubmed/21511111>
2. Tan L, Liu J, Liu X, et al: Clinical research on the study of pharmacokinetics of olanzapine in healthy Chinese subjects. J Clin Pharmacol 2012; 52(4):491-498. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/22511111> PubMed Article: <http://www.ncbi.nlm.nih.gov/pubmed/22511111>
3. Meyers BS, Flint AJ, Rothschild AJ, et al: Olanzapine in the treatment of depression: the study of pharmacokinetics of olanzapine in healthy Chinese subjects. J Clin Pharmacol 2012; 52(4):491-498. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/22511111> PubMed Article: <http://www.ncbi.nlm.nih.gov/pubmed/22511111>
4. Meehan KM, Wang H, David SR, et al: Olanzapine in the treatment of depression: the study of pharmacokinetics of olanzapine in healthy Chinese subjects. J Clin Pharmacol 2012; 52(4):491-498. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/22511111> PubMed Article: <http://www.ncbi.nlm.nih.gov/pubmed/22511111>

References

OR

Pediatric Dosing

Normal Dosage

Important Note

) There are 2 olanzapine intramuscular formulations with different dosages. The extended-release formulation should not be confused with olanzapine pamoate, the extended-release formulation. Extended-release olanzapine pamoate must be administered in a restricted environment. Following each injection, a healthcare professional must observe the patient for symptoms consistent with olanzapine overdose, including sedation and loss of consciousness. The patient is alert, oriented, and without any signs or symptoms of post-injection delirium/sedation syndrome. [52]

Olanzapine

52. Product Information: ZYPREXA RELPREVV extended release IM injectable suspension, olanzapine extended release and Company, Indianapolis, IN, 2009.
53. Kane JM, Detke HC, Naber D, et al: Olanzapine long-acting injection: a 24-week, randomized, double-blind trial of olanzapine long-acting injection versus oral olanzapine in the treatment of schizophrenia. Am J Psychiatry 2010; 167(2):181-189. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/20011111> PubMed Article: <http://www.ncbi.nlm.nih.gov/pubmed/20011111>
54. Product Information: ZYPREXA(R) oral tablets, intramuscular injection, olanzapine oral tablets, intramuscular injection, Indianapolis, IN, 2010.
55. Product Information: ZYPREXA(R) RELPREVV(TM) extended release intramuscular injectable suspension, olanzapine injectable suspension, Eli Lilly and Company, Indianapolis, IN, 2010.
56. U.S. Food and Drug Administration (FDA): FDA Drug Safety Communication: FDA is investigating two deaths following antipsychotic Zyprexa Relprevv (olanzapine pamoate). U.S. Food and Drug Administration (FDA), Rockville, MD. 2013. <http://www.fda.gov/oc/ohrt/zyprexa-reprevv/> As accessed 2013-06-18.
57. Product Information: ZYPREXA(R) intramuscular injection, oral tablet, orally disintegrating tablet, olanzapine intramuscular disintegrating tablet, Eli Lilly and Company, Indianapolis, IN, 2009.
58. Tollefson GD, Beasley CM Jr, Tran PV, et al: Olanzapine versus haloperidol in the treatment of schizophrenia and related disorders: results of an international collaborative trial. Am J Psychiatry 1997; 154:457-465.

1942. King RB: Concerning the management of pain associated with acute herpetic neuralgia. Int J Dermatol 2001; 40(1):33-73-78.

1943. Balakrishnan S, Bhushan K, Bhargava VK, et al: A randomized controlled trial of oral aspirin for acute herpetic neuralgia. Int J Dermatol 2001; 40(1):33-73-78.

Last Modified: December 23, 2014

### Last Modified Date

Detailed drug information monographs contain a *last modified date* at the bottom of the References section.

## RELATED RESULTS

The following related information can be accessed from the landing page:

- [Chapter 7: Alternative Medicine Information on page 123](#)
- [Chapter 5: Disease Information on page 97](#)
- [Chapter 6: Toxicology Information on page 113](#)
- ["Consumer Drug Information \(Detailed Drug Information for the Consumer\)" on page 93](#)
- ["Drug Consults" on page 93](#)
- ["Global \ International Drug Information" on page 93](#)
- ["P&T Quick Reports \(Formulary Considerations\)" on page 94](#)
- ["Physicians' Desk Reference® \(PDR\)" on page 94](#)
- ["Product Lookup - Martindale" on page 94](#)
- ["Product Lookup - RED BOOK Online" on page 94](#)
- ["Product Lookup - Tox & Drug" on page 94](#)



In the following example a search was performed for “posaconazole,” and the Posaconazole landing page is displayed. Links to related information are available in the right panel when viewing the *Quick Answers* and *In-Depth Answers* tab and in the left panel when viewing the *All Results* tab.

The screenshot displays the Posaconazole landing page with three main panels: **Quick Answers**, **In-Depth Answers**, and **All Results**. The **Quick Answers** panel shows dosing and administration information, including adult dosing, pediatric dosing, FDA uses, non-FDA uses, dose adjustments, administration, comparative efficacy, and place in therapy. The **In-Depth Answers** panel provides detailed information on dosing and administration, including adult dosing, pediatric dosing, FDA uses, non-FDA uses, dose adjustments, administration, comparative efficacy, and place in therapy. The **All Results** panel shows a list of 1-15 of 609 results for "Posaconazole".

Arrows point to the following elements:

- Posaconazole landing page**: Points to the top of the page.
- Quick Answers**: Points to the **Quick Answers** tab.
- In-Depth Answers**: Points to the **In-Depth Answers** tab.
- All Results**: Points to the **All Results** tab.
- Related Results**: Points to the **Related Results** panel on the right.
- Related Documents**: Points to the **Related Documents** panel on the left.

For more information on landing pages see [“Landing Pages” on page 17.](#)

Clicking on a link under *Related Results* displays a list of all related documents in that database. Click a title to display the document or landing page.

**Posaconazole**

Drug Classes: [Antifungal](#) | [Anti-Infective Agent](#) | [All](#)

Routes: [Intravenous](#) | [Oral](#)

**Quick Answers** | **In-Depth Answers** | **All Results**

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Dosing/Administration** [Print](#)

See "In-Depth Answers" for detailed results.

**General Dosage Information**

- delayed-release tablets and oral suspension cannot be used interchangeably because of differences in the dosing of each formulation [1]

**Related Results**

- Disease
- Toxicology
- Consumer Drug Information
- Drug Consults**
- EMC SMPC (UK)
- Index Nominum
- IT- Dialogo Sui Farmaci
- Martindale
- P&T QUIK REPORTS
- PDR®

**Drug Consults**

**CAPSULES/TABLETS THAT SHOULD NOT BE CRUSHED GUIDE**

- DRUG THERAPY OF ALLERGIC BRONCHOPULMONARY ASPERGILLOSIS
- FUNGAL MENINGITIS OUTBREAK - CDC TREATMENT GUIDANCE FOR FUNGAL INFECTIONS ASSOCIATED WITH THE INJECTION OF POTENTIAL
- NEW DRUG APP
- PREVENTION AND TREATMENT OF HIV IN HIV-INFECTED
- PREVENTION AND TREATMENT OF HIV IN HIV-INFECTED P
- PREVENTION AND TREATMENT OF HIV IN HIV-INFECTED P

**CAPSULES/TABLETS THAT SHOULD NOT BE CRUSHED GUIDE**

Drug Consults [1]

**RESPONSE**

A variety of oral solid dosage forms should not be crushed or chewed prior to administration because

- extended-release, a term used synonymously with controlled-release, prolonged-action, and susta
- enteric or protective coated medications
- medications formulated for sublingual or buccal absorption, or those designed to exert a local effect
- medications that are offensive-tasting to the patient, irritate the oral mucosa, or contain dyes or substances that may be given to patients with nasogastric (NG) tubes



## Consumer Drug Information (Detailed Drug Information for the Consumer)

Consumer Drug Information provides patient-oriented drug information to help patients understand and successfully follow their drug regimens. Written at a 12th-grade literacy level, documents provide greater detail than most patient education leaflets and include brand names, descriptions, proper use, precautions, and side effects. Instructions for how to handle missed doses are included, as are guidelines for when to seek medical assistance or supervision.

### Related Documents

- [Comparative Efficacy](#)
- [Consumer Drug Information](#)
- [Drug Consults](#)
- [eMC SmPC \(UK\)](#)
- [Index Nominum](#)
- [IT- Dialogo Sui Farmaci](#)
- [Martindale](#)
- [P&T QUIK REPORTS](#)
- [PDR®](#)
- [Product Lookup - Martindale](#)
- [Product Lookup - RED Book Online](#)
- [Product Lookup - Tox & Drug](#)

## Drug Consults

DRUGDEX® Drug Consults are evidence-based, fully-referenced articles covering drug therapies and drug guidelines. Some Drug Consults present patient related, referenced consultations with case histories. They are also an excellent resource for information on herbal medications, medical and surgical materials, excipients, drugs of abuse, and health foods. Drug Consults are provided for investigational, international, FDA-approved, and over-the-counter preparations. In addition to accessing Drug Consults from a landing page, you can perform a targeted search to see all Drug Consults or all Drug Consults containing comparative tables. See [“Targeted Searches” on page 44](#) for more details.

## Global \ International Drug Information

International drug information can be included in your subscription. Databases can include: [Martindale: The Complete Drug Reference](#), [Index Nominum](#), [Herbal Medicines: A Guide for the Health-Care Professional](#), Dialogo sui Farmaci, or eMC SmPC. The international drug information is integrated into all searches in Micromedex Solutions. In addition to accessing international drug information from a landing page and intermediate search results, you can perform a search on an international brand name. See [“International Drug Searching” on page 59](#) for more details.

## P&T Quick Reports (Formulary Considerations)

P&T QUIK Reports assists pharmacists in preparing for Pharmacy and Therapeutics Committee meetings. P&T QUIK contains monographs on drugs being considered by P&T Committees for placement on the hospital formulary. Included are drugs recently approved by the FDA, those of intense interest, or drugs suggested by subscribers. Twelve monographs are added each quarter, and the most recent 24 months of monographs are available.

### Related Documents

- [Comparative Efficacy](#)
- [Consumer Drug Information](#)
- [Drug Consults](#)
- [eMC SmPC \(UK\)](#)
- [Index Nominum](#)
- [IT- Dialogo Sui Farmaci](#)
- [Martindale](#)
- [P&T QUIK REPORTS](#)
- [PDR®](#)
- [Product Lookup - Martindale](#)
- [Product Lookup - RED Book Online](#)
- [Product Lookup - Tox & Drug](#)

## Physicians' Desk Reference® (PDR)

The electronic Physicians' Desk Reference provides fast, easy access to information found in the popular Physicians' Desk Reference® (PDR), the PDR for Nonprescription Drugs and Dietary Supplements™, and the PDR for Ophthalmic Medicines. The content includes current FDA-approved prescription drugs, commonly used over-the-counter drugs, and specialized ophthalmic pharmaceuticals. It provides detailed data on ingredients, drug interactions, side effects, recommended dosages, clinical pharmacology, pediatric use, contraindications, and available forms. Information on drug manufacturers is also included.

## Product Lookup - Martindale

Clicking this link performs a search for *Globally distributed drug products in Martindale* in the Tox & Drug Product Lookup tool. See [Chapter 14: Tox & Drug Product Lookup Tool](#) for more details.

## Product Lookup - RED BOOK Online

Clicking this link performs an *Active Ingredient* search in the RED BOOK Online tool. See [Chapter 16: RED BOOK Online on page 209](#) for more details.

## Product Lookup - Tox & Drug

Clicking this link performs a *Product or substance name* search in the Tox & Drug Product Lookup tool. See [Chapter 14: Tox & Drug Product Lookup Tool](#) for more details.



## TARGETED DRUG INFORMATION SEARCHES

Micromedex Solutions provides some highly focused drug searches that present you with results that are specific to your clinical question. These include:

- **Black Box Warnings**

An alphabetical list of all drugs in Micromedex Solutions with a black box warnings. Search results return the list of drugs (with a black box warning) as links, to directly access the black box warning topic in the drug information. See [“Black Box Warning List” on page 45](#) for additional information.

- **Comparative Tables**

A complete list of all DRUGDEX Drug Consults articles that have comparative tables. See [“Comparative Tables” on page 46](#) for more information.

- **Do Not Confuse Drug List**

An alphabetical list of confused drug names, including look-alike and sound-alike name pairs. See [“Do Not Confuse Drug List” on page 47](#) for more information.

- **Drug Classes**

This search displays an alphabetical list of the drug classes in Micromedex Solutions that can be browsed to find all of the drugs in a particular class. See [“Drug Classes” on page 49](#) for more information.

- **Drug Consults**

A complete list of all Drug Consults articles available in Micromedex Solutions. See [“Drug Consults” on page 52](#) for more information.

- **REMS: Risk Evaluation and Mitigation Strategies**

Provides a list of drugs and biological products that have FDA-approved REMS. Drug names are displayed as links to the REMS information for the drug. See [“REMS: List of Drugs With a Risk Evaluation and Mitigation Strategy” on page 53](#) for more information.



# CHAPTER 5: DISEASE INFORMATION

The Micromedex® Solutions application supports disease management with unbiased, evidence-based information and identification of best practices for treating diseases. It lets clinicians quickly reference the most current treatment of choice at the point of care to help minimize errors, prevent unnecessary tests or procedures, reduce treatment costs, and improve patient outcomes. Micromedex Solutions delivers both etiology and treatment information, with summary overviews for each medical condition providing recommendations for appropriate care.

Micromedex Disease Information provides trusted information to help clinicians make confident decisions when treating emergent, acute, and chronic disorders, and supports meaningful outcomes and ensures the highest standards of care.

We create a summary monograph and a detailed monograph for each topic. The Summary Disease Information monographs support quick decisions at the point of care, and the Detailed Disease General Medicine and Detailed Disease Emergency Medicine monographs support further research and aid clinicians when making difficult treatment decisions. Because one editorial group creates all the Micromedex content, treatment recommendations are consistent.

This chapter describes the types of disease information available in Micromedex Solutions. For information on how to search in Micromedex Solutions see ["Chapter 3: Searching Micromedex Solutions" on page 13](#).

## SUMMARY DISEASE INFORMATION

Summary Disease Information is succinct, actionable at the point-of-care, and designed to get you an answer very quickly. It is displayed on the middle panel of the *Quick Answers* tab on the landing page. The left panel contains links for navigating the sections of the summary monograph. Click on a link to display that section in the middle panel.

Hyperlinked information within the content links directly to drug, lab, toxicology, and other disease landing pages.

For example, a search for “tuberculosis” results in the following landing page:

The screenshot displays the 'Tuberculosis' summary page. The interface includes a top navigation bar with 'Quick Answers', 'In-Depth Answers', and 'All Results' tabs. A left sidebar lists sections: Definition, Medical History, Findings, Differential Diagnosis (highlighted), Testing, Drug Therapy, Procedural Therapy, Non-Procedural Therapy, Ongoing Assessment, and Reference. The main content area shows the 'Differential Diagnosis' section, which includes a list of conditions and a 'Print' button. A right sidebar titled 'Related Results' lists 'Alternative Medicin', 'Drug', 'Toxicology', 'Clinical Checklist', 'Disease', 'Other Title', and 'Studies'. A 'back-to-top' icon is located in the bottom right corner.

**Callouts:**

- Click a link to display a section of the monograph:** Points to the 'Differential Diagnosis' link in the left sidebar.
- Text of the Summary Drug Information monograph:** Points to the 'Quick Answers' tab.
- Links to other landing pages:** Points to the hyperlinked text 'Community acquired pneumonia' in the 'Differential Diagnosis' list.
- Scroll down and a back-to-top icon will display in the lower right of the page:** Points to the back-to-top icon in the bottom right corner.



## References

You can view the references by clicking on the **Reference** link in the left panel or by clicking a citation number within the text, which opens a pop-up window containing the reference.

**Tuberculosis**

Quick Answers | In-Depth Answers | All Results

Definition  
Medical History  
Findings  
Differential Diagnosis  
Testing  
Treatment  
Drug Therapy  
Procedural Therapy  
Non-procedural Therapy  
Ongoing Assessment  
**Reference**

**Reference** [Print](#)

1. Jacob JT, Mehta AK, & Leonard MK: Acute forms of tuberculosis in adults. Am J Med 2009; 122(1):12-17.  
PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...>  
PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
2. Ernst JD, Trevejo-Nunez G, & Banaiee N: Genomics and the evolution, pathogenesis, and diagnosis of tuberculosis. J Clin Invest 2007; 117(7):1738-1745.  
PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...>  
PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
3. American Thoracic Society & Center for Disease Control and Prevention. National Immunization Program (NIP): Diagnostic Standards and Classification of Tuberculosis in Adults and Children. This official statement of the American Thoracic Society and the Centers for Disease Control and Prevention was adopted by the ATS Board of Directors, July 1999. This statement was endorsed by the Council of the Infectious Disease Society of America, September 1999. Am J Respir Crit Care Med 2000; 161(4 Pt 1):1376-1395.  
PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...>  
PubMed Article: <http://www.ncbi.nlm.nih.gov/...>

OR

**Treatment** [Print](#)

Procedural Therapy

Suspected and known tuberculosis [17]

- Infection control procedure

Reportable infectious diseases [18][19][20]

- Infectious disease notification: In the United States, specific infectious diseases must be reported to the public health department [18][19].

**References** [Close](#)

[20] Chapman AS, Bakken JS, Folk SM, et al: Diagnosis and management of tickborne rickettsial diseases: Rocky Mountain spotted fever, ehrlichiosis, and anaplasmosis—United States: a practical guide for physicians and other health-care and public health professionals. MMWR Recomm Rep 2006; 55(RR-4):1-27.  
PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...>  
PubMed Article: <http://www.ncbi.nlm.nih.gov/...>

32. Mensing C, Boucher J, Cypress M, et al: National standards for the management of tuberculosis in the United States. S96-S103.  
PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...>  
PubMed Article: <http://www.ncbi.nlm.nih.gov/...>


33. Levey AS, Coresh J, Balk E, et al: National Kidney Foundation clinical practice guidelines for the classification and stratification of chronic kidney disease. Ann Intern Med 2003; 139(2):1-26.  
PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...>  
PubMed Article: <http://www.ncbi.nlm.nih.gov/...>

**Last Modified: September 12, 2014**

### Last Modified Date

Summary Disease Information includes a *last modified date* at the bottom of the Reference section.

## Printing

Click the **Print** icon (  **Print** ) to print the summary monograph. For more details on printing see [“Printing” on page 60.](#)



## DETAILED DISEASE INFORMATION

Detailed Disease General and Emergency Medicine Information contains the details required to answer more complex questions, and it is clinically consistent with the Summary Disease Information.

From the landing page click the **In-Depth Answers** tab, and the detailed disease monograph is displayed in the middle panel. The left panel contains links for navigating the sections of the detailed monograph. Click on a link to display that section in the middle panel.

For example, a search for “sepsis” results in the Sepsis landing page, which defaults to the *Quick Answers* tab. Click the **In-Depth Answers** tab to view the detailed disease monograph.

The screenshot displays the 'Sepsis' detailed disease monograph. The interface includes a top navigation bar with tabs: 'Quick Answers', 'In-Depth Answers' (selected), and 'All Results'. Below this is a left sidebar with a table of contents containing sections like 'Background', 'History And Physical', 'Diagnostic Testing', and 'Diagnosis'. The main content area shows the 'History And Physical Summary' section, which includes text about sepsis progression, clinical findings, and history-taking. To the right of the main text are links for 'View Full Document', 'Print', and 'Related Results' (including Alternative Medicine, Drug, Toxicology, Clinical Checklist, Disease Other Titles, and Emergency Medical Abst Studies). A back-to-top icon is located in the bottom right corner of the content area.

**The landing page defaults to the Quick Answers tab. Click the In-Depth Answers tab to see the detailed disease monograph.**

**Text of the Detailed Disease Information monograph**

**Click a link to display a section of the monograph**

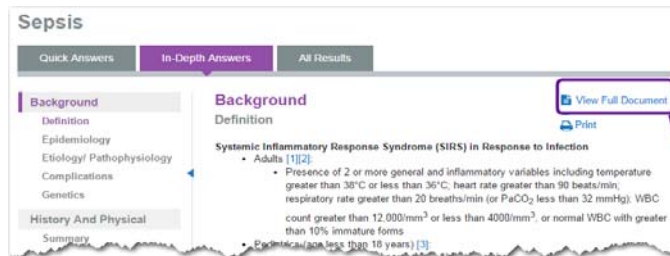
**Scroll down and a back-to-top icon will display in the lower right of the page**

## Navigating Document Sections

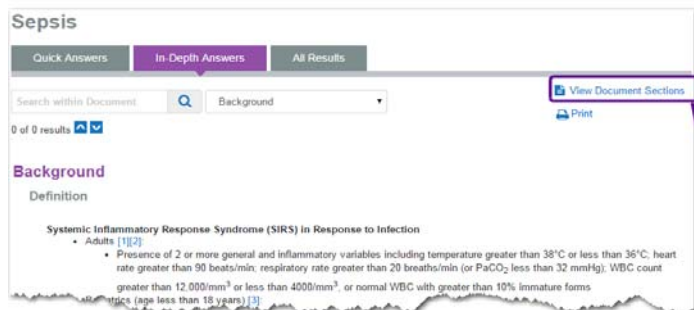
You can use the following methods to navigate within the detailed document sections:

- Arrow up/down keys
- Page up/down keys
- Browser scrollbar
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

## Viewing the Full Document



Click **View Full Document** to view the entire detailed monograph.



Click **View Document Sections** to return to the panel view.





## Navigating the Full Document

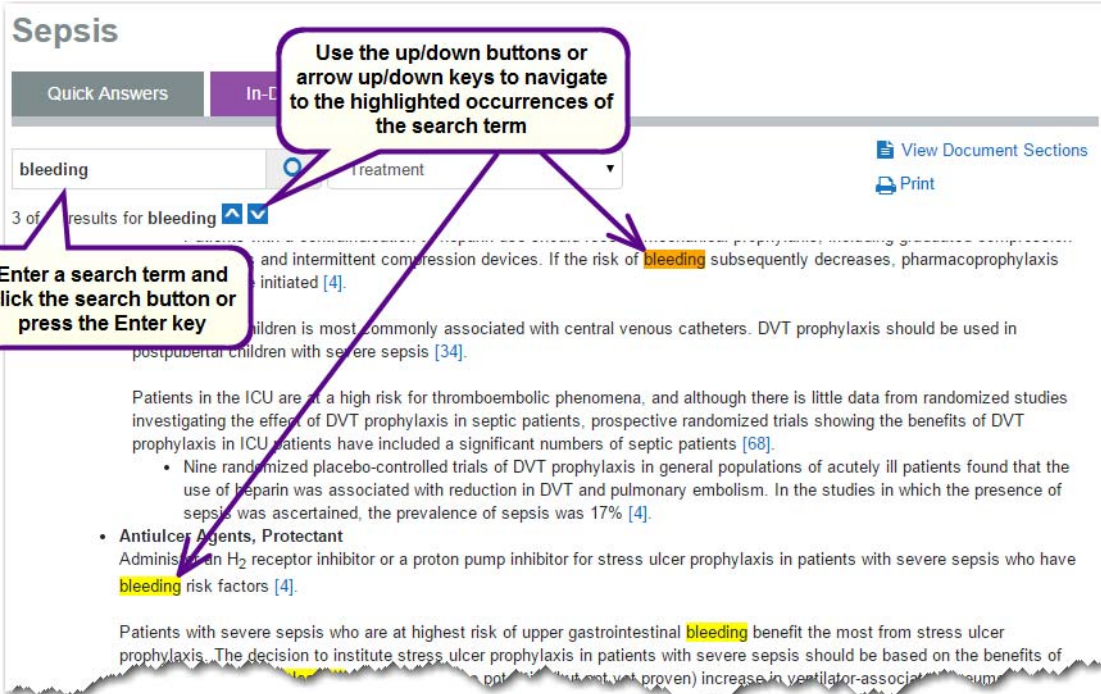
When viewing the full detailed monograph you have the following options for moving within the document:

- Arrow Up/Down keys
- Page Up/Page Down keys
- Browser scrollbar
- Drop-down box under the landing page tabs - Select a document section from this list to go directly to that section.
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

The screenshot shows the 'Sepsis' monograph interface. At the top, there are tabs for 'Quick Answers', 'In-Depth Answers' (selected), and 'All Results'. Below the tabs is a search bar labeled 'Search within Document' and a magnifying glass icon. To the right of the search bar is a dropdown menu currently set to 'Treatment'. A callout bubble points to this dropdown with the text: 'Select a document section from the drop-down list'. The dropdown menu is open, showing a list of sections: Background, Definition, Epidemiology, Etiology/ Pathophysiology, Complications, Genetics, History And Physical, Summary, Medical History, Findings, Diagnostic Testing, Tests, Diagnosis, Diagnostic Criteria, Differential Diagnosis, Ongoing Assessment, Reassessment, Treatment (highlighted), and Treatment Summary. Another callout bubble points to the 'Treatment' section in the dropdown with the text: 'Use the browser scrollbar or the up/down arrow keys or the Page Up/Page Down keys'. Below the search bar, the text '0 of 0 results' is displayed. The main content area is titled 'Treatment' and 'Treatment Summary'. It contains several paragraphs of text. At the bottom right of the page, there is a small blue square icon with a white upward-pointing arrow. A callout bubble points to this icon with the text: 'Scroll down and a back-to-top icon will display in the lower right of the page'. In the top right corner of the document area, there are links for 'View Document Sections' and 'Print'.

## Searching Within a Document

When viewing the full detailed monograph you can search within the document. Simply enter a word or phrase in the search box located below the landing page tabs and click the **search button** or press the **Enter** key. The first occurrence of your search term is highlighted in orange, and subsequent occurrences are highlighted in yellow. Use the **arrow up/down** keys or the **up/down buttons** (   ) to move from one highlighted occurrence to another.



The screenshot shows the 'Sepsis' monograph page. At the top, there are tabs for 'Quick Answers' and 'In-Depth'. Below the tabs is a search bar containing the text 'bleeding'. To the right of the search bar are buttons for 'View Document Sections' and 'Print'. Below the search bar, it says '3 of 10 results for bleeding' followed by up and down arrow icons. The main text of the monograph is visible, with several occurrences of the word 'bleeding' highlighted. Two callout boxes with arrows point to specific features: one points to the search bar and the up/down arrow icons, and the other points to a highlighted occurrence of 'bleeding' in the text.

**Enter a search term and click the search button or press the Enter key**

**Use the up/down buttons or arrow up/down keys to navigate to the highlighted occurrences of the search term**

bleeding

3 of 10 results for bleeding

and intermittent compression devices. If the risk of bleeding subsequently decreases, pharmacoprophylaxis initiated [4].

Children is most commonly associated with central venous catheters. DVT prophylaxis should be used in postoperative children with severe sepsis [34].


Patients in the ICU are at a high risk for thromboembolic phenomena, and although there is little data from randomized studies investigating the effect of DVT prophylaxis in septic patients, prospective randomized trials showing the benefits of DVT prophylaxis in ICU patients have included a significant numbers of septic patients [68].

- Nine randomized placebo-controlled trials of DVT prophylaxis in general populations of acutely ill patients found that the use of heparin was associated with reduction in DVT and pulmonary embolism. In the studies in which the presence of sepsis was ascertained, the prevalence of sepsis was 17% [4].

• **Antilucer Agents, Protectant**  
Administer an H<sub>2</sub> receptor inhibitor or a proton pump inhibitor for stress ulcer prophylaxis in patients with severe sepsis who have bleeding risk factors [4].

Patients with severe sepsis who are at highest risk of upper gastrointestinal bleeding benefit the most from stress ulcer prophylaxis. The decision to institute stress ulcer prophylaxis in patients with severe sepsis should be based on the benefits of

## Printing

Click the Print icon (  **Print** ) to print the detailed monograph. This is available when viewing the document sections or the full document. For more details on printing see ["Printing" on page 60](#).



## References

When in the panel view you can view the references by clicking on the **Reference** link in the left panel or by clicking a citation number within the text, which opens a pop-up window containing the reference.

The diagram illustrates two methods for viewing references in a panel view. On the left, a panel view is shown with a sidebar on the left containing links: Background, Definition, Epidemiology, Etiology/ Pathophysiology, Complications, Genetics, History And Physical, Summary, Medical History, Findings, Diagnostic Testing, Diagnostic Testing Summary, Tests, Conditions, Tests & Procedures, Drugs, Studies And Alerts, and Reference. The 'Reference' link is highlighted with a purple box. The main content area displays a list of references, with the first reference (1. Talan DA, Moran GJ, & Abrahamian FM: Severe sepsis and septic shock in the emergency department. Infect Dis Clin North Am 2008; 22(1):1-31. v. PubMed Abstract: http://www.ncbi.nlm.nih.gov/... PubMed Article: http://www.ncbi.nlm.nih.gov/...) highlighted with a purple box. A purple arrow points from the 'Reference' link in the sidebar to the first reference in the main content area. On the right, a pop-up window is shown with a 'References' section containing the reference [7] Martin GS, Mannino DM, E: United States from 1979 through. A purple arrow points from the citation number [7] in the text to the reference in the pop-up window. The word 'OR' is placed between the two panels.

**Reference** View Full Document Print

1. Talan DA, Moran GJ, & Abrahamian FM: Severe sepsis and septic shock in the emergency department. Infect Dis Clin North Am 2008; 22(1):1-31. v. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
2. Levy MM, Fink MP, Marshall JC, et al: 2001 SCCM/ESICM/ACCP/ATS/SIS International Sepsis Definitions Conference. Crit Care Med 2003; 31:1250-1256.
3. Goldstein B, Giroir B, & Randolph A: International pediatric sepsis consensus conference: definitions for sepsis and organ dysfunction in pediatrics. Pediatr Crit Care Med 2005; 6(1):2-8. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
4. Dellinger RP, Levy MM, Rhodes A, et al: Surviving Sepsis Campaign: international guidelines for management of severe sepsis and septic shock, 2012. Intensive Care Med 2013; 39(2):165-228.
10. Nguyen HB, Rivers EP, Abrahamian FM, et al: Severe sepsis and septic shock: review of the literature and emergency department management guidelines. Ann Emerg Med 2006; 48(1):28-54. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
11. Rivers E, Nguyen B, Havstad S, et al: Early goal-directed therapy in the treatment of severe sepsis and septic shock. N Engl J Med 2001; 345:1368-1377.

**Background** View Full Document Print

**Epidemiology**

**Incidence**

In a study evaluating the occurrence of sepsis from 1979 through 2000 using a nationally representative sample of all nonfederal acute care hospitals in the United States, the incidence of sepsis increased by 9% annually, with an estimated incidence of 240/100,000 people by the year 2000 [7].

An observational cohort study with more than 6 million people

**References**

[7] Martin GS, Mannino DM, E: United States from 1979 through

When viewing the full document you can view the references by selecting **Reference** from the section drop-down box or by clicking a citation number within the text, which takes you to that specific reference in the Reference section.

Quick Answers In-Depth Answers All Results

bleeding

3 of 33 results for bleeding

**Reference**

1. Talan DA, Mouton RJ, & Abrahamian F. 2008; 22(1):1-31, v. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
2. Levy MM, Fink MP, Marshall JC, et al. Med 2003; 31:1250-1256.
3. Goldstein B, Giroir B, & Randolph A: I dysfunction in pediatrics. Pediatr Crit Care PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
4. Dellinger RP, Levy MM, Rhodes A, et al. septic shock. 2012. Intensive Care Med 2013; 39(2):165-230.

Reference

OR

## Etiology/Pathophysiology

### Overview

In sepsis, diffuse endothelial disruption is the basis for the dysfunction, and hypotension that develops as a result of immune systems that interact with endothelial cells causing release or activation of proinflammatory and anti-inflammatory cascades. These events occur predominately at the vascular microvascular injury, thrombus formation, and capillary leakage. Cardiovascular insufficiency develops contributing to large oxygen delivery and systemic oxygen consumption, and deprivation (global tissue hypoxia) contributes to further inflammatory response [10].

10. Nguyen HB, Rivers EP, Abrahamian FM, et al: Severe sepsis and emergency department management guidelines. Ann Emerg Med 2001; 37(5):555-562. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
11. Rivers E, Nguyen B, Havstad S, et al: Early goal-directed resuscitation for patients with primary and secondary septic shock. N Engl J Med 2001; 345:1368-1377.
12. Mackenzie I & Lever A: Management of sepsis. BMJ 2001; 323(7270):105-109. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
13. vanderPoll T & Opal SM: Host-pathogen interactions in sepsis. Crit Care Med 2001; 29(12):2255-2262. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
14. Remick DG: Pathophysiology of sepsis. Am J Pathol 2001; 157(1):1-10.

115. Sigal RJ, Kenny GP, Wasserman DH, et al: Physical activity and health in older adults. American Diabetes Association. Diabetes Care 2006; 29(6):1433-1439. PubMed Abstract: <http://www.ncbi.nlm.nih.gov/...> PubMed Article: <http://www.ncbi.nlm.nih.gov/...>
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117. National Committee for Quality Assurance (NCQA): HEDIS 2012. Committee for Quality Assurance (NCQA), Washington, DC, 2012.

**Last Modified: December 02, 2014**

## Last Modified Date

Detailed Disease Information includes a *last modified date* at the bottom of the Reference section.



## RELATED RESULTS

The following related disease information can be accessed from the landing page:

- [Chapter 7: Alternative Medicine Information](#)
- [Chapter 4: Drug Information](#)
- [Chapter 6: Toxicology Information](#)
- [“Alerts” on page 110](#)
- [“Disease Other Titles” on page 110](#)
- [“Emergency Medical Abstracts” on page 110](#)
- [“Studies” on page 110](#)
- [“Clinical Checklist™” on page 110](#)

The image displays two screenshots of the UpToDate 'Bronchiolitis' landing page, annotated with purple boxes and arrows to highlight specific features.

**Top Screenshot (Main View):**

- Page Title:** 'Bronchiolitis' is highlighted with a purple box and arrow.
- Navigation Tabs:** 'Quick Answers', 'In-Depth Answers', and 'All Results' are shown. 'Quick Answers' is highlighted with a purple box and arrow.
- Left Sidebar:**
  - Definition:** A brief overview of bronchiolitis, stating it is an acute lower respiratory tract infection.
  - Medical History, Findings, Differential Diagnosis, Testing, Treatment, Reference:** These sections are listed in the sidebar but are not expanded.
- Right Panel:**
  - Definition:** Expanded view showing the definition and a link to 'In-Depth Answers' for detailed results.
  - Related Results:** A list of related topics including 'Drug Toxicology', 'Alerts', 'Clinical Checklist', 'Disease Other Titles', and 'Emergency Medical Abstracts Studies'.

**Bottom Screenshot (Detailed View):**

- Page Title:** 'Bronchiolitis' is highlighted with a purple box and arrow.
- Navigation Tabs:** 'Quick Answers', 'In-Depth Answers', and 'All Results' are shown. 'In-Depth Answers' is highlighted with a purple box and arrow.
- Left Sidebar:**
  - Background:** Expanded view showing 'Definition', 'Epidemiology', 'Etiology/ Pathophysiology', and 'Complications'.
  - History And Physical:** Expanded view showing 'Summary', 'Medical History', and 'Findings'.
- Right Panel:**
  - Background:** Expanded view showing the background information, including a link to 'View Full Document' and 'Print'.
  - Related Results:** A list of related topics including 'Drug Toxicology', 'Alerts', 'Clinical Checklist', 'Disease Other Titles', and 'Emergency Medical Abstracts Studies'.

For more information on landing pages see [“Landing Pages” on page 17.](#)



Clicking on a link under *Related Results* displays a list of the related documents. Click a title to display the document or landing page.

### Bronchiolitis

**Quick Answers** | **In-Depth Answers** | All Results

**Definition**

See 'In-Depth Answers' for detailed results. [Print](#)

An acute lower respiratory tract infection, almost exclusively of viral etiology, that produces inflammatory obstruction of the bronchioles

**Related Results**

- [Drug](#)
- [Toxicology](#)
- [Alerts](#)
- [Clinical Checklist](#)
- [Disease Other Titles](#)
- [Emergency Medical Abstracts Studies](#)

**Emergency Medical Abstracts**

- A RANDOMIZED TRIAL OF NEBULIZED 3% HYPERTONIC SALINE WITH EPINEPHRINE IN THE TREATMENT OF ACUTE BRONCHIOLITIS IN THE EMERGENCY DEPARTMENT**
- BORDETELLA PERTUSSIS INFECTION IS COMMON IN NONVACCINATED INFANTS ADMITTED FOR BRONCHIOLITIS
- CENTRAL APNOEAS IN INFANTS WITH BRONCHIOLITIS ADMITTED TO THE PAEDIATRIC INTENSIVE CARE UNIT
- COST-EFFECTIVENESS OF EPINEPHRINE AND

**A RANDOMIZED TRIAL OF NEBULIZED 3% HYPERTONIC...** [Print](#)

Emergency Medical Abstracts® [Top of Page](#)

**Citation**

- Grewal, S., et al. Arch Ped Adol Med 163(11):1007, November 2009. A RANDOMIZED TRIAL OF NEBULIZED 3% HYPERTONIC SALINE WITH EPINEPHRINE IN THE TREATMENT OF ACUTE BRONCHIOLITIS IN THE EMERGENCY DEPARTMENT (25 references)

**Background**

- In the U.S., hospital admission rates for bronchiolitis increased from 12.9 per 1000 children in 1980 to 31.2 per 1000 in 1996, resulting in a substantial increase in healthcare costs. There is no clear consensus regarding the optimal early treatment of acute bronchiolitis. Four studies reported some improvement in outcomes with use of nebulized hypertonic saline, but these did not involve treatment in the ED.

**Methods**

- In this study, from the University of Alberta, 46 infants aged six weeks to twelve months presenting to the ED with mild to moderate bronchiolitis were randomized to treatment with 0.5ml of 2.25% racemic epinephrine nebulized in normal or hypertonic (3%) saline and

## Alerts

Updated regularly with alerts on new disease information.

## Disease Other Titles

Click this link to see other types of disease information documents for the same topic. The following type of disease information are available:

- *Acute* - Emergency or immediate care presentations
- *Chronic* - On-going health conditions and issues
- *Prevention & Screening* - Relevant assessment and screening information.

It is possible for a topic with an Acute or Chronic document to also have a Prevention & Screening document. The Acute or Chronic document displays via the landing page. You can click the **Disease Other Titles** link to see the Prevention & Screening document, if one exists.

### Related Results

[Drug](#)  
[Toxicology](#)

[Alerts](#)  
[Clinical Checklist](#)  
[Disease Other Titles](#)  
[Emergency Medical Abstracts](#)  
[Studies](#)

## Emergency Medical Abstracts

EMA from Rick Bukata, MD and Jerry Hoffman, MD is a definitive source of literature review covering a broad scope of topics.

## Studies

Timely studies and brief reports on new disease information.

## Clinical Checklist™

The Clinical Checklist system presents the "must do" "never do" patient care procedures and interventions. It is a compilation of the most pertinent patient care interventions on commonly encountered conditions that should always, or never, be done. The information is action-oriented, concise, and based on nationally recognized quality standards and the highest rated medical evidence.

Each checklist item contains graded recommendation and evidence information. These evidence ratings embed evidence-based medicine into clinical operations, and ultimately, maximize reimbursement by ensuring that clinical decisions are in compliance with the latest national quality standards and evidence-based practices.

The Clinical Checklist topic may include links to other summaries for more detailed and in-depth information (based on your subscription). Links to related information in drug, lab, disease, and toxicology are also included when appropriate and available.



ALWAYS DO  
Diagnosis  
Treatment  
NEVER DO  
Treatment  
PERFORMANCE MEASURE  
RELATED INFORMATION  
Conditions  
Studies and Alerts  
REFERENCES

### Chronic obstructive pulmonary disease

Clinical Checklist™ Expand All | Collapse All | Top of Page Print

▼ Always Do

#### Diagnosis

Diagnostic Testing	Strength of Recommendation/Evidence	Performance Measure
Order spirometry to diagnose airway obstruction in patients with respiratory symptoms [1]. Document spirometry testing to confirm the diagnosis in patients 40 years old and older with a new diagnosis of COPD or newly-active COPD [2].		HEDIS
Obtain pulse oximetry in stable COPD patients who have a forced expiratory volume in one second (FEV <sub>1</sub> ) of less than 35% predicted [3].		

#### Treatment

Drug Therapies	Strength of Recommendation/Evidence	Performance Measure
Prescribe maintenance bronchodilator monotherapy for symptomatic patients with COPD and FEV <sub>1</sub> less than 60% predicted using either a long-acting inhaled beta <sub>2</sub> agonist or a long-acting inhaled anticholinergic		

Each item is shown with the corresponding Strength of Recommendation and Strength of Evidence icon to visually portray the validity and strength associated with the information. Clicking the icon opens the definitions:

### Strength of Evidence

**DEFINITIONS**  
Strength of Evidence

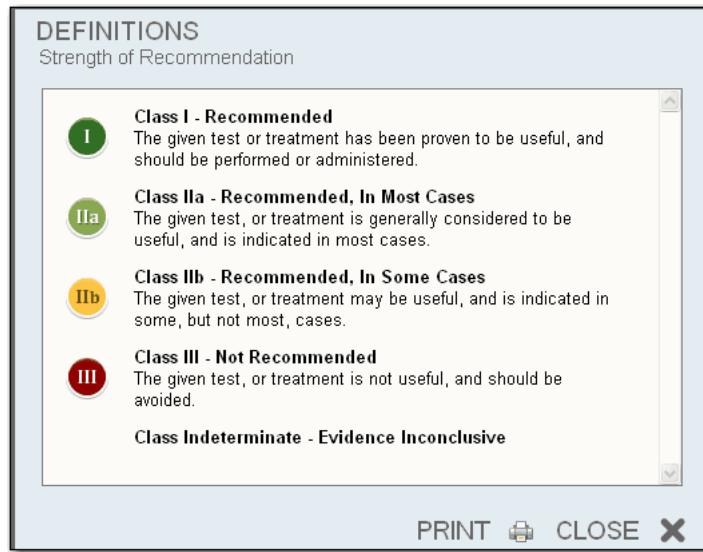
**Category A**  
Category A evidence is based on data derived from: Meta-analyses of randomized controlled trials with homogeneity with regard to the directions and degrees of results between individual studies. Multiple, well-done randomized clinical trials involving large numbers of patients.

**Category B**  
Category B evidence is based on data derived from: Meta-analyses of randomized controlled trials with conflicting conclusions with regard to the directions and degrees of results between individual studies. Randomized controlled trials that involved small numbers of patients or had significant methodological flaws (e.g., bias, drop-out rate, flawed analysis, etc.). Nonrandomized studies (e.g., cohort studies, case-control studies, observational studies).

**Category C**  
Category C evidence is based on data derived from: Expert opinion or consensus, case reports or case series.

A legend is also available at the bottom of the topic.

## Strength of Recommendation



## Performance Measures

Clinical Checklist can help clinicians and hospitals comply with key quality and performance measures (i.e., guidelines published by the Joint Commission, Centers for Medicare & Medicaid Services, etc.) at the point of care. Organizations providing credentialing standards or compliance measures are listed by their abbreviation in the Performance Measure column. The full organization name is found below the table.

### Organizations

Currently six organizations performance measures are included:

*Joint Commission* - (formerly Joint Commission on Accreditation of Healthcare Organizations)

*CMS* - Centers for Medicare & Medicaid Services

*AHRQ* - Agency for Health Research & Quality

*AH* - American Healthways

*NQF* - National Quality Forum

*HEDIS* - Health Plan Employer Data and Information Set

# CHAPTER 6: TOXICOLOGY INFORMATION

Accidental poisonings occur with even the most common and seemingly harmless substances. In such situations, having instant access to critical information can save lives. Relied upon in 100% of U.S. poison control centers, the Truven Health Analytics POISINDEX® System identifies ingredients for hundreds of thousands of commercial, biological, and pharmaceutical products. Micromedex® Solutions links that information directly to detailed documents providing data on clinical effects, range of toxicity, and treatment protocols for exposure.

We create a summary monograph and a detailed monograph for each topic. The Summary Toxicology Information monographs support quick decisions, and POISINDEX Detailed Toxicology monographs support further research and assist in the management of all toxic exposures. They include in-depth knowledge on lab tests, monitoring, toxicokinetics, and more and breaks out data by severity of exposure. Because one editorial group creates all the Micromedex content, treatment recommendations are consistent.

This chapter describes the types of toxicology information available in Micromedex Solutions. For information on how to search in Micromedex Solutions see ["Chapter 3: Searching Micromedex Solutions" on page 13](#).


## SUMMARY TOXICOLOGY INFORMATION

Summary Toxicology Information is succinct, actionable, and designed to get you an answer very quickly. It is displayed on the middle panel of the *Quick Answers* tab on the landing page. The left panel contains links for navigating the sections of the summary monograph. Click on a link to display that section in the middle panel.

For example, a search for “benzene” results in the following landing page:

The screenshot shows the Benzene monograph page. At the top, there are tabs for 'Quick Answers', 'In-Depth Answers', and 'All Results'. The 'Quick Answers' tab is selected. Below the tabs, there is a left sidebar with links: 'Overview', 'Life Support', 'Clinical Effects', and 'Laboratory/ Monitoring'. The 'Overview' link is highlighted. The main content area is titled 'Overview' and contains a 'Clinical Effects' section. A callout box points to the 'Clinical Effects' link in the sidebar, stating: 'Click a link to display a section of the monograph'. Another callout box points to the 'Text of the Summary Toxicology Information monograph' in the main content area. A third callout box points to a 'Print' icon in the top right corner, stating: 'Text of the Summary Toxicology Information monograph'. A fourth callout box points to a 'back-to-top' icon in the lower right corner, stating: 'Scroll down and a back-to-top icon will display in the lower right of the page'.

### Printing

Click the Print icon (  Print ) to print the summary monograph. For more details on printing see [“Printing” on page 60.](#)



## DETAILED TOXICOLOGY INFORMATION

Detailed Toxicology Information contains the details required to answer more complex questions, and it is clinically consistent with the Summary Toxicology Information.

From the landing page click the **In-Depth Answers** tab, and the detailed toxicology monograph is displayed in the middle panel. The left panel contains links for navigating the sections of the detailed monograph. Click on a link to display that section in the middle panel.

For example, a search for “radon” results in the Radon landing page, which defaults to the *Quick Answers* tab. Click the **In-Depth Answers** tab to view the detailed toxicology monograph.

The screenshot displays the 'Radon' landing page. At the top, there are three tabs: 'Quick Answers', 'In-Depth Answers' (which is selected), and 'All Results'. Below the tabs, the page is divided into three main sections: 'Overview', 'Substances Included/Synonyms', and 'Related Results'. The 'Overview' section on the left lists various topics like 'Life Support', 'Clinical Effects', and 'Laboratory/ Monitoring'. The 'Substances Included/Synonyms' section in the center provides detailed information about radon, including its definition and uses. The 'Related Results' section on the right lists additional resources like 'Medical Management Information' and 'Product Lookup - Martindale'. Callouts provide instructions: one points to the 'In-Depth Answers' tab, another points to a link in the 'Overview' section, a third points to the main text area, and a fourth points to a 'back-to-top' icon at the bottom right.

The landing page defaults to the Quick Answers tab. Click the In-Depth Answers tab to see the detailed toxicology monograph.

Click a link to display a section of the monograph

Text of the Detailed Toxicology Information monograph

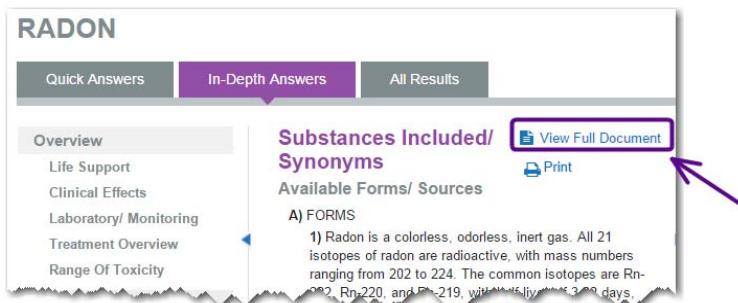
Scroll down and a back-to-top icon will display in the lower right of the page

## Navigating Document Sections

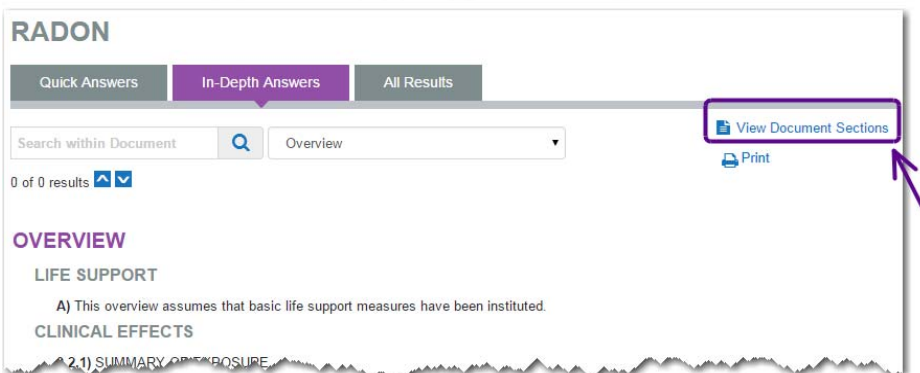
You can use the following methods to navigate within the detailed document sections:

- Arrow up/down keys
- Page up/down keys
- Browser scrollbar
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

## Viewing the Full Document



Click **View Full Document** to view the entire detailed monograph.



Click **View Document Sections** to return to the panel view.



## Navigating the Full Document

When viewing the full detailed monograph you have the following options for moving within the document:

- Arrow Up/Down keys
- Page Up/Page Down keys
- Browser scrollbar
- Drop-down box under the landing page tabs - Select a document section from this list to go directly to that section.
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.



The screenshot shows the RADON monograph interface. At the top, there are three tabs: "Quick Answers", "In-Depth Answers" (selected), and "All Results". Below the tabs is a search bar labeled "Search within Document" and a magnifying glass icon. To the right of the search bar is a drop-down menu labeled "Available Forms/ Sources". The menu is open, showing a list of sections: Overview, Life Support, Clinical Effects, Laboratory, Treatment, Range Of, Substances Included, Synonyms, Therapeutic/ Class, Specific Substances, Description, Geographical Location, Available Forms/ Sources (highlighted), Clinical Effects, Summary Of Exposure, Heent, Cardiovascular, Respiratory, Genitourinary, Dermatologic, and Reproductive. To the right of the menu are two links: "View Document Sections" and "Print". Below the search bar, the text "0 of 0 results" is displayed. The main content area is titled "AVAILABLE FORMS/SOURCES" and contains two sections: "A) FORMS" and "B) SOURCES". Section A) FORMS contains three numbered items: 1) Radon is a colorless, odorless gas... common isotopes are Rn-222, Rn-220, and Rn-226 ((ATSDR, 2000)) Patnaik, 1992; 2) Radon is an alpha-emitter and decays to Polonium-218 and Polonium-214 (Budavari, 2000); 3) With a half-life of 3.823 days... Section B) SOURCES contains five numbered items: 1) Radon is derived from the radium decay chain... Approximately 1 gram of radium produces approximately 0.0001 mL of radon per day (HSDB, 2000); 2) Radon is produced by alpha-decay of radium and thorium isotopes (Patnaik, 1992). "Radon is [also] obtained by bubbling air through a radon salt solution and collecting the gas plus air" (Lewis, 2001); 3) Both uranium-238 and radium-226 occur naturally in most soils and rock (Berger, 1990); 4) The radon decay product leaves the soil or rock as it is formed and becomes ubiquitous in the environment (Berger, 1990). Higher radon concentrations are produced in areas with richer sources of the precursor radionuclides, especially when ventilation is poor (Berger, 1990); 5) Radon levels are higher in areas with uranium and thorium ore deposits and granite formations. Natural uranium exists in these natural deposits of New York and New Jersey have... In the lower right corner of the page, there is a small upward-pointing triangle icon. Three callout boxes provide navigation instructions: 1) "Select a document section from the drop-down list" points to the "Available Forms/ Sources" menu. 2) "Use the browser scrollbar or the up/down arrow keys or the Page Up/Page Down keys" points to the right side of the page. 3) "Scroll down and a back-to-top icon will display in the lower right of the page" points to the upward-pointing triangle icon.

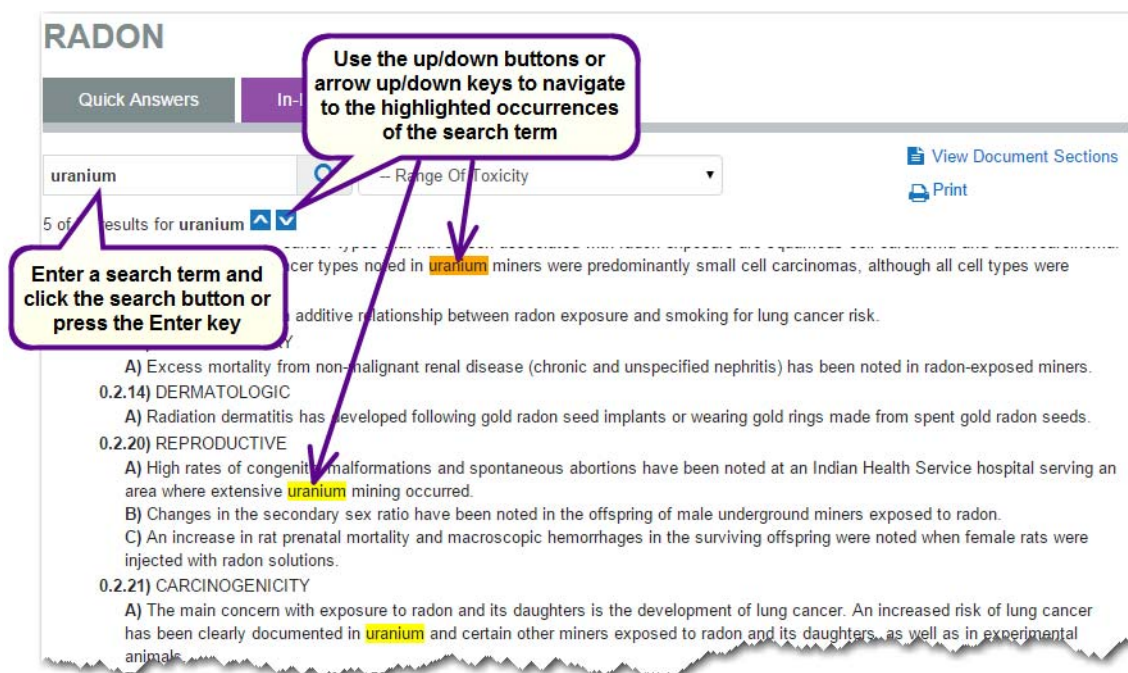
**SELECT A DOCUMENT SECTION FROM THE DROP-DOWN LIST**

**USE THE BROWSER SCROLL BAR OR THE UP/DOWN ARROW KEYS OR THE PAGE UP/PAGE DOWN KEYS**

**SCROLL DOWN AND A BACK-TO-TOP ICON WILL DISPLAY IN THE LOWER RIGHT OF THE PAGE**

## Searching Within a Document

When viewing the full detailed monograph you can search within the document. Simply enter a word or phrase in the search box located below the landing page tabs and click the **search button** or press the **Enter** key. The first occurrence of your search term is highlighted in orange, and subsequent occurrences are highlighted in yellow. Use the **arrow up/down** keys or the **up/down buttons** (   ) to move from one highlighted occurrence to another.



**Enter a search term and click the search button or press the Enter key**

**Use the up/down buttons or arrow up/down keys to navigate to the highlighted occurrences of the search term**

uranium

5 of 5 results for uranium

cer types noted in uranium miners were predominantly small cell carcinomas, although all cell types were

additive relationship between radon exposure and smoking for lung cancer risk.

A) Excess mortality from non-malignant renal disease (chronic and unspecified nephritis) has been noted in radon-exposed miners.

0.2.14) DERMATOLOGIC

A) Radiation dermatitis has developed following gold radon seed implants or wearing gold rings made from spent gold radon seeds.

0.2.20) REPRODUCTIVE

A) High rates of congenital malformations and spontaneous abortions have been noted at an Indian Health Service hospital serving an area where extensive uranium mining occurred.

B) Changes in the secondary sex ratio have been noted in the offspring of male underground miners exposed to radon.

C) An increase in rat prenatal mortality and macroscopic hemorrhages in the surviving offspring were noted when female rats were injected with radon solutions.

0.2.21) CARCINOGENICITY

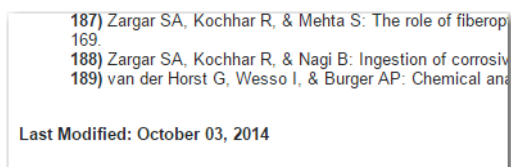
A) The main concern with exposure to radon and its daughters is the development of lung cancer. An increased risk of lung cancer has been clearly documented in uranium and certain other miners exposed to radon and its daughters, as well as in experimental animals.

[View Document Sections](#)

[Print](#)

## Last Modified Date

Detailed Toxicology Information includes a *last modified date* at the bottom of the References-General Bibliography section.




187) Zargar SA, Kochhar R, & Mehta S: The role of fiberop  
169.

188) Zargar SA, Kochhar R, & Nagi B: Ingestion of corrosiv  
189) van der Horst G, Wesso I, & Burger AP: Chemical and

Last Modified: October 03, 2014

## Printing

Click the Print icon (  [Print](#) ) to print the detailed monograph. This is available when viewing the document sections or the full document. For more details on printing see ["Printing" on page 60](#).

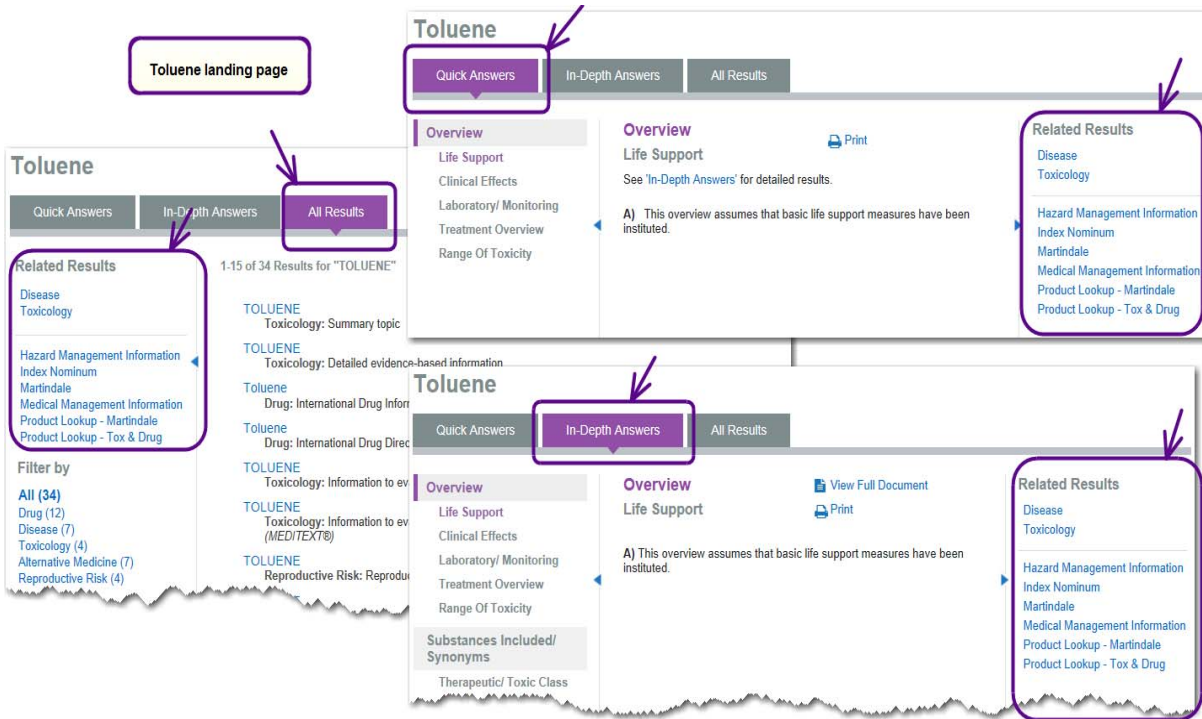


## RELATED RESULTS

The following related information can be accessed from the landing page:

- [Chapter 7: Alternative Medicine Information](#)
- [Chapter 5: Disease Information](#)
- [Chapter 4: Drug Information](#)
- [“Hazard Management Information” on page 122](#)
- [“Index Nominum” on page 122](#)
- [“Martindale” on page 122](#)
- [“Medical Management Information” on page 122](#)
- [“MSDS \(Material Safety Data Sheets\)” on page 122](#)
- [“Product Lookup - Martindale” on page 122](#)
- [“Product Lookup - Tox & Drug” on page 122](#)

In the following example a search was performed for “toluene,” and the Toluene landing page was displayed. Links to related results are available in the right panel when viewing the *Quick Answers* and *In-Depth Answers* tab and in the left panel when viewing the *All Results* tab.



For more information on landing pages see [“Landing Pages” on page 17.](#)



Clicking on a link under *Related Results* displays a list of the related documents. Click a title to display the document or landing page.

The screenshot shows the 'Toluene' overview page. The 'Related Results' section on the right contains a list of links. A purple box highlights the 'Martindale' link, and a purple arrow points from it to a 'Martindale' document window. This window also has a purple box around the 'Toluene' link, with a purple arrow pointing to the 'Toluene' document window below. The 'Toluene' document window displays detailed information, including a table of contents on the left and a list of synonyms and molecular properties on the right.

**Toluene**

Quick Answers | In-Depth Answers | All Results

**Overview**

- Life Support
- Clinical Effects
- Laboratory/ Monitoring
- Treatment Overview
- Range Of Toxicity

**Overview** [Print](#)

**Life Support**

See 'In-Depth Answers' for detailed results.

A) This overview assumes that basic life support measures have been instituted.

**Related Results**

- Disease
- Toxicology
- Hazard Management Information
- Index Nominum
- Martindale**
- Medical Management Information
- Product Lookup - Martindale
- Product Lookup - Tox & Drug

**Martindale**

- Pharmaceutical Excipients
- Toluene**

**TOLUENE**

Physical And Pharmaceutical Properties
ADVERSE EFFECTS, TREATMENT, AND PRECAUTIONS
Abuse.
Handling.
Pregnancy.
PHARMACOKINETICS
USES

**Toluene** [Print](#)

MARTINDALE - The Complete Drug Reference [i](#) **OTHER SOURCES**

See also [Pharmaceutical Excipients](#)

▼ [Toluene](#)

**Physical And Pharmaceutical Properties**

- Synonyms:  
Fenilmetano; Metacida; Methylbenzene; Metilbenceno; Phenylmethane; Tolué; Toluene; Toluenei; Toluen; Tolu enas; Toluène; Tolueno; Toluol; Toluole; Toluols
- Molecular Formula: C7H8
- Molecular Weight: 92.14
- CAS Registry: 108-88-3
- Notes and Warnings: NOTE, Description. Toluene is a colourless, volatile, flammable liquid with a

## Hazard Management Information

Hazard Management Information documents can help you understand the issues related to environmental impact including how to implement emergency reaction to chemicals and their impact: Fire, Clean up, Personal protection. These documents also help you manage chemicals safely in the workplace.

## Index Nominum

Recognized worldwide, Index Nominum is an international drug directory providing access to over 5,300 substances and derivatives, more than 12,800 synonyms, and over 41,800 tradenames from more than 45 countries. For more details see [“Index Nominum” on page 262](#).

## Martindale

This content offers extensive, unbiased, evaluated information on worldwide drugs and related substances. It provides quick and easy searching for pharmacological and therapeutic data, synonyms, and manufacturers' brand names. For more details see [“Martindale: The Complete Drug Reference” on page 264](#).

### Related Results

[Disease](#)  
[Toxicology](#)

[Hazard Management Information](#)  
[Index Nominum](#)  
[Martindale](#)  
[Medical Management Information](#)  
[Product Lookup - Martindale](#)  
[Product Lookup - Tox & Drug](#)

## Medical Management Information

The Medical Management Information monographs can help you evaluate issues associated with exposure. They deliver information on acute exposure, treatment, and adverse health effects.

## MSDS (Material Safety Data Sheets)

Prepared by the US Pharmacopeial Convention, Material Safety Data Sheets are a vital part of every hospital/company Hazard Communication Program. This electronic version of more than 1,000 MSDS issued by the US Pharmacopeial Convention offers quick access to drug and chemical information, including health hazards, handling procedures, and government regulations.

### Related Results

[Medical Management Information](#)  
[MSDS from USP](#)  
[Product Lookup - Martindale](#)  
[Product Lookup - Tox & Drug](#)

## Product Lookup - Martindale

Clicking this link performs a search for *Globally distributed drug products in Martindale* in the Tox & Drug Product Lookup tool. See [Chapter 14: Tox & Drug Product Lookup Tool](#) for more details.

## Product Lookup - Tox & Drug

Clicking this link performs a *Product or substance name* search in the Tox & Drug Product Lookup tool. See [Chapter 14: Tox & Drug Product Lookup Tool](#) for more details.

# CHAPTER 7: ALTERNATIVE MEDICINE INFORMATION

Self-medicating with herbals and other dietary supplements is commonplace, as is treatment with acupuncture, chiropractic care, and homeopathy. You can give your patients a better understanding of these healthcare alternatives with the information found in the alternative medicine content of Micromedex® Solutions.

Micromedex Solutions can provide you a reliable, comprehensive source of referenced, scientifically sound information about complementary and alternative medicine (CAM) therapies and practices. Designed for healthcare professionals, the information found in Alternative Medicine Information is an indispensable tool for answering the growing number of patients' CAM questions and exploring the possibilities.

We create a summary monograph and a detailed monograph for each topic. The Summary Alt Med Information monographs support quick decisions at the point of care, and the In Depth Alt Med Information monographs support further research and aid clinicians when making difficult treatment decisions. Because one editorial group creates all the Micromedex content, treatment recommendations are consistent.

This chapter describes the types of alternative medicine information available in Micromedex Solutions. For information on how to search in Micromedex Solutions see ["Chapter 3: Searching Micromedex Solutions" on page 13](#).


## SUMMARY ALT MED INFORMATION

Summary Alt Med Information is succinct, actionable at the point-of-care, and designed to get you an answer very quickly. It is displayed on the middle panel of the *Quick Answers* tab on the landing page. The left panel contains links for navigating the sections of the summary monograph. Click on a link to display that section in the middle panel.

For example, a search for “garlic” results in the Garlic landing page being displayed:

The screenshot shows the Micromedex interface for the Garlic monograph. The page has a header with the title "Garlic" and three tabs: "Quick Answers", "In-Depth Answers", and "All Results". The "Quick Answers" tab is active. On the left, there is a sidebar with a list of sections: "Name Info", "Class", "Dosing & Indications", "Contraindications/ Warnings", "Administration", and "How Supplied". The "Contraindications/ Warnings" section is highlighted in purple. The main content area displays the "Contraindications/ Warnings" section, which includes a "Lactation" subsection. A callout box points to the "Contraindications/ Warnings" link in the sidebar, stating: "Click a link to display a section of the monograph". Another callout box points to the "Text of the Summary Alt Med Information monograph" in the main content area, stating: "Text of the Summary Alt Med Information monograph". A third callout box points to a "back-to-top" icon (a square with an upward arrow) in the lower right corner of the page, stating: "Scroll down and a back-to-top icon will display in the lower right of the page".

### Printing

Click the **Print** icon (  **Print** ) to print the summary monograph. For more details on printing see [“Printing” on page 60.](#)



## IN DEPTH ALT MED INFORMATION

In Depth Alt Med Information contains the details required to answer more complex questions, and it is clinically consistent with the Summary Alt Med Information.

From the landing page click the **In-Depth Answers** tab, and the detailed alternative medicine monograph is displayed in the middle panel. The left panel contains links for navigating the sections of the detailed monograph. Click on a link to display that section in the middle panel.

For example, a search for “echinacea” results in the Echinacea landing page, which defaults to the *Quick Answers* tab. Click the **In-Depth Answers** tab to view the detailed alternative medicine monograph.

The screenshot shows the Echinacea monograph page. At the top, there are three tabs: "Quick Answers", "In-Depth Answers" (which is selected), and "All Results". Below the tabs is a left sidebar with a table of contents including Overview, Dosing Information, Pharmacokinetics, and Cautions. The main content area displays the "Cautions" section, specifically "Adverse Reactions" under the heading "BLOOD". A detailed text block describes a case of Thrombotic Thrombocytopenic Purpura (TTP) associated with Echinacea pallida. On the right side, there are links for "View Full Text" and "Print", and a list of related topics like "Herbal Medicines" and "Interactions Handouts".

**Callouts:**

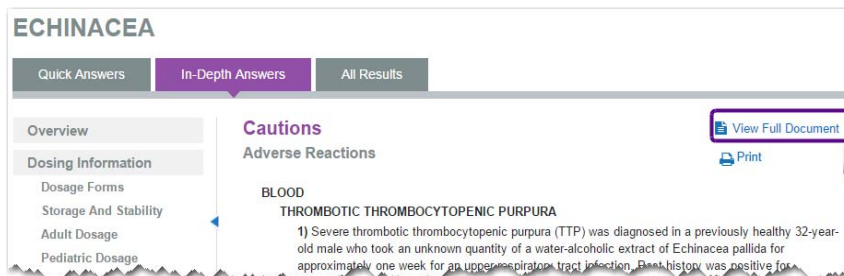
- Top Left:** The landing page defaults to the Quick Answers tab. Click the In-Depth Answers tab to see the detailed alternative medicine information monograph.
- Bottom Left:** Click a link to display a section of the monograph (pointing to the "Cautions" link in the sidebar).
- Top Right:** Text of the detailed alternative medicine monograph (pointing to the main text area).
- Bottom Right:** Scroll down and a back-to-top icon will display in the lower right of the page (pointing to a small upward arrow icon).

## Navigating Document Sections

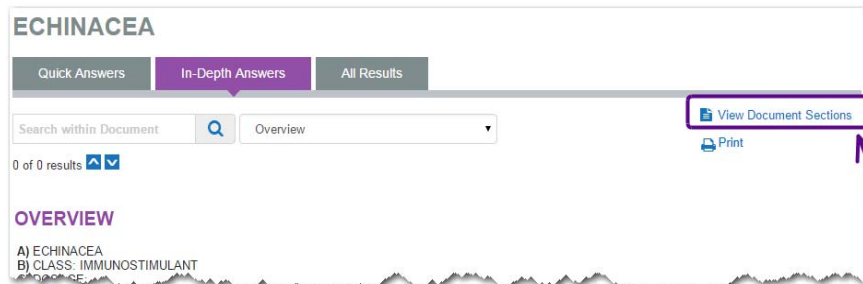
You can use the following methods to navigate within the detailed document sections:

- Arrow up/down keys
- Page up/down keys
- Browser scrollbar
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

## Viewing the Full Document



Click **View Full Document** to view the entire detailed monograph.



Click **View Document Sections** to return to the panel view.





## Navigating the Full Document

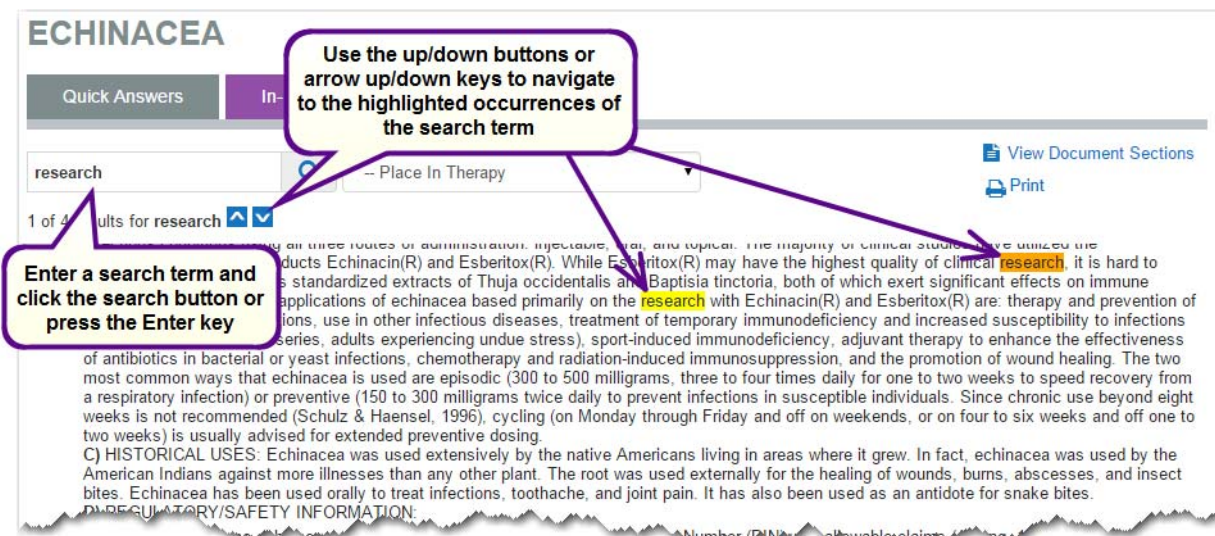
When viewing the full detailed monograph you have the following options for moving within the document:

- Arrow Up/Down keys
- Page Up/Page Down keys
- Browser scrollbar
- Drop-down box under the landing page tabs - Select a document section from this list to go directly to that section.
- If you move down in the monograph, a back-to-top icon displays in the lower right of the page.

The screenshot shows the Echinacea monograph page. At the top, there are tabs for 'Quick Answers', 'In-Depth Answers' (selected), and 'All Results'. Below the tabs is a search bar labeled 'Search within Document'. To the right of the search bar is a dropdown menu currently showing 'Drug Interactions'. A callout bubble points to this dropdown with the text: 'Select a document section from the drop-down list'. To the right of the dropdown is a 'View Document Sections' link and a 'Print' button. Another callout bubble points to the 'View Document Sections' link with the text: 'Use the browser scroll bar or the up/down arrow keys or the Page Up/Page Down keys'. The main content area shows 'DRUG INTERACTIONS' and 'AZATHIOPRINE' with a list of 7 items. Below this is 'BASILIXIMAB' with a list of 1 item. A callout bubble points to a back-to-top icon in the lower right corner of the page with the text: 'Scroll down and a back-to-top icon will display in the lower right of the page'.

## Searching Within a Document

When viewing the full detailed monograph you can search within the document. Simply enter a word or phrase in the search box located below the landing page tabs and click the **search** button or press the **Enter** key. The first occurrence of your search term is highlighted in orange, and subsequent occurrences are highlighted in yellow. Use the **arrow up/down** keys or the **up/down buttons** (   ) to move from one highlighted occurrence to another.



**ECHINACEA**

Quick Answers In-

research

1 of 4 results for research

Use the up/down buttons or arrow up/down keys to navigate to the highlighted occurrences of the search term

Enter a search term and click the search button or press the Enter key

View Document Sections

Print

...all three routes of administration, injectable, oral, and topical. The majority of clinical studies have utilized the products Echinacin(R) and Esberitox(R). While Esberitox(R) may have the highest quality of clinical **research**, it is hard to standardize extracts of Thuja occidentalis and Baptisia tinctoria, both of which exert significant effects on immune applications of echinacea based primarily on the **research** with Echinacin(R) and Esberitox(R) are: therapy and prevention of infections, use in other infectious diseases, treatment of temporary immunodeficiency and increased susceptibility to infections (series, adults experiencing undue stress), sport-induced immunodeficiency, adjuvant therapy to enhance the effectiveness of antibiotics in bacterial or yeast infections, chemotherapy and radiation-induced immunosuppression, and the promotion of wound healing. The two most common ways that echinacea is used are episodic (300 to 500 milligrams, three to four times daily for one to two weeks to speed recovery from a respiratory infection) or preventive (150 to 300 milligrams twice daily to prevent infections in susceptible individuals. Since chronic use beyond eight weeks is not recommended (Schulz & Haensel, 1996), cycling (on Monday through Friday and off on weekends, or on four to six weeks and off one to two weeks) is usually advised for extended preventive dosing.

C) HISTORICAL USES: Echinacea was used extensively by the native Americans living in areas where it grew. In fact, echinacea was used by the American Indians against more illnesses than any other plant. The root was used externally for the healing of wounds, burns, abscesses, and insect bites. Echinacea has been used orally to treat infections, toothache, and joint pain. It has also been used as an antidote for snake bites.

REGULATORY/SAFETY INFORMATION:


## Most Recent Revision

In Depth Alt Med Information contains a *most recent revision date* in the Author Information section.

### Author Information

Original publication: 03/1999  
Most recent revision: 06/2013

## Printing

Click the Print icon (  ) to print the detailed monograph. This is available when viewing the document sections or the full document. For more details on printing see ["Printing" on page 60.](#)



### RELATED RESULTS

The following related information can be accessed from the landing page:

- [Chapter 5: Disease Information](#)
- [Chapter 4: Drug Information](#)
- [Chapter 6: Toxicology Information](#)
- [“Herbal Medicines” on page 132](#)
- [“Interactions Handouts” on page 132](#)
- [“Martindale” on page 132](#)
- [“Patient Handouts” on page 132](#)

In the following example a search was performed for “ginkgo,” and the Ginkgo Biloba landing page is displayed. Links to related results are available in the right panel when viewing the *Quick Answers* and *In-Depth Answers* tab and in the left panel when viewing the *All Results* tab.

The screenshot displays the Micromedex interface for Ginkgo Biloba. Annotations include:

- Ginkgo Biloba landing page:** Points to the main header area of the landing page.
- Quick Answers:** Points to the 'Quick Answers' tab in the top navigation bar of the landing page.
- All Results:** Points to the 'All Results' tab in the top navigation bar of the landing page.
- Related Results:** Points to the 'Related Results' sidebar on the left, which lists categories like Drug, Toxicology, Herbal Medicines, and Interactions.
- Quick Answers:** Points to the 'Quick Answers' tab in the sub-page navigation bar.
- In-Depth Answers:** Points to the 'In-Depth Answers' tab in the sub-page navigation bar.

The sub-page content shows detailed information for Ginkgo Biloba, including:

- Name Info:** Class: antioxidant, nootropic (cognitive enhancing agent).
- Dosing & Indications:** Adult Dosing, Indications.
- Contraindications/Warnings:** Contraindications, Pregnancy Category.
- Overview:** A) GINKGO BILOBA, B) CLASS: ANTIOXIDANT, Nootropic (COGNITIVE ENHANCING), C) DOSAGE: 1) IMPORTANT NOTE: Dosing of herbal preparations is highly dependent on a variety of factors, such as growing and harvesting conditions, preparation and extraction methods used, and the dosage form chosen by the manufacturer. Standardization to single constituent markers has been unreliable. Since no official standards have been established to regulate the production of herbal medicines in the United States, ranges must be employed as guidelines. 2) ADULT: a) CEREBRAL INSUFFICIENCY, dry extract, oral: 120 mg to standardized extract containing 24% ginkgolactones administered daily in 3 divided doses. b) COGNITIVE IMPAIRMENT, dry extract, oral: 120 mg to standardized extract containing 24% ginkgolactones administered daily in 3 divided doses.



Clicking on a link under *Related Results* displays a list of the related documents. Click a title to display the document or landing page.

**Ginkgo Biloba**

Quick Answers In-Depth Answers All Results

**Name Info**

Class

**Dosing & Indications**

Adult Dosing

Indications

**Contraindications/Warnings**

Contraindications

Pregnancy Category

Lactation

**Drug Interactions (single)**

**Adverse Effects**

**Administration**

**How Supplied**

**Name Info** [Print](#)

Class

- antioxidant, nootropic (cognitive enhancing agent)

**Related Results**

[Drug](#)

[Toxicology](#)

[Herbal Medicines](#)

[Interactions Handouts](#)

[Martindale](#)

[Patient Handouts](#)

[Product Lookup - Martindale](#)

[Product Lookup - Tox & Drug](#)

**Martindale**

- [Ginkgo Biloba](#)
- [Miscellaneous Drugs and Other Substances](#)

[Print](#) [Close](#)

**GINKGO BILOBA**

Physical And Pharmaceutical Properties
PROPRIETARY NAMES
ADVERSE EFFECTS AND PRECAUTIONS
INTERACTIONS
USES AND ADMINISTRATION

Cerebrovascular disorders.  
Dementia.  
Peripheral vascular disorders.  
Tinnitus.

**Ginkgo Biloba**

MARTINDALE - The Complete Drug Reference [OTHER SOURCES](#)

See also [Miscellaneous Drugs and Other Substances](#)

▼ [Ginkgo Biloba](#)

**Physical And Pharmaceutical Properties**

- Synonyms: Árbol de los cuarenta escudos; EGB-761; Fossil Tree; GBE-761; Ginkgo biloba; Ginkgo, feuille de (ginkgo leaf); Ginkgo folium (ginkgo leaf); Ginkgoblade (ginkgo leaf); Jinanov' list (ginkgo leaf); Kew Tree; Maidenhair Tree; Neidonhiuspuunlehti (ginkgo leaf); Salisburia adiantifolia
- Pharmacopoeias: In Chin., Eur. (see [About Martindale](#)), and US. Eur. (see [About Martindale](#)) also includes Ginkgo Dry Extract, Refined and Quantified. US includes a powdered extract.
- Ph. Eur. 8 (Ginkgo Leaf). The whole or fragmented dried leaf of Ginkgo biloba containing not less than 0.5% of flavonoids, calculated as flavone glycosides with reference to the dried drug. The leaf is greyish

## Herbal Medicines

Herbal Medicines: A Guide for Health-Care Professionals, published by the Pharmaceutical Press, London, UK, presents fully referenced information to assist with the identification, application, safe use, and assessment of commonly found herbal medicines. Its quick, easy-to-access content addresses pharmacological actions, side effects, contraindications, and safety and efficacy issues.

## Interactions Handouts

Alternative Medicine Reactions documents contain easy-to-understand materials to help you educate patients about potential herbal and dietary supplement interactions. They discuss the potential for interactions between alternative medicines and other drugs, dietary supplements, food, alcohol, and tobacco. Designed to help educate patients, supporting evidence and advice about what to do if experiencing an interaction are included.

### Related Results

[Drug](#)  
[Toxicology](#)

[Alerts](#)  
[Clinical Checklist](#)  
[Disease Other Titles](#)  
[Emergency Medical Abstracts](#)  
[Studies](#)

## Martindale

This content offers extensive, unbiased, evaluated information on worldwide drugs, herbs, and related substances. It provides quick and easy searching for pharmacological and therapeutic data, synonyms, and manufacturers' brand names. For more details see [“Martindale: The Complete Drug Reference” on page 264.](#)

## Patient Handouts

Alternative Medicine for Patient documents offer fully referenced patient counseling materials, written and peer reviewed by representatives from both conventional Western medicine and the alternative medicine communities. For more details see [“Alternative Medicine for Patient” on page 256.](#)



## OTHER ALTERNATIVE MEDICINE INFORMATION

In addition to the Summary Alt Med Information and In Depth Alt Med Information and their related documents, all searches in Micromedex Solutions included the following alternative medicine content:

- **Alt Med Consults** - These documents provide crucial information of interest to those needing information on herbal medicines and other dietary supplements. Topics include FDA warnings, pregnancy risk categories, and guidelines on dosing, safety and efficacy issues.
- **Alt Med Protocols** - Alt Med Protocols provide complementary and alternative medicine (CAM) information and recommends methods for successfully blending CAM therapies with conventional medicine to offer patients a full range of options and help optimize their treatment outcomes.

The following examples depict scenarios where these documents are available from the intermediate search results. For more details on intermediate search results see [“Intermediate Search Results” on page 57](#).

### Example 1 - Alt Med Consults

1. Perform a search for “botanical safety.”
2. There are multiple results for Alt Med Consults documents in the intermediate search results, including the title BOTANICAL SAFETY HANDBOOK TERMS - DEFINITIONS.

598 results found for: "botanical safety"

All Results

Filter by

- All (598)
- Drug (38)
- Disease (62)
- Toxicology (44)
- Alternative Medicine (441)
- Reproductive Risk (13)

1-15 of 598 Results for "botanical safety"

Print

**Sativex Oromucosal Spray**  
Drug: Summary of Product Characteristics (eMC)  
1:1% (v/v) THC botanical drug substance (BDS) and CBD BDS, no relevant induction of...

**BOTANICAL SAFETY HANDBOOK TERMS - DEFINITIONS**  
Alternative Medicine: Evidence based herbal and dietary information (AltMedDex® Consults)  
American Herbal Product Association's Botanical Safety Handbook: guidelines for the safe use and labeling for herbs...

**BOTANICAL TERMS**  
Toxicology: Detailed evidence-based information

**QUINOLONE SAFETY IN PEDIATRICS**  
Drug: Evidence-based drug report (Drug Consults)  
QUINOLONE SAFETY IN PEDIATRICS RESPONSE RESPONSE Multiple studies and literature reviews demonstrated...

**SAFETY IN CONFINED SPACES - NIOSH PUB 87-113**  
Toxicology: Detailed evidence-based information

**HERBAL SUPPLEMENTS - SAFETY**  
Alternative Medicine: Evidence based herbal and dietary information (AltMedDex® Consults)  
...of well-documented cases of botanical toxicity that have occurred over the past decade. Public trust...

**December 10, 2007 - LMWH associated with greater safety and similar efficacy as UFH during PCI**  
Disease: Brief reports on new disease information (Studies and Alerts)  
Study - LMWH associated with greater safety and similar efficacy as UFH during PCI

Search results for Alt Med Consults

## Example 2 - Alt Med Protocols

1. Perform a search for “arthropod bites”
2. The Alt Med Protocol document ARTHROPOD BITES AND ENVENOMATIONS is in the intermediate search results.

66 results found for: "arthropod bites"

All Results

Filter by

- All (66)
- Drug (4)
- Disease (9)
- Toxicology (51)
- Alternative Medicine (1)
- Reproductive Risk (1)

1-15 of 66 Results for "arthropod bites"

Alt Med Protocols search result

Print

**ARTHROPOD BITES AND ENVENOMATIONS**  
 Alternative Medicine: Complimentary and alternative medicine info for clinical practice (*AltMedDex® Protocols*)  
**ARTHROPOD BITES AND ENVENOMATIONS DISEASE/CONDITION OVERVIEW** DISEASE/CONDITION OVERVIEW **Arthropod bites** ...

**ARTHROPODS**  
 Toxicology: Detailed evidence-based information  
 ...reaction varies, depending on the **arthropod**, the number of envenomations, and the sensitivity of the patient...

**ARTHROPODS**  
 Toxicology: Summary topic

**ARTHROPODS**  
 Toxicology: Information to evaluate and treat acute exposures (*MED/TEXT®*)  
 Dermatofibroma has been linked to **arthropod bites**. A study of the histologic characteristics of 100 dermatofibromas found...

**STINGRAY BITES**  
 Reproductive Risk: Environmental hazards to human reproduction and development (*REPROTOX®*)  
 ...release of venom, while stingray **bites** do not. No information is available effects of these injuries...

**RANDOMIZED CONTROLLED TRIAL OF PROPHYLACTIC ANTIBIOTICS FOR DOG BITES WITH REFINED COST MODEL**  
 ...Medical ...Bukata, MD and Jerry

# CHAPTER 8: LAB INFORMATION

Micromedex® Solutions provides current, accurate, and concise lab information you can use with confidence. It also provides the most critical knowledge presented at the summary level with quick access to more detailed information.

The Lab Recommendations database contains critical information relevant to:

- Physicians
  - Saves time by providing information on which tests are appropriate for a condition or diagnosis. Reduces the dependency on the lab, the library, or reference textbooks.
  - Saves time by providing guidance and information when interpreting test results. Reduces the research time required to consult additional sources of information.
- Nurses
  - Answers questions about proper collection, storage, and administration procedures.
  - Provides information on unfamiliar or rarely administered tests.
  - Enables nurses to find answers to lab-related questions after lab hours or when a lab technician is unavailable
- Lab Personnel
  - Saves time by reducing the number of calls from clinicians
  - Can communicate lab protocols, or reference ranges, or notes specific to your facility
- Pharmacy Personnel
  - Provides information when monitoring patient drug levels, therapeutic levels, and possible side effects related to lab tests

This chapter describes the lab information available in Micromedex Solutions and gives general instructions for how to search for it. For detailed information on how to search in Micromedex Solutions see ["Chapter 3: Searching Micromedex Solutions" on page 13](#).

## Searching for Lab Information

Laboratory test information can be found by searching on a test name, a LOINC code, or keyword. Lab Recommendations documents can be accessed from the intermediate search results and from the All Results tab on a landing page. For more details see [“Intermediate Search Results” on page 57](#) and [“Landing Pages” on page 17](#).

### Searching by Name

The following example depicts the intermediate search results that are displayed when performing a search for “myoglobin.” You can click the **Lab** link on the left side of the page to filter the results for only lab information.

The screenshot displays the search results for "myoglobin" in the Micromedex interface. At the top, it states "418 results found for: 'myoglobin'". Below this, there is a tab labeled "All Results". On the left side, there is a "Filter" section with a list of categories and their counts: "All (418)", "Drug (1)", "Disease (7)", "Toxicology (254)", "Lab (7)", "Alternative Medicine (10)", and "Reproductive Risk (3)". A callout bubble points to the "Lab (7)" link, stating "Click the Lab link to filter results for only lab information". The main content area shows "1-15 of 418 Results for 'myoglobin'". The first result is "Myoglobin measurement", which includes a "Laboratory Test" section and a "Document section" with a "Test Definition" link. A second callout bubble points to the "Test Definition" link, stating "Lab Recommendations results". The second result is "Myoglobin measurement, urine", which also includes a "Laboratory Test" section and a "Document section" with a "Reference Range" link. The third result is a date-based alert: "February 01, 2007 - BNP testing not recommended for use among ED patients with potential acute coronary syndrome". The fourth result is "Malignant hyperthermia", which includes a "Disease: Summary topic" section. At the bottom, there is a partial result for "Myoglobin measurement, urine: Myoglobinuria may".



## Searching by LOINC Code

On occasions where the LOINC code is known rather than the lab test name, searching by using the LOINC Code may be the most appropriate search term. LOINC® (Logical Observations Identifiers, Names, Codes), is a universal standard for identifying laboratory observations, produced by the Regenstrief Institute.

LOINC is one of a suite of designated standards for use in U.S. Federal Government systems for the electronic exchange of clinical health information.

In 1999, LOINC was identified by the HL7 Standards Development Organization as a preferred code set for laboratory test names in transactions between health care facilities, laboratories, laboratory testing devices, and public health authorities.

In the following example a search was performed for "10353-1."

The screenshot shows a search results page with a header indicating "1 result found for: '10353-1'". Below the header is a purple button labeled "All Results". The main content area is divided into two sections. On the left, under the heading "Filter by", there are two filter options: "All (1)" and "Lab (1)". On the right, under the heading "1 result found for: '10353-1'", there is a single result entry for "Aerobic microbial culture". This entry includes details about the laboratory test, the LOINC code (10353-1), and a link to the document section.

**1 result found for: "10353-1"**

All Results

**Filter by**

All (1)  
Lab (1)

**1 result found for: "10353-1"**

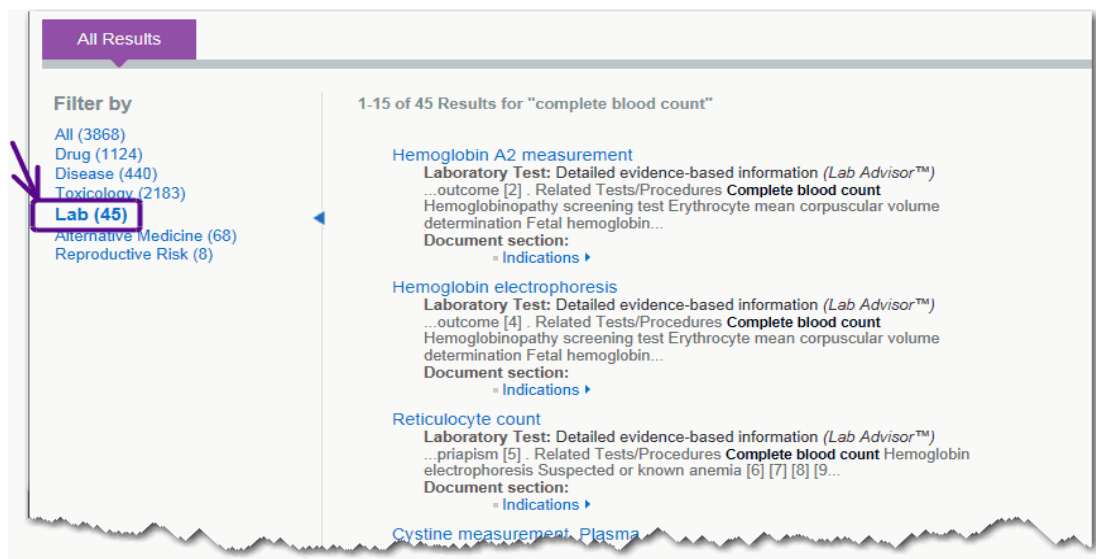
Aerobic microbial culture  
Laboratory Test: Detailed evidence-based information (Lab Advisor™)  
Bacteria Placenta Aerobe Cult) Code: **10353-1** ( Short Name - Bacteria Nose  
Aerobe Cult) Code: 17910-1( Short...  
Document section:  
» LOINC codes »

## Searching by Keyword

You can also search for lab information using any of the following as your search term:

- Signs and symptoms
- Diagnoses
- Indications
- Any context string that can be found within the summary

In the following example a search was performed on “complete blood count,” and then the user clicked the **Lab** link on the left side of the intermediate search results page.





## Viewing Lab Information

When you click on a Lab Recommendations title in the intermediate search results, the document is displayed at the *General Information* section. You have the following options for moving within the document:

- Outline links on the left side of the page for other topics (and sub-topics)
- Links to other lab information and other content
- Browser scrollbar
- Arrow Up/Down keys
- Page Up/Page Down keys

## Topics Links

All topics with information for this laboratory test are shown as active links in the outline list on the left side of the page. Clicking the link opens the page positioned at the beginning of the selected topic.

**Topic**

- GENERAL INFORMATION
- Synonyms
- Reference Range
- Test Definition
- Clinical Notes

**Sub-topics**

- INDICATIONS
- COLLECTION / STORAGE INFORMATION
- TEST METHODOLOGY
- LOINC CODES
- RELATED INFORMATION
- REFERENCES

**Fetal hemoglobin determination**  
Lab Advisor™

**GENERAL INFORMATION**

- Synonyms
- Reference Range
- Test Definition
- Clinical Notes

**Reference Range**

Age Group	Reference Range
Neonates (1 day to 3 weeks) [1]:	
Neonate (1 day):	77% ± 7.3% Hb F (0.77 ± 0.073 mass fraction Hb F)
Neonate (5 days):	76.8 ± 5.8 Hb F (0.768 ± 0.058 mass fraction Hb F)
Neonate (3 weeks):	70 ± 7.3 Hb F (0.07 ± 0.073 mass fraction Hb F)
Infants (6-9 weeks):	52.9 ± 11 Hb F (0.07 ± 0.073 mass fraction Hb F) [1]
Infants (3-4 months):	23.2 ± 16 Hb F (0.232 ± 0.16 mass fraction Hb F) [1]
Infants (6 months):	4.7 ± 2.2 Hb F (0.047 ± 0.022 mass fraction Hb F) [1]
Infants (8-11 months):	1.6 ± 1 Hb F (0.016 ± 0.01 mass fraction Hb F) [1]
Adults:	0-2% (0-0.02) [2]

Please refer to your institution's reference ranges as lab normals may vary.

**Test Definition**

**Clinical Notes**

Quantitation of fetal hemoglobin (HbF) by the alkali denaturation or spectrophotometry methods may produce higher values than those obtained by the high-performance liquid chromatography (HPLC) method [5]. HPLC is the preferred method for the rapid, precise quantitation of HbF [5][6]. Densitometry scanning is not recommended for quantitation of HbF due to its imprecision [5].

Click Expand All or Collapse All to expand/collapse all the topics and sub-topics

Expand All | Collapse All | Top of Page

## Sub-topics

If sub-topics exist, clicking on the topic link expands the list showing the sub-topics below. Go directly to a sub-topic by clicking the sub-topic link.

## Links Within Lab Recommendations

Links shown within the lab summary mean that further or related information exists within Lab Recommendations or in other types of content. Links can also open definitions for items shown in the information, such as: Strength of Evidence, Strength of Recommendation. Click the link to view the information.

The screenshot shows the 'Urine culture' lab recommendation page. On the left is a sidebar with categories: GENERAL INFORMATION, INDICATIONS, COLLECTION / STORAGE INFORMATION, TEST METHODOLOGY, RELATED INFORMATION, and REFERENCES. The main content area includes a 'Urine culture' header, 'Lab Advisor™' icon, and buttons for 'Expand All', 'Collapse All', and 'Top of Page'. A callout box labeled 'Link to Disease Landing Page' points to a link under 'Suspected epididymitis'. Another callout box labeled 'Link to Disease Landing Page' points to a link under 'References: [10][11][12]'.

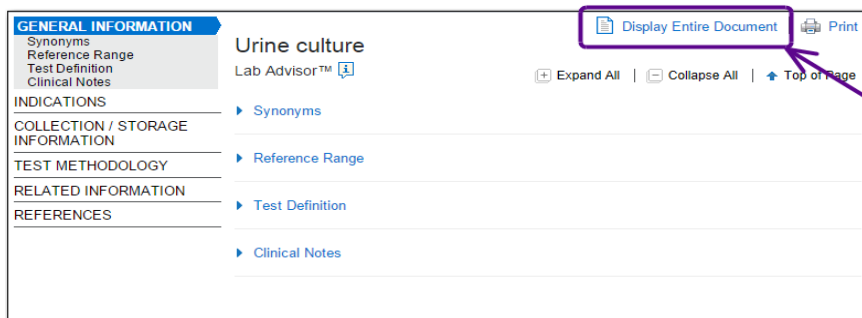
The screenshot shows the 'Epididymitis' disease landing page. It has a sidebar with categories: Definition, Medical History, Findings, Differential Diagnosis, and Testing. The main content area has a 'Definition' section with the text: 'See 'In-Depth Answers' for detailed results. Localized infection or inflammation of the epididymis'.

The screenshot shows the 'Brucella species culture' lab recommendation page. On the left is a sidebar with categories: GENERAL INFORMATION, INDICATIONS, COLLECTION / STORAGE INFORMATION, TEST METHODOLOGY, LOINC CODES, RELATED INFORMATION, and REFERENCES. The main content area includes a 'Brucella species culture' header, 'Lab Advisor™' icon, and buttons for 'Expand All', 'Collapse All', and 'Top of Page'. A callout box labeled 'Link to another Lab Recommendations document' points to a link under 'Tests & Procedures'. Another callout box labeled 'Link to another Lab Recommendations document' points to a link under 'Indirect Coombs test'.

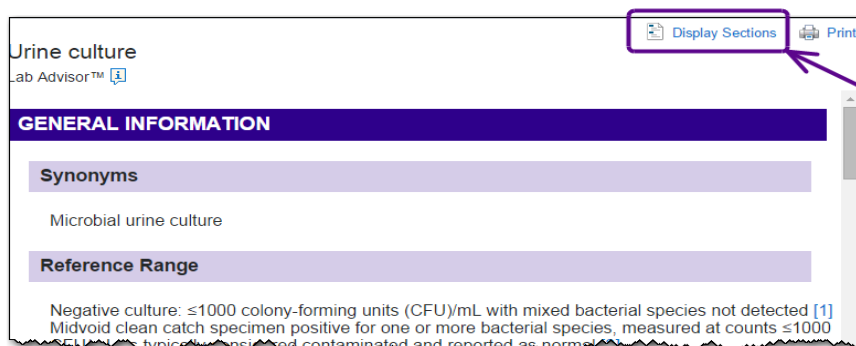
The screenshot shows the 'Indirect Coombs test' lab recommendation page. It has a sidebar with categories: GENERAL INFORMATION, INDICATIONS, COLLECTION / STORAGE INFORMATION, TEST METHODOLOGY, LOINC CODES, COMMON PANELS, and REFERENCES. The main content area includes an 'Indirect Coombs test' header, 'Lab Advisor™' icon, and buttons for 'Expand All', 'Collapse All', and 'Top of Page'. There are links for 'Synonyms', 'Reference Range', and 'Test Definition'.



## Viewing Entire Document



Click **Display Entire Document** to view the entire monograph.



Click **Display Sections** to return to the section view.

References

When in the section view you can view the references by clicking on the **References** link in the outline on the left side of the page or by clicking a citation number within the text, which opens a pop-up window containing the reference.

GENERAL INFORMATION

Synonyms

Reference Range

Test Definition

Clinical Notes

INDICATIONS

COLLECTION / STORAGE INFORMATION

TEST METHODOLOGY

RELATED INFORMATION

REFERENCES

Urine culture

Lab Advisor™ ⓘ

1. Kratz A, Ferraro M, Sluss PM, et al: Case records of the laboratory values. N Engl J Med 2004; 351(15):1549-1563.

2. Tietz NW (Ed): Clinical Guide to Laboratory Tests, 3rd ed. PA, 1995.

3. US Preventive Services Task Force: Screening for asymptomatic bacteriuria. U.S. Preventive Services Task Force reaffirmation recommendation statement. JAMA 2008; 299(1):43-47.

4. Connolly A & Thorp JM Jr: Urinary tract infections in pregnancy. Am J Obstet Gynecol 2004; 190(4):779-787.

5. Romero R, Oyarzun E, Mazor M, et al: Meta-analysis of asymptomatic bacteriuria and preterm delivery/low birth weight. Am J Obstet Gynecol 1995; 173:576-582.

6. PH, Shapiro ED, Andriole VT, et al: Evaluation of

OR

Urine culture

Lab Advisor™ ⓘ

General Technique :

Techniques include ⓘ  
Standard loop method  
Filter paper method  
Multipoint inoculation

REFERENCE

23. Graham JC & Galloway A: ACP Best Practice No 1 diagnosis of urinary tract infection. J Clin Pathol 2001; 54:10-12.



When viewing the entire document you can view the references by clicking a citation number within the text, which takes you to that specific reference in the References section.

### COLLECTION/STORAGE INFORMATION

Collect 4 to 10 mL of urine by one of 3 methods to avoid contamination: midstream clean catch, suprapubic aspiration, or catheterization [2][23]. Process catheter and midvoid specimens within 2 hours [23] and suprapubic aspiration specimens immediately [2]. If lab processing is delayed 30 minutes or more, refrigerate specimen up to 6 hours and consider adding a preservative such as boric acid [2].

with cover. Ann Emerg Med 2003; 42:530-545.

23. Graham JC & Galloway A: ACP Best Practice No 167: the laboratory diagnosis of urinary tract infection. J Clin Pathol 2001; 54(12):911-919.

24. Sodeman TM: A practical strategy for diagnosis of urinary tract infections. Clin Lab Med 1995; 15(2):235-250.

25. Stamm WE & Hooton TM: Management of urinary tract infections in adults. N Engl J Med 1993; 329:1328-1334.

26. Henry JB: Clinical Diagnosis and Management by Laboratory Methods, 20th ed. Saunders, 2001.

27. Hooton TM, Bradley SF, & Cardenas DD: Diagnosis, prevention, and treatment of catheter-associated urinary tract infection in adults: 2009 International Clinical Practice Guidelines from the Infectious Diseases Society of America. Clin Infect Dis 2010; 50(5):625-

30. Al-Orifi F, McGillivray D, Tange S, et al: Urine culture from

31. Hooton TM & Stamm WE: Diagnosis and treatment of u


32. Rosser CJ, Bare RL, & Meredith JW: Urinary tract infect

Last Modified: January 05, 2014

### Last Modified Date

Lab Information includes a *last modified date* at the bottom of the Reference section.

## Printing

Click the Print icon (  Print ) to print the monograph. This is available when viewing the document sections or the entire document. For more details on printing see [“Printing” on page 60](#).



# CHAPTER 9: REPRODUCTIVE RISK INFORMATION

Reproductive Effects content is an essential tool in supporting patient outcomes in reproductive contexts. It is proven to help identify potential hazards, reduce exposures, prevent possible medical and legal complications, and educate patients to make informed decisions. As a medical counseling tool, the set of databases is the single most comprehensive compilation of reproductive risk information databases available.

Exposures to even common substances can be dangerous. Reproductive Effects in Micromedex® Solutions presents in-depth reviews on full-range health effects of chemicals and substances commonly encountered in the home and workplace.

Reproductive Effects includes the following modules:

- REPROTEXT® Reproductive Hazard Reference: Presents in-depth reviews on full-range health effects of industrial chemicals commonly encountered in the workplace.
- REPROTOX® Reproductive Hazard Information, from the Reproductive Toxicology Center, Bethesda, MD: Covers the impact of the physical and chemical environment on human reproduction and development.
- Shepard's Catalog of Teratogenic Agents, Developed by Dr. Thomas H. Shepard, Professor Emeritus of Pediatrics, University of Washington, and co-authored by Dr. Janine E. Polifka, Clinical Lecturer of Pediatrics, University of Washington: Contains up-to-date information on teratogenic agents including chemicals, food additives, household products, environmental pollutants, pharmaceuticals, and viruses.
- TERIS Teratogen Information System, developed by the University of Washington: Provides current information on the teratogenic effects of drugs and environmental agents. Agent summaries derived from thorough literature reviews rate reproductive risk and explain data used to determine the rating. Retrieval of agent summaries can be done using domestic, international, generic, and proprietary names.

This chapter describes the reproductive risk information available in Micromedex Solutions and gives general instructions for how to search for it. For detailed information on how to search in Micromedex Solutions see ["Chapter 3: Searching Micromedex Solutions" on page 13](#).

## Searching for Reproductive Risk Information

Reproductive risk information documents can be accessed from the intermediate search results and from the All Results tab on a landing page. See [“Intermediate Search Results” on page 57](#) and [“Landing Pages” on page 17](#).

The following steps are an example for accessing reproductive risk information:

1. Perform a search for “natural gas”
2. Click **Reproductive Risk** on the left side of the intermediate search results page
3. Click a title in the results to view the document

**All Results**

Filter by

- All (1575)
- Drug (179)
- Disease (16)
- Toxicology (1112)
- Lab (1)
- Alternative Medicine (65)
- Reproductive Risk (202)**

1-15 of 202 Results for "natural gas"

**NATURAL GAS**  
Reproductive Risk: Reproductive risk information (REPROTEXT®)  
1.1 SYNONYMS SYNONYMS A NATURAL GAS GAS , NATURAL 1.2 IDENTIFIERS IDENTIFIERS 1.2.1 CAS...

**MUSTARD GAS**  
Reproductive Risk: Reproductive risk information (REPROTEXT®)  
LOST" KAMPSTOFF "LOST" LOST MUSTARD GAS MUSTARD HD MUSTARD, SULFUR MUSTARD VAPOR SCHWEFEL-LOST S-LOST...

**CHLORINE GAS**  
Reproductive Risk: Reproductive risk information (REPROTEXT®)  
...deposits, in brines, and in natural deposits of sylvite and carnallite (Bingham et al, 2001). 2...

**GASOLINE, NATURAL W-GRADE**  
Reproductive Risk: Reproductive risk information (REPROTEXT®)  
1 SYNONYMS SYNONYMS A GASOLINE, NATURAL W-GRADE BENZIN GASOLINE, NATURAL NATURAL GASOLINE PETROL, NATURAL , W...

**LIQUIFIED PETROLEUM GAS**  
Reproductive Risk: Reproductive risk information (REPROTEXT®)  
SYNONYMS SYNONYMS A LIQUIFIED PETROLEUM GAS BOTTLED GAS LPG PETROLEUM GAS , LIQUEFIED 1.2 IDENTIFIERS IDENTIFIERS...

**ARSINE GAS**  
Reproductive Risk: Teratogenic effects of substances (Shepard's)

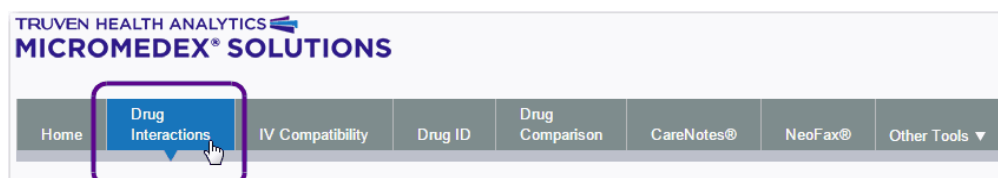
## Searching by CAS Registry Number

You can search by CAS Registry Number (unique numerical identifier assigned by Chemical Abstracts Service to every chemical substance described in the open scientific literature) to find Reprotext and Shepard's documents. For example, a search for "67-66-3" returns these reproductive risk results.

1. **CHLOROFORM**  
Reproductive Risk: Reproductive risk information (REPROTEXT®)  
NUMBER CAS REGISTRY NUMBER A 67-66-3 (Chloroform) 1.2.2 NIOSH/RTECS NUMBER NIOSH/RTECS NUMBER...
2. **CHLOROFORM**  
Reproductive Risk: Teratogenic effects of substances (Shepard's)  
Synonyms/Identifiers: Synonyms/Identifiers: CAS 67-66-3 Ruddick et al. (1980) gavaged rats with 100 mg per...

# CHAPTER 10: DRUG INTERACTIONS TOOL

The Drug Interactions tool in Micromedex® Solutions helps with checking for interacting drug ingredients, their effects, and clinical significance.








With the correct information available at the point of care, a significant number of adverse drug events can be prevented. The interactions tool provides instant access to drug-drug, drug-food, drug-ethanol, and drug-lab test reactions.

Some additional features and information presented in drug interactions may depend on your subscription. Customers subscribing to the Complete Drug Interactions will see functionality and links not displayed to subscribers of Standard Drug Interactions. For example, Complete Drug Interactions customers will also see drug-tobacco, drug-pregnancy, drug-lactation, and drug-allergy reactions.

## SCREENING FOR DRUG INTERACTIONS

A single drug can be checked for all known interactions, or you can screen for interactions for a list of drugs. Patient drug allergies can also be added into the interaction check. Use the *Drug Interactions* page to check for interaction information. Results are grouped by interaction type: drug-drug, drug-food, drug-lab, etc. Interactions found within each type are sorted by severity. The severity types are:

-  **Contraindicated** - the drugs are contraindicated for concurrent use
-  **Major** - the interaction may be life-threatening and/or require medical intervention to minimize or prevent serious adverse effects
-  **Moderate** - the interaction may result in an exacerbation of the patient's condition and/or require an alteration in therapy
-  **Minor** - the interaction would have limited clinical effects. Manifestations may include an increase in the frequency or severity of side effects but generally would not require a major alteration in therapy.
-  **Unknown** - unknown

## Documentation Ratings

The level of documentation available for the interaction is also shown. A complete legend of all documentation ratings is shown at the bottom of the page. Hovering over the rating in the legend opens a pop-up with the full definition. The ratings and their definitions follow:

- *Excellent* - controlled studies have clearly established the existence of the interaction
- *Good* - documentation strongly suggests the interactions exists, but well-controlled studies are lacking
- *Fair* - available documentation is poor, but pharmacologic considerations lead clinicians to suspect the interaction exists; or, documentation is good for a pharmacologically similar drug
- *Unknown* - unknown

## Building the Search for Interactions


1. Type the first drug (brand name or generic) in the *Search* field. If you are unsure of the spelling, just type as many characters as you know.





---

**Tip:** You can build an interaction search using a brand name, generic name, or herb/supplement name.

---

2. As you type, the application narrows your search results in the *Matching Drug Names* list based on the characters you have entered. The more characters you type, the more focused the results. The number of matches to the drug name is also updated as you type.
3. If the drug you are interested in is listed in the *Matching Drug Names* list:
  - Click on the drug name and then click the  button to add the drug to the *Drugs to Check* list - or -
  - Press the **Enter** key (if the drug is shown highlighted in the “*Matching Drug Names*” column) - or -
  - Double-click the drug name
4. Repeat these steps until you have all the drugs you wish to check for interactions in the *Drugs to Check* list.

If you accidentally add a drug in the *Drugs to Check* list, select the drug by clicking it, then remove it from the list by clicking the  button.



5. **Add Allergies** **Drug Allergies:** (Complete Drug Interactions customers only)  
Patient allergies can be added to the list to screen the drugs against the allergy.  
Click the **Add Allergies** button to open the allergy window.

6. Type the first drug (brand or generic) in the *Enter Allergy:* field. If you are unsure of the spelling, just type as many characters as you know.

If the drug the patient is allergic to is listed in the *Matching Allergies* list, click on the item and then click the **>** button to add the drug to the *Allergies to Add* list.

- Repeat this until all patient drug allergies have been added to the allergy list, then click the **UPDATE** button to return to the *Drug Interactions* page. You will notice the allergies entered appear UPPERCASE, with an asterisk (\*) in the *Drugs to check* list.

**Drug Interactions**

Type the drug name (brand or generic) in the search field. Select the drug and click the **Add** button.

Enter search term:

Matching drug names: (2)

- Xanax
- Xanax XR

Drugs to check:

- Amoxicillin
- Ampicillin
- Aspirin
- Echinacea
- Keflex
- Warfarin
- Xanax
- PENICILLIN\*

Capitalized item with asterisk (\*) indicates allergy.

**Clear** **Submit**

- When all drugs and allergies to check are in the *Drugs to check* list, click the **Submit** button.

If you want to remove all drugs from the *Drugs to Check* list and start over, click the **Clear** button.



## Drug Interactions Search Results

Interaction information is displayed on the *Drug Interactions Results* page.

**Drug Interaction Results** [← Modify Interactions](#)

Refine by: Drugs: **All** Severity: **All** Documentation: **All** Type: **All**

Jump To: [DRUG-DRUG \(4\)](#) | [Ingredient Duplication \(0\)](#) | [ALLERGY \(3\)](#) | [FOOD \(10\)](#) | [ETHANOL \(3\)](#) | [LAB \(8\)](#) | [TOBACCO \(2\)](#) | [PREGNANCY \(7\)](#) | [LACTATION \(7\)](#)

### Drug-Drug Interactions (4)

Drugs:	Severity:	Documentation:	Summary:
<a href="#">AMOXICILLIN – WARFARIN SODIUM</a>	Major	Good	Concurrent use of AMOXICILLIN and WARFARIN may result in an increased risk of bleeding.
<a href="#">AMPICILLIN – WARFARIN SODIUM</a>	Major	Good	Concurrent use of AMPICILLIN and WARFARIN may result in an increased risk of bleeding.
<a href="#">ASPIRIN – WARFARIN SODIUM</a>	Major	Excellent	Concurrent use of ASPIRIN and WARFARIN may result in an increased risk of bleeding.
<a href="#">CEPHELEXIN – WARFARIN SODIUM</a>	Major	Good	Concurrent use of CEPHELEXIN and WARFARIN may result in an increased risk of bleeding.

### Ingredient Duplication (None found)

### Drug-ALLERGY Interactions (3)

Drugs:	Severity:	Documentation:	Summary:
<a href="#">AMOXICILLIN – PENICILLIN</a>	Unknown	Unknown	CROSS-REACTIVITY BETWEEN BETA-LACTAMS (CARBAPENEMS, CEPHALOSPORINS, CLAVULANIC ACID, MONOBACTAMS, PENICILLINS, PIPERACILLIN, TETRAZOLAM, VANCOMycin, etc.)

## Interactions Results

Jump To: [DRUG-DRUG \(4\)](#) | [Ingredient Duplication \(0\)](#) | [ALLERGY \(3\)](#) | [FOOD \(10\)](#) | [ETHANOL \(3\)](#) | [LAB \(8\)](#) | [TOBACCO \(2\)](#) | [PREGNANCY \(7\)](#) | [LACTATION \(7\)](#)






Interactions are grouped by interaction type. Within each interaction type, interactions are shown ranked by severity. Any interaction marked *Contraindicated* is displayed first, followed by *Major*, *Moderate*, and *Minor*. See [“Severities” on page 152](#) for the complete list of severities.

The level of the supporting documentation (Excellent, Good, Fair, etc.) behind the interaction is also shown for each interaction listed. See [“Documentation Ratings” on page 153](#).

The summary column displays brief, high-level interaction information.

## Severities

Interaction severities are indicated by an icon and one word definition. A complete legend of all severities is shown at the bottom of the page. Hovering over the icon in the legend opens a pop-up window with the full definition. The full definitions follow:

-  **Contraindicated** - the drugs are contraindicated for concurrent use
-  **Major** - the interaction may be life-threatening and/or require medical intervention to minimize or prevent serious adverse effects
-  **Moderate** - the interaction may result in an exacerbation of the patient's condition and/or require an alteration in therapy
-  **Minor** - the interaction would have limited clinical effects. Manifestations may include an increase in the frequency or severity of side effects but generally would not require a major alteration in therapy.
-  **Unknown** - unknown



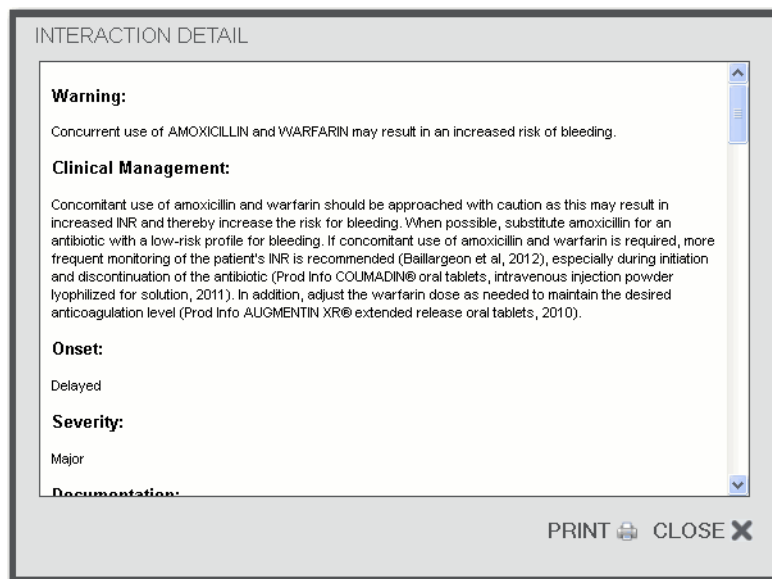
## Documentation Ratings

The level of documentation available for the interaction is also shown. A complete legend of all documentation ratings is shown at the bottom of the page. Hovering over the rating in the legend opens a pop-up with the full definition. The ratings and their definitions follow:

- *Excellent* - controlled studies have clearly established the existence of the interaction
- *Good* - documentation strongly suggests the interactions exists, but well-controlled studies are lacking
- *Fair* - available documentation is poor, but pharmacologic considerations lead clinicians to suspect the interaction exists; or, documentation is good for a pharmacologically similar drug
- *Unknown* - unknown

## Interaction Details

Complete Drug Interactions subscribers are able to view additional interaction information by clicking the link on the drug name to open interactions details. Additional information may include: clinical management, onset, probable mechanism, literature summaries, and references for this interaction.



## Change the list of drugs to search

You can add, change, remove items from the list of drugs to search by clicking the **Modify Interactions** button. All items selected to this point are retained. When changes have been completed, click the **Submit** button to screen interactions based on the updated drug and allergy list



**Note:** Information displayed on the drug interactions results page may depend on your subscription. Customers subscribing to Complete Drug Interactions will see links to additional information about the interaction that is not displayed to subscribers of Standard Drug Interactions.

## Refine by

**Drug Interaction Results** Modify Interactions

Refine by: Drugs: **All** Severity: **All** Documentation: **All** Type: **All**

Jump To: **DRUG-DRUG** | ALLERGY (3) | FOOD (10) | ETHANOL (3) | LAB (8) | TOBACCO

**Drug-Drug Interactions**

Drugs:

- AMOXICILLIN – WARFARIN
- AMPICILLIN – WARFARIN
- ASPIRIN – WARFARIN

Click on Drug names to see single Drug Interactions. Check/uncheck to refine selected drugs.

Check all | Uncheck all

- ☒ Amoxicillin
- ☒ Ampicillin
- ☒ Aspirin
- ☒ Echinacea
- ☒ Keflex
- ☒ Warfarin
- ☒ Xanax
- ☒ PENICILLIN\*

Cancel Update

Severity:	Documentation:
<b>S</b> Major	Good
<b>S</b> Major	Good
<b>S</b> Major	Excellent

The drop-down lists allow you to modify the interactions results to suit your specific needs.

1. The *Drugs* drop-down allows you to remove any of the drugs previously selected from the interactions check. De-select (uncheck) any drug you wish to remove, then click the **Update** button.
2. The *Severity* drop-down allows you filter interactions by level of severity. De-select (uncheck) any severity you wish to remove, then click the **Update** button.
3. By default, all *Documentation* types (Excellent, Good, Fair, and Unknown) are included and shown in the results. To filter by level of documentation de-select (uncheck) any level you wish to remove, then click the **Update** button.
4. The *Type* drop-down allows you to filter for specific interaction types only. De-select (uncheck) any interaction type you wish to remove, then click the **Update** button.

## Jump To

Interactions are shown grouped by interaction type. Drug-drug interactions are shown first on the page, followed by ingredient duplication, allergy, food, ethanol, lab, tobacco, pregnancy and lactation.

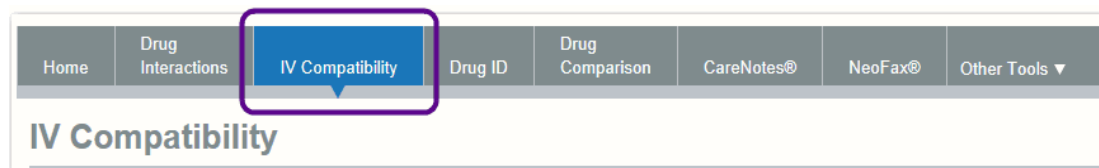
Jump To: **DRUG-DRUG (4)** | Ingredient Duplication (0) | **ALLERGY (3)** | **FOOD (10)** | **ETHANOL (3)** | **LAB (8)** | **TOBACCO (2)** | **PREG**

The **Jump To** links show at a glance how many interactions of each type exist, and allow you to go quickly to a particular type. Click the link to go immediately to the first entry in the interaction type.

# CHAPTER 11: IV COMPATIBILITY TOOL

Use the Trissel's™ 2 IV Compatibility tool to avoid potentially dangerous drug combinations. When multiple IV medications are combined, the risk of complication is very real. Efficacy of one or more drugs can be reduced or a potentially dangerous incompatibility can occur.

The IV Compatibility Tool provides easy access to Trissel's™ 2 Clinical Pharmaceuticals Database (Parenteral Compatibility) with proven data to support safe decisions for administering injectable drugs in combination. Using information from leading IV compatibility expert, Lawrence Trissel, MS, FASHP, IV Compatibility in Micromedex® Solutions presents compatibility results for parenteral drug combinations.



## Features

The IV Compatibility tool offers compatibility information for drugs:

- In solution
- Combined via Y-Site
- Combined via Admixture
- Combined via Syringe
- Combined with TPN/TNA solutions

## Building an IV Compatibility Search


1. Type the first drug (brand or generic) in the *Enter Search Term:* field. If you are unsure of the spelling, just type as many characters as you know.




**Note:** IV Compatibility searches must be built using a drug. Do not build a search using a Solution as a search term. Compatibility with Solutions is returned for the drug.

2. *Matching Drug Names*

As you type, the word wheel begins to narrow your search results in the *Matching Drug Names* list based on the characters you have entered. The more characters you type, the more focused the results. The number of matches to the drug name is also updated as you type.

3. If the drug you are interested in is listed in the *Matching Drug Names* list, click on the drug and then click the  button to add the drug to the *Drugs to Check* list.
4. If you are looking for compatibility information for a single drug, then click the **Submit** button. However, if more than one drug should be screened, repeat steps one through three until you have all the drugs you wish to check for compatibility in the *Drugs to Check* list.

If you accidentally add a drug in the *Drugs to Check* list, select the drug by clicking it, then remove it from the list by clicking the  button.

5. When all drugs to screen are in the *Drugs to Check* list, click the **Submit** button. If you want to remove all drugs from the *Drugs to Check* list and start over, click the **Clear** button.



## Compatibility Search Results

Compatibility results for Y-Site, Admixture, and Syringe are separated onto different tabs, so that you can quickly access the method in which you are interested.

**IV Compatibility Results** Modify Selections

Key :

Compatibility: All

**All Drugs (4)**

☒ Check all | ☐ Uncheck all

- ☒ Anakinra
- ☒ Cefazolin sodium
- ☒ Furosemide
- ☒ Heparin sodium

Cancel Update

**Tip:** To see additional information on IV Solutions and TPN/TNA compatibility, select a single drug from the list and choose Update.

Y-Site Test Detail	Rating
Anakinra - Cefazolin sodium	Uncertain
Anakinra - Furosemide	Not Tested
Anakinra - Heparin sodium	Not Tested
Cefazolin sodium - Furosemide	Compatible
Cefazolin sodium - Heparin sodium	Compatible
Furosemide - Heparin sodium	Caution: Variable

Compatibility is denoted by an icon and simple description. A key at the top of the page lists all compatibility types, and hovering your mouse over the icon will open a pop-up with the full compatibility description. The full descriptions follow:

- Compatible* - All studies showed these items as compatible
- Caution: Variable* - Study results show IV compatibility is variable
- Incompatible* - All studies showed these items as incompatible
- Uncertain* - Study results were inconclusive, compatibility wasn't determined
- Not Tested* - IV compatibility has not been tested

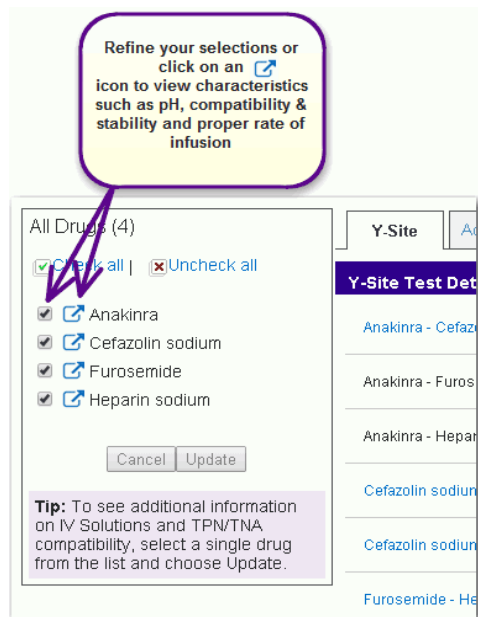


**Note:** By default, *all Compatibilities* are displayed.

## Modify the Drugs to Include

Remove one or more drugs from the drugs selected for inclusion in the compatibility results.

The drugs included are displayed on the left side of the page. To remove a drug, click the checkbox and then click the **Update** button to update compatibility results for the drugs in the list.



**Tip:** To view IV Compatibility for one drug (and view Solution and TPN/TNA compatibility) select one substance from the list and click **Update**

The *Compatibility*: drop-down shows all compatibilities selected by default. Remove any compatibility indicator by de-selecting it and clicking the **Update** button.

## Modify Drug Selections

To add drugs to a compatibility profile, or to start over from the beginning, click the **Modify Selections** button. You will return to the initial page with the current selections shown in the Drugs to Check column.

## View Drugs and Solutions Data

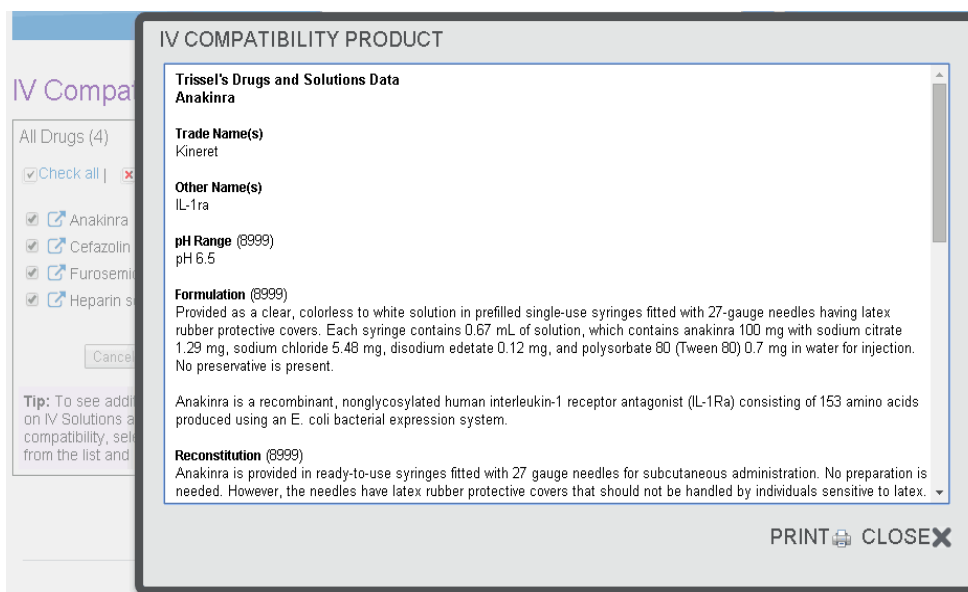


Parenteral drugs and solutions are administered by injection, most often intravenously, but also commonly by intramuscular and subcutaneous injection. To prevent adverse effects, it is important to have access to relevant characteristics of parenteral products, such as pH, compatibility and stability, and proper rate of infusion. This information is critical in making decisions related to the preparation, storage, and administration of parenteral products.



Click on the  icon next to the drug to view Trissel's drugs and solutions data for that drug. Information may be shown for:

- pH Range
- Formulation
- Reconstitution
- Osmolality
- Storage
- Stability (detailed)
- ...and more



The screenshot shows a pop-up window titled "IV COMPATIBILITY PRODUCT" with a tab labeled "Trissel's Drugs and Solutions Data". The main content area displays information for the drug "Anakinra".

**Trade Name(s)**  
Kineret

**Other Name(s)**  
IL-1ra

**pH Range** (999)  
pH 6.5

**Formulation** (999)  
Provided as a clear, colorless to white solution in prefilled single-use syringes fitted with 27-gauge needles having latex rubber protective covers. Each syringe contains 0.67 mL of solution, which contains anakinra 100 mg with sodium citrate 1.29 mg, sodium chloride 5.48 mg, disodium edetate 0.12 mg, and polysorbate 80 (Tween 80) 0.7 mg in water for injection. No preservative is present.

Anakinra is a recombinant, nonglycosylated human interleukin-1 receptor antagonist (IL-1Ra) consisting of 153 amino acids produced using an E. coli bacterial expression system.

**Reconstitution** (999)  
Anakinra is provided in ready-to-use syringes fitted with 27 gauge needles for subcutaneous administration. No preparation is needed. However, the needles have latex rubber protective covers that should not be handled by individuals sensitive to latex.

At the bottom right of the pop-up are the links "PRINT" and "CLOSE".

The information shown in the Trissel's Drug and Solutions Data pop-up can also be printed by clicking on the **PRINT** link or icon.

## Y-Site

Results for Y-site compatibility are presented first by default.

Y-Site		Compatibility: All
Y-Site Test Detail		Rating
Anakinra - Cefazolin sodium		Uncertain
Anakinra - Furosemide		Not Tested
Anakinra - Heparin sodium		Not Tested
Cefazolin sodium - Furosemide		Compatible
Cefazolin sodium - Heparin sodium		Compatible
Furosemide - Heparin sodium		Caution:Variable

Click on the drug pair link to view study details.

## Compatibility Details

Compatibility details for multiple drug compatibility tests are shown in a five-column table:

IV COMPATIBILITY DETAIL				
Drug 1	Drug 2	Status	Information	Test Parameters
<b>Anakinra</b> 36mg/mL in Normal saline- Sodium chloride 0.9% Synergen	<b>Cefazolin sodium</b> 15mg/mL in Normal saline- Sodium chloride 0.9% Geneva	 Uncertain	<b>Physical Compatibility:</b> Physically compatible. No visible haze or particulate formation, color change, or gas evolution.  <b>Chemical Stability:</b> Uncertain stability. Anakinra concentrations were erratic possibly due binding with the antibiotic. No loss of cefazolin sodium occurred.  <b>Storage:</b> Ambient room temperature about 25	<b>Reference:</b> 2508  <b>Study Period:</b> 4 hours.  <b>Method:</b> Visual observation and stability-indicating HPLC analyses of drug concentrations.  <b>Container:</b> Simulated Y-site administration using glass containers.

- **Drug 1** - contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** - shows the secondary drug name, concentration, and manufacturer's name
- **Status** - lists the compatibility result icon and description



- **Information** - displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** - contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information

Return to the *Overview* page by clicking the **CLOSE** link.

## Admixture

Click the **Admixture** tab to view results. Overview information for multiple drug admixture compatibility is shown with the associated compatibility icon and description.

Y-Site	Admixture	Syringe	Compatibility: All
Admixture Test Detail		Rating	
Anakinra - Cefazolin sodium			Not Tested
Anakinra - Furosemide			Not Tested
Anakinra - Heparin sodium			Not Tested
Cefazolin sodium - Furosemide			Not Tested

Click the drug pair link to view study details.

IV COMPATIBILITY DETAIL				
Drug 1	Drug 2	Status	Information	Test Parameters
Cefazolin sodium 10mg/mL  Manufacturer Unspecified	Heparin sodium 5000units/mL  Manufacturer Unspecified	 Compatible	<b>Physical Compatibility:</b> Physically compatible. No visible haze, precipitation, or color change was reported.  <b>Chemical Stability:</b> Chemically stable. Little or no increase in antibiotic loss was found compared to the antibiotic without the heparin present.  <b>Storage:</b> Body temperature of 37 °C.	<b>Reference:</b> 2515  <b>Study Period:</b> 72 hours.  <b>Method:</b> Visual observation, UV spectrophotometry, and HPLC analysis to confirm drug concentrations.  <b>Container:</b> Simulated antibiotic-heparin lock in glass test tubes.
Drug 1	Drug 2	Notes: This admixed drug combination is intended for use as a lock solution.		
Cefazolin sodium	Heparin sodium			

Admixture compatibility details for multiple drug compatibility searches are shown in a five-column table:

- **Drug 1** contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** shows the secondary drug name, concentration, and manufacturer's name
- **Status** lists the compatibility result icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information

Return to the *Overview* page by clicking the **CLOSE** link.



## Syringe (Complete IV Compatibility customers)

Click the Syringe tab to view results. Overview information for multiple drug syringe compatibility is shown alphabetically by drug name, with the associated compatibility icon and description.

Y-Site		Admixture	Syringe	Compatibility: All	
Syringe Test Detail				Rating	
Anakinra - Cefazolin sodium					Not Tested
Anakinra - Furosemide					Not Tested
Anakinra - Heparin sodium					Not Tested
Cefazolin sodium - Furosemide					Not Tested
<a href="#">Cefazolin sodium - Heparin sodium</a>					Compatible
<a href="#">Furosemide - Heparin sodium</a>					Compatible

Click the drug pair link to view study details.

IV COMPATIBILITY DETAIL				
Drug 1	Drug 2	Status	Information	Test Parameters
<b>Cefazolin sodium</b> 2g'in` Reconstituted solution undiluted  Boehringer Mannheim	<b>Heparin sodium</b> 2500units/1 mL'in` Undiluted  Braun Melsungen	 Compatible	<b>Physical Compatibility:</b> Physically compatible. No visible changes and no change in measured haze.  <b>Storage:</b> Room temperature.	<b>Reference:</b> 1053  <b>Study Period:</b> Observation over 5 minutes.  <b>Method:</b> Visual observation and nephelometric evaluation.  <b>Container:</b> Glass containers.
<b>Notes:</b> This drug combination was used as an antibiotic-lock solution for venous ports.				
Drug 1	Drug 2	Status	Information	Test Parameters
<b>Cefazolin sodium</b> 0.5mg/mL'in` Sterile water for injection  Eli Lilly and Co.	<b>Heparin sodium</b> 50units/mL'in` Normal saline-Sodium chloride 0.9%  Manufacturer Unspecified	 Compatible	<b>Physical Compatibility:</b> Physically compatible. No visible haze or particulate formation, color change, or gas evolution.	<b>Reference:</b> 9223  <b>Study Period:</b> 10 days.  <b>Method:</b> Visual observation and microbiological assessment of antibiotic activity
PRINT  CLOSE				

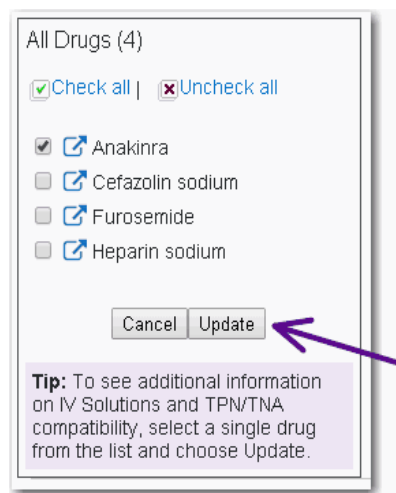
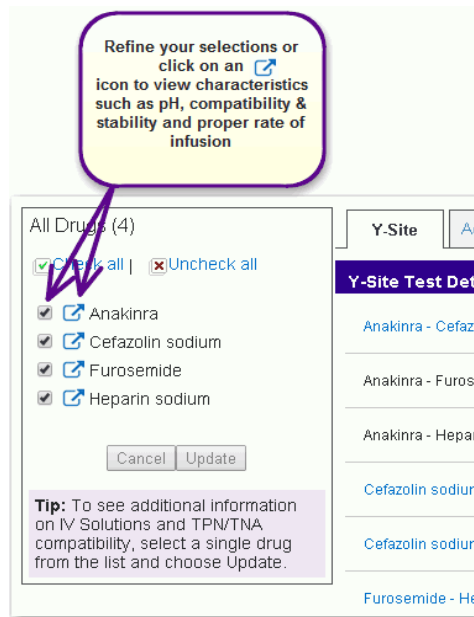
Syringe compatibility details for multiple drug compatibility searches are shown in a five-column table:

- **Drug 1** contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** shows the secondary drug name, concentration, and manufacturer's name
- **Status** column lists the compatibility result icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information



## Single Drug IV Compatibility

Compatibility in Common Solutions and with TPN/TNA therapies is only available when a single drug is selected for consideration. This can be accomplished by building an IV Compatibility profile for one drug, or by de-selecting all but one drug from a compatibility results screen and clicking the **Update** button.



## Common Solutions

Solution compatibility is provided for common and other standard IV fluids.

Click to view Trissel's Drugs and Solutions Data for pH, compatibility and stability, and proper rate of infusion, etc.

**IV Compatibility Results** [Modify Selections](#)

Selected Drug: [Anakinra](#)

Key:

Compatibility: All

All Drugs (4)

☒ Check all | ☐ Uncheck all

☒ [Anakinra](#)

☐ [Cefazolin sodium](#)

☐ [Furosemide](#)

☐ [Heparin sodium](#)

[Cancel](#) [Update](#)

Solution	Y-Site	Admixture	Syringe	TPN/TNA	Rating	Solution Information
<b>Common Solutions Test Detail</b>						
D5W (D5W-Dextrose 5%)						Not Tested
D10W (Dextrose 10%)						Not Tested
D5LR (Dextrose 5% in lactated Ringers)						Not Tested
D5NS (Dextrose 5% in sodium chloride 0.9%)						Not Tested
D5W - 1/2 NS (Dextrose 5% in sodium chloride 0.45%)						Not Tested
NS (Normal saline- Sodium chloride 0.9%)						Not Tested
1/2 NS (Sodium chloride 0.45%)						Not Tested
<b>Other Solutions Test Detail</b>						

### Common Solutions:

- D5W - D5W-Dextrose 5%
- D10W - Dextrose 10%
- D5LR - Dextrose 5% in lactated Ringers
- D5NS - Dextrose 5% in sodium chloride 0.0%
- D5W - 1/2 NS - Dextrose 5% in sodium chloride 0.45%
- NS - Normal saline - sodium chloride 0.9%
- 1/2 NS - sodium chloride 0.45%



Where detailed results are available, the solution is shown as an active link. Click the solution link to view the additional information.



References for the information can be found by clicking the numbered link. Close the Compatibility Details by clicking the *Close* link.

Other Solutions can include Dextran, Dextrose, Fat emulsion, Fructose, Isolytes, Lactated Ringer's, to name a few.

Click on a tested solution link to view the compatibility details.



IV COMPATIBILITY DETAIL				
Drug 1	Drug 2	Status	Information	Test Parameters
<b>Furosemide</b> 0.6mg/mL  Hoechst-Roussel	<b>D5W-Dextrose</b> <b>5%</b>  Baxter Healthcare Corporation	 Compatible	<b>Physical Compatibility:</b> Physically compatible. No visible haze or particulate formation, color change, or gas evolution.  <b>Storage:</b> Not specified.	<b>Reference:</b> <a href="#">0315</a> <b>Study Period:</b> 24 hours. <b>Method:</b> Visual observation. <b>Container:</b> 10-mL glass vials.
Drug 1	Drug 2	Status	Information	Test Parameters
<b>Furosemide</b> 0.2mg/mL	<b>D5W-Dextrose</b> <b>5%</b>	 Compatible	<b>Chemical Stability:</b> Chemically stable. About 4% furosemide loss occurred in 24 hours.  <b>Storage:</b> Room temperature of 25 °C.	<b>Reference:</b> <a href="#">1348</a> <b>Study Period:</b> 24 hours. <b>Method:</b> HPLC analysis of drug concentrations. <b>Container:</b> Not cited.
Drug 1	Drug 2	Status	Information	Test Parameters

PRINT  CLOSE 

Solution compatibility details are shown in a five-column table:

- **Drug 1** contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** shows the fluid and manufacturer's name
- **Status** column lists the compatibility result icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a referenced link, the study period, the study methods, and the container information for this particular combination
- **Notes** for the test (if applicable) are shown in red text at the top of the detailed study information

### View Drugs and Solutions Data


Parenteral drugs and solutions are administered by injection, most often intravenously, but also commonly by intramuscular and subcutaneous injection. To prevent adverse effects, it is important to have access to relevant characteristics of parenteral products, such as pH, compatibility and stability, and proper rate of infusion. This information is critical in making decisions related to the preparation, storage, and administration of parenteral products.






Click on the  icon next to the drug to view Trissel's drugs and solutions data for that drug.

## TPN/TNA Overview







Click to view Trissel's Drugs and Solutions Data for pH, compatibility and stability, and proper rate of infusion, etc.

### IV Compatibility Results

Selected Drug:  Cefazolin sodium

Key:     

Compatibility: All

Solution	Y-Site	Admixture	Syringe	TPN/TNA
<p>All Drugs (4)</p> <p><input checked="" type="checkbox"/> Check all   <input type="checkbox"/> Uncheck all</p> <p><input type="checkbox"/>  Anakinra</p> <p><input checked="" type="checkbox"/>  Cefazolin sodium</p> <p><input type="checkbox"/>  Furosemide</p> <p><input type="checkbox"/>  Heparin sodium</p> <p>Cancel Update</p>				
TPN (2-in-1) Test Detail				Rating
<p>1 mg/mL</p> <p><b>Notes:</b> One simple TPN admixture was used in this testing having the following composition per liter: FreAmine II 4.25% Dextrose 25%</p>				<p> Compatible Solution</p>
<p>1 mg/mL</p> <p><b>Notes:</b> One neonatal TPN admixture was used in this testing having the following composition per liter: Amino acids 1.5% (Baxter) Dextrose 15% Unspecified electrolytes and vitamins</p>				<p> Compatible Solution</p>
<p><b>Notes:</b> Variable compatibility results have been reported for this drug with TPN admixtures probably depending on drug concentration and TPN composition.</p>				

Overview information for single drug TPN (2-in-1) (total parenteral nutrition) is shown, followed by TNA (3-in-1) (total nutritive admixture) compatibility.



**Note:** TPN and TNA results are not result type specific. They can be a Y-Site, solution, or admixture result. Results are comprised of all compatibility tests where the drug name searched is being included with a TPN or TNA solution.

Within each TPN/TNA grouping, the results are sorted alphabetically by TPN or TNA admixture name, with the associated compatibility icon and description, followed by high level notes, including composition of the TPN/TNA, on these tests.

Click the admixture name link to view the details of these tests.

## View Drugs and Solutions Data



Parenteral drugs and solutions are administered by injection, most often intravenously, but also commonly by intramuscular and subcutaneous injection. To prevent adverse effects, it is important to have access to relevant characteristics of parenteral products, such as pH, compatibility and stability, and proper rate of infusion. This information is critical in making decisions related to the preparation, storage, and administration of parenteral products.

Click on the  icon next to the drug to view Trissel's drugs and solutions data for that drug.



## TPN/TNA Details

IV COMPATIBILITY DETAIL

<div><div>2in1FreAminell</div><div><div>Compatible Solution</div><div>✓</div></div></div> <div><div><b>Notes:</b></div><div>Variable compatibility results with furosemide in TPN admixtures may occur due to its relative alkalinity depending on drug concentration and TPN composition.</div><div>One simple TPN admixture was used in this testing having the following composition per liter: FreAmine II 4.25% Dextrose 25%</div></div>	<div><div>Furosemide</div><div>0.04 mg/mL (40 mcg/mL)</div><div>Hoechst-Roussel</div></div>	<div><div>Physical Compatibility:</div><div>Physically compatible. No visible haze or particulate formation, color change, or gas evolution.</div></div> <div><div>Storage:</div><div>Refrigerated at 4 °C for 22 hours followed by 2 hours equilibrating to room temperature.</div></div>	<div><div>Reference:</div><div>0349</div></div> <div><div>Study Period:</div><div>24 hours.</div></div> <div><div>Method:</div><div>Visual observation and microscopic examination.</div></div> <div><div>Container:</div><div>Glass containers.</div></div>
---	---	--	--

PRINT

CLOSE

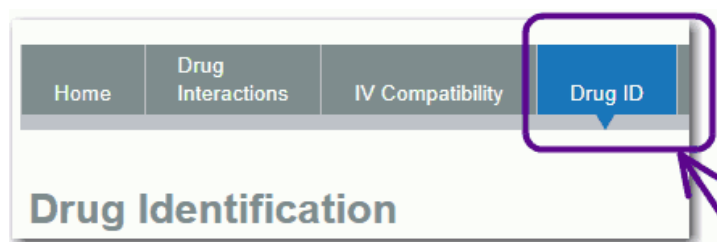
X



# CHAPTER 12: DRUG ID TOOL

## IDENTIFY DRUGS BY IMPRINT OR PHYSICAL CHARACTERISTICS

The Drug ID tool can assist you in identifying pharmaceutical tablets, caplets, and capsules by any of their physical characteristics such as shape, color, pattern, or imprint code.



Micromedex® Solutions for Poison Centers customers can display additional information in the search results, including:

- Excipients
- Regulatory Status
- AAPCC Code
- Availability
- Product ID
- Contact Information

Micromedex® Solutions for Poison Centers customers can also open the toxicologic management for the substance from search results. When an overdose or toxic ingestion or exposure is suspected, this can close the information loop from identification to management.

Micromedex Solutions returns a full-color image of the drug whenever possible, with a link to detailed product information.

Poison Center users can find additional information in ["Appendix D: Poison Center Integration" on page 303](#).

## Create Your Search

### Search by Imprint Code

Type imprint codes in the Side 1 and Side 2 fields. Side order (Side 1 or Side 2) does not matter. A search for Side 1 = 1025 and Side 2 = 93 produces the same match as Side 1 = 93 and Side 2 = 1025.

Both Side 1 and Side 2 are not required. Search on only one imprint code if you are not able to read the second imprint.

The screenshot shows the 'Drug Identification' search interface. At the top, it says 'Search: by Imprint Code' with a link 'No Imprint Code? Click here to search by Description'. Below this are two input fields: 'Side 1:' and 'Side 2:'. Each field has a 'Partial Imprint' checkbox to its right. At the bottom are 'Clear' and 'Search' buttons.

### Partial Imprint

There may be times or conditions when you are not sure of the entire imprint code. When this is the case, click the *Partial Imprint* checkbox to perform the search looking for the characters entered anywhere in the imprint code.

Using the example of Side 1 = mrk and Side 2 = 71 (with the *Partial Imprint* checkbox selected) will find the imprint 71 anywhere in the imprint code; in this case three matches found: MRK 711, MRK 717, and Mrk 717.

This screenshot shows the same 'Drug Identification' search interface as the previous one, but with example data. The 'Side 1:' field contains 'mrk' and its 'Partial Imprint' checkbox is unchecked. The 'Side 2:' field contains '71' and its 'Partial Imprint' checkbox is checked. The 'Clear' and 'Search' buttons remain at the bottom.



Drug Identification Results

← Modify Identification

Search Images ▶

3 Matches for: "mrk, 71"

Sort all Results by: Imprint ▼

3 Drug Matches for 'M'

1 - 3 (of 3 matching drugs) «First «Previous | Next» Last»

Display: ALL | 0-9 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Imprint ▼	Drug Name	Manufacturer	Availability	AAPCC	Poisindex Managements
MRK 711 Singulair	Singulair	Merck Sharp & Dohme	United States	201078	MONTELUKAST
MRK 717 HYZAAR	Hyzaar 50-12.5	Merck Sharp & Dohme	United States	077773	ANGIOTENSIN II ANTAGONISTS DIURETICS
Mrk; 717	Hyzaar	Merck Frosst	Canada	201079	ANGIOTENSIN II ANTAGONISTS DIURETICS

Without the *Partial Imprint* checkbox selected, the default Drug ID search looks for *exactly* what is entered as the search term. This means *all* terms and conditions must match to be considered a match. This executes like the Boolean 'AND' search operator.

Using the same example: Side 1 = MRK and Side 2 = 71, but without the *Partial Imprint* checkbox selected, results in "No Matches Found", as there are no drugs with the imprint of MRK AND 71.



If only one side is legible, you can search using a single imprint code. For example, you could search on Side 1 = 71. This search finds all drugs with 71 as an imprint, which may produce a large list of matches.

## Logos and Pictures

If the drug has something other than letters or numbers, you can search on the term 'logo'. The example shown here could be found by searching Side 1 = 100 and Side 2 = logo.



## Imprint Code Search Results

### Search Results Page

All matches found for your search criteria are shown in a search results table. Links to additional information on: drug information, Manufacturer, Availability, and POISINDEX® Managements are available.

Searching by Imprint will not display any pictures in the search results table. Images may be available on the Drug Info page (see [“Viewing Drug Information” on page 176](#)). If you need to view a picture of the substance to match it to the pill in question, it may be available by searching the Images database. Click the **Search Images** button to search using the same search terms and parameters in the Images database.

**Note:** Not all substances found through an imprint search will have a corresponding image/picture in the Images database.

If you wish to create a new search, click the **Modify Identification** button to return to the search page.

The screenshot shows the 'Drug Identification Results' page. At the top, there are buttons for 'Modify Identification' and 'Search Images'. Below this, a purple bar indicates '25 Matches for: "mrk"'. A speed menu allows jumping to results by letter (A-Z) or number (0-9). The results are sorted by 'Imprint'. The table lists drugs with columns for Imprint, Drug Name, Manufacturer, Availability, AAPCC, and Poisindex Managements. Callouts provide additional context: 'Click any hyperlinked heading to sort by that column.', 'The up/down triangles (and Sort Results by drop-down) show which column is currently selected for sort.', 'Toggle between ascending and descending sorts by clicking the underlined heading.', 'Images are not shown on the search results page when searching by imprint code.', 'Click the drug name link to view additional information and the image (if available) for the selected drug.', 'Speed menu: Click the linked letter (or 0-9) to jump to that position in the list of results.', 'Click Search Images to search for images. (NOTE: Not all drugs have a corresponding picture.)', and 'Click a title to view a POISINDEX® Management document via a landing page.'

Imprint ▼	Drug Name	Manufacturer	Availability	AAPCC	Poisindex Managements
MRK 266	Maxalt	Merck Sharp & Dohme	United States	077920	SUMATRIPTAN AND RELATED AGENTS SEROTONIN SYNDROME
MRK 117	Singulair	Merck Sharp & Dohme	United States	201078	MONTELUKAST
MRK 267	MAXALT	Merck Sharp & Dohme	United States	077920	SUMATRIPTAN AND RELATED AGENTS SEROTONIN SYNDROME
MRK 711	Singulair	Merck Sharp & Dohme	United States	201078	MONTELUKAST
Hyzaar 50-12.5			United States	077773	ANGIOTENSIN II RECEPTOR ANTAGONISTS

The results page opens positioned to results that most closely match your term(s). The number of drugs found for that letter (or number 0-9) is shown. You can view imprints matched that begin with other letters by clicking the speed menu letter (or number 0-9). Any letter shown with bold text denotes that a match to that letter was found for the search term.



Search results display sorted alphabetically by the imprint code. The sort order is an alphabetical ascending sort (0-9, A-Z). You can reverse the sort order by clicking on the blue arrow. When the sort order is changed, the direction of the arrow changes.

If more than one page of matches is found, move through the pages using the **<<First, <Previous | Next> and Last>>** navigation buttons.

### Sort All Results by

You can sort the search results by the Imprint Code, Drug Name, Manufacturer or Availability. Click the *Sort all Results by:* drop-down and select from the list.

## Viewing Drug Information

Click a drug name link to open the *Drug Information* page for the substance.

**25 Matches for: "mrk"**

**23 Drug Matches for 'M'** 1 - 23 (of 23 matches)

Display: ALL | 0-9 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q

Imprint ▼	Drug Name	Manufacturer	Availability
MRK 266	<a href="#">Maxalt</a>	Merck Sharp & Dohme	United States
MRK 117 Singulair	<a href="#">Singulair</a>	Merck Sharp & Dohme	United States
MRK 267			

**DRUG INFORMATION**

Tox & Drug: [Maxalt](#) ▶  
Martindale: [Maxalt](#) ▶

**DRUG NAME:** MAXALT

**INGREDIENTS:** RIZATRIPTAN BENZOATE -- 5 MG

**RELATED DOCUMENTS:** POISINDEX® MANAGERMENTS - SUMATRIPTAN AND RELATED AGENTS  
POISINDEX® MANAGERMENTS - SEROTONIN SYNDROME  
DRUGDEX® EVALUATIONS - RIZATRIPTAN

---

**COLOR:** PALE PINK

**SHAPE:** CAPSULE-SHAPE

**IMPRINT:** <sup>MRK</sup> THE TABLET IS CODED WITH MRK ON ONE SIDE AND 266 ON THE OTHER SIDE., 266

**FORM:** COMPRESSED ORAL TABLET

**AVAILABLE CONTAINER SIZE:** BOX OF 12, BOX OF 6, BOTTLE OF 500

**AAPCC CODE:** 077920 - OTHER TYPES OF MISCELLANEOUS PRESCRIPTION OR OVER THE COUNTER DRUG

**NDC:** 00006-0266-12  
00006-0266-06  
00006-0266

**EXCIPIENTS:** CELLULOSE, MICROCRYSTALLINE ; FERRIC OXIDE, RED ; LACTOSE (MONOHYDRATE) ; MAGNESIUM STEARATE ; STARCH, PREGELATINIZED

**REGULATORY STATUS:** RX

**AVAILABILITY:** UNITED STATES

**PRODUCT ID:** 5700376

**CONTACT:** MERCK SHARP & DOHME

PRINT CLOSE

The following information may be displayed on the *Drug Information* page:

- Drug Name
- Ingredients
- Related POISINDEX® Management
- Color
- Shape
- Imprint
- Route
- Form
- Available Container Size (Packaging information)
- AAPCC Code
- NDC Code
- Excipients
- Regulatory Status
- Availability
- Product ID
- Contact (Manufacturer) Information



You can go directly to the *Tox & Drug Product Lookup Tool* (see [“Tox & Drug Product Lookup Tool” on page 189](#)) for the selected drug by clicking the link located near the top (right) of the window.

**DRUG INFORMATION**

Tox & Drug: [Maxalt](#)  
Martindale: [Maxalt](#)

**DRUG NAME:** MAXALT  
**INGREDIENTS:** RIZATRIPTAN BENZOATE -- 5 MG  
**RELATED DOCUMENTS:** [POISINDEX® MANAGERMENTS - SUMATRIPTAN AND RELATED AGENTS](#)  
[POISINDEX® MANAGERMENTS - SEROTONIN SYNDROME](#)  
[DRUGDEX® EVALUATIONS - RIZATRIPTAN](#)

**COLOR:** PALE PINK  
**SHAPE:** CAPSULE-SHAPE  
**IMPRINT:** MRK THE TABLET IS CODED WITH MRK  
ON ONE SIDE AND 266 ON THE OTHER SIDE

**NDC:** 00006-0266-12  
00006-0266-06  
00006-0266

**EXCIPIENTS:** CELLULOSE, MICROCRYSTALLINE

**PRODUCT ID:** 5700376  
**CONTACT:** MERCK SHARP & DOHME

**MISCELLANEOUS:** OTHER AVAILABLE  
MISCELLANEOUS PRESCRIPTION OR OVER THE COUNTER DRUG

PRINT CLOSE

If an image of the pill is available, it is shown at the bottom of the *Drug Information* page.

You can also link to drug and toxicology landing pages (see [“Landing Pages” on page 17](#)).

**DRUG INFORMATION**

Tox & Drug: [Maxalt](#) ▶  
Martindale: [Maxalt](#) ▶

**DRUG NAME:** MAXALT

**INGREDIENTS:** [RIZATRIPTAN BENZOATE](#) - 5 MG

**RELATED DOCUMENTS:** [POISINDEX® MANAGERMENTS - SUMATRIPTAN AND RELATED AGENTS](#)  
[POISINDEX® MANAGERMENTS - SEROTONIN SYNDROME](#)  
[DRUGDEX® EVALUATIONS - RIZATRIPTAN](#)

**COLOR:** PINK

**SHAPE:** CAPSULE-SHAPE

**IMPRINT:** MRK THE TABLET IS CODED WITH MRK ON ONE SIDE AND 266 ON THE OTHER SIDE 266

**NDC:** 00006-0266-12  
00006-0266-06  
00006-0266

**EXCIPIENTS:** CELLULOSE, MICROCRYSTALLINE LACTOSE

---

**Rizatriptan Benzoate**

Drug Classes: [Antimigraine](#) | [Autonomic](#) | [All](#)

Routes: [Oral](#)

**Quick Answers** | **In-Depth Answers** | **All Results**

**Dosing/Administration**

- [Adult Dosing](#)
- [Pediatric Dosing](#)
- [FDA Uses](#)
- [Non-FDA Uses](#)
- [Dose Adjustments](#)

**Adult Dosing**

See 'In-Depth Answers' for

- Migraine, acute, With or without aura, after 2 hours, MAX 30 mg/24 hour [\[1\]](#)[\[2\]](#)

---

**Sumatriptan And Related Agents**

**Quick Answers** | **In-Depth Answers** | **All Results**

**Overview**

- [Life Support](#)
- [Clinical Effects](#)
- [Laboratory/ Monitoring](#)
- [Treatment Overview](#)
- [Risks of TDM](#)

**Overview**

**Life Support**

A) This overview assumes that basic life support m instituted.

Print the information or close the page using the links on the bottom right side of the page.



## Drug ID by Description - No Imprint Code Available

**Drug Identification**

Search: by Imprint Code [No Imprint Code? Click here to search by Description ▶](#)

Side 1:  ☐ Partial Imprint

Side 2:  ☐ Partial Imprint

There may be times when no imprint code is available or legible. Click the **No Imprint Code? Click here to search by Description** link to open selection criteria for searching by the physical characteristics of the drug.

**Drug Identification**

Search: by Description [Click here to search by Imprint Code ▶](#)

☐ Black ☐ Blue ☐ Brown ☐ Clear  
☐ Gold ☐ Gray ☐ Green ☐ Off-White  
☐ Orange ☐ Pink ☐ Purple ☐ Red  
☐ Tan ☐ White ☐ Yellow

Shape:  ▼

Pattern:  ▼

☒ Show Images with results

Type or select the known physical characteristics and then click the *Search* button to begin the search for matches to your criteria. Searches on this page execute using the Boolean 'OR' operator.

### Description

#### *Color*

Select from the checkboxes to narrow results to specific colors and color combinations.

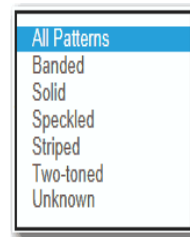
#### *Shape*

The default selection is to look for substances of all shapes, but you can select a specific shape from any of the shapes shown in the drop-down list.

All Shapes  
Capsule-shape  
Circle  
D-Shape  
Egg-shape  
Five-sided  
Hourglass  
Other  
Oval  
Oval or Rectangle  
Rectangle  
Six-sided  
Square  
triangle

*Pattern*

The default selection looks for all patterns, but you can select a specific pattern from any shown in the drop-down list.



If you do not wish to see the full-color images with your results, remove the checkbox selection from *Show Images with Results*.



**Tip:** Searching by physical characteristics (by Description) uses the Boolean ‘OR’ operator. This means that a substance that matches *any* checkbox will be considered a match.

To illustrate this, a search selecting Color = Pink; Color = Red, means the search would look for any items that were:

Color = Pink; OR  
Color = Red; OR  
Color = Pink and Red



**Tip:** There may be occasions where a match cannot be found in the Images database, but exists in the Imprints database. If an imprint can be used, return to the imprint search by clicking the *Click here to search by Imprint Code* link.

If you have typed the wrong information or selected parameters in error and wish to begin again, click the **Clear** button to remove all selections and characteristics and start over.



## Search Results When Searching by Description

There is no Manufacturer, Availability, or AAPCC information available when searching using descriptive criteria (shape, color, pattern, etc.). If this type of information is what you need, you may be able to find it by performing a search strictly on the imprint code (no description criteria). See [“Imprint Code Search Results” on page 174](#) for more information.

If you wish to create a new search, click the **Modify Identification** button to return to the search page.

The total number of matches found for your search term is shown just above the speed menu on the left side of the page. Your search term(s) and all search criteria are displayed.

The results page opens positioned to the first results (numeric or alphabetic). For example, a search for “Square, Orange, Yellow” opens at the beginning of the “0-9” imprints. You can view imprints matched that begin with other letters by using the speed menu. Any letter shown with bold text denotes that a match to that letter was found for the search term. View all results by clicking the **ALL** link.

Search results display sorted alphabetically by the imprint code. The sort order is an alphabetical ascending sort (0-9, A-Z). You can reverse the sort order by clicking on the blue arrow. When the sort order is changed, the direction of the arrow changes.

**Drug Identification Results** [Modify Identification](#)

25 Matches for: "Square, All Patterns, Yellow, Orange" Sort all Results by: Imprint ▼

3 Drug Matches for '0-9' 1 - 3 (of 3 matching drugs) <<First <Previous | Next> Last>>

Display: ALL | 0-9 | A | B | C | D | E | F | **G** | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

[Hide Images](#)

Image (US)	Imprint ▼	Drug Name
	100 100 100 MJ 796	Desyrel Dividose
	22 In raised H	Hygroton
	22 In raised H	Hygroton

Click either the Imprint or the Drug Name heading to sort by that column.

The up/down triangles and 'Sort all Results by' drop-down show which column is currently selected for sort.

Toggle between ascending and descending sorts by clicking the heading link again.

Speed menu: Click the linked letter (or 0-9) to jump to that position in the list of results

If more than one page of matches is found, move through the pages using the <<**First**, <**Previous** | **Next**> and **Last**>> navigation buttons.

### Sort All Results by

When results are found in the images data, you can sort results by the Imprint Code or the Drug Name. Click the **Sort all Results by:** drop-down and select from the list.

Click the drug name link to view the details and open the *Drug Information* page for this substance.

DRUG INFORMATION	
Tox & Drug: <a href="#">Bontril Slow-Release</a> ▶ Martindale: <a href="#">Bontril Slow-Release</a> ▶	
DRUG NAME: <a href="#">BONTRIL SLOW-RELEASE</a>	
INGREDIENTS: <a href="#">PHENDIMETRAZINE TARTRATE -- 105 MG</a>	
RELATED DOCUMENTS: <a href="#">POISINDEX® MANAGER</a> - <a href="#">AMPHETAMINES AND RELATED DRUGS</a> <a href="#">DRUGDEX® EVALUATIONS</a> - <a href="#">PHENDIMETRAZINE</a>	
COLOR: <a href="#">GREEN AND YELLOW</a>	NDC: <a href="#">65234-0047-10</a>
IMPRINT: <a href="#">A; 047</a>	EXCIPIENTS: <a href="#">FD&amp;C YELLOW NO. 6</a>
FORM: <a href="#">EXTENDED-RELEASE CAPSULE</a>	REGULATORY STATUS: <a href="#">SCHEDULE III</a>
AVAILABLE-CONTAINER-SIZE: <a href="#">BOTTLE OF 100</a>	AVAILABILITY: <a href="#">UNITED STATES</a>
AAPCC CODE: <a href="#">001000 - AMPHETAMINES AND RELATED COMPOUNDS</a>	PRODUCT ID: <a href="#">3035684</a>
CONTACT: <a href="#">AMARIN PHARMACEUTICALS</a>	

The following information may be displayed in the *Drug Information* page:

- Color
- Shape
- Imprint
- Route
- Form
- NDC Code(s)

You can link to the same information from this Drug Information page as when reaching this page from an imprint search. For more information see [“Viewing Drug Information” on page 176](#).

# CHAPTER 13: DRUG COMPARISON TOOL

The number of drugs available today is enormous, and the vast amount of information about these drugs can be mind boggling. Use the **Drug Comparison** tool to harness this information and give you easy access to side-by-side drug information.



Reviewed by experts, Micromedex® Solutions drug information is evidence-based, covers FDA-approved prescription and nonprescription drugs. Areas discussed include dosing, indications, availability (prescription or over-the-counter), black box warnings, pharmacokinetics, cautions, interactions, clinical applications, adverse effects, and comparative efficacy.

View and compare drugs side-by-side with the **Drug Comparison** feature. Compare attributes such as: dosing, administration, indications, contraindications, precautions, adverse effects, and interactions to assist you in making the most informed choice.

## Building the Search to Compare Drugs

1. Type the drug (brand or generic) in the *Enter Search Term:* field. If you are unsure of the spelling, just type as many characters as you know.
2. *Matching Drug Names*  
As you type, the word wheel begins to narrow your search results in the *Matching Drug Names* list based on the characters you entered. The more characters you type, the more focused the results. The number of matches to the drug name is also updated as you type.

If the drug you are interested in is listed in the *Matching Drug Names* list, click on the drug and then click the add button ( ➤ ) to add the drug to the *Drugs to Compare* list.

If you add a drug in error, remove it from the list by clicking on the drug, then click the remove button ( ⏪ ).

3. *Related Names*  
Results shown in the *Matching Drug Names* list populate strictly based on the characters used in the search. Results shown in the Related Names list can be:
  - The generic name if the search was for a branded or trade name drug
  - The brand or trade name if the search was for a generic drug or synonym

- A synonym for the drug name

*For example:* type 'keflex' in the *Enter Drug Name:* field and the Matching Drug Names list displays: Keflex, and the *Related Names* list populates with: Bio-Cef, Cefalexin, Cephalexin, and Panixine DisperDose.

If the drug you are interested in is listed in the *Related Names* list, click on the item and then click the add button ( ➤ ) to add the drug to the *Drugs to Compare* list.

**Drug Comparison**

Type the drug name (brand or generic) in the search field. Select the drug and click the ➤ (Add) button.

Enter search term:

Matching drug names: (1)

- Cuprimine

Drugs to check:

- Amoxapine
- Amoxicillin
- Cuprimine

➤

➤

Clear Submit

4. Repeat steps 2 through 3 until your list of *Drugs to Compare* contains all the items you are interested in viewing. Up to 20 drugs can be compared at a time. When the list is complete, click the **Submit** button to view the information.



## Drug Comparison Results

The comparison page displays the information for the topic selected in a side-by-side layout to allow you to quickly compare and contrast the selected drugs.

The screenshot displays the 'Drug Comparison Results' interface. At the top, there's a 'Modify Comparison' button and a 'Change the drugs to compare' callout box. Below this, two dropdown menus are shown: 'Display in Column 1' with 'Amoxapine' selected and 'Display in Column 2' with 'Amoxicillin' selected. An 'Update' button is positioned below these dropdowns. A 'Print' icon is in the top right corner. Below the dropdowns, a 'Jump To:' section lists various topics: Top of Page, Dosing & Indications, Black Box Warning, Contraindications/Warnings, Drug Interactions (single), Adverse Effects, Name Info, Mechanism of Action/Pharmacokinetics, Administration/Monitoring, How Supplied, Toxicology, Clinical Teaching, and References. The main content area is split into two columns. The left column is for 'Amoxapine' and the right column is for 'Amoxicillin'. Both columns have a 'View Detailed information in DRUGDEX' link. The 'Dosing & Indications' section is highlighted in purple. Under 'Adult Dosing', there's another 'View Detailed information in DRUGDEX' link. The Amoxapine column contains text about depression dosing (initial 50 mg ORALLY 2-3 times a day, may increase to 100 mg 2-3 times a day by end of the first week OR may start with 300 mg/day, but notable sedation may occur during the first few days of therapy; maintenance, usual effective dose is 120-300 mg/day ORALLY; may increase dosage to 400 mg/day after 3 weeks if there is inadequate response and hospitalized patients with no history of convulsive seizures may have the dose raised cautiously up to 600 mg/day in divided doses; endogenous depression: initial, 50 mg ORALLY 2-3 times a day, may increase dosage up to 100 mg 2-3 times a day by end of the first week OR may start with 300 mg/day, but notable sedation may occur during the first few days of therapy; endogenous depression: maintenance, usual effective dose is 120-300 mg/day ORALLY; may increase dosage to 400 mg/day after 3 weeks if there is inadequate response and hospitalized patients with no history of convulsive seizures may have the dose raised cautiously up to 600 mg/day in divided doses; severe major depression with psychotic features: initial, 50 mg ORALLY 2-3 times a day; may increase dosage up to 100 mg 2-3 times a day by end of the first week OR may start with 300 mg/day, but notable sedation may occur during the first few days). The Amoxicillin column contains text about bacterial endocarditis prophylaxis (high-risk patient; dental, respiratory or infected skin/skin structure procedures) 2 g ORALLY 30 to 60 minutes prior to procedure (guideline dosing) [2]; Chlamydial infection: (pregnant women) 500 mg ORALLY 3 times daily for 7 days (guideline dosing) [3]; Ear, nose, and throat infection: mild to moderate, 500 mg ORALLY every 12 hours or 250 mg ORALLY every 8 hours [4]; Ear, nose, and throat infection: severe, 875 mg ORALLY every 12 hours or 500 mg ORALLY every 8 hours [4]; Gonorrhea, Acute uncomplicated anogenital and urethral infections due to N gonorrhoeae: 3 g ORALLY as a single dose [4]; amoxicillin is NOT recommended for gonorrhea because of resistance [3]; Helicobacter pylori gastrointestinal tract infection: (triple therapy) amoxicillin 1 g ORALLY twice a day in combination with clarithromycin 500 mg ORALLY twice a day and lansoprazole 30 mg ORALLY twice a day for 14 days [4]; other standard-dose proton pump inhibitors are acceptable in combination with amoxicillin and clarithromycin [5]; Helicobacter pylori gastrointestinal tract infection: (triple therapy) amoxicillin 1 g ORALLY twice a day in combination with clarithromycin 500 mg ORALLY twice a day and lansoprazole 30 mg ORALLY twice a day for 14 days [4]; other standard-dose proton pump inhibitors are acceptable in combination with amoxicillin and clarithromycin [5]. A 'Sub-topic links' callout box points to the 'Dosing & Indications' section in the Amoxicillin column.

### Selected Topic

The results display the Dosing & Indications topic by default. Click the desired topic link in the *Jump To* area to view other topics available for comparison.

Select another topic by clicking the item in the list.

Topic Outline Section	Description
<b>Dosing &amp; Indications</b>	Can include adult and pediatric dosing information; dose adjustments; and indications (FDA and non-FDA labeled).
<b>Tradenames/How Supplied/Regulatory Status/Generic Availability</b>	Includes: Trade names, synonyms, class, regulatory status, and generic availability. How Supplied information includes: routes, forms, and names. Lists whether a drug is Rx or OTC; and if generics are available.
<b>Black Box Warning</b>	A black box warning (also sometimes called a black label warning) is a type of warning that appears on prescription drugs that may cause serious adverse effects.
<b>Contraindications/Warnings</b>	Includes contraindications, precautions, pregnancy category, and breast feeding information.
<b>Drug Interactions (Single)</b>	Interactions with the drug to: other drugs, food, ethanol, and labs.
<b>Adverse Effects</b>	Categorized into common and serious adverse affects.
<b>Mechanism of Action/ Pharmacokinetics</b>	Pharmacokinetics can include: absorption, metabolism, excretion, and elimination half life.
<b>Administration/ Monitoring</b>	Information on how to administer the drug; how to monitor the patient while using the drug.

### Jump to: Topic links

A topic is a logical area of information. For example, adult dosing and pediatric dosing are sub-topics of the Dosing & Indications topic. The topics available are shown as links at the top of the page. Navigate quickly to a topic (or sub-topic) by clicking the link.

### Selected Drugs (Display in Column 1 | Display in Column 2)

Click the drop-down to place a different drug in either column. Up to twenty drugs can be selected for a comparison, but only two are shown on the comparison page at any one time.

### Hypertext Links

Links shown on the comparison page mean that further information exists. Click the link to view the information. Links shown as numbers within brackets (e.g., [1]) link to the reference or citation for the information. Links can also open definitions for items shown in the summary information (such as, Breast Feeding Categories, Strength of Evidence, Strength of Recommendation, to name a few).

Linked information is presented in its own pop-up box that can be printed if desired.



### Modify Your Search

Return to the Drug Comparison home page to change the list of drugs to compare by clicking the Modify Comparison button. You are presented with the drug comparison page, populated with your previous drug selections. Add or change the drugs to compare and then click the **Submit** button to show the drugs side-by-side again.

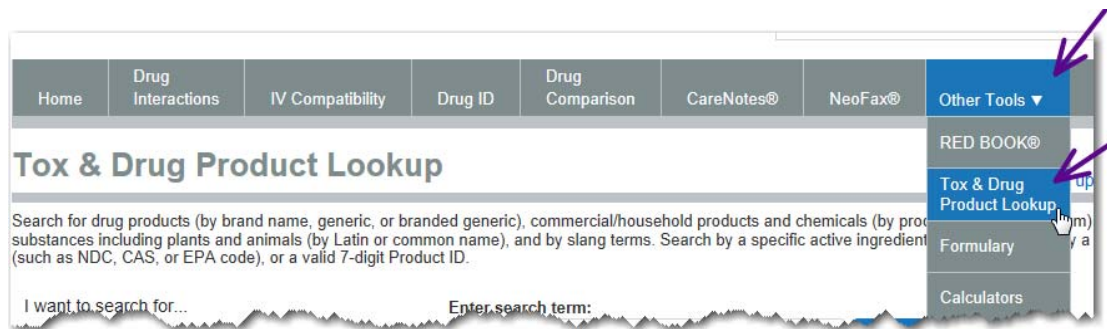


# CHAPTER 14: TOX & DRUG PRODUCT LOOKUP TOOL

Use the Tox & Drug Product Lookup Tool to search for information about:

- Drug products (by brand name, generic, or branded generic)
- Commercial/household products and chemicals (by product name or synonym)
- Other substances including plants and animals (by Latin or common name)
- Slang terms/street names for drugs or substances

The Tox & Drug Product Lookup Tool is accessed from the Micromedex toolbar. Depending on your subscription it may be visible in the toolbar or it may be under the Other Tools option.



## INFORMATION INCLUDED IN THE TOX & DRUG PRODUCT LOOKUP TOOL

Information on hundreds of thousands of products and substances is gathered into the Tox & Drug Product Lookup Tool. POISINDEX® identifies ingredients for hundreds of thousands of commercial, pharmaceutical, and biological substances. Each substance is linked to one or more treatment/management protocols providing information on clinical effects, range of toxicity, and treatment protocols for exposures involving the substances.

The Tox & Drug Product Lookup allows you to search by:

- **Name** (see [page 191](#))
- **Specific code** - such as: NDC, CAS, or EPA code (see [page 197](#))
- Valid 7-digit **Product ID** (see [page 200](#))
- **Specific active ingredient** in the substance (see [page 202](#))
- Look up **AAPCC Codes** (available by subscription) shown as a link from the Tox & Drug Product home page (see [page 197](#))

Search results include links to the associated POISINDEX® Management.

### Spelling Help

For each type of search if you enter a search term that does not produce results but is similar to a valid search term, you will receive alternative search term suggestions that link to results.

The screenshot shows the 'Tox & Drug Product Lookup' interface. At the top, it says 'Search for drug products (by brand name, generic, or branded generic), commercial/household products and chemicals (by product name or slang terms. Search by a specific active ingredient in the substance, by a specific code (such as NDC, CAS, or EPA code), or a valid 7-digit Product ID'.

Under 'I want to search for...', there are two radio buttons: 'Product or substance names' (selected) and 'Globally distributed drug products in Martindale'.

Under 'I want to search by and receive suggestions for...', there are four radio buttons: 'Product or substance name' (selected), 'Codes', 'Product ID', and 'Active ingredients'.

On the right, there is a text input field labeled 'Enter search term:' containing the text 'zarelto'. To the right of the input field is a blue 'Submit' button.

Below the input field, a red-bordered box contains the text: 'Your search for "zarelto" did not match any products or substances. Did you mean: xarelto, zarelis, zarelix, zarelle, zarent'.



## SEARCHING BY PRODUCT OR SUBSTANCE NAME

Select the *Product or substance name* option to search by common product or substance, name or synonym. The application will return results for items where the search term begins with the search term as well as for items where the search term is contained within the name or synonym (or Manufacturer name).

1. Leave or select the default search option as: **Product or substance name**.
2. Begin typing the name in the *Enter search term* field. The word wheel will populate with matches after you have typed at least three characters.
3. Continue to type the entire product name, then click **Submit** (or press the **Enter** key)  
- or -  
Type the partial product name, scroll down until you find the item in the list. Click on the item to select it and then click **Submit**  
- or -  
Type the partial product name and click **Submit** (or press the **Enter** key).

## Tox & Drug Product Lookup Results

Matches found for your search are displayed on the Tox & Drug Product Lookup Results page. Poison Center users can find additional information in ["Appendix D: Poison Center Integration" on page 303](#).

Tox & Drug Product Results

←

Modify Search

- Export as -

Print

Displaying results found for "Tide"

Results from: United States | Other Countries

Display: Product/Substance Names (74) | Synonyms (51) | Manufacturer Contact Info (1)

Results begin with | Results contain

Results 1 - 50

Page 1 of 2 Go | Previous | Next

Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. Tide All Variations	Granular Powder	Procter & Gamble	United States	5992519	013400	SODIUM CARBONATE - POISINDEX® DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX® ENZYME DETERGENTS - POISINDEX®
2. Tide - Clean Breeze	Opaque Liquid	Procter & Gamble	United States	7443643	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®
3. Tide Clean Rinse	Liquid	Procter & Gamble	United States	5992486	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX® ENZYME DETERGENTS - POISINDEX®
4. Tide Coldwater - Free	Opaque Liquid	Procter & Gamble	United States	7458767	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®
5. Tide Coldwater - Fresh Scent	Opaque Liquid	Procter & Gamble	United States	7448122	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®
6. Tide Coldwater Granular Laundry Detergent - Fresh Scent, Glacier	Powder	Procter & Gamble	United States	6736015	013400	SODIUM CARBONATE - POISINDEX® DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX® ENZYME DETERGENTS - POISINDEX®
7. Tide Coldwater HE - Free	Opaque Liquid	Procter & Gamble	United States	7455440	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®
8. Tide Coldwater HE - Fresh Scent	Opaque Liquid	Procter & Gamble	United States	7457066	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®
9. Tide Coldwater HE - Free Scent	Opaque Liquid	Procter & Gamble	United States	7457066	013401	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®

**Modify Search**

To start a new product or substance search, click the **Modify Search** button. You will be presented with the Tox & Drug Product Lookup home page where you can select the type of search and type your search term(s).

## Exporting Search Results

Search results can be exported to a Microsoft® Excel® (.xls) file, or a Comma Separated Values (.csv) file. Select the file type that you want to save the results as from the drop-down menu. A dialog box appears that provides the ability to select the location to which you want to save the file.



## Print Print

The results page can be printed. Click the **Print** icon to print the current page.

## Results from UNITED STATES | OTHER COUNTRIES

Products and substances are grouped into two categories: **United States and Other Countries**. Products available Worldwide, and products available in the United States and Canada, are also placed into the United States group of results.

Items that fall into the United States category are shown first by default, but you can quickly change the results to products outside of the United States by clicking the Other Countries link shown to the right of the *Results from* display area.

If no products and substances are found for the Other Countries category, the link is disabled.

If no products and substance are found for the United States (and Worldwide) categories, the Other Countries search results are shown and the United States link is disabled.

## Display

### Product/Substance Names | Synonyms | Manufacturer Contact Info

Matches to search terms are grouped into three categories: **Product/Substance Names (x)**, **Synonyms (x)**, and **Manufacturer Contact Info (x)**. Results in the Product/Substance Names category are shown first by default. Switch the view to any available category by clicking the applicable link. Links to categories with no matches to the search will show a count of zero (0) and are disabled.



Displaying results found for "carter"

Results from: [United States](#) | [Other Countries](#) Display: [Product/Substance Names \(6\)](#) | [Synonyms \(3\)](#) | [Manufacturer Contact Info \(30\)](#) [Results begin with](#) | [Results contain](#)

Results 1 - 6 Page 1 of 1 Go | [Previous](#) | [Next](#)

Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. <a href="#">Carter's Baby Oil</a>		Alpha To Omega	United States	4215855	201009	<a href="#">LAXATIVES-EMOLLIENT - POISINDEX®</a>
2. <a href="#">Carter's Highlighting Marker</a>		Avery Dennison	United States	5929314	077208	<a href="#">NON-TOXIC INGESTION - POISINDEX®</a> <a href="#">ACMI/DUKE UNIVERSITY MEDICAL CENTER - POISINDEX®</a>
3. <a href="#">Carter's Little Pills [DISCONTINUED]</a>						
4. <a href="#">Carter's Neat-Flo-Stam</a>						

Displaying results found for "carter"

Results from: [United States](#) | [Other Countries](#) Display: [Product/Substance Names \(6\)](#) | [Synonyms \(3\)](#) | [Manufacturer Contact Info \(30\)](#)

Jump To: [ALL](#) | [0-9](#) | [A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

Results 1 - 3 Page 1 of 1 Go | [Previous](#) | [Next](#)

Name	Strength/ Form	Also known as	Country	Product ID	AAPCC Code	Related Document(s)
1. <a href="#">Carter's Baby Oil</a>		Baby Oil, Carter's	United States	4215855	201009	<a href="#">LAXATIVES-EMOLLIENT - POISINDEX®</a>
2. <a href="#">FELBAMATE</a>		Carter-Wallace 554		4579631	201171	<a href="#">FELBAMATE - POISINDEX®</a> <a href="#">FELBAMATE - MEDVET®</a>
3. <a href="#">Marks A Lot Comfort Grip Permanent Marker Cl Seal</a>						

Displaying results found for "carter"

Results from: [United States](#) | [Other Countries](#) Display: [Product/Substance Names \(6\)](#) | [Synonyms \(3\)](#) | [Manufacturer Contact Info \(30\)](#)

Jump To: [ALL](#) | [0-9](#) | [A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

Results 1 - 30 Page 1 of 1 Go | [Previous](#) | [Next](#)

Manufacturer	AAPCC Code	Contact
1. <a href="#">Carter Horner</a>	077527	
2. <a href="#">Carter Horner</a>	077527	
3. <a href="#">Carter Horner (Canada)</a>	077527	Business Hours: (905) 826-6200 (Phone) Business Hours: (905) 826-0389 (Fax)
4. <a href="#">Carter Horner (Canada)</a>	077527	Business Hours: (905) 826-6200 (Phone) Business Hours: (905) 826-0389 (Fax)
5. <a href="#">Carter Horner Inc.</a>	077527	
6. <a href="#">Carter Overton</a>	077527	

The type and layout of information displayed varies slightly depending on the link selected.

**The Product/Substance Names link displays:**

- Name link to the product information details
- Strength/Form (if applicable)
- Manufacturer
- Country
- Product ID
- AAPCC Code
- Related Documents links to the applicable POISINDEX® Managements

**The Synonyms link displays:**

- Name link to the product information details
- Strength/Form (if applicable)
- Also known as (product name synonym)
- Country
- Product ID
- AAPCC Code
- Related Documents links to the applicable POISINDEX® Managements

### The Manufacturer Contact Info link displays:

- Manufacturer name link to contact information
- AAPCC Code
- Contact information

### Results begin with | Results contain

Product or substance names which begin with the search term(s) are shown first by default when both “begin with” and “contain” matches are found. The results display can be quickly switched to results where the search term(s) are *contained* in the product/substance or synonym by clicking the **Results contain** link. The corresponding counts for Products/ Substance Names, Synonyms, and Manufacturer Contact Info are updated when the applicable link (begin with or contains) is clicked.

If either link is shown as disabled (greyed out), it signals that there were no results found for that search condition.

**Note:** The **Results begin with | Results contain** option is not available when displaying Synonyms or Manufacturer Contact Info.

Results from: **United States** | Other Countries

Display: **Product/Substance Names (29)** | Synonyms (16) | Manufacturer Contact Info (0)

Results begin with | Results contain

Results 1 - 29

Name	Strength/Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. Drano Clog Remover	Liquid	SC Johnson	United States	7555787	011284	CORROSIVES-ALKALINE - POISINDEX® HYPOCHLORITES AND RELATED AGENTS - POISINDEX®
2. Drano Clog Remover Liquid Drain Opener	Liquid	SC Johnson	United States Canada	4293562	011289	CORROSIVES-ALKALINE - POISINDEX® HYPOCHLORITES AND RELATED AGENTS - POISINDEX®
3. Drano Clog Remover Liquid Drain Opener	Liquid	SC Johnson	United States Canada	6103587	011289	CORROSIVES-ALKALINE - POISINDEX® HYPOCHLORITES AND RELATED AGENTS - POISINDEX®
4. Drano Dual Force Foamer Clog Remover - Chamber 1	Clear Foam	SC Johnson (Consumer Products)	United States	6734936	011289	CORROSIVES-ALKALINE - POISINDEX® HYPOCHLORITES AND RELATED AGENTS - POISINDEX® DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®
5. Drano Dual Force Foamer Clog Remover - Chamber 2	Clear Foam	SC Johnson (Consumer Products)	United States	6734944	011289	CORROSIVES-ALKALINE - POISINDEX® HYDROGEN PEROXIDE - POISINDEX®
6. Drano Dual Force Foamer Clog Remover	Clear Liquid	SC Johnson	United States	7555795	011284	CORROSIVES-ALKALINE - POISINDEX® HYPOCHLORITES AND RELATED AGENTS - POISINDEX®

Page 1 of 1 Go | Previous | Next

### Results

The current count and position of the results you are viewing is displayed. Up to 50 per page are shown at any one time.

### Page x of x | Go | Previous | Next

The current page of the total number of pages is shown as Page x of x (i.e., Page 1 of 5). To jump to a different page of results, type the page number in the field and then click **Go**.

Jump ahead (or back) one page at a time using the **Next** or **Previous** navigation links.



## The Product Page

Displaying results found for "robatussin"

Results from: [United States](#) | [Other Countries](#)    Display: [Product/Substance Names \(108\)](#) | [Synonyms \(49\)](#) | [Manufacturer Contact Info \(0\)](#)    [Results begin with](#)

Results 1 - 50    Page [1](#) of 3    [Go](#) | [Print](#)

Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. <a href="#">Robitussin Ac</a>	10 MG/5 ML; 100 MG/5 ML Solution	A.H. Robins	United States	2143462	037701	<a href="#">CODEINE</a> - POISINDEX® <a href="#">ETHANOL</a> - POISINDEX® <a href="#">OPIOID WITHDRAWAL</a> - POIS <a href="#">CODEINE PHOSPHATE/GUAIF</a>
2. <a href="#">Robitussin AC (DI)</a>						<a href="#">HOSPHATE/GUAIF</a>
3. <a href="#">Robitussin Adult Ling Long-Acting Cough</a>						<a href="#">THORPHAN</a> - DRI
4. <a href="#">Robitussin Adult Pea Relief</a>						<a href="#">OPHEN</a> - DRUGDE <a href="#">IRINE</a> - DRUGDE
5. <a href="#">Robitussin Adult Pea Nighttime Nasal Relie</a>						<a href="#">OPHEN</a> - DRUGDE <a href="#">NIRAMINE</a> - DRUG <a href="#">IRINE</a> - DRUGDE
6. <a href="#">Robitussin Alcohol-Fr</a>						<a href="#">INGESTION</a> - PO <a href="#">IN</a> - DRI

### Robitussin Ac

POISINDEX® Product [i](#)

#### Product Document Information

POISINDEX® Managements: [CODEINE](#)  
[ETHANOL](#)  
[OPIOID WITHDRAWAL](#)

DRUGDEX® Evaluations: [CODEINE PHOSPHATE/GUAIFENESIN](#)

Regulatory-Status: Schedule V

#### Ingredients

Active-Ingredients: Codeine Phosphate - 10 MG/5 ML  
Guaifenesin - 100 MG/5 ML

Excipients: alcohol 3.5%  
Citric Acid  
FD&C Red No. 40  
flavor(s)  
Glycerin  
Saccharin Sodium  
Sodium Benzoate  
Sorbitol  
Water

#### Availability & Manufacturing

Availability: United States

Available-Container-Sizes: 1-gallon bottles; Bottle of 1 4 OZ; 1-pint bottles

Manufacturer: A.H. Robins

To view product information, click the **Name** link of the desired product. The associated POISINDEX® product page opens.

Information shown on the Product page may include: Ingredients (active ingredients, excipients), Availability & Manufacturing (availability, packaging information), contact, product ID, AAPCC code, registry numbers, Notes, and Physical Description.

## Viewing Drug and Toxicology Information

You can link to drug and toxicology landing pages (see [“Landing Pages” on page 17](#)) from the search results and from the product page.

**Displaying results found for "robatussin"**

Results from: [United States](#) | [Other Countries](#) Display: [Product/Substance Names \(108\)](#) | [Synonyms \(49\)](#) | [Manufacturer Contact Info \(0\)](#) [Results begin with](#) | [Results contain](#)

Results 1 - 50 Page [1](#) of 3 [Go](#) | [Previous](#) | [Next](#)

Name	Strength/Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. <a href="#">Robatussin Ac</a>	10 MG/5 ML; 100 MG/5 ML Solution	A.H. Robins	United States	2143462	037701	<a href="#">CODEINE - POISINDEX®</a> <a href="#">ETHANOL - POISINDEX®</a> <a href="#">OPIOID WITHDRAWAL - POISINDEX®</a> <a href="#">CODEINE PHOSPHATE/GUAIFENESIN - DRUGDEX®</a>
2. <a href="#">Robatussin AC (li)</a>	(Form Not Given)	Robins, USA	United States	7982642		<a href="#">CODEINE PHOSPHATE/GUAIFENESIN - DRUGDEX®</a>
3. <a href="#">Robatussin Adult Long-Acting C</a>	(Form Not Given)	Pfizer, USA	United States	8126371		<a href="#">DEXTROMETHORPHAN - DRUGDEX®</a>
4. <a href="#">Robatussin Adu</a>						<a href="#">ACETAMINOPHEN - DRUGDEX®</a> <a href="#">BACLOFEN - DRUGDEX®</a>

**Robatussin Ac**

POISINDEX® Product [i](#)

**Product Document Information**

POISINDEX® Managements: [CODEINE](#)  
[ETHANOL](#)  
[OPIOID WITHDRAWAL](#)

DRUGDEX® Evaluations: [CODEINE PHOSPHATE/GUAIFENESIN](#)

Regulatory-Status: Schedule V

**Ingredients**

Active-Ingredients: Codeine Phosphate - 10 MG/5 ML  
Guaifenesin - 100 MG/5 ML

Excipients: alcohol 3.5%  
Citric Acid  
FD&C Red No. 40  
flavor(s)  
Glycerin  
Saccharin Sodium  
Sodium Benzoate  
Sorbitol  
Water

**Codeine**

[Quick Answers](#) | [In-Depth Answers](#) | [All Results](#)

**Overview**

[Life Support](#)  
[Clinical Effects](#)  
[Laboratory/ Monitoring](#)  
[Treatment Overview](#)  
[Range Of Toxicity](#)

**Substances Included/ Synonyms**

[Therapeutic/ Toxic Class](#)

**Overview**

[View Full Document](#)  
[Print](#)

**Life Support**

A) This overview assumes that basic life support measures have been instituted.

**Related Results**

[Disease](#)  
[Drug](#)  
[Toxicology](#)

[Index Nominum](#)  
[Martindale](#)  
[Medical Management Information](#)  
[MSDS from USP](#)  
[Product Lookup - Martindale](#)  
[Product Lookup - Tox & Drug](#)



## Searching by Code

The DRUGDEX® and POISINDEX® products databases can be searched using a code as the search parameter.

### AAPCC Codes

Available by subscription, and primarily used by Poison Centers, subscribers can look up a product description by using the *Look up AAPCC Codes* link, shown in the top, right corner of the Tox & Product Lookup page.

Clicking the *Look up AAPCC Codes* link opens the AAPCC Codes Search page.

### AAPCC Codes


Enter search term:

Code	Description
001000	Amphetamines and Related Compounds
001811	Unknown Stimulants or Street Drugs
002000	Other or Unknown Local and/or Topical Anesthetic
002720	Throat Lozenges with Local Anesthetics
003000	Anticholinergic Drugs (Excluding Cough and Cold Preparations, and Plants)
003720	Other Antihistamines Alone (Excluding Cough and Cold Preparations)
003830	Antispasmodics: Anticholinergic Containing
003920	Sleep Aids, Over the Counter Only (Excluding Diphenhydramine)
003921	Cyclobenzaprine
003922	Carisoprodol (Formulated Alone)
004000	Arsenic (Excluding Pesticides)
004562	Arsenic Pesticides
005000	Long Acting Barbiturates
006000	Short or Intermediate Action Barbiturates

### Scroll the List

You can review the entire list of codes and definitions by using the scrollbar.

### Print the Codes

The complete list of codes and descriptions can be printed for reference. Simply click the Print icon  [Print](#) to send the printout to your local printer.

## Product Code Search

### Searchable Codes

**NDC** (National Drug Codes). The standard code format is 5-digits, 4-digits, 2-digits all separated by a dash (such as: 00220-9313-04). This search is very much like the 'contains' search, therefore searching on: 00220-9313 will return 00220-9313-01, 00220-9313-02, 00220-9313-03, and so on.

**CAS** numbers (Chemical Abstracts Service). CAS registry numbers standard format is 2- to 6-digits, then 2-digits, followed by 1-digit all separated by a dash (such as: 361377-29-9)

**DIN** codes (Drug Identification Number). DIN numbers can be an 8-digit code, or 5-digits, then 4-digits, separated by a dash (example: 00004588, or 00002-6069).

**EPA** codes (Environmental Protection Agency codes). Type the code exactly (e.g., 1332-58-7, or 475-237, or 4-30-869).

**UPC** codes (Universal Product Code). UPC numbers follow no standard format or layout. Be sure to type the code exactly, including spaces, letters, and dashes (for example: 0 49424 13610 0, or XN-1014-3526-3, or 38753 31590).

Other codes that can be searched are: **PCP** (Pest Control Product), **CRN** (California Registry Number), and **Fertilizer Act**.

The screenshot shows the 'Tox & Drug Product Lookup' interface. On the left, under 'I want to search for...', the 'Codes' option is selected. A callout bubble points to this option with the text 'Search by Product Codes'. In the center, the 'Enter search term:' field contains '44'. A callout bubble points to this field with the text 'Search by AAPCC Codes'. To the right of the search field, a list of NDC codes is displayed, starting with '44-0028-7130-7 (UPC)' and '44004-0802-02 (NDC)'. A 'Submit' button is located to the right of the search field. At the top right, there is a link that says 'Look up AAPCC Codes'.

1. Select *I want to search by and receive suggestions for...* **Codes** option.
2. Begin typing the code for the desired product. The word wheel appears as soon as one digit is typed, showing the first match to the digit(s) typed. As additional digits are typed, the result set narrows.
3. Type the entire code and press the **Enter** key  
- or -  
Type a partial code and scroll down the list. Click on the desired code to select it, then click **Search**.



## Search Results

The information shown on the results page is the same as is shown by default for a Product or Substance Name search. See [“Tox & Drug Product Lookup Results” on page 191](#) for a full explanation. However, when searching by codes, viewing: Synonyms or Manufacturer Contact Info, Begins with or Contains view options are not available.

Navigating links to product information and related documents function the same as described for a Product or Substance search. See [“The Product Page” on page 195](#) for a full description.

Displaying results found for "100-1075 (EPA)"

Results from: United States | Other Countries

Display: Product/Substance Names (2) | Synonyms (0) | Manufacturer Contact Info (0)

Jump To: ALL | 0-9 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Results 1 - 2

Page 1 of 1 Go | Previous | Next

Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. Force 3G	Granules	Syngenta Crop Protection	United States	7590684	201046	PYRETHROIDS - POISINDEX®
2. Force 3g Insecticide	Granules	Syngenta Crop Protection	United States	6204228	201046	PYRETHROIDS - POISINDEX®

## Jump To

All products or substances found for the search are returned on the *Tox & Drug Product Lookup Results* page in alphanumeric sort order. Navigate quickly to a product by using the *Jump To* letter link of the product name. For example, click the **G** link to jump to product names that begin with the letter G.

The total number of pages found is shown when the *ALL* Jump To option is selected. When a specific letter is chosen, the number of pages available for the selected letter is displayed.

## Product ID Search

Search by 7-digit product ID code.

### Tox & Drug Product Lookup

[Look up AAPCC Codes](#)

Search for drug products (by brand name, generic, or branded generic), commercial/household products and chemicals (by product name or synonym), and other substances including plants and animals (by Latin or common name), and by slang terms. Search by a specific active ingredient in the substance, by a specific code (such as NDC, CAS, or EPA code), or a valid 7-digit Product ID.

I want to search for...

☒ Product or substance names

☐ Globally distributed drug products in Martindale

Enter search term:

I want to search by and receive suggestions for...

☐ Product or substance name

☐ Codes

☒ Product ID

☐ Active ingredients

5367309

5367316

5367324

5367340

5367358

5367374

5367382

5367390

1. Select *I want to search by and receive suggestions for...* **Product ID** option.
2. Begin typing the 7-digit Product ID for the desired product. The word wheel appears when one or more digits have been typed, showing the first match to the digit(s) entered. As additional digits are typed, the result set narrows.
3. Type the entire code and press the **Enter** key  
 - or -  
 Type the partial product ID, scroll down the list and click to select. Once selected, click **Search**.



## Search Results

A single product is returned in the results.

Displaying results found for "5367390"						
Results from: United States   Other Countries		Display: <b>Product/Substance Names (1)</b>   Synonyms (0)   Manufacturer Contact Info (0)				
Results 1 - 1		Page 1 of 1 Go   ◀ Previous   Next ▶				
Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. <a href="#">Comet Cleanser With Bleach Regular</a>	Liquid	Prestige Brands	United States	5367390	042280	<a href="#">CORROSIVES-ALKALINE - POISINDEX®</a> <a href="#">HYPOCHLORITES AND RELATED AGENTS - POISINDEX®</a> <a href="#">DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX®</a>

The information shown on the results page is the same as is shown by default for a Product or Substance Name search. See ["Tox & Drug Product Lookup Results" on page 191](#) for a full explanation.

Navigating links to product information and related documents function the same as described for a Product or Substance search. See ["The Product Page" on page 195](#) for a full description.

## Active Ingredient Search

### Tox & Drug Product Lookup

[Look up AAPCC Cod](#)

Search for drug products (by brand name, generic, or branded generic), commercial/household products and chemicals (by product name or synonym), and other substances including plants and animals (by Latin or common name), and by slang terms. Search by a specific active ingredient in the substance, by a specific code (such as NDC, CAS, or EPA code), or a valid 7-digit Product ID.

I want to search for...

☒ Product or substance names  
☐ Globally distributed drug products in Martindale

Enter search term:

I want to search by and receive suggestions for...

☐ Product or substance name  
☐ Codes  
☐ Product ID  
☒ Active ingredients

1. Select *I want to search by and receive suggestions for...* **Active ingredients** option.
2. Begin typing the ingredient name. The word wheel appears as soon as one character or digit is typed, showing the first match to the information entered. As additional characters or digits are typed, the result set narrows.
3. Type the entire ingredient and press the **Enter** key  
 - or -  
 Type the partial ingredient name, scroll down the list and click to select. Once selected, click **Search**  
 - or -  
 Type the partial active ingredient name and click **Search**.



## Search Results

The information shown on the results page is the same as is shown by default for a Product or Substance Name search. See [“Tox & Drug Product Lookup Results” on page 191](#) for a full explanation. However, when searching by active ingredient, viewing: Synonyms or Manufacturer Contact Info, Begins with or Contains view options are not available.

Displaying results found for "Bromobenzene"						
Results from: United States   Other Countries    Display: <b>Product/Substance Names (7)</b>   Synonyms (0)   Manufacturer Contact Info (0)						
Jump To: <b>ALL</b>   0-9   A   <b>B</b>   C   D   E   F   G   H   I   J   K   L   M   N   O   P   Q   R   S   T   U   V   W   X   Y   Z						
Results 1 - 7    Page 1 of 1    Go   Previous   Next ▶						
Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. <a href="#">Bromobenzene</a>				3825613	077260	<a href="#">GENERAL OR UNKNOWN CHEMICAL - POISINDEX®</a> <a href="#">SYMPTOMATIC CHEMICAL INGESTION - POISINDEX®</a> <a href="#">SYMPTOMATIC CHEMICAL DERMAL EXPOSURE - POISINDEX®</a> <a href="#">GENERAL OR UNKNOWN CHEMICAL - MEDITEXT®</a>
2. <a href="#">Bromobenzene</a>		Dow	United States	2488074	077260	<a href="#">SYMPTOMATIC CHEMICAL INGESTION - POISINDEX®</a> <a href="#">SYMPTOMATIC CHEMICAL INHALATION - POISINDEX®</a> <a href="#">SYMPTOMATIC CHEMICAL DERMAL EXPOSURE - POISINDEX®</a>
3. <a href="#">Bromobenzene</a>		Dow	United States	2454116	077260	<a href="#">SYMPTOMATIC CHEMICAL INGESTION - POISINDEX®</a> <a href="#">SYMPTOMATIC CHEMICAL DERMAL EXPOSURE - POISINDEX®</a>
4. <a href="#">Bromobenzene - B-252</a>		Fisher Chemical	United States	3162677	077260	<a href="#">SYMPTOMATIC CHEMICAL DERMAL EXPOSURE - POISINDEX®</a> <a href="#">SYMPTOMATIC CHEMICAL INGESTION - POISINDEX®</a>

Navigating links to product information and related documents function the same as described for a Product or Substance search. See [“The Product Page” on page 195](#) for a full description.

## Jump To

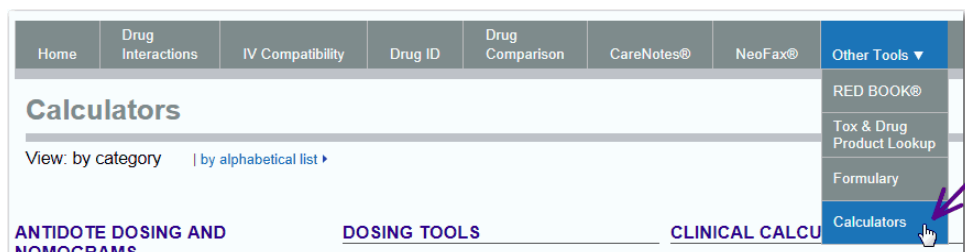
All products or substances found for the search are returned on the *Tox & Drug Product Lookup Results* page in alphanumeric sort order. Navigate quickly to a product by using the *Jump To* letter link of the product name. For example, click the **G** link to jump to product names that begin with the letter G.

The total number of pages found are shown when the ALL Jump To option is selected. When a specific letter is chosen, the number of pages available for the selected letter is displayed.

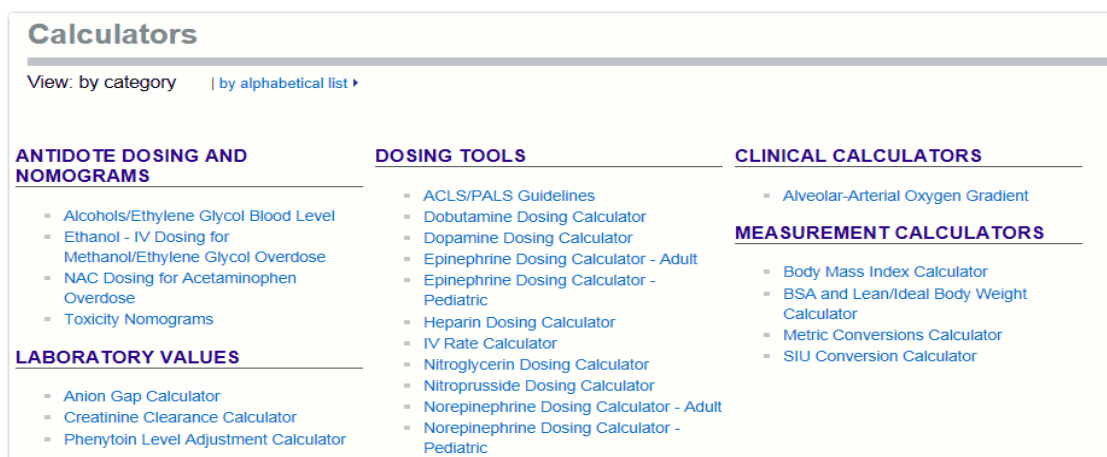


# CHAPTER 15: CALCULATORS

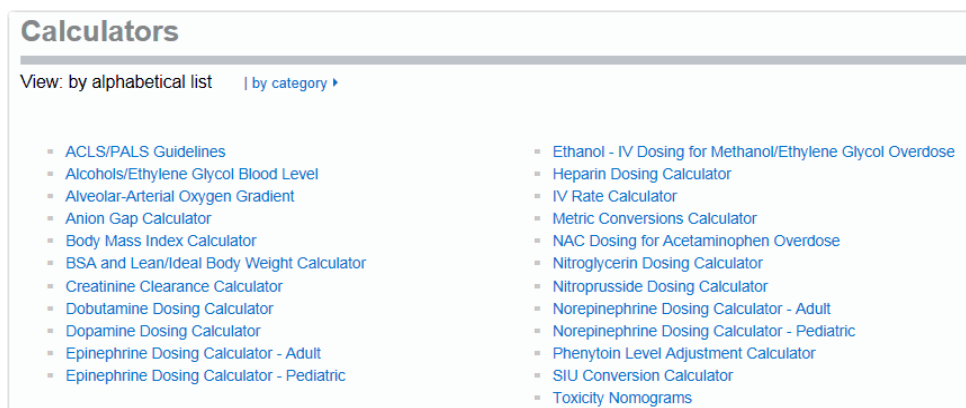
All of the calculators available in Micromedex® Solutions can be found by clicking the **Calculators** toolbar option. Depending on your subscription, it may be visible in the toolbar or it may be under the Other Tools option.



The calculators are grouped into logical areas to make it quick and easy to find the calculator you need.



However, if you want to browse a full alphabetical list of all the calculators, click the **View Alphabetical List** link.



A brief description of each calculator follows.

## Antidote Dosing Calculators and Nomograms

### Alcohols/Ethylene Glycol Blood Level

Provides levels for a single, acute ingestion.

Calculate the blood levels for: ethanol, methanol, ethylene glycol, or isopropyl alcohol.

### Ethanol/IV Dosing for Methanol/Ethylene Glycol Overdose

Options are available to calculate for initiation of therapy, or to adjust a maintenance dose based on plasma level.

### NAC Dosing for Acetaminophen Overdose

Calculates acetaminophen overdose treatment based on the patient's weight, including the loading dose and maintenance dose.

### Toxicity Nomogram

Calculates the toxicity risk of Acetaminophen. You provide the blood plasma level (and unit measurement: mcg/ml, mg/dcl or SI Units) as well as the time since ingestion of Acetaminophen.

Results can be displayed in graph or table format.

## Laboratory Values

### Anion Gap Calculator

Enter the sodium, chloride, bicarbonate, and potassium levels to calculate anion gap.

### Creatinine Clearance Calculator

This calculator calculates **adult** creatinine clearance, based on the patient's age, current serum creatinine level in mg/dl, and a body weight value (in kg or lb) that has been appropriately adjusted according to the patient's body mass index (BMI). It can also calculate creatinine clearance for **pediatric** patients using length (cm or inches), serum creatinine (mg/dL), and a k constant value, which is based on age (in months or years) and gender. For either patient type, enter all appropriate values as indicated in the entry screen, then click the **Submit** button to generate the results.

### Phenytoin Level Adjustment Calculator

Utilized by clinicians to adjust reported serum phenytoin levels in patients that have low serum albumin levels or renal impairment. Hypoalbuminemia and/or renal impairment changes the binding affinity of phenytoin which results in a reported total phenytoin level that is of little value clinically. This calculator estimates what the total phenytoin level would be if the patient did not have these comorbid conditions. Calculates the adjusted Phenytoin Level using current values for: Phenytoin Level (mcg/mL), Albumin (gm/dL) and Creatinine Clearance (mL/min).



## **Dosing Tools**

### **ACLS/PALS Guidelines**

Based on pediatric or adult weight, (in kilograms or pounds) this calculator displays the American Heart Association medication and recommendation guidelines for ACLS/PALS/neonatal resuscitation.

### **Dobutamine Dosing Calculator**

Calculate based on weight (kg/lb) and the initial dose. Results are in mcg/kg/min with the selected solution.

### **Dopamine Dosing Calculator**

Calculate based on weight (kg/lb) and the initial dose. Results are in mcg/kg/min with the selected solution.

### **Epinephrine Dosing Calculator - Adult**

The adult calculator displays recommendations based on initial dosing and the solution concentration.

### **Epinephrine Dosing Calculator - Pediatric**

The pediatric calculator also factors in the weight (kg/lb) of the pediatric patient.

### **Heparin Dosing Calculator**

Formulates recommendations based on weight (kg/lb) and units/ml.

### **IV Rate Calculator**

Enables clinicians to quickly and easily determine the infusion rate for medications that require complicated calculations. This flexible dosing tool is not specific to a particular drug, but calculates an infusion rate for a variety of medications, dosing options, and solution concentrations.

### **Nitroglycerin Dosing Calculator**

Dosing calculations are for adults only (weight  $\geq 40$  kg). Calculations are not based on patient weight. Recommendations can be calculated based on concentration and mcg/min and whether or not the patient is on fluid restriction.

### **Nitroprusside Dosing Calculator**

Calculations are based on patient weight (kg/lb) and mcg/kg/min and the concentration of the solution used.

### **Norepinephrine Dosing Calculator - Adult**

The adult calculator displays recommendations based on initial dosing and the solution concentration.

### **Norepinephrine Dosing Calculator - Pediatric**

The pediatric calculator also factors in the weight (kg/lb) of the pediatric patient.

## Clinical Calculators

### Alveolar-Arterial Oxygen Gradient

Allows you to calculate the alveolar oxygen concentration and gradient with notes related to the results obtained. You can also determine atmospheric pressure for a specific area or country.

## Measurement Calculators

### Body Mass Index Calculator

Body Mass Index (BMI) is a calculated value that shows body weight adjusted for height and indicates the weight status in adults. Calculates BMI based on weight (kg/lbs) and height (cm/in).

### BSA and Lean/Ideal Body Weight Calculator

Calculates body surface area and lean/ideal body weight based on age (years or months), weight (kg/lbs), height (cm/in), and sex (male/female).

### Metric Conversions Calculator

Provides conversions between Metric and English standard units for many common conversions utilized in clinical practice. The conversions include measurements of weight, length, volume, temperature, and parts per million.

### SIU Conversion Calculator

Allows you to calculate and convert amounts based a selected substance and a chosen conversion unit.

# CHAPTER 16: RED BOOK ONLINE

## Introduction to RED BOOK Online

RED BOOK Online is the essential resource healthcare professionals reach for every day to find the latest drug product pricing and packaging information on prescription and over-the-counter drug products.

By providing all of the drug product pricing and packaging data you need in one source, RED BOOK Online simplifies the identification, analysis, and comparison of drug and non-drug items. RED BOOK Online supports formulary management, cost containment, and drug utilization review, and provides consistent and unbiased Average Wholesale Price (AWP) pricing information for brand name and generic drugs. [See “Average Wholesale Price \(AWP\) Policy” on page 293.](#) for more information on the Truven Health Analytics AWP policy.

RED BOOK Online provides:

- Drug pricing and product information for more than 200,000 active and deactivated drugs
- An intuitive online user interface
- Daily updates to provide the most up-to-date information
- Notification of new pricing information
- Available via the Micromedex® Solutions interface which can provide access to a broad range of clinical decision support tools available from Truven Health.

## Searching RED BOOK Online

To begin using RED BOOK Online®, you must first log into the application. Navigate to the URL through which you access RED BOOK Online and log in.

The options displayed on the toolbar will vary depending upon your Micromedex® Solutions subscriptions. RED BOOK Online may be visible in the toolbar or it may be under the Other Tools option.

Click the **RED BOOK Online** toolbar item.

The *RED BOOK Online Search* page displays.

From the *RED BOOK Online Search* page, you can search by:

- Product Name
- Active Ingredient
- NDC/HRI/UPC Code
- Manufacturer Name

You can also filter your search by status and repackagers. [See “Filters” on page 213.](#) for more information.



**Note:** NDC, HRI, and UPC codes are displayed in two formats within RED BOOK Online. When performing a search by code, the search box displays the code in a 5-4-2 format (e.g., 12345-6789-00) for an NDC, HRI, or UPC code. When an HRI or UPC code is selected from the search box, the code is displayed in a 5-6 format (e.g., 12345-678900). The identifying code has not changed, only the format has changed, as shown below.

The 5-4-2 format is used in the search suggestion box, but once selected, HRI and UPC codes are displayed in a 5-6 format.

Enter search term:

00205-000090

Submit

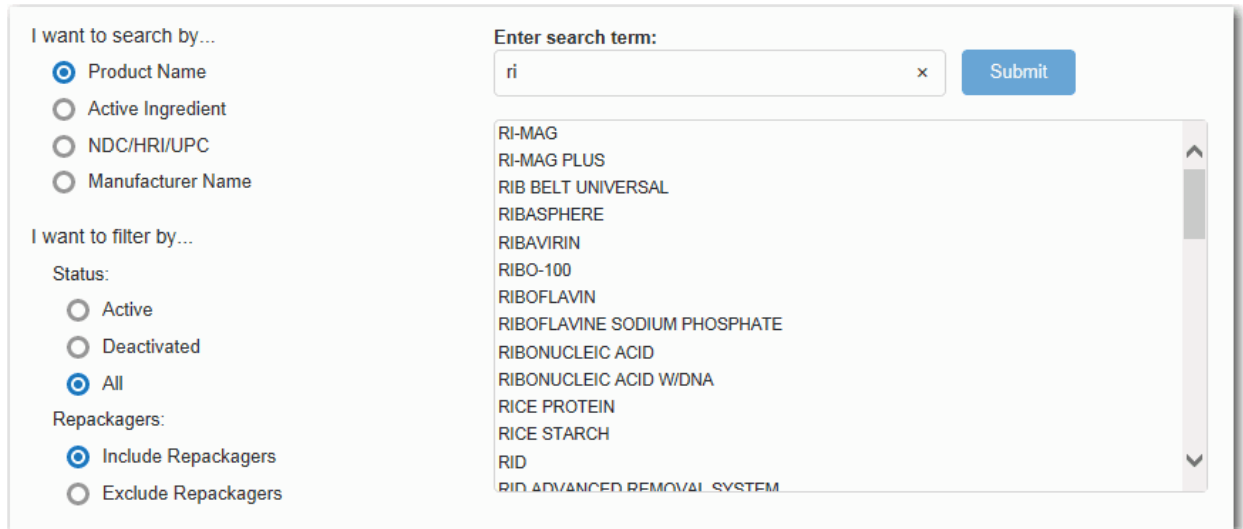
00205-0000-90 THERAREST (KCI)

On the *RED BOOK Online Search Results* page and *Product Details* pop-up box, NDC codes are displayed in the 5-4-2 format. HRI and UPC codes are displayed in the 5-6 format.

## Search Options

Next, enter the search term you want to use. For the purposes of this guide, the Product Name search will be used in conjunction with the search term *Rizatriptan Benzoate*.

Begin typing in the *Enter search term:* field. As you enter characters into the field, the application makes suggestions based on the characters entered, as shown below.



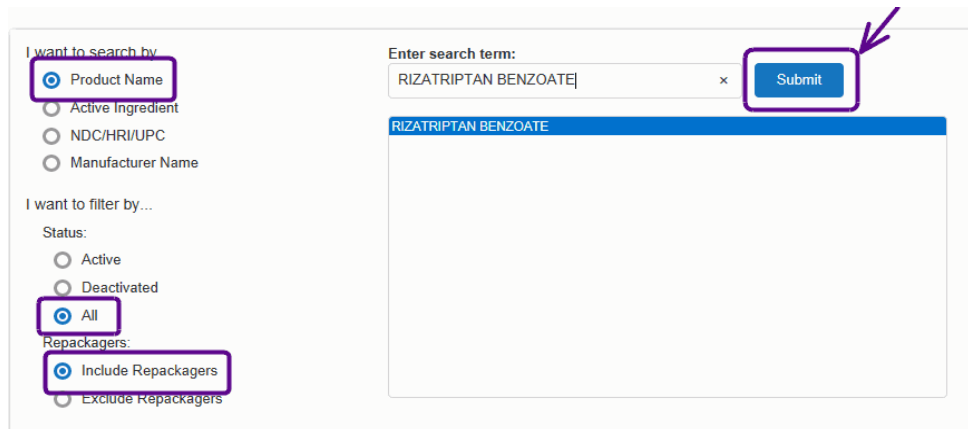
The screenshot shows the search interface with the following elements:

- I want to search by...**
  - ☒ Product Name
  - ☐ Active Ingredient
  - ☐ NDC/HRI/UPC
  - ☐ Manufacturer Name
- I want to filter by...**
  - Status:**
    - ☐ Active
    - ☐ Deactivated
    - ☒ All
  - Repackagers:**
    - ☒ Include Repackagers
    - ☐ Exclude Repackagers
- Enter search term:**
  - Text input field containing 'ri'.
  - Submit** button.
  - Suggestion list:
    - RI-MAG
    - RI-MAG PLUS
    - RIB BELT UNIVERSAL
    - RIBASPHERE
    - RIBAVIRIN
    - RIBO-100
    - RIBOFLAVIN
    - RIBOFLAVINE SODIUM PHOSPHATE
    - RIBONUCLEIC ACID
    - RIBONUCLEIC ACID W/DNA
    - RICE PROTEIN
    - RICE STARCH
    - RID
    - RID ADVANCED REMOVAL SYSTEM

The more characters you enter, the more focused the application-based suggestions will be. Highlight the term in the suggestion list on which you want to search and click the **Submit** button.



**Note:** The **Submit** button will be inactive until a search term is selected from the suggestion list.



The screenshot shows the search interface with the following elements and annotations:

- I want to search by...**
  - ☒ Product Name
  - ☐ Active Ingredient
  - ☐ NDC/HRI/UPC
  - ☐ Manufacturer Name
- I want to filter by...**
  - Status:**
    - ☐ Active
    - ☐ Deactivated
    - ☒ All
  - Repackagers:**
    - ☒ Include Repackagers
    - ☐ Exclude Repackagers
- Enter search term:**
  - Text input field containing 'RIZATRIPTAN BENZOATE'.
  - Submit** button.
  - Suggestion list:
    - RIZATRIPTAN BENZOATE

Annotations include a purple box around the 'Product Name' radio button, a purple box around the 'All' status radio button, a purple box around the 'Include Repackagers' radio button, a purple box around the 'Submit' button, and a purple arrow pointing to the 'Submit' button.



**Note:** If you receive a message when performing a search that no results matched the term and options selected, try adjusting your filters (Active/Deactivated/All or Include/Exclude Repackagers) to see if your search returns different results.



## Filters

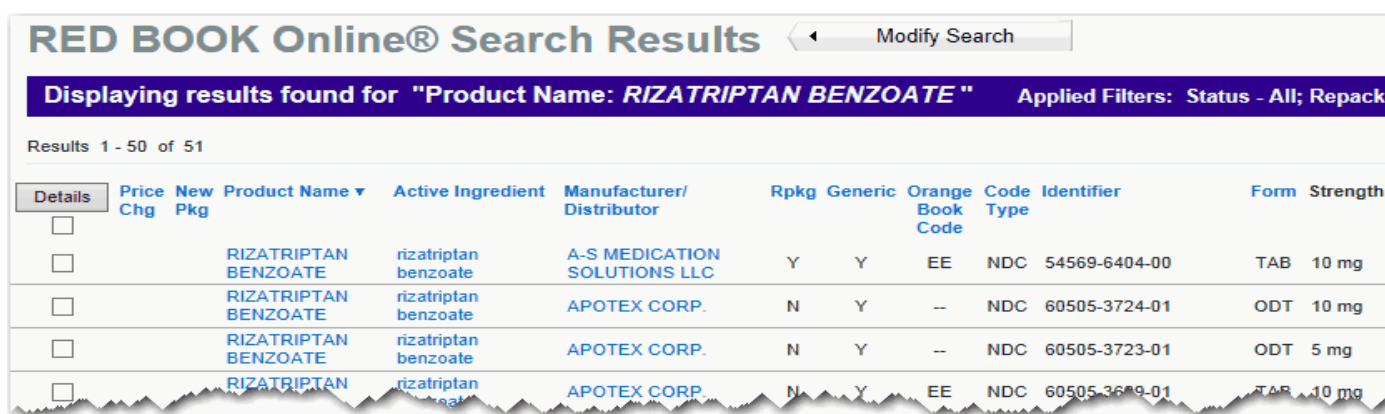
By default, the "active" filter option will be selected when searching by product name and active ingredient. Active drugs are those that are currently marketed while deactivated drugs are not currently marketed.

The "Exclude Repackagers" option will be selected by default when searching by Product Name or Active Ingredient. Repackagers can be included in the search by selecting the corresponding radio button.

Filter options are not available when searching by Manufacturer or NDC/HRI/UPC.

## Understanding RED BOOK Online Search Results

The search results page displays detailed information about your search query. An example search with multiple results is shown below.

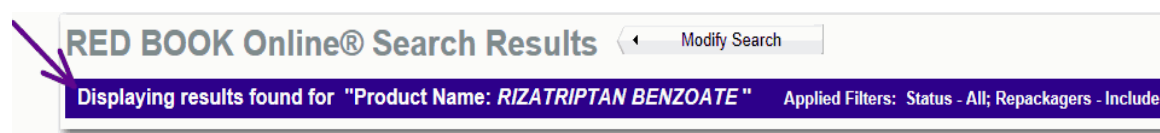


The screenshot shows the RED BOOK Online Search Results page. At the top, there is a header bar with the title "RED BOOK Online® Search Results" and a "Modify Search" button. Below this, a purple bar displays the search criteria: "Displaying results found for 'Product Name: RIZATRIPTAN BENZOATE'" and the applied filters: "Status - All; Repack". Below the purple bar, it says "Results 1 - 50 of 51". The main content is a table with columns: Details, Price Chg, New Pkg, Product Name, Active Ingredient, Manufacturer/Distributor, Rpkg, Generic, Orange Book Code, Code Type, Identifier, Form, and Strength. The table lists four results for RIZATRIPTAN BENZOATE, with manufacturers A-S MEDICATION SOLUTIONS LLC and APOTEX CORP. The details column contains checkboxes for each row.

Details	Price Chg	New Pkg	Product Name	Active Ingredient	Manufacturer/Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form	Strength
<input type="checkbox"/>			RIZATRIPTAN BENZOATE	rizatriptan benzoate	A-S MEDICATION SOLUTIONS LLC	Y	Y	EE	NDC	54569-6404-00	TAB	10 mg
<input type="checkbox"/>			RIZATRIPTAN BENZOATE	rizatriptan benzoate	APOTEX CORP.	N	Y	--	NDC	60505-3724-01	ODT	10 mg
<input type="checkbox"/>			RIZATRIPTAN BENZOATE	rizatriptan benzoate	APOTEX CORP.	N	Y	--	NDC	60505-3723-01	ODT	5 mg
<input type="checkbox"/>			RIZATRIPTAN BENZOATE	rizatriptan benzoate	APOTEX CORP.	N	Y	EE	NDC	60505-3689-01	TAB	10 mg

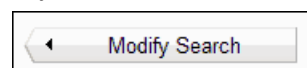
Results are displayed in rows, with links to additional information. Data can be re-sorted by most of the column headings.

## Search Results Header



At the top of the search results is the search header information. Moving from left to right, the first item displayed is the page title (*RED BOOK Online® Search Results*).

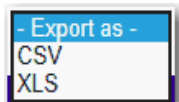
Adjacent to the title is the **Modify Search** button.



Click the **Modify Search** button to return to the RED BOOK Online search tool and modify your search, or perform a new search either by typing in a new search term or by changing your filter options.

## Exporting Search Results

Search results can be exported to a Microsoft® Excel® (.xls) file, or a Comma Separated Values (.csv) file. Select the file type that you want to save the results as from the drop-down menu. A dialog box appears that provides the ability to select the location to which you want to save the file.



## Printing Search Results

On the right side of the page is the **Print** icon. Clicking the **Print** icon launches the Windows® Print dialog window and allows you to print your RED BOOK Online search results.



## Additional Search Results Information

Below the search results header is the number of results returned for this particular search. In the example shown here, 104 results were found and results 1-50 are displayed on the first page.

On the right side of the page, the number of pages within the search result are displayed.



For this example, page 1 of 2 is being displayed. When the search results contain multiple pages, you can use the **Previous** and **Next** links to page through the search results, or you can enter a page number in the **Page** box and click **GO** to move directly to that page of the results.

## Column Headings

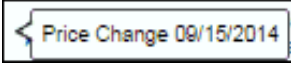
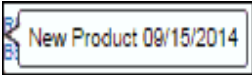
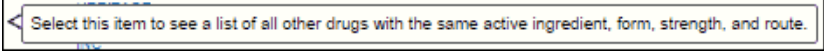
Details	Price Chg	New Pkg	Product Name	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form	Strength	Route	Pkg Size	Unit Dose	WAC Pkg Price	AWP Pkg Price	AWP Unit Price
<input type="checkbox"/>	\$	★	RIZATRIPTAN BENZOATE	rizatriptan benzoate	HERITAGE PHARMACEUTICALS INC	N	Y	AB	NDC	23155-0245-46	TAB	10 mg	ORAL	18s ea	Y	26.93	598.55	33.25278
<input type="checkbox"/>	\$	★	RIZATRIPTAN BENZOATE	rizatriptan benzoate	HERITAGE PHARMACEUTICALS INC	N	Y	AB	NDC	23155-0244-46	TAB	5 mg	ORAL	18s ea	Y	26.93	598.55	33.25278
<input type="checkbox"/>			RIZATRIPTAN BENZOATE	rizatriptan benzoate	A-S MEDICATION SOLUTIONS LLC	Y	Y	EE	NDC	54569-6404-00	TAB	10 mg	ORAL	18s ea	N	--	612.52	34.02889
<input type="checkbox"/>			RIZATRIPTAN BENZOATE	rizatriptan benzoate	APOTEX CORP.	N	Y	EE	NDC	60505-3699-01	TAB	10 mg	ORAL	18s ea	Y	149.64	598.55	33.25278

All columns with headings in blue can be sorted in ascending or descending order. Click on the column heading to sort on the column. The display refreshes based on the sort selection with a secondary sort on product name. Click again to reverse the sort order.

The various column headings/items and their function are described in the following table:



## Columns on the RED BOOK Online Search Results

Column Name	Description
<b>Details Button</b>	The <b>Details</b> button is related to the checkboxes that correspond to each line item in the search results. Clicking the checkbox for either a single or for multiple products and then clicking the <b>Details</b> button launches the <i>Product Details</i> pop-up box. The <i>Product Details</i> pop-up provides detailed information for the product(s) selected. <a href="#">See “Product Details Search Results” on page 224.</a> for more information.
<b>Price Chg</b>	<p>The <b>Price Chg</b> (price change) column indicates if the selected product has had a price change that is effective within the last 30 days of the date the search was performed.</p> <p>💰 If a price change has occurred within this time window, a dollar sign icon displays.</p> <p>Hovering the cursor over the icon displays the effective date of the price change.</p> 
<b>New Pkg</b>	<p>The <b>New Pkg</b> column indicates if the product on which you searched is a new entry in the RED BOOK Online database that became effective within the previous 30 days of the date the search was performed.</p> <p>★ New entries in the database are indicated by a star icon in this column.</p> <p>Hovering the cursor over the icon displays the effective date of the new entry.</p> 
<b>Product Name</b>	The <b>Product Name</b> column displays the name of all the individual products retrieved by your search. You can click the column header to sort the search results by this column.
<b>Active Ingredient</b>	<p>The <b>Active Ingredient</b> column displays the active ingredient(s) for the product for which you searched. You can click the name of the active ingredient to view other products that contain the same active ingredient, strength, form, and route (<a href="#">See “Searching for Similar Products in RED BOOK Online” on page 218.</a> for more information).</p> <p>Hovering the mouse over the name of the active ingredient displays the information you can view by clicking the link.</p>  <p>If a product contains more than one active ingredient and you click the name of the active ingredients link, RED BOOK Online will search for other products containing all of the active ingredients specified. If you want to search for other products that contain just one of the active ingredients listed, return to the search page and perform an active ingredient search on that one item.</p>

Column Name	Description
<b>Manufacturer/Distributor</b>	The <b>Manufacturer/Distributor</b> column displays the manufacturer/distributor of an individual product in your search results. A single product name can be associated with multiple manufacturers/distributors.
<b>Rpkg</b>	The <b>Rpkg</b> column indicates whether or not the product is repackaged by the company listed as the manufacturer/distributor. A "Y" indicates that the listed manufacturer/distributor is a repackager of the product. An "N" indicates that the listed manufacturer/distributor is not a repackager.
<b>Generic</b>	The <b>Generic</b> column indicates whether or not the particular line item is a generic product. A "Y" indicates that the product is a generic version. An "N" indicates that the product is not a generic product.
<b>Orange Book Code</b>	If a product has a corresponding Orange Book Code, that code will appear in the <b>Orange Book Code</b> column. Not all products will have an associated Orange Book Code. When there is no associated Orange Book Code, two dashes (--) will appear in the column. <a href="#">See "Orange Book Codes" on page 300.</a> for more information.
<b>Code Type</b>	The <b>Code Type</b> column identifies the registry listed for the identifier, either NDC; HRI; or UPC. This code type is related to the value that appears in the <b>Identifier</b> column.
<b>Identifier</b>	The <b>Identifier</b> column displays the NDC, HRI, or UPC code that is associated with the item for which you searched.
<b>Form</b>	The <b>Form</b> column displays the dosage form (tablet, solution, syrup, etc.) of a product.
<b>Strength</b>	<p>The <b>Strength</b> column displays the active ingredient strength for the product for which you searched.</p> <p>The <b>Strength</b> column is limited to 24 characters. Entries in this field that exceed 24 characters are truncated. A longer description can be viewed on the <i>Product Details</i> page.</p>
<b>Route</b>	<p>The <b>Route</b> column displays the route of administration for the product.</p> <p><a href="#">See "Route Listing" on page 299.</a> for more information.</p>
<b>Pkg Size</b>	The <b>Pkg</b> (package) column displays the quantity of individual items in the package. This quantity is expressed in National Council for Prescription Drug Programs (NCPDP) units (each, grams, milliliters).
<b>Unit Dose</b>	The <b>Unit Dose</b> column indicates if the product retrieved in your search is available in unit dose packaging. A "Y" indicates that the product is available in unit dose packaging. An "N" indicates that the product is not available in unit dose packaging.
<b>WAC Pkg Price</b>	The <b>WAC Pkg Price</b> column displays the Wholesale Acquisition Cost of the package.
<b>AWP Pkg Price</b>	The <b>AWP Pkg Price</b> column displays the Average Wholesale Price per package.
<b>AWP Unit Price</b>	The <b>AWP Unit Price</b> column displays the Average Wholesale Price per unit. <a href="#">See "Unit Price Calculations" on page 294.</a> for information on how unit prices are calculated.



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**Note:** The default sort order for search results is by the Product Name and then Manufacturer columns. If you sort the results by a different column, Product and Manufacturer become the second and third sort criteria.

Columns for which no data is returned will contain two dashes (--).

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## Searching for Similar Products in RED BOOK Online

From the *RED BOOK Online Search Results* page, you can perform a secondary query to locate products that contain the same active ingredient(s), in the same strength, form, and route, as a product on which you have already retrieved your primary search. Searching for similar products can be performed from any RED BOOK Online search results page that displays the **Active Ingredient** column.

For this example, a product search for *Children's Benadryl Allergy* has been performed. The **Active** filter and the **Include Repackagers** radio button have been selected. The results displayed are similar to the following:

Displaying results found for "Product Name: CHILDREN'S BENADRYL ALLERGY" Applied Filters: Status - Active; Repackagers - Include

Results 1 - 6 of 6 Page 1 of 1 Go | Previous | Next

Details	Price Chg	New Product Name	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form	Strength	Route	Pkg Size	Unit Dose	WAC Pkg Price	AWP Pkg Price	AWP Unit Price
<input type="checkbox"/>		CHILDREN'S BENADRYL ALLERGY	diphenhydramine hydrochloride	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	NDC	50580-0535-04	SOL	12.5 mg/5 ml	ORAL	118 ml	N	4.33	5.20	0.04407
<input type="checkbox"/>		CHILDREN'S BENADRYL ALLERGY	diphenhydramine hydrochloride	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	UPC	00450-018018	ODT	12.5 mg	ORAL	18s ea	N	4.33	5.20	0.28889
<input type="checkbox"/>		CHILDREN'S BENADRYL ALLERGY	diphenhydramine hydrochloride	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	NDC	00501-2048-10	SYR	12.5 mg/5 ml	ORAL	5 ml 10s	N	4.33	5.20	0.10400
<input type="checkbox"/>		CHILDREN'S BENADRYL ALLERGY	diphenhydramine hydrochloride	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	NDC	50580-0534-08	SYR	12.5 mg/5 ml	ORAL	236 ml	N	6.79	8.15	0.03453
<input type="checkbox"/>		CHILDREN'S BENADRYL ALLERGY	diphenhydramine hydrochloride	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	NDC	50580-0534-04	SYR	12.5 mg/5 ml	ORAL	118 ml	N	4.38	5.26	0.04458
<input type="checkbox"/>		CHILDREN'S BENADRYL ALLERGY	diphenhydramine hydrochloride	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	UPC	00450-019018	ODT	12.5 mg	ORAL	18s ea	N	4.33	5.20	0.28889

Click an active ingredient hypertext link. In this example, the active ingredient is *diphenhydramine hydrochloride*. The *Find Similar Products* pop-up box is displayed.

**FIND SIMILAR PRODUCTS**

You are about to submit a search for all items matching these criteria.

**Active Ingredient:** diphenhydramine hydrochloride  
**Form:** SOL  
**Strength:** 12.5 mg/5 ml  
**Route:** ORAL  
**Status:** Active  
**Repackagers:** Include

SUBMIT ✓ CLOSE ✕

The *Find Similar Products* pop-up displays the following information about the product for which you are about to search, including any filters you selected for your search.

- Active Ingredient
- Form
- Strength
- Route



- Status (Active or Deactivated)
- Repackagers (Include or Exclude)

Confirm that the information displayed is the information on which you want to search. After confirming the information, click the **SUBMIT** icon. The *RED BOOK Online Similar Products* search results page displays.

Displaying results found for "Active Ingredient: <i>diphenhydramine hydrochloride</i> Form: <i>SOL</i> Strength: <i>12.5 mg/5 ml</i> Route: <i>ORAL</i> " Applied												
Filters: Status - Active; Repackagers - Include												
Results 1 - 27 of 27			Page 1 of 1 Go   ◀ Previous   Next ▶									
Details	Price Chg	New Pkg	Product Name ▼	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Pkg Size	WAC Unit Price	AWP Unit Price
<input type="checkbox"/>			ALLERGY CHILDREN'S	CHAIN DRUG MARKETING ASSOC., INC.	N	Y	--	NDC	63868-0823-54	118 ml	0.01356	0.01627
<input type="checkbox"/>			ALLERMAX	PFEIFFER PHARMACEUTICALS, INC.	N	N	--	NDC	00927-0617-12	120 ml	--	0.01467
<input type="checkbox"/>			CHILDREN'S BENADRYL ALLERGY	MCNEIL CONSUMER HEALTHCARE DIV	N	N	--	NDC	50580-0535-04	118 ml	0.03669	0.04407
<input type="checkbox"/>			CHILDREN'S WAL-DRYL ALLERGY	WALGREENS	N	Y	--	NDC	00363-0379-26	118 ml	--	--
<input type="checkbox"/>			CHILDREN'S WAL-DRYL ALLERGY	WALGREENS	N	Y	--	NDC	00363-0101-04	118 ml	--	--
<input type="checkbox"/>									0779-02			


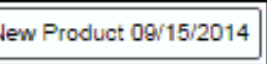
The Search Results header displays the query details.

For this example, the **Active Ingredient** searched was diphenhydramine hydrochloride. The **Form** is SOL (solution). The **Strength** is 12.5 mg/5 ml. The **Route** is ORAL. Also displayed are any filters that were applied to the search. In this example, the **Active** status was used and repackagers were included.

The *Similar Product Search Results* page displays much of the same information as any other RED BOOK Online search query (See ["Understanding RED BOOK Online Search Results" on page 213.](#)). However, since the active ingredient, form, strength, and route are now the same for all the products in the results set, these criteria are displayed in the Search Results header at the top of the results list to describe the exact search performed.

All columns with headings displayed in blue can be sorted in ascending or descending order. Click on the column heading to sort on the column. The display refreshes based on the sort selection with a secondary sort on product name. Click again to reverse the sort order.

The various column headings/items and their function are described in the table below.

Column	Description
<b>Details Button</b>	The <b>Details</b> button is related to the checkboxes that correspond to each line item in the search results. Clicking the checkbox for single or multiple products and then clicking the <b>Details</b> button launches the <i>Product Details</i> pop-up box ( <a href="#">See “Product Details Search Results” on page 224.</a> ). The <i>Product Details</i> pop-up box provides detailed information for the product(s) selected.
<b>Price Chg</b>	<p>The <b>Price Chg</b> (price change) column indicates if the selected product has experienced a price change effective within the last 30 days of the date the search is performed.</p> <p>💰 If a price change has occurred within this time window, a dollar sign icon displays.</p> <p>Hovering the cursor over the icon displays the date the price change became effective.</p> 
<b>New Pkg</b>	<p>The <b>New Pkg</b> column indicates if the product on which you searched is a new entry in the RED BOOK Online database that became effective within the previous 30 days of the date the search was performed.</p> <p>★ New entries in the database are indicated by a star icon in this column.</p> <p>Hovering the cursor over the icon will display the effective date of the new entry.</p> 
<b>Product Name</b>	<p>The <b>Product Name</b> column displays the name of all the individual products retrieved by your search. You can click the column header to sort the search results by this column.</p> <p>When the results are initially displayed in response to your search, they are sorted by this column.</p>
<b>Manufacturer/Distributor</b>	<p>The <b>Manufacturer/Distributor</b> column displays the manufacturer/distributor of an individual product in your search results. A single product name may be associated with multiple manufacturers/distributors.</p> <p><a href="#">See “Manufacturer Product List Search Results” on page 222.</a> for more information.</p>
<b>Rpkg</b>	<p>The <b>Rpkg</b> column indicates whether or not the product is repackaged by the company listed as the manufacturer/distributor. A "Y" indicates that the listed manufacturer/distributor is a repackager of the product. An "N" indicates that the listed manufacturer/distributor is not a repackager.</p>
<b>Generic</b>	<p>The <b>Generic</b> column indicates whether or not the particular line item is a generic product. A "Y" indicates that the product is a generic version. An "N" indicates that the product is not a generic product.</p>



Column	Description
<b>Orange Book Code</b>	If a product has been assigned an Orange Book Code, that code will appear in the <b>Orange Book Code</b> column. Not all products will be associated with an Orange Book Code. When there is no associated Orange Book Code, two dashes (--) will appear in the column. <a href="#">See “Orange Book Codes” on page 300.</a> for more information.
<b>Code Type</b>	The <b>Code Type</b> column identifies the registry listed for the identifier, either NDC; HRI; or UPC. This code type is related to the value that appears in the <b>Identifier</b> column.
<b>Identifier</b>	The <b>Identifier</b> column displays the NDC, HRI, or UPC code that is associated with each individual line item retrieved in your search.
<b>Pkg Size</b>	The <b>Pkg</b> (package) column displays the quantity of individual items in the package. This quantity is expressed in National Council for Prescription Drug Programs (NCPDP) units (each, grams, milliliters).
<b>WAC Unit Price</b>	The <b>WAC Unit Price</b> column displays the Wholesale Acquisition Cost per unit.
<b>AWP Unit Price</b>	The <b>AWP Unit Price</b> column displays the Average Wholesale Price per unit. <a href="#">See “Unit Price Calculations” on page 294.</a> for information on how unit prices are calculated.



**Note:** Columns for which no data is returned will contain two dashes (--).

In addition to the information displayed, the *Similar Products Search Results* page provides the ability to view detailed product information; export the search results and save them to your computer; or to print your search results. This is the same functionality that is present on the main *RED BOOK Online Search Results* page.



**Note:** If only one item meets the search criteria, you will receive the following message: "There were no additional items found for this search."

## Manufacturer Product List Search Results

The Manufacturer search option enables you to view products in the RED BOOK Online data from a selected manufacturer.

**RED BOOK Online® Search** [Go to Custom List Manager ▶](#)

Search for prescription or over the counter medications, nutraceuticals, bulk chemicals, medical devices or supplies by product name or manufacturer. Search for a specific active ingredient in the product or by a specific code (such as NDC, UPC, or HRI).

I want to search by...

- ☐ Product Name
- ☐ Active Ingredient
- ☐ NDC/HRI/UPC
- ☒ Manufacturer Name

Enter search term:

mer|

**MERCK & CO., INC.**

- MERCK SHARP & DOHME CORP.
- MERCK/SCHERING-PLOUGH PHARMA
- MERETEK DIAGNOSTICS, INC.
- MERICON INDUSTRIES, INC.
- MERIDIAN MEDICAL TECHNOLOGIES, INC.
- MERIDIAN PHARMACEUTICALS, INC.
- MERIT PHARMACEUTICALS
- MERLIN TECHNOLOGIES, INC.
- MERRICK MEDICINE CO., INC.
- MERUS LABS INTERNATIONAL INC.
- MERZ AESTHETICS, INC.
- MERZ PHARMACEUTICALS

Using the Manufacturer Name search option, RED BOOK Online displays a list of names for products manufactured or distributed by the company for which you searched.

In the example provided, a search has been performed for Merck & Co, Inc. An alphabetized listing of the name of each product (in the RED BOOK Online database) manufactured by Merck & Co, Inc. is returned. Each product name listed for the manufacturer is displayed as a hypertext link.

**Select from a list of 105 products found for "Manufacturer: MERCK & CO., INC."**

Jump To: [Top of Page](#) | [0-9](#) | [A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [W](#) | [X](#) | [Y](#) | [Z](#)

**A**

- [AGGRASTAT](#)
- [ALDOCLOR-150](#)
- [ALDOCLOR-250](#)
- [ALDOMET](#)
- [ALDOMET ESTER HY](#)
- [ALDORIL 15](#)

The Jump To: menu provides the ability to navigate directly to any alphabetical index of all the products in the RED BOOK Online data available from the manufacturer on which you searched.

Each product listed for the manufacturer is a hypertext link. Clicking the hypertext link opens the RED BOOK Online Search Results page for the product selected.

At the top of the page is the **Jump To:** menu. This menu provides the ability to navigate directly to an alphabetical index of all of the product names in the RED BOOK Online data available from the manufacturer for which you searched. Letters in the menu that are blue are hypertext links. When clicked, the hypertext link moves you down the page to the corresponding entries.



Letters in the menu that are gray are not hyperlinks and indicate that there are no product names in the list of results that begin with that letter.

Additionally, each product listed in the index of products from the manufacturer is a hypertext link. Clicking the hypertext link opens the *RED BOOK Online Search Results* page for the product name selected. For example, performing a manufacturer search for Merck & Co, Inc. and then clicking the hyperlink for the product name **Aggrastat** would return the following *RED BOOK Online Search Results* page.

Displaying results found for "Manufacturer: MERCK & CO., INC. Product Name: AGGRASTAT"

Results 1 - 3 of 3

Page 1 of 1Go | Previous | Next

Details	Price Chg	New Pkg	Product Name	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form	Strength	Route	Pkg Size	Unit Dose	WAC Pkg Price	AWP Pkg Price	AWP Unit Price
<input type="checkbox"/>			AGGRASTAT DEACTIVATED	tirofiban hydrochloride	MERCK & CO., INC.	N	N	--	NDC	00006-3713-50	SOL	0.25 mg/ml	INTRAVENOUS	50 ml	N	396.96	496.20	9.92400
<input type="checkbox"/>			AGGRASTAT DEACTIVATED	tirofiban hydrochloride	MERCK & CO., INC.	N	N	--	NDC	00006-3713-25	SOL	0.25 mg/ml	INTRAVENOUS	25 ml	N	198.48	248.10	9.92400
<input type="checkbox"/>			AGGRASTAT DEACTIVATED	tirofiban hydrochloride	MERCK & CO., INC.	N	N	--	NDC	00006-3739-43	SOL	0.05 mg/ml	INTRAVENOUS	500 ml	N	700.00	840.00	1.68000

The Manufacturer search results can be saved as a Microsoft® Excel® (.xls) file or a Comma Separated Values (.csv) file by selecting one of the two options from the **Export** drop-down menu at the top of the page. Additionally, you can print the results by clicking the **Print** icon in the upper right corner of the page.



**Note:** Columns for which no data is returned will contain two dashes (--).

## Product Details Search Results

RED BOOK Online® provides the ability to view detailed information for single or multiple products.

You can access the detailed product information from the *RED BOOK Online Search Results* page.

Displaying results found for "Product Name: HUMALOG " Applied Filters: Status - All; Rep...

Results 1 - 12 of 12

Details	Price Chg	New Pkg	Product Name	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form
<input checked="" type="checkbox"/>			HUMALOG	insulin lispro, recombinant	A-S MEDICATION SOLUTIONS LLC	Y	N	--	NDC	54569-6435-00	SUS
<input type="checkbox"/>			HUMALOG DEACTIVATED	insulin lispro, recombinant	DISPENSEXPRESS, INC.	Y	N	--	NDC	68115-0746-10	SUS
<input type="checkbox"/>			HUMALOG DEACTIVATED	insulin lispro, recombinant	DISPENSING SOLUTIONS, INC.	Y	N	--	NDC	55045-3602-01	SUS
<input checked="" type="checkbox"/>			HUMALOG	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-7510-01	SUS
<input type="checkbox"/>			HUMALOG	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-8799-01	SUS
<input type="checkbox"/>			HUMALOG	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-7510-17	SUS
<input checked="" type="checkbox"/>			HUMALOG	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-7516-59	SUS
<input checked="" type="checkbox"/>			HUMALOG	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-7516-01	SUS
<input type="checkbox"/>			HUMALOG DEACTIVATED	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-7515-59	SUS
<input type="checkbox"/>			HUMALOG	insulin lispro, recombinant	LILLY, ELI & COMPANY	N	N	--	NDC	00002-8799-59	SUS
<input type="checkbox"/>			HUMALOG	insulin lispro, recombinant	PHYSICIANS TOTAL CARE	Y	N	--	NDC	54868-5108-00	SUS
<input type="checkbox"/>			HUMALOG	insulin lispro, recombinant	QUALITY CARE PRODUCTS, LLC	Y	N	--	NDC	35356-0102-00	SUS

Click the checkbox(es) to view detailed information for a single or multiple products.

You can select the checkbox directly beneath the **Details** button to view detailed information for all items displayed on this page.

Select the product name hypertext link to display the details for a single product.



For this example, four (4) products were selected. After selecting the checkboxes, the **Details** button was clicked.

The *Product Details* pop-up box displays:

RED BOOK ONLINE® PRODUCT DETAILS

2 of 4

**Product Information**

Product Name:	HUMALOG	Code:	
Active Ingredient(s):	insulin lispro, recombinant	Identifier:	00002-7510-01
Manufacturer/Distributor:	LILLY, ELI & COMPANY	Unit Dose:	N
Form:	SUSPENSION	Single Source:	N
Strength:	100 u/ml	Repackager:	N
Size:	10 ml	Generic:	N
Route of Admin:	SUBCUTANEOUS	Add'l Description:	(VIAL)
Orange Book Code:	--		
DEA Class:	RX		

**Current Pricing Information:**

	Package	Unit	Effective Date
AWP	221.16	22.11600	06/05/2014
WAC	184.30	18.43000	06/05/2014
DIR	184.30	18.43000	06/05/2014
FUL	--	--	--
SRP			

**AWP Unit Pricing History:**

Effective Date	Unit	% Change
06/05/2014	22.11600	9.9
12/12/2013	20.12400	9.7
07/26/2013	18.34800	8.9
12/28/2012	16.84800	8.0

[More >](#)

**J-Codes:**

J1815	PER 5 UNIT
J1817	PER 50 UNI
S5551	5 UNITS
--	--
--	--

PRINT CLOSE

Use these buttons to page forward and backward through the detailed results when multiple products are viewed.

Click the More> hypertext link to view historical AWP pricing history (view available).

When more than five J-Codes exist for the NDC a More> hypertext link will display.

Detailed information for each product is shown. When more than one product was selected, navigation to the other products is accomplished using the right and left arrows at the top of the pop-up.

When more details are available, the **More>** link is presented. Click the link to view the additional information.

The *Products Detail* page is divided into two sections. The upper section of the page displays the following information:

### Product Details Information

Field Name	Description
<b>Product Name</b>	This field displays the name of the product selected. If the product is not currently marketed its "deactivated" status is displayed directly underneath the product name.
<b>Active Ingredient(s)</b>	The active ingredient(s) for the product is/are displayed.
<b>Manufacturer/Distributor</b>	The manufacturer/distributor of the product is displayed.
<b>Form</b>	The dosage form for the product is displayed. For more information on dosage forms, <a href="#">See "Dosage Form Descriptions" on page 296.</a>
<b>Strength</b>	The product strength, when applicable, is displayed. This field is limited to 75 characters.
<b>Size</b>	The package quantity, volume, or mass is displayed.
<b>Route of Admin</b>	The route of administration for the product is displayed.
<b>Orange Book Code</b>	When applicable, the corresponding Orange Book Code for the product is displayed.
<b>DEA Class</b>	The Drug Enforcement Agency (DEA) classification code is displayed.
<b>Code</b>	The <b>Code Type</b> column identifies the registry listed for the identifier, either NDC; HRI; or UPC.
<b>Identifier</b>	The identifying code itself (NCD, HRI, or UPC) is displayed.
<b>Unit Dose</b>	The <b>Unit Dose</b> field indicates if the product retrieved in your search is available in unit dose packaging. A "Y" indicates that the product is available in unit dose packaging. An "N" indicates that the product is not.
<b>Single Source</b>	Single source "Y" identifies the product as a drug formulation generally available from only one source. If the single source field contains an "N" the product is available from more than one source.  In those occasional instances when branded products are cross-licensed, each product carries the single-source indicator.
<b>Repackager</b>	The <b>Repackager</b> field indicates whether or not the product is repackaged by the company listed as the manufacturer/distributor. A "Y" indicates that the listed manufacturer/distributor is a repackager. An "N" indicates that the listed manufacturer/distributor is not.
<b>Generic</b>	The <b>Generic</b> field indicates whether or not the particular line item is a generic product. A "Y" indicates that the product is a generic version. An "N" indicates that the product is not a generic product.
<b>Add'l Information</b>	Additional information about the product, when it is available, is displayed in this field.



The lower section of the page displays the following information ([See “RED BOOK Online Terms and Definitions” on page 301.](#) for acronym definitions):

- **Current Pricing Information** - When available, this section of the page displays AWP, WAC, DIR, FUL, and SRP pricing information. This information is displayed by Package, Unit, and Effective Date.
- **AWP Unit Pricing History** - When available, this section of the page displays AWP, WAC, DIR, FUL, and SRP pricing information. This information is sorted by Effective Date, and displays Unit and % of Change. Occasionally, a **More >** hypertext link is available in this section. Click the link to view AWP Unit Pricing history, as shown below.

RED BOOK ONLINE® PRODUCT DETAILS

Product Name: HUMALOG Code: NDC

2 of 4

Product Information

Active Ingredient: HUMALOG

Manufacturer: HUMALOG

Form: 100mg/0.5mg

Strength: 100mg/0.5mg

Size: 30 capsules

Route of Administration: Oral

Orange Marking: 100mg/0.5mg

DEA Classification: C-II

Current Pricing Information

AWP

WAC

DIR

FUL

SRP

RED BOOK ONLINE® AWP PRICE HISTORY

Product Name: HUMALOG  
Code: NDC  
Identifier: 00002-7510-01

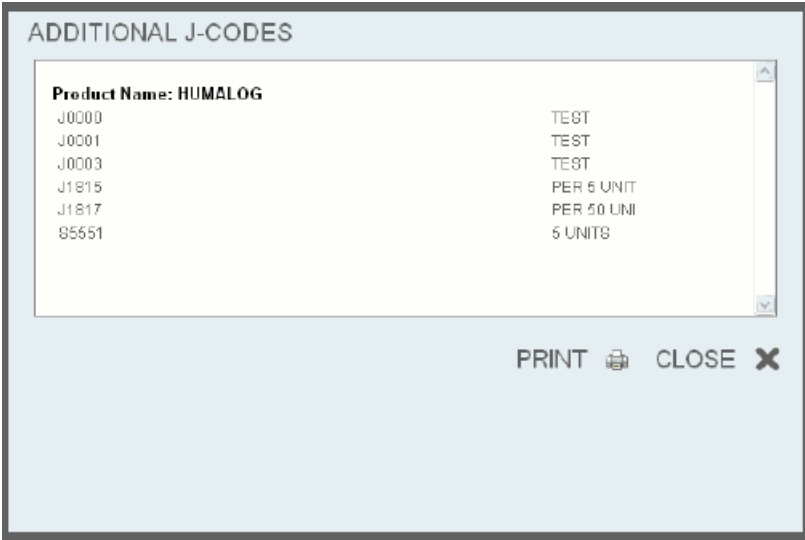
Effective Date	Unit	% Change
06/05/2014	22.11600	9.9
12/12/2013	20.12400	9.7
07/26/2013	18.34800	8.9
12/28/2012	16.84800	8.0
07/11/2012	15.60000	6.0
11/30/2011	14.71200	6.0
05/03/2011	13.88400	7.5
09/03/2010	12.91200	8.0
12/15/2009	11.95800	7.5
02/11/2009	11.12400	7.8
08/27/2008	10.32000	6.0
01/31/2008	9.73200	5.9


PRINT CLOSE X

PRINT CLOSE X

You can print the AWP Price History by clicking the **PRINT** icon. Click the **CLOSE** icon to exit the pop-up box and return to the *Product Details* page.

- J-Codes** - When applicable, J-Code information for the product is displayed. Occasionally, a **More >** hypertext link is available in this section. Click the link to view additional J-Codes for the associated NDC.



 **Note:** Columns for which no data is returned will contain two dashes (--).

The information displayed on the *Product Details* page can be printed by clicking the **PRINT** icon at the bottom of the page.

Click the **CLOSE** option to exit the page.



## Viewing Manufacturer Contact Details

From any *RED BOOK Online Search Results* page that displays a manufacturer name, you can obtain manufacturer contact information.

Click a manufacturer's name, as shown in the example below.

Displaying results found for "Product Name: AVANDIA "    Applied Filters: Status - Active; Repackagers - Exclude

Results 1 - 3 of 3

Page 1 of 1   Go |   ◀ Previous | Next ▶

Details	Price Chg	New Pkg	Product Name ▼	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Identifier Type	Form	Strength	Route	Pkg Size	Unit Dose	WAC Pkg Price	AWP Pkg Price	AWP Unit Price
<input type="checkbox"/>																	
<input type="checkbox"/>			AVANDIA	rosiglitazone maleate	GLAXO SMITHKLINE PHARMACEUTICALS	N	N	AB	NDC 00173-0863-13	TAB	4 mg	ORAL	30s ea	N	117.04	140.45	4.68167
<input type="checkbox"/>			AVANDIA	rosiglitazone maleate	GLAXO SMITHKLINE PHARMACEUTICALS	N	N	AB	NDC 00173-0864-13	TAB	8 mg	ORAL	30s ea	N	212.64	255.17	8.50567
<input type="checkbox"/>			AVANDIA	rosiglitazone maleate	GLAXO SMITHKLINE PHARMACEUTICALS	N	N	AB	NDC 00173-0861-18	TAB	2 mg	ORAL	60s ea	N	157.71	189.25	3.15417

The *Manufacturer Details* pop-up box is displayed.

RED BOOK ONLINE® MANUFACTURER DETAILS

Manufacturer Name: GLAXO SMITHKLINE PHARMACEUTICALS

Address 1: 3 FRANKLIN PLAZA

Address 2: P.O. BOX 7929

City: PHILADELPHIA

State: PA

Zip: 19101

Phone: (888) 825-5249

Labeler Codes:

00007

00029

00108

00173

More >

Click the More> link (when available) to view additional labeler codes by the manufacturer

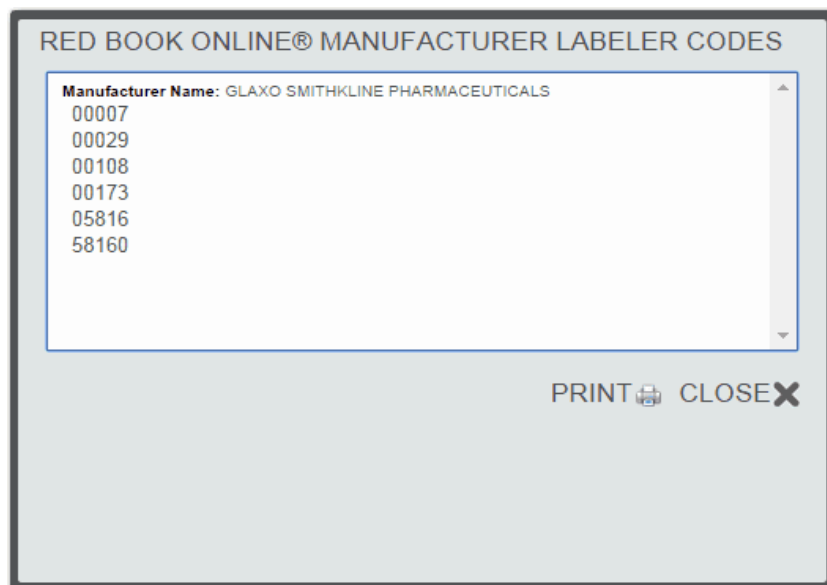
PRINT CLOSE

The *Manufacturer Details* pop-up box displays the following information about a manufacturer:

- Manufacturer Name
- Address 1
- Address 2
- City
- State
- Zip Code
- Telephone Number

Also displayed are labeler codes for the manufacturer. Most manufacturers have a specific set of labeler codes which they use. A labeler code is a five-digit number that corresponds with the first five characters in an NDC number.

Occasionally, a **More >** hypertext link is available in this section. Click the link to view additional labeler codes used by the manufacturer, as shown below.



You can print the *Manufacturer Labeler Codes* information shown in the pop-up by clicking the **PRINT** icon. Click **CLOSE** to exit the pop-up box and return to *Manufacturer Details* pop-up.



**Note:** Columns for which no data is returned will contain two dashes (--).

You can print the *Manufacturer Details* information by clicking the **PRINT** icon. Click **CLOSE** to exit the pop-up and return to the original search results.



## THE CUSTOM LIST MANAGER

The Custom List Manager provides the ability to create and edit a list of products for tracking purposes. The list of products can be saved to your local computer or network and re-run through RED BOOK Online to check for product changes. The ability to save a product list to your local system allows you to perform product searches on a set of products of interest to you without manually entering each product every time you want to check for changes to those products.



**Note:** The maximum allowable number of products in a custom list is 2,000.

### Creating a Custom List

To begin building a custom list, click the **Go To Custom List Manager >** hypertext link on the main *RED BOOK Online Search* page.

RED BOOK Online® Search

Search for prescription or over the counter medications, nutraceuticals, bulk chemicals, medical devices or supplies by product name or manufacturer. Search for a specific active ingredient in the product or by a specific code (such as NDC, UPC, or HRI).

I want to search by...

- ☒ Product Name
- ☐ Active Ingredient
- ☐ NDC/HRI/UPC
- ☐ Manufacturer Name

Enter search term:

I want to filter by...

Status:

- ☒ Active
- ☐ Deactivated
- ☐ All

Repackagers:

- ☐ Include Repackagers
- ☒ Exclude Repackagers

The *RED BOOK Online Custom List Manager* page displays.

RED BOOK Online® Custom List Manager

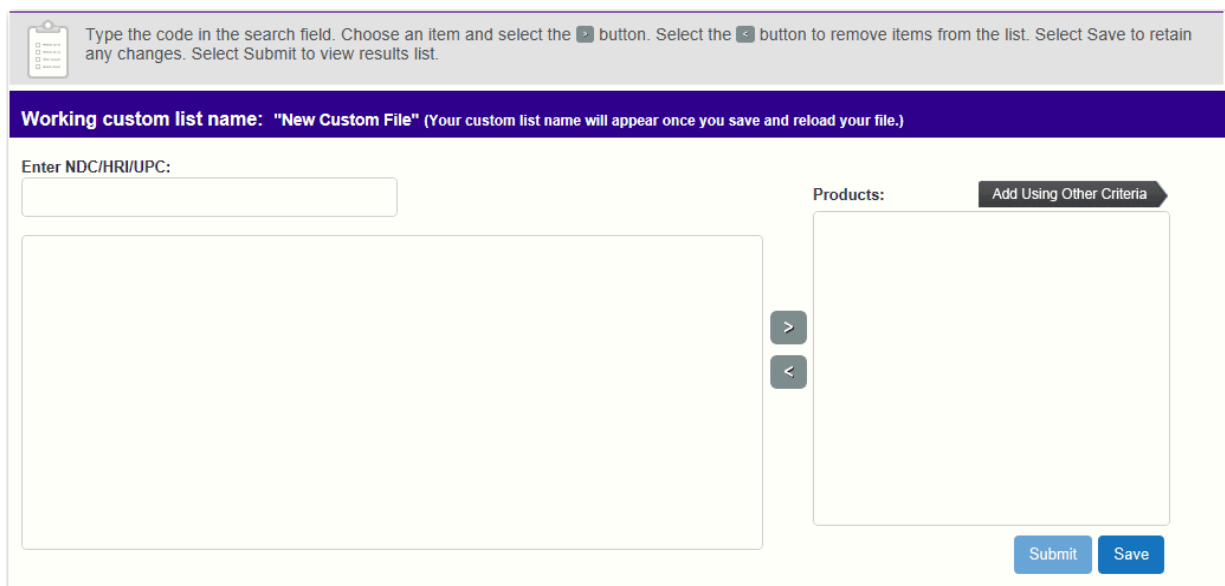
[Return to RED BOOK Online® Search >](#)



Use Custom List Manager to create a new list, or browse to and load an existing list.

OR

Click the **Create New** button.

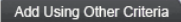
The *Custom List Edit* page displays.







Type the code in the search field. Choose an item and select the  button. Select the  button to remove items from the list. Select Save to retain any changes. Select Submit to view results list.

**Working custom list name: "New Custom File" (Your custom list name will appear once you save and reload your file.)**

Enter NDC/HRI/UPC:

Products: 

Custom lists can be built using:

- A code number (NDC/HRI/UPC) (see [page 233](#))
- Product name, active ingredient, or manufacturer's name (see [page 234](#))

By default, the search by NDC/HRI/UPC code search page is shown.



## Creating a Custom List by: NDC/HRI/UPC Code

If you choose to create your custom list searching by a code, begin entering the code number in the *Enter NDC/HRI/UPC* field. As you type, RED BOOK Online will make product suggestions based on the characters entered.

Type the code in the search field. Choose an item and select the button. Select the button to remove items from the list. Select Save to retain any changes. Select Submit to view results list.

Working custom list name: "New Custom File" (Your custom list name will appear once you save and reload your file.)

Enter NDC/HRI/UPC:  
009 x

00904-0002-14	MINTOX (Major)	225 mg/5 ml-200 mg/5	360 ml
00904-0002-28	MINTOX (Major)	200 mg/5 ml-200 mg/5	3840 ml
00904-0002-41	MINTOX (Major)	200 mg/5 ml-200 mg/5	780 ml
00904-0003-14	MINTOX EXTRA STRENGTH (Major)	500 mg/5 ml-450 mg/5	360 ml
00904-0004-14	MI-ACID (Major)	200 mg/5 ml-200 mg/5	360 ml
00904-0004-28	MI-ACID (Major)	200 mg/5 ml-200 mg/5	3840 ml
00904-0004-41	MI-ACID (Major)	200 mg/5 ml-200 mg/5	780 ml
00904-0004-76	MI-ACID (Major)	200 mg/5 ml-200 mg/5	780 ml
00904-0005-14	MI-ACID (Major)	400 mg/5 ml-400 mg/5	360 ml
00904-0005-53	MI-ACID II (Major)	400 mg/5 ml-400 mg/5	360 ml 2s
00904-0012-05	ALLERGY (Major)	4 mg	12s ea
00904-0012-24	ALLERGY (Major)	4 mg	24s ea
00904-0012-53	ALLERGY (Major)	4 mg	200s ea
00904-0012-59	ALLERGY (Major)	4 mg	100s ea

Products:

Submit Save

Select the desired product by highlighting it with your cursor, then click the right-pointing arrow to move the product into the *Products*: box.

To remove a product from the *Products*: box, highlight the product and click the left-pointing arrow. The item is removed.



**Note:** Duplicate entries cannot be saved to the Custom List. If you accidentally try to add a duplicate product to your Custom List, you will be presented with an error message.

You can continue creating a custom list based on NDC/HRI/UPC codes, *or* you can click the **Add Using Other Criteria** button at the top of the page to continue building your custom list by searching by product name, active ingredient or manufacturer name.

## Creating a Custom List by: Name, Active Ingredient or Manufacturer

RED BOOK Online allows you to create a custom list using a product name, active ingredient, or manufacturer's name as a search term. Click the **Add Using Other Criteria** button located directly above the *Products:* box on the initial *Custom List Manager Edit* page.

The *RED BOOK Online Custom List Manager Other Criteria Search* functions exactly like the regular RED BOOK Online search tool. [See “Searching RED BOOK Online” on page 210.](#) for more information.

For example, perform a search for *Lyrice* from the *RED BOOK Online Custom List Manager Other Criteria Search* page. Highlight the product name in the suggestion box, and then click the **Submit** button.



To add items to your custom list, search by product name, active ingredient, code or manufacturer.

**Working custom list name:** "New Custom File" (Your custom list name will appear once you save and reload your file.)

I want to search by...

☒ Product Name  
☐ Active Ingredient  
☐ NDC/HRI/UPC  
☐ Manufacturer Name

Enter search term:  
LYRICA

I want to filter by...

Status:  
☒ Active  
☐ Deactivated  
☐ All

Repackagers:  
☐ Include Repackagers  
☒ Exclude Repackagers

LYRICA

The *RED BOOK Online Custom List Manager Other Criteria Results* page displays. This page provides the product matches for the search term you used.

### Custom List Manager Search Results

Results are displayed in rows, with links to additional information. Data can be re-sorted by most of the column headings. All columns with headings in blue can be sorted in ascending or descending order. Click on the column heading to sort on the column. The display refreshes based on the sort selection with a secondary sort on product name. Click again to reverse the sort order.

**RED BOOK Online® Custom List Manager Other Criteria Results** [Return to Custom List](#)


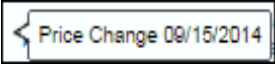

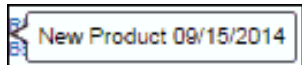
Choose items and click the add button to add to custom list.

**Working custom list name:** "New Custom File" (Your custom list name will appear once you save and reload your file.)

Results 1 - 13 of 13 Page 1 of 1 Go | Previous | Next

<input type="checkbox"/>	<a href="#">Add</a>	<a href="#">Price Chg</a>	<a href="#">New Pkg</a>	<a href="#">Product Name</a>	<a href="#">Active Ingredient</a>	<a href="#">Manufacturer/ Distributor</a>	<a href="#">Rpkg</a>	<a href="#">Generic</a>	<a href="#">Orange Book Code</a>	<a href="#">Code Type</a>	<a href="#">Identifier</a>	<a href="#">Form</a>	<a href="#">Strength</a>	<a href="#">Route</a>	<a href="#">Pkg Size</a>	<a href="#">Unit Dose</a>
<input type="checkbox"/>				LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1012-68	CAP	25 mg	ORAL	90s ea	N
<input type="checkbox"/>				LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1016-68	CAP	150 mg	ORAL	90s ea	N
<input type="checkbox"/>				LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1016-41	CAP	150 mg	ORAL	100s ea	Y
<input type="checkbox"/>				LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1016-41	CAP	150 mg	ORAL	100s ea	Y

The column headings and their functions are described in the table below.

Column	Description
<b>Add Button</b>	The <b>Add</b> button is related to the checkboxes that correspond to each line item in the search results. Clicking the checkbox for a single or for multiple products and then clicking the <b>Add</b> button launches the <i>Products Added</i> pop-up box. The <i>Products Added</i> pop-up confirms that the products selected have been added to your custom list.
<b>Price Chg</b>	<p>The <b>Price Chg</b> (price change) column indicates if the selected product has experienced a price change effective within the last 30 days of the date the search is performed.</p> <p> If a price change has occurred within this time window, the dollar sign icon displays.</p> <p></p> <p>Hovering the cursor over the icon displays the date the price change became effective.</p>
<b>New Pkg</b>	<p>The <b>New Pkg</b> column indicates if the product on which you searched is a new entry in the RED BOOK Online database that became effective within the previous 30 days of the date the search was performed.</p> <p> New entries in the database are indicated by a star icon in this column.</p> <p></p> <p>Hovering the cursor over the icon will display the effective date of the new entry.</p>
<b>Product Name</b>	<p>The <b>Product Name</b> column displays the name of all the individual products retrieved by your search. You can click the column header to sort the search results by this column.</p> <p>When the results are initially displayed in response to your search, they are sorted by this column.</p>
<b>Active Ingredient</b>	The <b>Active Ingredient</b> column displays the active ingredient(s) for the product for which you searched.
<b>Manufacturer/Distributor</b>	<p>The <b>Manufacturer/Distributor</b> column displays the manufacturer/distributor of an individual product in your search results. A single product name may be associated with multiple manufacturers/distributors.</p> <p><a href="#">See "Manufacturer Product List Search Results" on page 222.</a> for more information.</p>
<b>Rpkg</b>	The <b>Rpkg</b> column indicates whether or not the product is repackaged by the company listed as the manufacturer/distributor. A "Y" indicates that the listed manufacturer/distributor is a repackager of the product. An "N" indicates that the listed manufacturer/distributor is not a repackager.
<b>Generic</b>	The <b>Generic</b> column indicates whether or not the particular line item is a generic product. A "Y" indicates that the product is a generic version. An "N" indicates that the product is not a generic product.



<b>Orange Book Code</b>	If a product has been assigned an Orange Book Code, that code will appear in the <b>Orange Book Code</b> column. Not all products will be associated with an Orange Book Code. When there is no associated Orange Book Code, two dashes (--) will appear in the column. <a href="#">See “Orange Book Codes” on page 300.</a> for more information.
<b>Code Type</b>	The <b>Code Type</b> column identifies the registry listed for the identifier, either NDC; HRI; or UPC. This code type is related to the value that appears in the <b>Identifier</b> column.
<b>Identifier</b>	The <b>Identifier</b> column displays the NDC, HRI, or UPC code that is associated with each individual line item retrieved in your search.
<b>Form</b>	The <b>Form</b> column displays the dosage form (tablet, solution, syrup, etc.) of a product. <a href="#">See “Dosage Form Descriptions” on page 296.</a> for more information on dosage forms.
<b>Strength</b>	The <b>Strength</b> column displays the active ingredient strength for the product for which you searched. <b>NOTE:</b> The <b>Strength</b> column is limited to 24 characters. Entries in this field that exceed 24 characters are truncated. A longer description can be viewed on the <i>Product Details</i> page. <a href="#">See “Product Details Search Results” on page 224.</a>
<b>Route</b>	The <b>Route</b> column displays the route of administration for the product. <a href="#">See “Route Listing” on page 299.</a> for more information.
<b>Pkg Size</b>	The <b>Pkg</b> (package) column displays the quantity of individual items in the package. This quantity is expressed in National Council for Prescription Drug Programs (NCPDP) units (each, grams, milliliters).
<b>Unit Dose</b>	The <b>Unit Dose</b> column indicates if the product retrieved in your search is available in unit dose packaging. A "Y" indicates that the product is available in unit dose packaging. An "N" indicates that the product is not available in unit dose packaging.



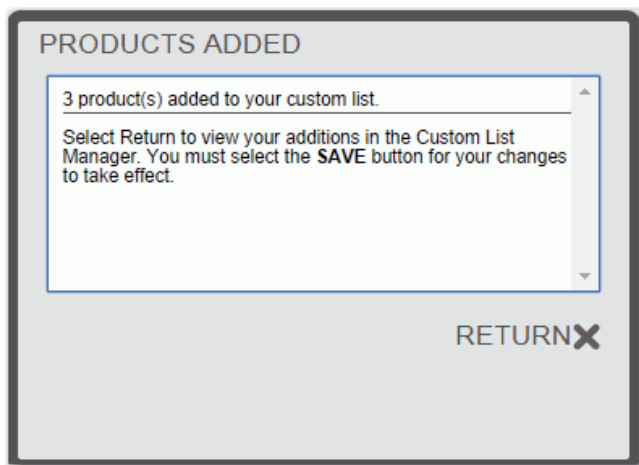
**Note:** Columns for which no data is returned will contain two dashes (--).

Results 1 - 13 of 13 Page 1 of 1 Go | 4

<b>Add</b>	Price Chg	New Pkg	Product Name ▾	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form	Strength	Rc
<input checked="" type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071- 1012-88	CAP	25 mg	Of
<input checked="" type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071- 1018-88	CAP	150 mg	Of
<input type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071- 1018-41	CAP	150 mg	Of
<input checked="" type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071- 1014-88	CAP	75 mg	Of
<input type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071- 1014-41	CAP	75 mg	Of
<input type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV.	N	N	--	NDC	00071-	CAP	50 mg	Of

Locate the product(s) that you want to add to the custom list you are building. Click the checkbox(es) adjacent to the line item(s) you want to include. To add the selected items to your custom list, click the **Add** button located at the top of the page.

The *Products Added* pop-up appears.



The *Products Added* pop-up confirms that your selection has been added to the list you are building.

Click the **RETURN** button to exit the pop-up box and return to the *Custom List Edit* page.



The *Custom Products* box displays the products you have added to your custom list.

Enter NDC/HRI/UPC:

Products:

00071-1012-68 LYRICA  
00071-1014-68 LYRICA  
00071-1016-68 LYRICA

Submit Save

You can continue adding products to the list you are creating, or you can save your list by clicking the **Save** button.

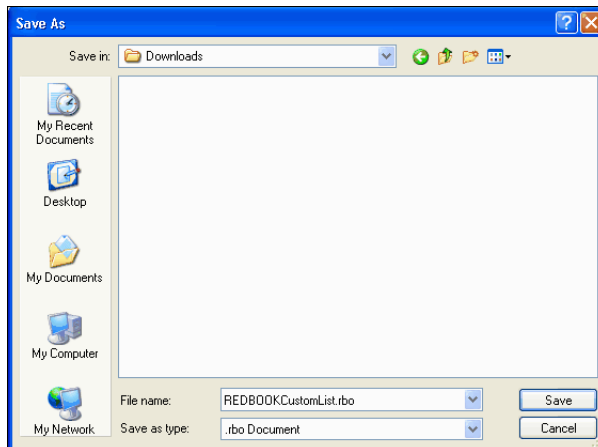
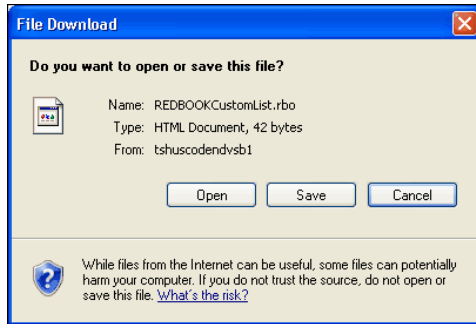


**Note:** You must save your custom list before the **Submit** button is active.

## Saving Your Custom List

After you have finished adding products to your custom list, you will want to save the file. Saving the custom list allows you to retrieve and run the same search repeatedly without entering each individual product.

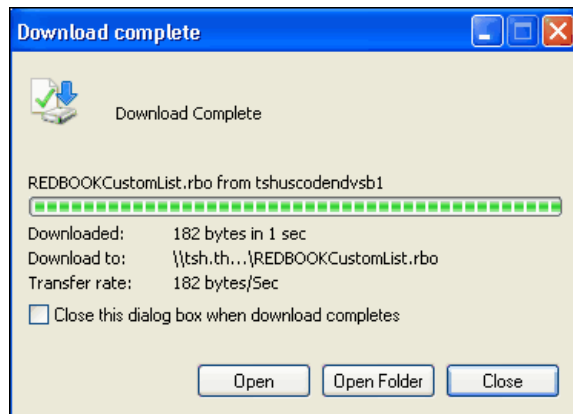
Click the **Save** button. The *File Download* dialog is displayed. Click the **Save** button. The *Save As* window is displayed.



Enter the name for your custom list in the File name field. By default, the file will be named REDBOOKCustomList.rbo. Navigate to the location to which you want to save the file. Click the **Save** button to save the file to your computer.



**Note:** The file extension must be **.rbo**, indicating it is a RED BOOK Online custom list file.

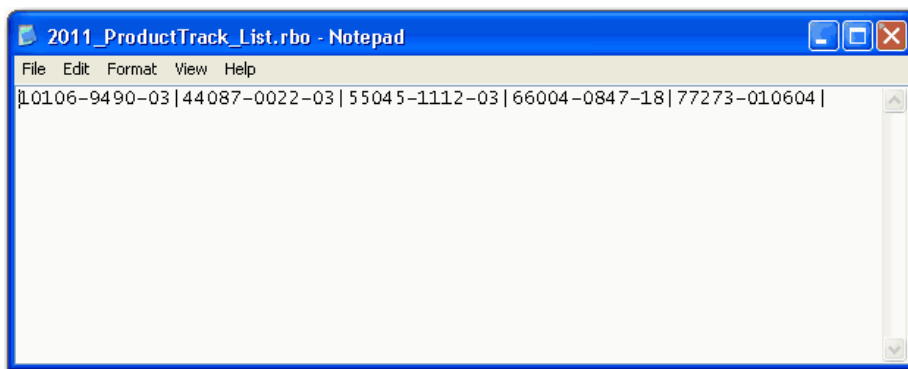


Click the **Close** button. The file is now saved. You can use this file to perform a search on this list of products, as necessary.

## Creating a Custom List Manually

You can create a Custom List completely outside of the RED BOOK Online application using any text editor or third-party word processor, as long as you create the list according to the following guidelines:

- The filename must carry the .rbo file extension (e.g., product\_list\_name.rbo)
- The file structure must be pipe-delimited ( | )
- All entries must follow the appropriate code format of 5-4-2 or 5-6 (e.g., 12345-6789-00 or 12345-678900).





## Searching RED BOOK Using a Saved Custom List

After creating and saving a custom list, you can upload that list into RED BOOK Online and run a search, based on the items in the custom list.

1. Log into RED BOOK Online and click **Go To Custom List Manager >** located on the top right side of the page. The *RED BOOK Online Custom List Manager* page displays.

RED BOOK Online® Custom List Manager [Return to RED BOOK Online® Search](#)

Use Custom List Manager to create a new list, or browse to and load an existing list.

Create New OR Choose File No file chosen Load Selected

2. Click the **Choose File** button. The *Choose file* dialog displays.
3. Navigate to the location of your saved custom list file. Highlight the file and then click the **Open** button.

The *Choose file* window closes and the *RED BOOK Online Custom List Manager* page is displayed again.

RED BOOK Online® Custom List Manager [Return to RED BOOK Online® Search](#)

Use Custom List Manager to create a new list, or browse to and load an existing list.

Create New OR Choose File REDBOOKCustomList.rbo Load Selected

The location path of the file now appears in the field to the right of the **Choose File** button and the **Load Selected** button is now active.

4. Click the **Load Selected** button. The custom list is loaded into RED BOOK Online and is displayed in the *Product:* box on the *Custom List Edit* page.

Working custom list name: "REDBOOKCustomList.rbo"

Enter NDC/HRI/UPC:

Products:

00071-1012-68 LYRICA  
00071-1014-68 LYRICA  
00071-1016-68 LYRICA

Submit Save

With the list selected and loaded, you can now:

- Edit your custom list by adding additional products - or -
- Perform a search on your custom list by clicking the **Submit** button

Results 1 - 3 of 3

Page 1 of 1 Go | Previous | Next

Details	Price Chg	New Pkg	Product Name	Active Ingredient	Manufacturer/ Distributor	Rpkg	Generic	Orange Book Code	Code Type	Identifier	Form	Strength	Route	Pkg Size	Unit Dose	WAC Pkg Price	AWP Pkg Price	AWP Unit Price
<input type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1012-68	CAP	25 mg	ORAL	90s ea	N	394.84	473.81	5.26456
<input type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1014-68	CAP	75 mg	ORAL	90s ea	N	394.84	473.81	5.26456
<input type="checkbox"/>			LYRICA	pregabalin	PARKE DAVIS, DIV. OF PFIZER, INC.	N	N	--	NDC	00071-1014-41	CAP	75 mg	ORAL	100s ea	Y	482.53	579.04	5.79040

RED BOOK Online searches all of the products in the custom list and returns a *Custom List Manager Results* page.

The type of information and layout of the results page from a custom list search is the same as a standard RED BOOK Online search. [See "Understanding RED BOOK Online Search Results" on page 213.](#) for information on RED BOOK Online search results.

# CHAPTER 17: MICROMEDEX SOLUTIONS FOR MOBILE DEVICES



Much more than quick drug look-ups, *mobileMicromedex*® powers your mobile device with a wealth of clinical knowledge from Truven Health, the industry's leading provider of evidence-based clinical information.

## ACCESS MICROMEDEX SOLUTIONS FROM YOUR TABLET



The same clinical evidence content you get on your desktop is also available to you on your tablet at no additional charge.

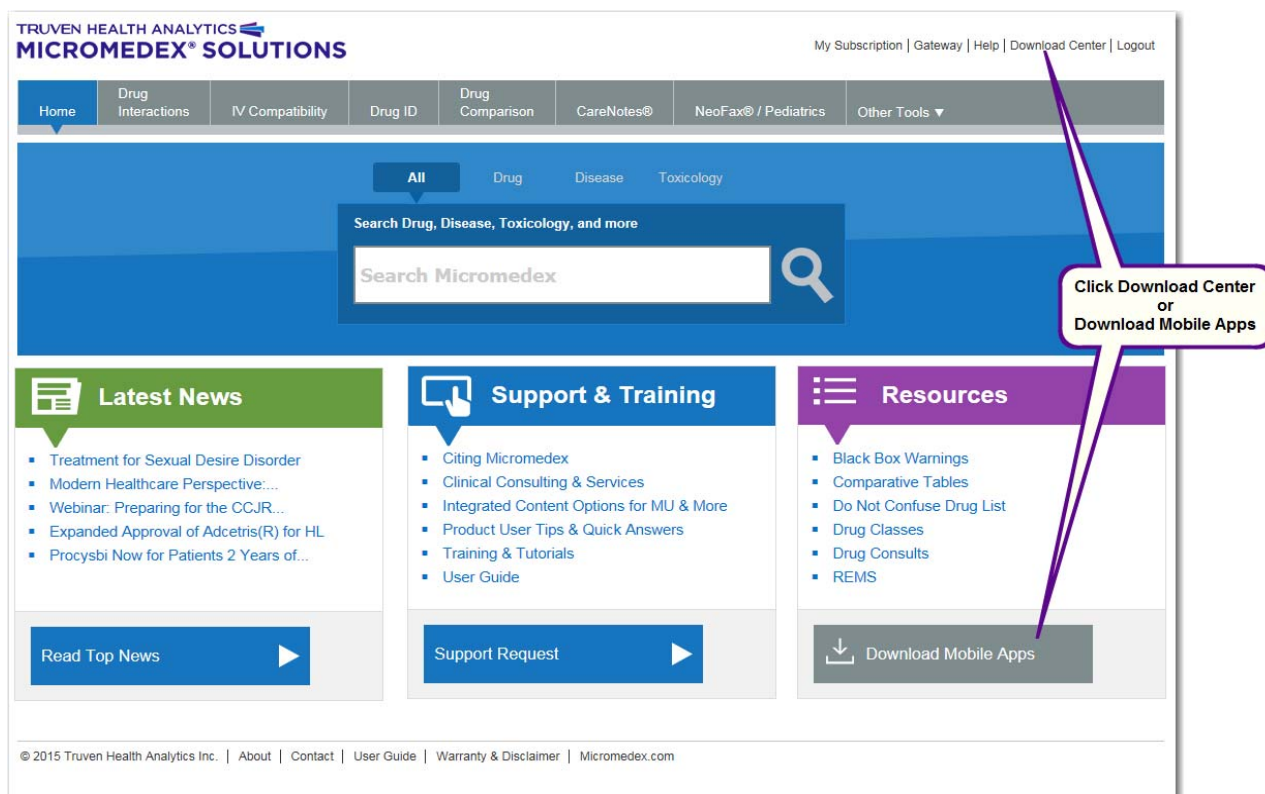
Follow these easy steps to access web-based *mobileMicromedex* on your tablet:

1. Open your Internet browser.
2. Go to <http://www.micromedexsolutions.com/micromedex2/librarian>
3. Enter your authentication information.

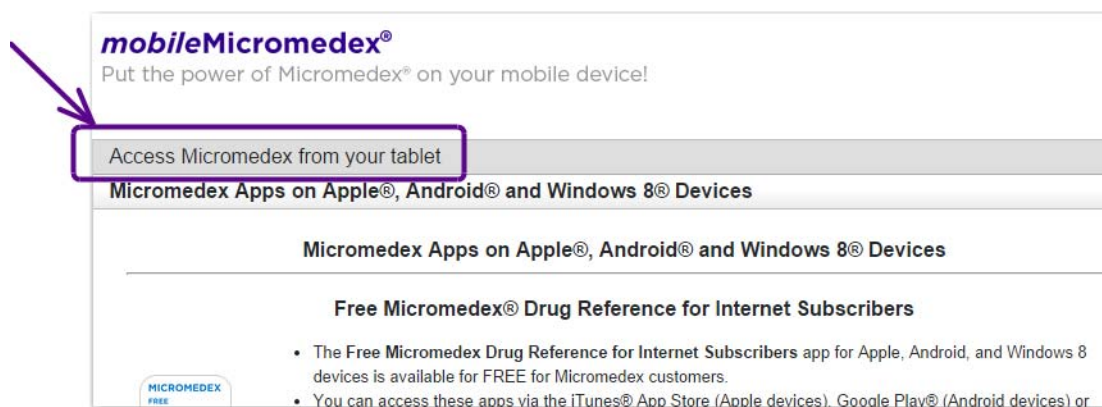
If you access Micromedex from your desktop with a username and password, you may use the same credentials to access Micromedex on your tablet.

If you do not access Micromedex from your desktop with a username and password, follow these steps to retrieve the credentials:

- a. From the Micromedex Solutions home page click **Download Mobile Apps** under Resources or from any page click **Download Center**.






- b. Click **Access Micromedex** from your tablet.





- c. Use the authentication information provided.

 **Access Micromedex from your tablet**

The same clinical evidence content you get on your desktop is also available to you on your tablet at no additional charge.

Follow these easy steps to access Micromedex on your tablet.

**Step 1:** Open your browser.

**Step 2:** Go to <http://www.micromedexsolutions.com/micromedex2/librarian>

**Step 3:** Enter your authentication information:

**If you DO NOT access Micromedex from your desktop with a user name and password, use the following authentication information:**

Username:

Password:

**Note:** After entering the authentication information, it will last for the current quarter on your device. At the end of the quarter you will need to return to this site and obtain a new username and password. The password will change on the first Sunday of the quarter

**Quarterly Schedule:**

- January
- April
- July
- September

If you need further assistance or have questions, please contact support at [www.micromedex.com/support/request](http://www.micromedex.com/support/request)



**Note:** The username and password will change each quarter.

Find out more at: [micromedex.com/support/device-compatibility](http://micromedex.com/support/device-compatibility)

If you need further assistance or have questions, please contact support at:  
[www.micromedex.com/support/request](http://www.micromedex.com/support/request)

## APPS AVAILABLE FOR DOWNLOAD

### Free Micromedex Drug Reference for Internet Subscribers



Access the same, evidence-based Micromedex® content you rely on everyday directly from your mobile device(s). All apps contain the industry's most comprehensive drug information and are backed by the same thorough, unbiased editorial process used for all Micromedex solutions.



- The **Free Micromedex Drug Reference for Internet Subscribers** app for Apple, Android, and Windows 8 devices is available for FREE for Micromedex customers.
- You can access these apps via the iTunes® App Store (Apple devices), Google Play® (Android devices) or the Windows Store® (Windows 8 devices).
- Android users only: the app is called **Free Micromedex Drug Reference** in the Google Play store.
- You can activate the app by following the simple instructions below.

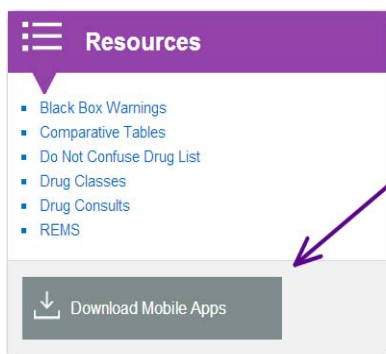
Simple instructions for installation:

#### Step 1

Visit the iTunes App Store (Apple devices), Google Play (Android devices) or the Windows Store (Windows 8 devices) and search for "Micromedex."



**Note:** You can also click on **Download Mobile Apps** in the *Resources* column on the Micromedex Solutions Internet home page to access direct links to the app on the iTunes App Store, Google Play, and the Windows Store.



#### Step 2

From the Micromedex app results, select **Free Micromedex Drug Reference for Internet Subscribers** (Apple devices and Windows 8 devices) or **Free Micromedex Drug Reference** (Android devices). You may be prompted to enter your Apple, Google or Windows ID.

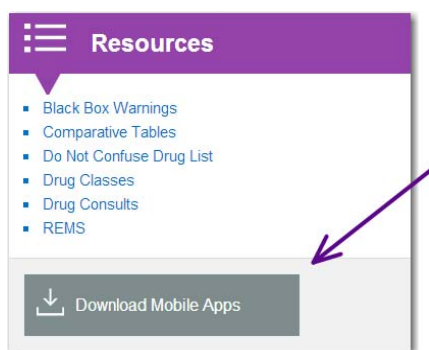


### Step 3

The app should download directly to your device. (If you visited the iTunes App Store on your PC rather than your device, you may have to sync your device to iTunes on your PC, in order to load the app onto your device.)

### Step 4

Open the app on your device. To begin using **Free Micromedex Drug Reference for Internet Subscribers** enter the password which can be found on the *mobileMicromedex* page in the Micromedex Solutions Internet application by clicking on **Download Mobile Apps** in the *Resources* column on the Micromedex Solutions home page.



The password is case-sensitive. Please enter it exactly as it appears on the *mobileMicromedex* page.



**Note:** A valid password is required to download the apps and on a recurring (annual) basis. When downloading for the first time and when prompted from within the app, return to the *mobileMicromedex* page in the Micromedex Solutions Internet application to obtain the current password.

## Micromedex® Drug Interactions



- The **Micromedex Drug Interactions** app for Apple and Android devices is available for FREE for Micromedex customers.
- You can access these apps via the iTunes® App Store (Apple devices) or Google Play® (Android devices).

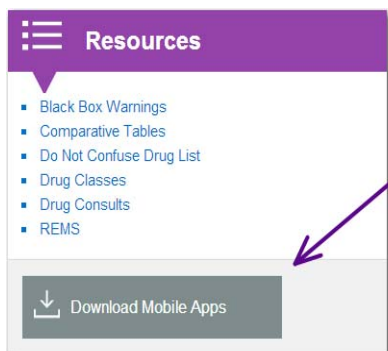
Simple instructions for installation:

### Step 1

Visit the iTunes App Store (Apple devices), or Google Play (Android devices) and search for "Micromedex."



**Note:** You can also click on **Download Mobile Apps** in the *Resources* column on the Micromedex Solutions Internet home page and scroll to the Micromedex Drug Interactions section to access direct links to the app on the iTunes App Store and Google Play.



### Step 2

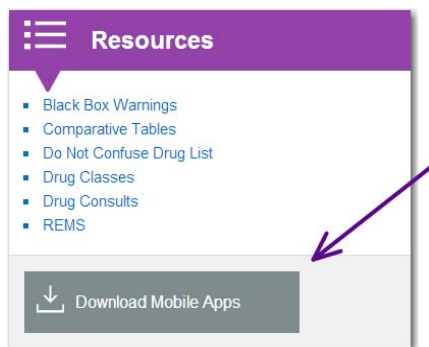
From all the Micromedex app results, select **Micromedex Drug Interactions**. You may be prompted to enter your Apple or Google ID.

### Step 3

The app should download directly to your device. (If you visited the iTunes App Store on your PC rather than your device, you may have to sync your device to iTunes on your PC, in order to load the app onto your device.)

### Step 4

Open the app on your device. To begin using **Micromedex Drug Interactions** enter the password which can be found on the *mobile*Micromedex page in the Micromedex Solutions Internet application by clicking on **Download Mobile Apps** in the *Resources* column on the Micromedex Solutions home page and scrolling to the Micromedex Drug Interactions section.





## CHAPTER 17: MICROMEDEX SOLUTIONS FOR MOBILE DEVICES

The password is case-sensitive. Please enter it exactly as it appears on the *mobile*Micromedex page.



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**Note:** A valid password is required to download the apps and on a recurring (annual) basis. When downloading for the first time and when prompted from within the app, return to the *mobile*Micromedex page in the Micromedex Solutions Internet application to obtain the current password.

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## Micromedex® IV Compatibility



- The **Micromedex IV Compatibility** app for Apple and Android devices is available for FREE for Micromedex customers with a current subscription to IV Compatibility.
- You can access these apps via the iTunes® App Store (Apple devices) or Google Play® (Android devices).

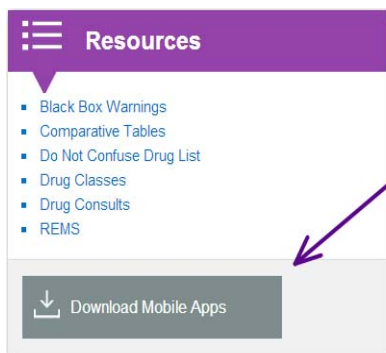
Simple instructions for installation:

### Step 1

Visit the iTunes App Store (Apple devices) or Google Play (Android devices) and search for "Micromedex.."



**Note:** You can also click on **Download Mobile Apps** in the *Resources* column on the Micromedex Solutions Internet home page and scroll to the Micromedex IV Compatibility section to access direct links to the app on the iTunes App Store and Google Play.



### Step 2

From the Micromedex app results, select **Micromedex IV Compatibility**. You may be prompted to enter your Apple or Google ID.

### Step 3

The app should download directly to your device. (If you visited the iTunes App Store on your PC rather than your device, you may have to sync your device to iTunes on your PC, in order to load the app onto your device.)



### Step 4

Open the app on your device. To begin using **Micromedex IV Compatibility** enter the password which can be found on the *mobile*Micromedex page in the Micromedex Solutions Internet application by clicking on **Download Mobile Apps** in the *Resources* column on the Micromedex Solutions home page and scrolling to the Micromedex IV Compatibility section.



The password is case-sensitive. Please enter it exactly as it appears on the *mobile*Micromedex page.



---

**Note:** A valid password is required to download the apps and on a recurring (annual) basis. When downloading for the first time and when prompted from within the app, return to the *mobile*Micromedex page in the Micromedex Solutions Internet application to obtain the current password.

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# APPENDIX A: DATABASE DESCRIPTIONS

Truven Health Analytics publishes clinical decision support databases and tools. Micromedex® Solutions provides a wide range of databases tailored to meet the needs of clinicians and healthcare professionals, including information related to drugs, acute care, toxicology, complementary and alternative medicine, and patient education.

## MICROMEDEX SOLUTIONS DATABASES

Alternative Medicine for Patient

Alternative Medicine Information

- Summary Alt Med Info
- In Depth Alt Med Info
- Alt Med Consults
- Alt Med Protocols
- Alternative Medicine Reactions

Complete Drug Interactions

Complete IV Compatibility with Trissel's 2™

Detailed Drug Information for the Consumer™

Disease Information

- Summary Disease Information
- Emergency Medicine
- Emergency Medical Abstracts
- General Medicine
- Clinical Checklist™
- Studies & Alerts

DRUGDEX® System

- Summary Drug Information
- Detailed Drug Information
- Drug Consults

Herbal Medicines: A Guide for the Health-Care Professional

IDENTIDEX® System

Index Nominum

Italian Drug Database - Dialogo sui Farmaci

Lab Recommendations

Martindale: The Complete Drug Reference

Material Safety Data Sheets (MSDS)

P&T QUIK® Reports

Physicians' Desk Reference® (PDR)

POISINDEX® System

- Summary Toxicology Information
- Detailed Toxicology Information

Reproductive Effects

- REPROTEXT®
- REPROTOX®
- Shepard's
- TERIS

TOMES System

- HAZARDTEXT®
- INFOTEXT®
- MEDITEXT®

United Kingdom Drug Information - eMC SmPC

## Alternative Medicine for Patient

### *Patient Education for Complementary and Alternative Medicine*

As part of the Complementary and Alternative Medicine (CAM) Series, Alternative Medicine for Patient documents offer fully referenced patient counseling materials, written and peer reviewed by representatives from both conventional Western medicine and the alternative medicine communities.

What's in Alternative Medicine for Patient ?

- Dietary Supplement documents
- Disease state/Medical condition documents
- Therapy documents

#### Dietary Supplement documents

Dietary supplement documents provide concise information on indications, dosage, storage, interactions, side effects and warnings associated with the most frequently used herbal medicines, vitamins, minerals, and other CAM-related substances. Disease States/Medical Condition documents

These documents provide information on common diseases or medical conditions and how to treat them using CAM therapies. A description of the condition, causes, signs and symptoms, wellness recommendations, and complementary treatments are presented.

#### Therapy documents

Therapy, or modality documents, offer overviews on biofeedback, aromatherapy, acupuncture, and other frequently used CAM therapies and treatments.

## Alternative Medicine Information

### *Herbal and Dietary Information*

Part of the Complementary and Alternative Medicine (CAM) Series, Alternative Medicine Information offers evidence-based, clinical information on herbal, vitamin, mineral and other dietary supplements. The unbiased information is peer reviewed by a team of experts from both alternative medicine and traditional medicine communities. Editorial board members performing the reviews include MDs, DOs, RPhs, RNs, and NDs.

What's in Alternative Medicine Information?

- Evaluations
- Consults
- Protocols

#### Summary Alt Med Info

Summary Alt Med Info provides brief highlights of dosing, indications, contraindications, adverse effects, drug interactions, therapeutic class, pregnancy, and lactation for herbals, vitamins, minerals and other dietary supplements. The documents deliver answers quickly and efficiently. They link directly to more in-depth information in In Depth Alt Med Info documents.

#### In Depth Alt Med Info

In Depth Alt Med Info monographs appear in a standardized format that allows you to easily find the information you need. Specific topics include the following:

- Dosing Information



- Synonyms
- Pharmacokinetics
- Cautions (contraindications, adverse reactions, drug interactions)
- Place in therapy
- Mechanism of Action
- Therapeutic Uses
- Comparative Efficacy

### **Alt Med Consults**

Alt Med Consults provide crucial information of interest to those needing information on herbal medicines and other dietary supplements. Topics include FDA warnings, pregnancy risk categories, and guidelines on dosing, safety and efficacy issues.

### **Alt Med Protocols**

Provides practical advice to help you integrate complementary and alternative medicine into clinical practice.

Every day healthcare professionals are being asked to combine alternative medicine therapies with more traditional treatment practices. Alt Med Protocols provides complementary and alternative medicine (CAM) information and recommends methods for successfully blending CAM therapies with conventional medicine to offer patients a full range of options and help optimize their treatment outcomes.

### **Alternative Medicine Reactions**

Contains easy-to-understand materials to help you educate patients about potential herbal & dietary supplement interactions

Increased use of herbals and dietary supplements means increased risk of harmful interactions. Without knowledge of the possibilities, inadvertent mixing of medications can result in adverse drug events or decreased efficacy. Alternative Medicine Reactions discusses the potential for interactions between alternative medicines and other drugs, dietary supplements, food, alcohol, and tobacco. Designed to help educate patients, supporting evidence and advice about what to do if experiencing an interaction are included.

## **Complete Drug Interactions**

### *Drug Interactions*

Complete Drug Interactions allows clinicians to check for interacting drug ingredients, their effects, and their clinical significance. It provides drug-drug, food-drug, drug-allergy, drug-alternative medicine, drug-ethanol, drug-laboratory, drug-tobacco, drug-pregnancy, and drug-lactation interactions and screens for ingredient duplication. The tool screens for therapeutic duplication of ingredients in the terms entered and identifies ingredients or products that are therapeutically antagonistic. However, please note that not all additive adverse effects or therapeutic antagonist effects are included in the tool.

Complete Drug Interactions information is drug-specific rather than class-specific, although many drug-specific interactions are included for known or suspected interactions based on class characteristics or metabolic activity. The specificity to individual drugs is helpful for accurate interpretation of interaction data. The program is able to distinguish between and equate trade names and generic drug names, eliminating possible duplication of interaction data on the page. A large number of concurrent clinical conflicts can be reviewed, and the

response speed of this database demonstrates negligible degradation in data retrieval as the number of drugs being screened is increased.

## **Complete IV Compatibility - Trissel's™ 2 Clinical Pharmaceuticals Database**

- Features Trissel's 2™, the latest database from the ultimate authority on IV compatibility - Lawrence Trissel, MS, FASHP
- Enhances patient safety by pinpointing potentially lethal combinations
- Supports confident decisions with multiple studies and full study information including manufacturer, concentration, stability, and other conditions
- Helps clinicians interpret conflicting compatibility results by identifying contributing factors
- Includes 600 unique drugs and solutions
- Over 50,000 compatibility results
- Provides solution, Y-Site, syringe, and admixture compatibility information
- Includes TPN/TNA data
- Allows for either single or multiple drug searches

## **Detailed Drug Information for the Consumer™**

Easy-to-understand, in-depth materials to help educate your patients about medications and their proper use. Today's patients are informed patients. Now you can give them an educational resource to match their proactive role in their care.

Detailed Drug Information for the Consumer™ - Drug Information in Lay Language provides patient-oriented drug information to help patients understand and successfully follow their drug regimens. Written at a 12th-grade literacy level, documents provide greater detail than most patient education leaflets and include brand names, descriptions, proper use, precautions, and side effects. Instructions for how to handle missed doses are included, as are guidelines for when to seek medical assistance or supervision.

## **Disease Information**

### **Summary Disease Information**

Summary Disease Information provides brief highlights of treatment, diagnosis, and key point information. The documents deliver answers quickly and efficiently. They also link directly to the more in-depth Disease Emergency Medicine and Disease General Medicine documents.

### **Disease Emergency Medicine**

*Comprehensive source of urgent and acute care information*

Disease Emergency Medicine provides actionable information extracted from an extensive library of medical journals. With over 40,000 key terms and synonyms, Emergency Medicine helps clinicians quickly access current and crucial data organized by both condition and diagnosis.



Disease Emergency Medicine includes:

Emergency and Acute Care Summaries and detailed information on emergency conditions and treatments covering:

- Treatment
- Diagnosis
- Key Points

**Emergency Medical Abstracts**

EMA from Rick Bukata, MD and Jerry Hoffman, MD - a definitive source of literature review covering a broad scope of topics.

**Disease General Medicine**

*Evidence-based, current disease information*

Disease General Medicine supports disease management and treatment decisions in ambulatory and inpatient care settings.

General Medicine content enables clinicians to quickly reference the most current treatment of choice information at the point of care to help minimize errors, prevent unnecessary tests and procedures, reduce treatment costs, and improve patient outcomes.

Each General Medicine document covers:

Management highlight	Prognosis
Background	Advising the Patient
Diagnosis	Follow-up
Treatment	Prevention and Screening
Complications	Key References
Special Circumstances	Literature Cited
When to Consult or Refer	Tables and Images

**Clinical Checklist™**

The Clinical Checklist System is the “must do” “never do” database. It is a compilation of the most pertinent patient care interventions on commonly encountered conditions that should always or never be done. The interventions are presented as alerts within Micromedex Solutions. The information is action-oriented and concise and is based on nationally recognized quality standards and the highest rated medical evidence.

Each checklist item contains graded recommendation and evidence information. These evidence ratings embed evidence-based medicine into clinical operations, and ultimately, maximize reimbursement by ensuring that clinical decisions are in compliance with the latest national quality standards and evidence-based practices.

**Studies & Alerts**

Updated regularly with brief reports on new disease information.

## DRUGDEX® System

### *Detailed Drug Information Drug & Pharmaceutical Information*

Designed to deliver unbiased drug information for those who prescribe, order, dispense, or administer medications, the DRUGDEX System provides independently reviewed data gathered from major drug centers and pharmacology services worldwide. FDA-approved and investigational drugs, along with over-the-counter and non-U.S. preparations, are covered with regard to dosage, pharmacokinetics, cautions, interactions, clinical applications, and comparative drug efficacy. Information is reviewed by the Truven Health Analytics editorial board and can be retrieved by generic name, manufacturer brand name, or indications.

### What's in DRUGDEX?

DRUGDEX includes the following modules:

- Drug Evaluations
- Drug Consults
- Product Index
- Summary Drug Information

### Summary Drug Information

Summary Drug Information provides brief highlights of dosing, drug interactions, adverse effects, pregnancy warnings, indications, cautions, therapeutic class, and brand information. The content provides answers quickly and efficiently. The documents also link directly to more in-depth DRUGDEX® Detailed Drug Information (available only with a current DRUGDEX subscription).

### Drug Evaluations

Drug evaluation monographs appear in a standardized format that allows you to easily find the information you need. Specific topic areas include the following:

- Dosage
- Pharmacokinetics
- Interactions
- Cautions
- Interactions
- Adverse side effects
- Contraindications/precautions
- Comparative drug efficacy
- Clinical applications
- Comparative drug efficacy
- Indications
- Therapeutic uses
- Generic names
- Indications
- Adverse side effects



### Drug Consults

Drug Consults are evidence-based, fully-referenced articles covering drug therapies and drug guidelines. Some Drug Consults present patient related, referenced consultations with case histories. They are also an excellent resource for information on herbal medications, medical and surgical materials, excipients, drugs of abuse, and health foods. Drug Consults are provided for investigational, international, FDA-approved, and over-the-counter preparations.

### DRUGDEX® Product Index

Product documents offer comprehensive search results listing trade names, manufacturers, and dosage forms for investigational, international, FDA-approved, and over-the-counter preparations.

## Herbal Medicines: A Guide for the Health-Care Professional

*Invaluable reference for everyone interested in herbal medicines and their uses*

While the use of herbal remedies has dramatically increased, the availability of factual information about such substances has not. Herbal products are not regulated in the same manner as drugs, so credible, proven data about them is scarce. As part of the International Drug content in Micromedex® Solutions, Herbal Medicines: A Guide for Health-Care Professionals, published by the Pharmaceutical Press, London, UK, presents fully referenced information to assist with the identification, application, safe use, and assessment of commonly found herbal medicines. Its quick, easy-to-access content addresses pharmacological actions, side effects, contraindications, and safety and efficacy issues.

## IDENTIDEX® System

### *Tablet & Capsule Identification*

The IDENTIDEX database identifies pharmaceutical tablets and capsules by imprint code and secondary characteristics, such as color and shape. Prescription and over-the-counter drugs (both trademarked and generic) are listed, along with manufacturers' telephone numbers and logo descriptions. Many international and street drugs are included, as is an extensive index of drug-related slang terms.

### What's in IDENTIDEX?

IDENTIDEX identifies substances from unmarked containers in emergency situations. It includes prescription and nonprescription drugs with information about the manufacturer and provides an extensive library of information on street drugs and slang terms. IDENTIDEX documents follows this standard outline:

- Imprint code
- Color
- Dosage form
- Active ingredients
- Manufacturer
- AAPCC code

## Index Nominum

Recognized worldwide, Index Nominum is an international drug directory providing access to over 5,300 substances and derivatives, more than 12,800 synonyms, and over 41,800 tradenames from more than 45 countries.

The Truven Health version of Index Nominum in Micromedex® Solutions, edited by the Swiss Pharmaceutical Society, provides electronic access to an international drug directory of generic substances, drug tradenames, synonyms, chemical formulas, therapeutic classes, and manufacturer information. Designed to meet the drug information needs of drug and poison information centers, pharmacists, physicians, research and medical centers, pharmaceutical companies and libraries, the system presents area-specific information from more than 45 countries for preparations used in human and veterinary medicine.

Index Nominum enables users to locate information by entering a substance name, therapeutic category, brand name, synonym, chemical name, manufacturer name, or country as the keyword or search term. Each monograph provides detailed information about a drug's name and synonyms, chemical structure diagrams, and a list of manufacturers. Name and address information enables the user to conveniently identify manufacturers worldwide.

Index Nominum contains:

- Drug tradenames
- Official and unofficial synonyms
- Substances and derivatives
- Manufacturer names and addresses
- Therapeutic classes
- CAS numbers
- ATC codes
- Chemical structures
- Molecular weights



### Italian Drug Database - Dialogo sui Farmaci

The Italian Drug Database from Dialogo sui Farmaci is a compilation of all pharmaceuticals marketed and approved for use in Italy - currently at approximately 16,000 products and is updated on a monthly basis. The database includes both products with pharmaceutical active ingredients as well as over-the-counter drug products. Bulk products such as Ringer's Lactate and Saline solutions are also included in the database.

The following information is available in Dialogo sui Farmaci product documents:

- MINSAN Code - code for each medicine, given by the Ministry of Health
- Brand Name
- Form, strength, packaging and route of administration
- ATC codes
- Italian and English INN
- Price
- Reimbursement class
- Class A - Essential drugs and those for chronic diseases  
These drugs are fully reimbursed by the National Health Service (NHS).
- Class H - Drugs that are fully reimbursed and must be used only in hospitals
- Class C - Drugs not reimbursed by the NHS  
Among Class C drugs are:  
SOP: drugs that can be sold without prescription but for which advertisement is not allowed.  
OTC: drugs sold without prescription. Advertisement is allowed.
- Limitative note
- Distribution criteria
- Registry
- Prescribing criteria
- Authorized prescriber
- Drug manufacturer
- Off-patent drugs
- Italian indications

### Lab Recommendations

Lab Recommendations is a clinical laboratory database which presents the most critical information about which laboratory tests are appropriate for a given condition, interpretation and management of results, normal ranges, test methodology, and other laboratory related information.

Lab Recommendations will:

- Describe which tests are appropriate for a given indication
- Help streamline workflow by providing actionable information that eliminates the need to call the lab or library with questions about administering and interpreting labs

- Aid in the interpretation of test results
- Link to summary level drug, disease, and toxicology documents for more detailed information on the topic or substance
- Provide evidence-based testing information on how and when to monitor drug levels, therapeutic levels and side effects
- Provide normal or therapeutic range to enable appropriate triage of lab test results
- Provide information on how to interpret unfamiliar tests when evaluating patients
- Provide information on how to collect samples and submit tests

## **Martindale: The Complete Drug Reference**

This electronic version of the highly respected MARTINDALE reference book published by The Royal Pharmaceutical Society of Great Britain offers extensive, unbiased, evaluated information on worldwide drugs and related substances. It provides quick and easy searching for pharmacological and therapeutic data, synonyms, and manufacturers' brand names.

What's in MARTINDALE?

The MARTINDALE database contains information on drugs in clinical use worldwide, as well as selected investigational and veterinary drugs, herbal medicines, pharmaceutical excipients, vitamins and nutritional agents, vaccines, radiopharmaceuticals, contrast media and diagnostic agents, medicinal gases, drugs of abuse and recreational drugs, toxic substances, disinfectants, and pesticides. Sections of text summarize the relevant information, followed, if appropriate, by referenced abstracts or reviews that expand upon the details given in the text or add additional information. The contents may be categorized as follows:

- Generic drugs names, including U.S., British, and international approved names
- Synonyms/chemical names
- Molecular formula/molecular weight, CAS registry numbers
- Pharmacopeias
- Physical characteristics
- Adverse effects and their treatment
- Precautions, including contraindications
- Interactions
- Pharmacokinetics
- Uses and Administration, including pharmacology and dosage
- Preparations and brand names

Preparations summaries of more than 70,000 proprietary products from 17 countries are included. Information is provided on brand name, manufacturer, country of origin, active constituents, and licensed uses. Cross-references link each ingredient to an appropriate drug monograph when possible.

In addition, more than 600 disease treatment reviews offer overviews of the diseases and drugs used in their treatment, along with key references. Cross-references are provided between disease reviews and relevant drug monographs.

MARTINDALE coverage includes:

- More than 5,300 drug monographs



- Over 70,000 proprietary preparations
- At least 6,000 manufacturers
- More than 600 disease treatment reviews
- Over 200 herbal medicine monographs
- At least 5,000 herbal preparations

### Material Safety Data Sheets (MSDS)

*Prepared by the US Pharmacopeial Convention*

Material Safety Data Sheets are a vital part of every hospital/company Hazard Communication Program. This electronic version of more than 1,000 MSDS issued by the US Pharmacopeial Convention offers quick access to drug and chemical information, including health hazards, handling procedures, and government regulations.

Information Included in MSDS:

Each sheet contains summaries of key information about hazardous substances in the following format:

- Identify
- Hazardous ingredients
- Physical and chemical characteristics
- Physical hazards
- Health hazards
- Special protection information
- Special precautions and spill/leak procedures

### P&T QUIK® Reports

P&T QUIK Reports assists pharmacists in preparing for Pharmacy and Therapeutics Committee meetings. P&T QUIK contains monographs on drugs being considered by P&T Committees for placement on the hospital formulary. Included are drugs recently approved by the FDA, those of intense interest, or drugs suggested by subscribers. Twelve monographs are added each quarter, and the most recent 24 months of monographs are available.

### Physicians' Desk Reference® (PDR)

The electronic Physicians' Desk Reference provides fast, easy access to information found in the popular Physicians' Desk Reference® (PDR), the PDR for Nonprescription Drugs and Dietary Supplements™, and the PDR for Ophthalmic Medicines. The content includes current FDA-approved prescription drugs, commonly used over-the-counter drugs, and specialized ophthalmic pharmaceuticals. It provides detailed data on ingredients, drug interactions, side effects, recommended dosages, clinical pharmacology, pediatric use, contraindications, and available forms. Information on drug manufacturers is also included.

## POISINDEX® System

### *Commercial, Pharmaceutical, Biological Substance Identification & Management*

The POISINDEX System identifies ingredients for hundreds of thousands of commercial, pharmaceutical, and biological substances. Each substance is linked to one or more management documents providing information on clinical effects, range of toxicity, and treatment protocols for exposures involving the substances.

What's in POISINDEX?

The system contains the following modules:

- Product/Substance Identification
- Toxicological Managements
- Summary information

Product/Substance Identification:

POISINDEX® Product/Substance Identification contains information on over 1,000,000 different household items, such as:

- Common household products (cleaners, personal care, insect protection)
- Industrial chemicals (manufacturing agents)
- Industrial products (cleaners, protective agents)
- Pharmaceutical products (prescriptions, generic, trade, OTC, veterinary)
- Biological entities (botanic, zoologic, food poisoning)

Summary Toxicology Information

Summary Toxicology Information provides brief highlights of clinical effect, treatment, and range of toxicity information. The content delivers answers quickly and efficiently. The documents also link directly to the more in-depth POISINDEX® System Toxicological Managements (available only with a current POISINDEX subscription).

Toxicological Managements:

Toxicological Managements offers over 850 detailed courses of treatment for someone exposed to a substance.



### Reproductive Effects

#### *Reproductive Risk Information*

Reproductive Effects is a unique collection of reproductive risk information databases. It provides information covering full-range health effects that is helpful when assessing reproductive risks of drugs, chemicals, and physical and environmental agents. Risks to females, males, and unborn children are discussed.

What's in Reproductive Effects?

Reproductive Effects can define potential problems for women, men, and the effect on unborn children. It also can define risks associated with drugs and other substances, both legal and illicit. It suggests treatment plans to minimize risks during pregnancy.

Reproductive Effects includes the following modules:

- REPROTEXT® Database
- REPROTOX® Reproduction Hazard Information
- Shepard's Catalog of Teratogenic Agents
- TERIS Teratogenic Information System

### REPROTEXT® Database

#### *Reproductive Hazard Reference*

REPROTEXT includes information such as the following:

- Presents in-depth reviews on full-range health effects of industrial chemicals commonly encountered in the workplace
- Covers physical agents including heat, noise, and radiation
- Describes effects on human reproduction of acute and chronic exposures to substances, as well as reproductive, carcinogenic, and genetic influences
- Includes unique Dual Health Hazard Ranking System for general toxicity, and “grade-card” scale suggesting level of reproductive hazard
- Helps set risk reducing priorities by combining hazard rankings with exposure estimates
- Assists with development of programs to improve employee protection guidelines

### REPROTOX®

#### *Reproductive Hazard Reference*

Developed by the Reproductive Toxicology Center, Columbia Hospital for Women Medical Center, Washington, D.C.

REPROTOX includes information such as the following:

- Provides information regarding the impact of the physical and chemical environment on human reproduction and development
- Covers all aspects of reproduction including fertility, male exposures, and lactation
- Discusses reproductive influences of industrial and environmental chemicals; prescription, over-the-counter, and recreational drugs; and nutritional agents
- Includes latest, most relevant teratology articles

## **Shepard's**

### *Catalog of Teratogenic Agents*

Developed by Dr. Thomas H. Shepard, Professor of Pediatrics, University of Washington,  
Co-authored by Dr. Ronald J. Lemire, Professor of Pediatrics, University of Washington;  
Director, In-Patient Services at Seattle Children's Hospital and Regional Medical Center

Shepard's includes information such as the following:

- Electronic version of Shepard's Catalog
- Up-to-date information on teratogenic agents including chemicals, food additives, household products, environmental pollutants, pharmaceuticals, and viruses
- Includes research methods, results, and citations from both Japanese and Russian literature

## **TERIS**

### *Teratogen Information System*

Developed by the University of Washington

TERIS includes information such as the following:

- Current information on the teratogenic effects of drugs and environmental agents
- Agent summaries derived from thorough literature reviews rate reproductive risk and explain data used to determine the rating

## **TOMES® System**

Handling hazardous chemicals is routine in many workplaces. The TOMES® System provides the critical medical and hazard data needed for immediate, effective response to exposure and accidents in chemical handling. Designed to help reduce the risk of exposure and injury, the TOMES System provides:

- Treatment guidelines for acute chemical exposures
- Evacuation procedures
- Chemical disposal information

General areas unrelated to chemicals are addressed such as ergonomics and human health risk assessment. The System's three databases - MEDITEXT®, HAZARDTEXT®, and INFOTEXT® - are integrated to ensure quick access to the fully reviewed, referenced information.

The TOMES System includes:

## **Hazard Management Information**

Hazard Management Information documents can help you understand the issues related to environmental impact including how to implement emergency reaction to chemicals and their impact: Fire, Clean up, Personal protection. These documents also help you manage chemicals safely in the workplace.

## **INFOTEXT® Documents**

Infotext documents provide regulatory listings and other general health and safety data. Includes industry-related areas (not chemical-specific) including ergonomics, endocrine disruptors, and human health risk assessment.



### Medical Management Information

The Medical Management Information monographs can help you evaluate issues associated with exposure. They deliver information on acute exposure, treatment, and adverse health effects.

### United Kingdom Drug Information - eMC SmPC

The United Kingdom Drug Information database is a compilation of all pharmaceuticals marketed and approved for use in the United Kingdom. It is made up of the Summary of Product Characteristics (SmPC) from the electronic Medicines Compendium (eMC).

The SmPC is used by healthcare professionals, such as doctors, nurses and pharmacists, and explains how to use and prescribe a medicine. They are written and updated by pharmaceutical companies and are based on their research and product knowledge. The SmPC is then checked and approved by the UK or European medicines licensing agency.

The contents may be categorized as follows:

- Name of the medicinal product
- Qualitative and quantitative composition
- Pharmaceutical form
- Clinical particulars - Therapeutic indications, Posology and method of administration, Contraindications, Special warnings and precautions for use, Interactions with other medicinal products and other forms of interaction; Pregnancy and lactation, Effects on ability to drive and use machines; Undesirable effects and Overdose
- Pharmacological properties - Pharmacodynamic properties; Pharmacokinetic properties; Preclinical safety data
- Pharmaceutical properties - List of excipients, Incompatibilities, Shelf life
- Special precautions for storage, Nature and contents of container, Special precautions for disposal and other handling
- Marketing authorization holder
- Marketing authorization number(s)
- Date of first authorization/renewal of the authorization
- Date of revision of the text
- Dosimetry
- Instructions for preparation of radiopharmaceuticals
- Legal category



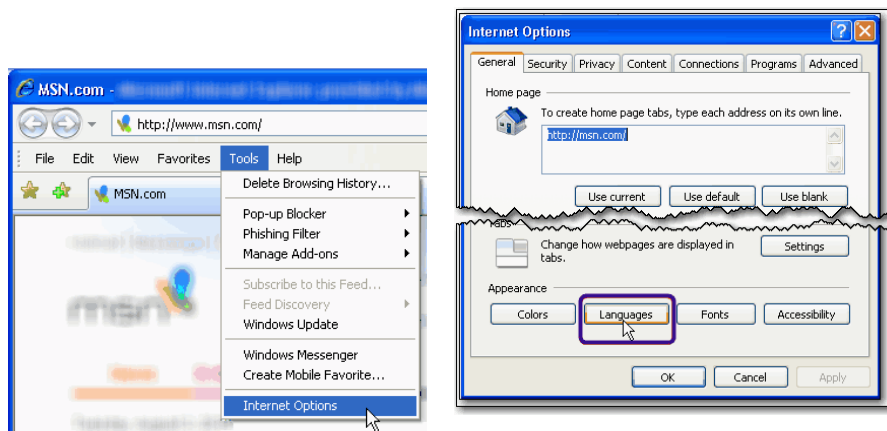
# APPENDIX B: BROWSER SETTINGS

## LOCALIZED LANGUAGE SUPPORT

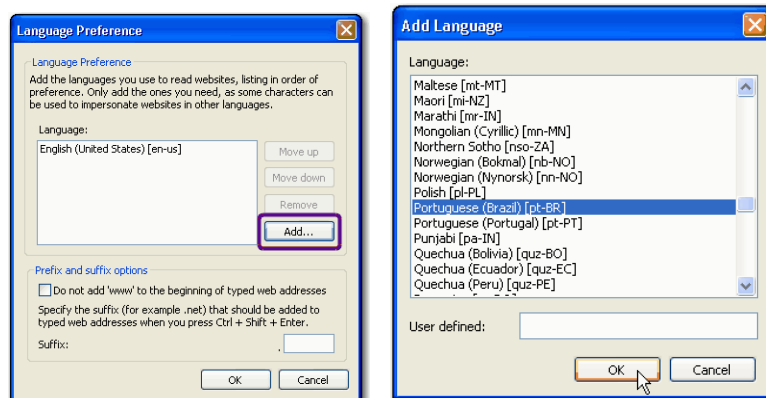
By modifying a few settings in your Internet browser, you can view some of the elements of the Micromedex interface in your local language. These settings only impact certain buttons and descriptions on the interface; the content is not translated.

### Setting Up Language Support in Microsoft Internet Explorer

1. From the **Tools** menu, select **Internet Options**.



2. Click **Languages**.
3. From the *Language Preference* dialog, click **Add**.



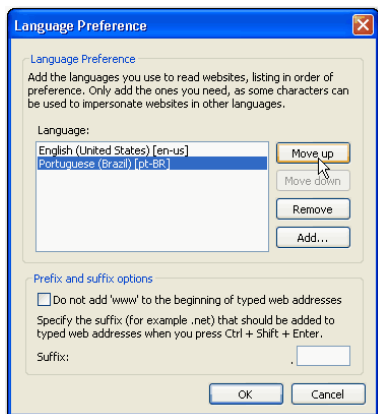
4. From *Add Languages*, scroll to the desired language, click to select, then click **OK**.



**Note:** The following language sets are supported:

Italian = Italian (Italy) [it-IT]  
Chinese (simplified) = Chinese (PRC) [zh-CN]  
Chinese (traditional) = Chinese (Taiwan) [zh-TW]  
German = German (Germany) [de-DE]  
Korean = Korean [ko-KR]  
Portuguese (Brazilian) = Portuguese (Brazil) [pt-BR]  
Spanish = Spanish (International Sort) [es-ES]

- From *Language Preference* select the language added in the previous step and then click **Move Up** to place it first (as the default).



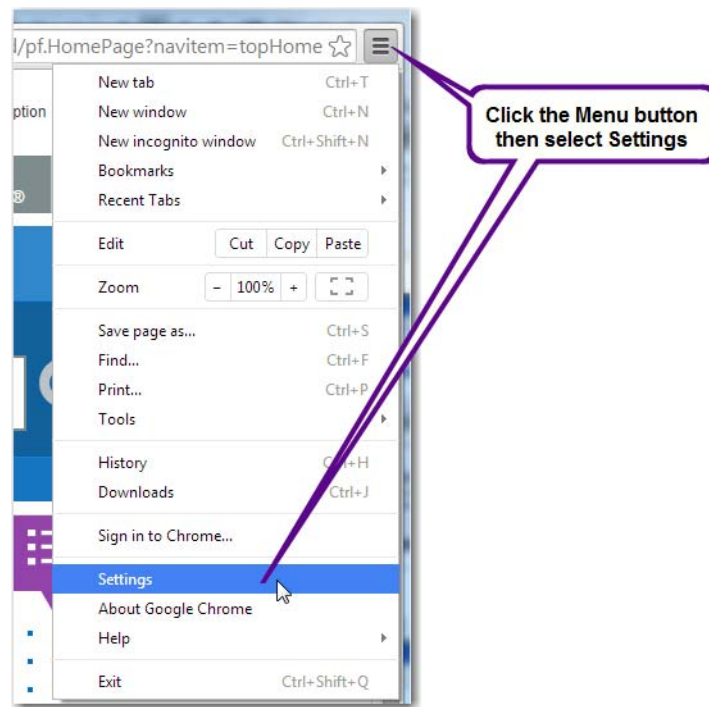
- Click **OK** until the Tools menu closes and you return to the browser.
- Open Micromedex Solutions. The default language is reflected in the user interface.



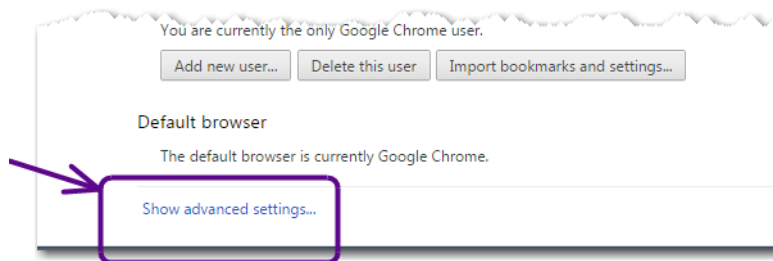


## Setting Up Language Support in Google Chrome

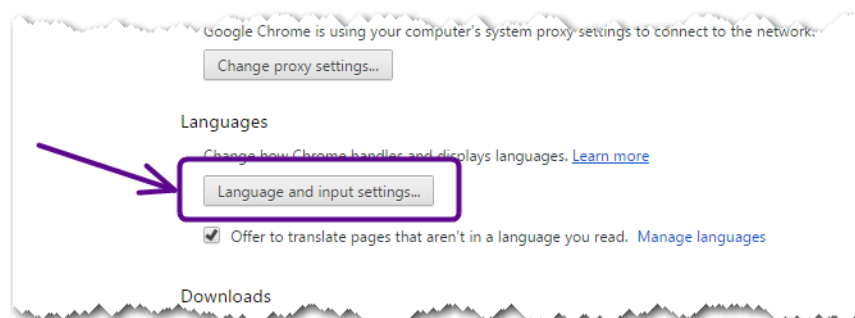
1. Click the **Menu** button in the upper right corner of the browser and select **Settings**.



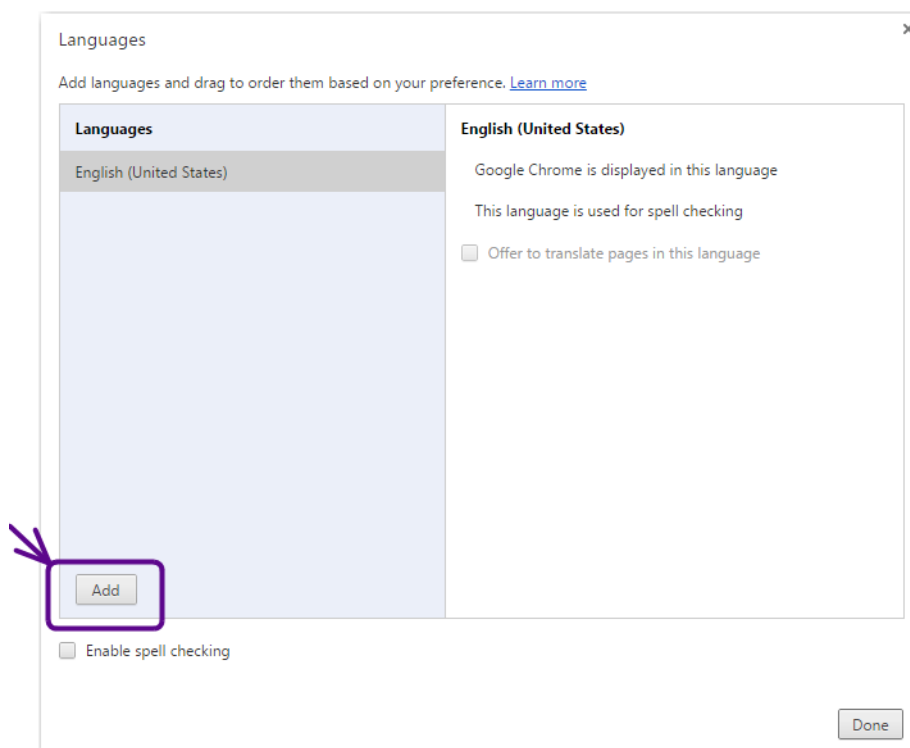
2. At the bottom of the page click **Show advanced settings...**



3. Scroll down and click the **Language and input settings...** button.



- On the *Languages* screen click the **Add** button.

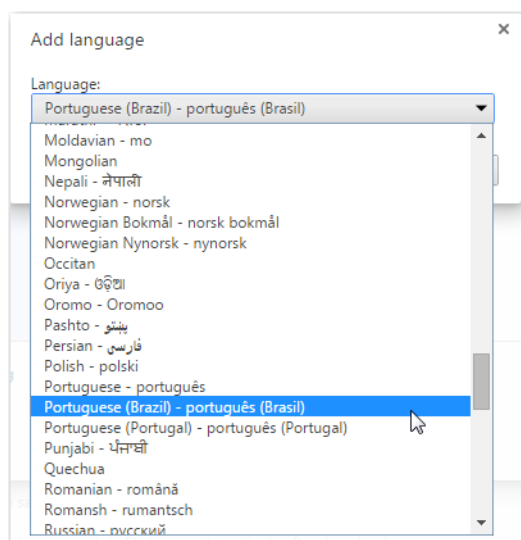


- Select a language from the *Add language* drop-down and click **OK**.



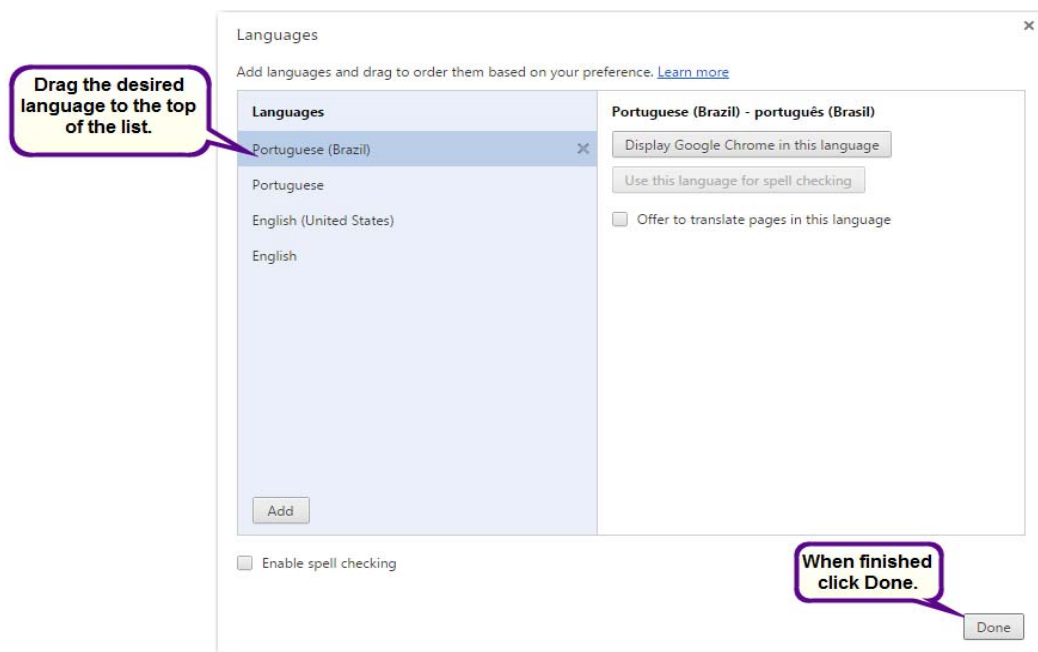
**Note:** The following languages are supported:

Chinese (simplified)  
Chinese (traditional)  
German - Deutsch  
Italian - italiano  
Portuguese (Brazilian) - português (Brasil)

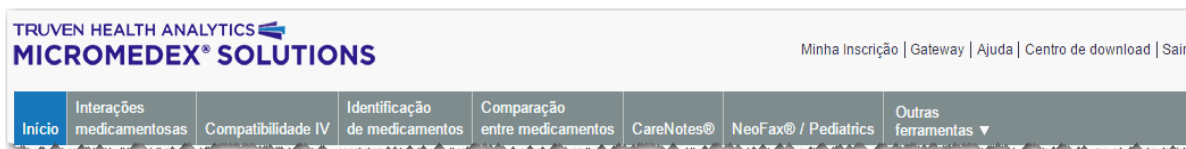




- On the left side of the *Languages* screen highlight the language you selected in Step 5 and drag it to the top of the list. Then click **Done**.

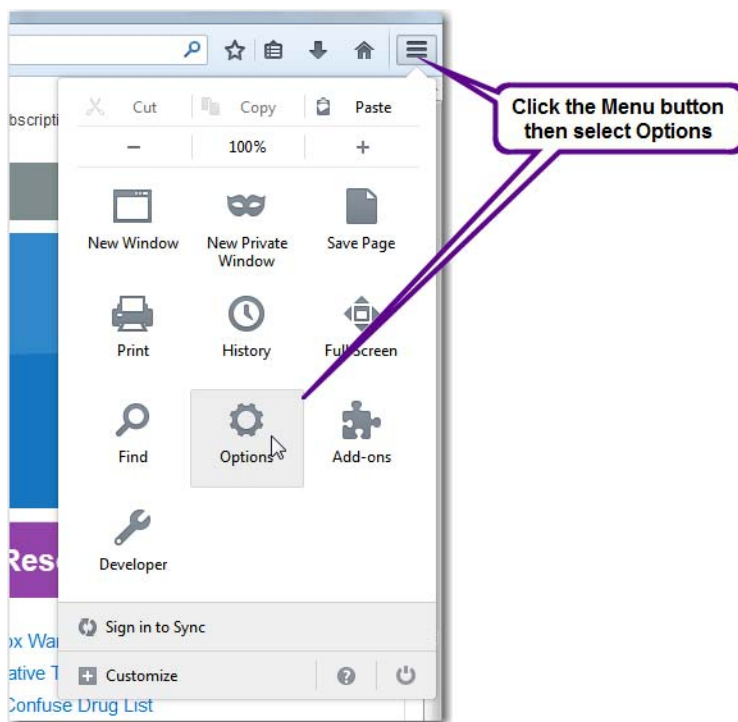


- Open Micromedex Solutions. The default language is reflected in the user interface.

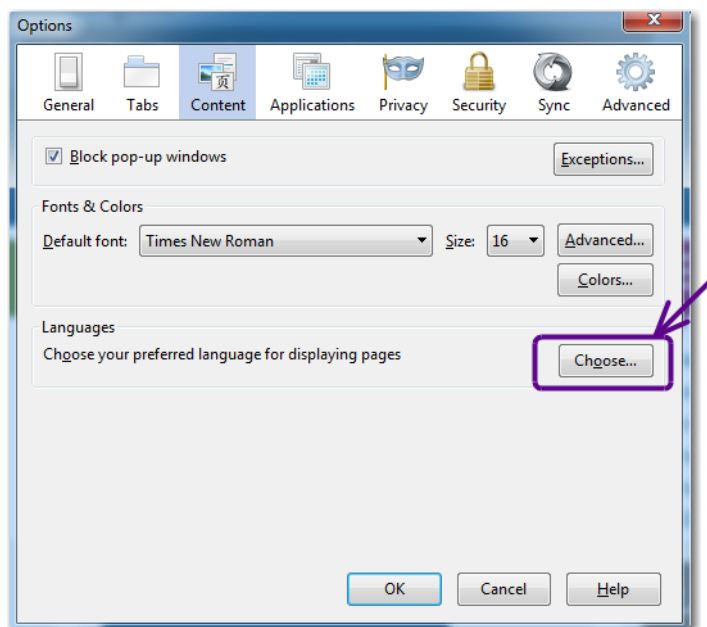


## Setting Up Language Support in Mozilla Firefox

1. Click the **Menu** button in the upper right corner of the browser and select **Options**.

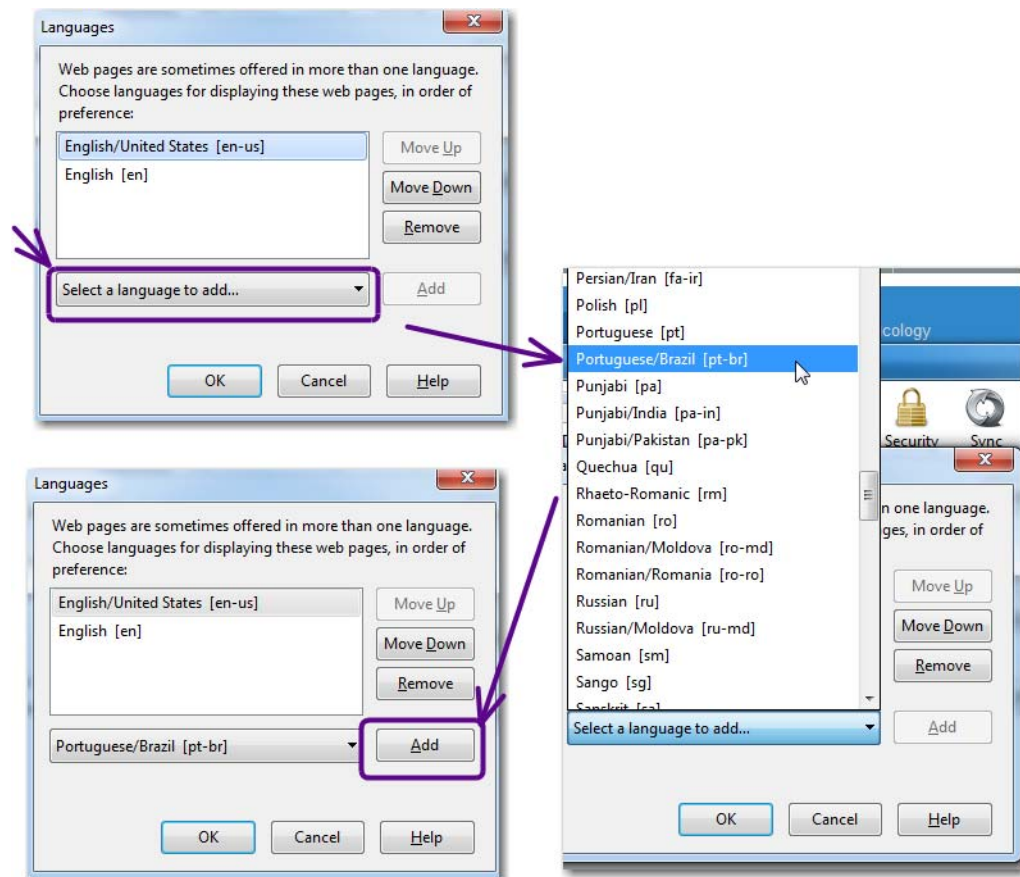


2. On the *Options* dialog next to Languages click the **Choose...** button.





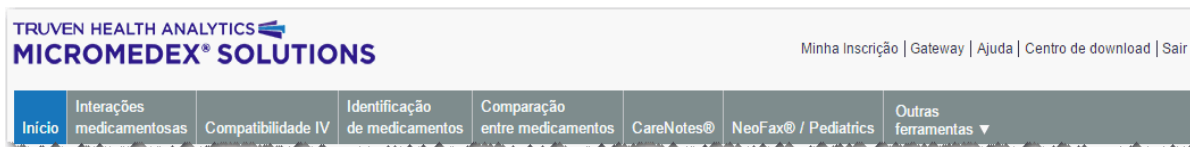
- From the *Language* dialog click the **Select a language to add...** drop-down, select a language, and click **Add**.



**Note:** The following languages are supported:

- Chinese/China [zh-cn]
- Chinese/Taiwan [zh-tw]
- German/Germany [de-de]
- Italian [it]
- Korean/South Korea [ko-kr]
- Portuguese (Brazilian) = Portuguese (Brazil) [pt-BR]

- Click **OK** until you return to the browser.
- Open Micromedex Solutions. The default language is reflected in the user interface.



## MICROMEDEX SEARCH ACCELERATOR


Enjoy fast and easy access to clinical information in Micromedex® Solutions from any browser-based program, using the Micromedex Search Accelerator. With some simple modifications to your Internet browser settings, you can search Micromedex from other web applications (e.g., an EHR or HIS) or Internet browser sessions without having to first navigate to the Micromedex home page.

With an active Micromedex session (authenticated via a User Name and Password or a recognized IP address), you can be anywhere on the Web and go directly to a search results page in Micromedex.

This value-added feature is similar to Search Providers and Accelerator add-ons widely available on the web. Windows® Internet Explorer, Google Chrome, and Mozilla Firefox® all have this capability with some minor end-user browser configuration.

### Workflow Example:

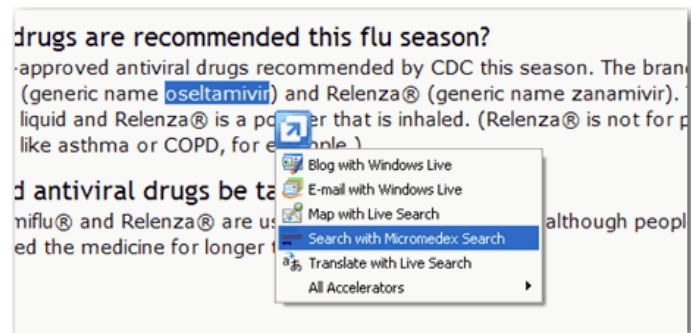
***(Example demonstrates the workflow in Microsoft Internet Explorer Version 8. Exact workflow can vary for other browsers and versions)***

From any Web page, highlight the term and either click on the accelerator icon  or right-click the mouse to open the available options.

#### What antiviral drugs are recommended this flu season?

There are two FDA-approved antiviral drugs recommended by CDC this season. The brand names for these are Tamiflu® (generic name **oseltamivir**) and Relenza® (generic name zanamivir). Tamiflu® is available as a pill or liquid and Relenza® is a powder that is inhaled. (Relenza® is not for people with breathing problems like asthma or COPD, for example.)

Select **Search with Micromedex Search**.





The Micromedex drug landing page displays:

## Oseltamivir Phosphate [Your search: oseltamivir] ★

Drug Classes: [Anti-Infective Agent](#) | [Antiviral](#) | [All](#)

Routes: [Oral](#)

Quick Answers

In-Depth Answers

All Results

**Dosing/Administration**

- Adult Dosing
- Pediatric Dosing
- FDA Uses
- Non-FDA Uses
- Dose Adjustments
- Administration
- Comparative Efficacy
- Place In Therapy

**Medication Safety**

- Contraindications
- Precautions
- Adverse Effects

### Dosing/Administration

#### Adult Dosing

See 'In-Depth Answers' for detailed results.

- Avian influenza: 75 mg ORALLY twice daily for 5 days; higher doses (150 mg twice daily) and longer duration of therapy (up to 10 days) may be considered on a case-by-case basis (pneumonia or progressive disease) [1][2]
- Avian influenza; Prophylaxis: 75 mg ORALLY once daily for 7 to 10 days [2][3]
- Influenza, Virus types A and B: 75 mg ORALLY twice daily for 5 days [4][5].
- Influenza, Virus types A and B; Prophylaxis: 75 mg ORALLY once daily for 7 days following exposure for control

### Clinically Related

- [Disease](#)
- [Toxicology](#)

### Related Documents

- [Comparative Efficacy](#)
- [Drug Consults](#)
- [Product Lookup - Tox & Drug](#)

## Micromedex Search Accelerator Configuration

JUMP TO: [Google Chrome](#) | [Mozilla Firefox](#) | [Information for System Administrators](#)

### Microsoft Internet Explorer

Please be aware, the installation, and workflow may vary slightly between versions of Internet Explorer.

#### Internet Explorer Version 9, 10, 11



**Note: Internet Explorer Version 10** users (with **Microsoft Windows 8** operating system) - The Micromedex Search Accelerator functionality is available in the Desktop view only.

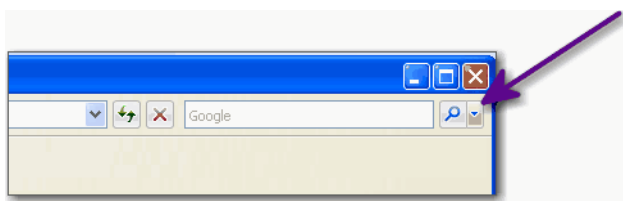
Installation of the search provider cannot be initiated by individual users. If you wish to use the Micromedex Search Accelerator and you have version 9, 10, or 11 installed, please contact your facility's Help Desk or systems administrator for assistance. Help Desk personnel or systems administrators will install Micromedex Search Accelerator utilizing Windows Group Policy. More information on the Windows Group Policy installation can be found in the section found at the end of this document titled, [Information for System Administrators](#).

#### Internet Explorer Version 8

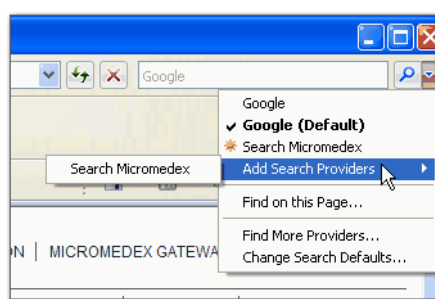
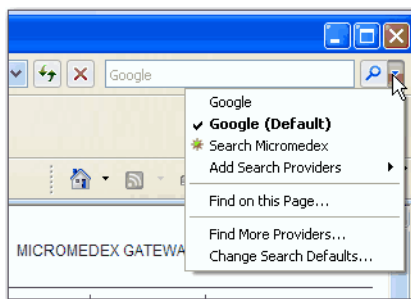


**Note:** If you do not see the options shown in the following steps, contact your systems administrator or Help Desk for assistance.

1. From an active Micromedex session, notice that the arrow in the Search drop-down is highlighted (yellow). This means that Micromedex is a supported Search Provider. Click on the on the arrow to open the menu.



2. Select **Add Search Providers**.






### 3. Select **Search Micromedex**.

Direct searches into Micromedex will now be available via the **Search Micromedex** option in the Search Provider box in the upper-right corner of the Internet Explorer.

With an active subscription and access via IP address or User Name and Password you can search Micromedex without first visiting the Micromedex home page.



**Note:** Web-based applications such as an HIS or EHR system can also gain direct access using the Search Accelerator and the Internet Explorer Search Accelerator icon .

### Micromedex Search Accelerator Workflow (Microsoft® Internet Explorer Version 8)

- Select or highlight a term or terms of interest in the web application you are using. The Search Accelerator icon appears.
- Click the icon.



Clicking the icon opens the search options menu, allowing a one-click search of your selected terms from your default Search Provider, or a selection option to use other Search Providers installed to your browser.



## IP-Authenticated Users

The search should be seamless, requiring no additional steps or logins when searching using the search box, or the Micromedex Search Accelerator.

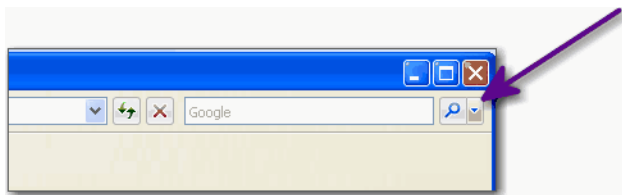
## User Name and Password Users and Trusted source URL

You will be required to login to Micromedex before initiating searches from external web pages. To limit having to repetitively enter your User Name and Password, use the “*Remember Password*” option (cookies must be enabled in your browser). Provided your browser session remains active, you may search Micromedex from any website or tool without first visiting the Micromedex home page.

If you wish to designate Micromedex Search as your default provider perform the following steps:

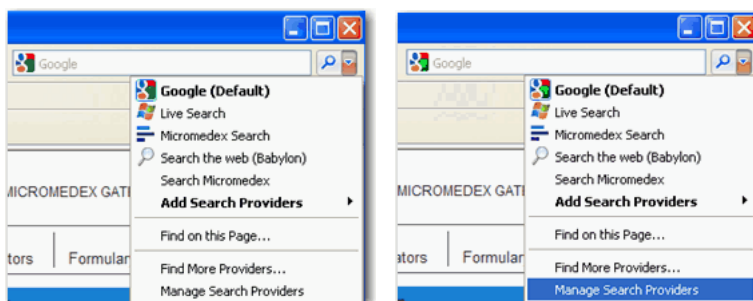
## Designate Micromedex Search as your Default Search Provider (Internet Explorer 8)

1. Click the arrow on the Search drop-down.

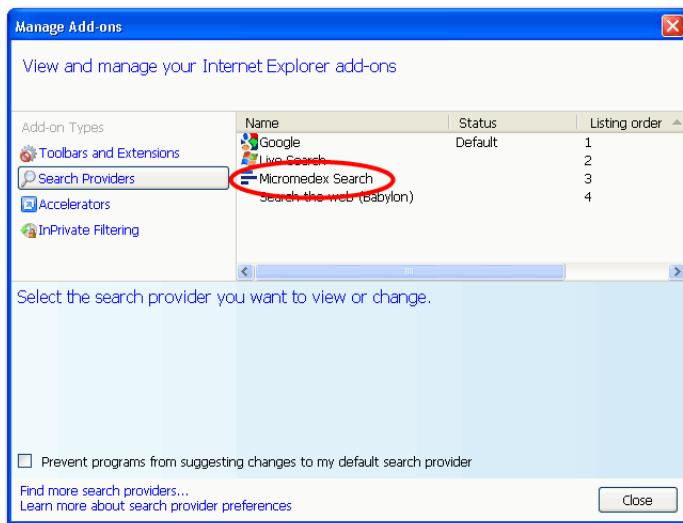




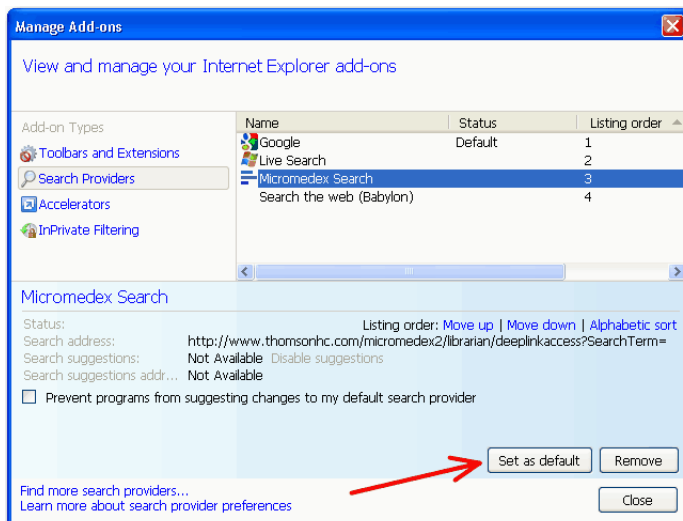
2. Click **Manage Search Providers**.



3. Click **Micromedex Search**.

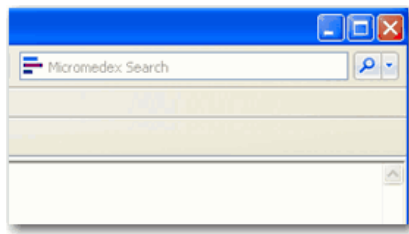


4. Click **Set as default**.



5. Click **Close**.


6. Now *Micromedex Search* displays in the Search Provider box as the default. You can enter a term and click the search button to go directly to the Micromedex search results page.





## Google Chrome

Google Chrome supports adding search engines to the Google Omnibox. Google Chrome does not use the separate Search Provider box that is common to Microsoft® Internet Explorer and Mozilla Firefox®. Setup is fast and easy:

1. Open the Google configuration screen by selecting the  icon in the upper-right, then select **Settings**.
2. Find the Search area of the settings screen and select **Manage Search Engines...**
3. On the Search Engines screen, scroll to the bottom of the screen to find the text boxes to enter the parameters of your new search:



4. From left to right, enter the name, Micromedex, a shortcut trigger word of your choice (e.g. MDX), and the following URL with **no spaces or line breaks**:

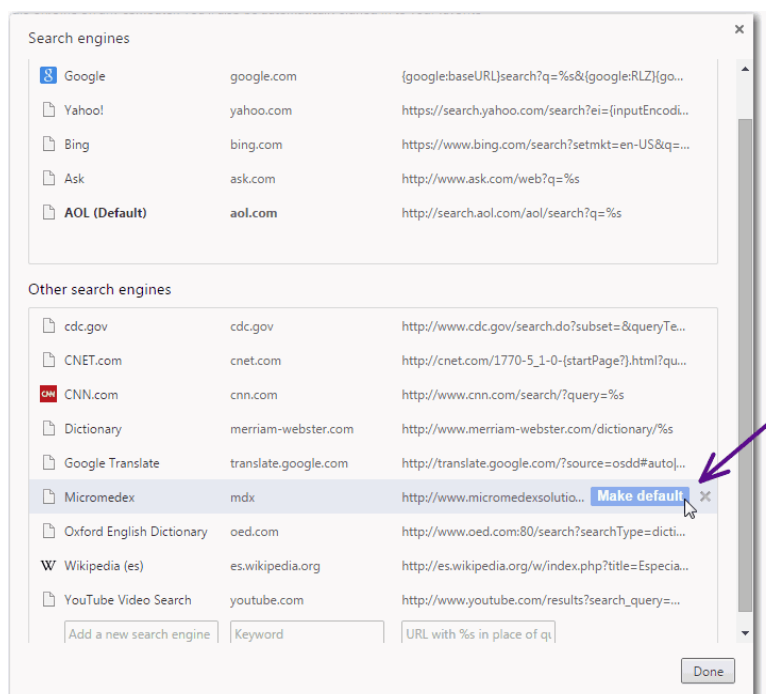
```
http://www.micromedexsolutions.com/micromedex2/librarian/deep  
linkaccess?SearchTerm=%s
```



**WARNING**

If you copy and paste the URL, a space may be inserted, which will prevent the Micromedex Search Accelerator from functioning.

5. Press the **Enter** key. Micromedex is added to the list of *Other search engines*.
6. Hover your mouse over Micromedex and click **Make default**.



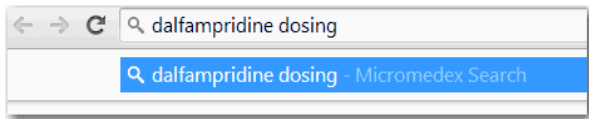
- Click **Done**.



**Note:** If you choose to set Micromedex as the default search engine in Google Chrome, any terms entered into the Google Chrome Omnibox will search Micromedex first.

## Search Accelerator Workflow (Google Chrome)

- Type your search term(s) and press the **Enter** key.



- In this example you will navigate directly to the Dosing section of the Micromedex Summary Drug Information monograph for Dalfampridine.

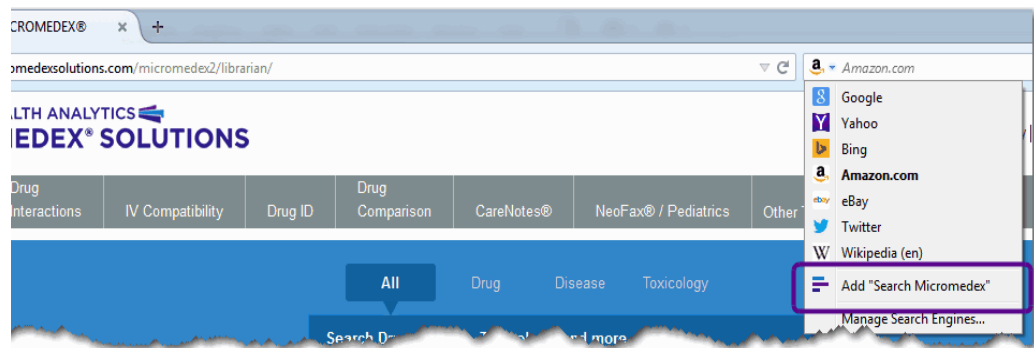
An additional benefit of using Google Chrome is that it will retain search history, saving time on re-entry of terms as you begin to build a search history. However, you are not able to launch a search for Micromedex from the body of a web page as in Internet Explorer and Firefox.



## Mozilla Firefox

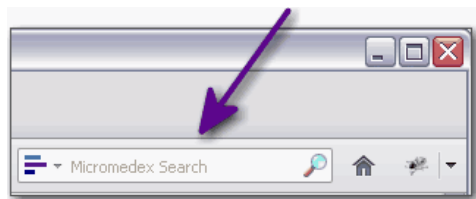
Micromedex® Solutions can also be added as a search engine in Firefox, but it requires an “Add-on” to the browser. In most cases, the workflow and user experience for the Search Accelerator is very similar to the experience in Microsoft Internet Explorer. Follow the instructions below:

1. Download and install the Add to Search Bar add-on, available from the Mozilla Add-ons website: <https://addons.mozilla.org/en-US/firefox/addon/add-to-search-bar/>
2. Login to Micromedex at: [www.micromedexsolutions.com/micromedex2/librarian](http://www.micromedexsolutions.com/micromedex2/librarian)
3. On the Micromedex home page, select the arrow in the right-hand search box in the header of the browser.
4. Select “Add Search Micromedex”.

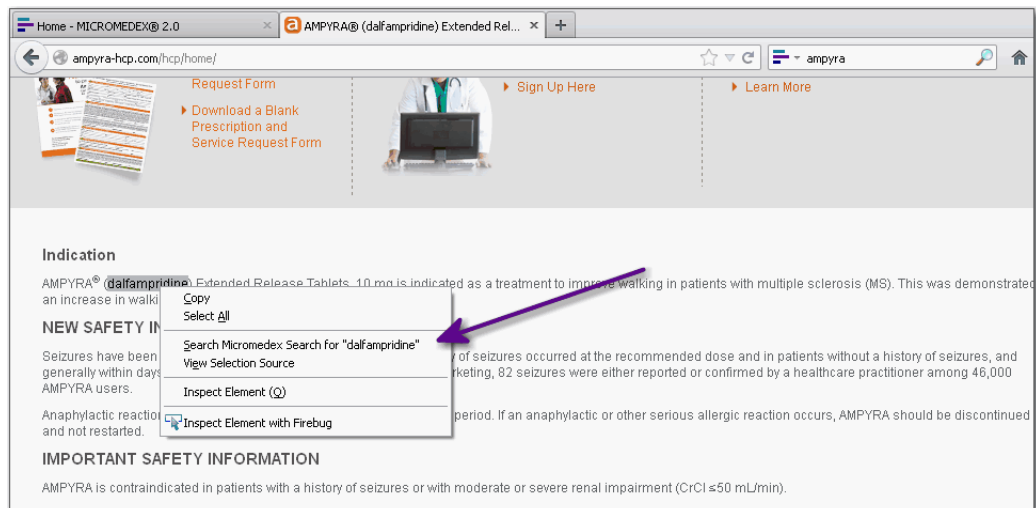


### Using Micromedex as a Search Engine in Firefox

Once configured, a Micromedex Search is available from the search engine box in the upper-right corner of the browser. You can manage the priority of your search engines and establish a default from the drop-down.



With an active session in Micromedex and proper authentication, you can search without first visiting the Micromedex home page.



**Note:** Other web-based applications such as an HIS or EHR can also access Micromedex. Simply right-click on your selected terms and select the **Micromedex Search** option. Please note however that the Micromedex Search must be set as your default search engine.



## Information for System Administrators

In the interest of managing end user desktops in a networked environment, some customers may have policies in place that limit their end users' ability to install plug-ins and add-ons to the web browser. The information in this section is included in the interest of aiding IT support professionals in deploying the Micromedex open search description to end user desktops according to group policy requirements.

Extending the Micromedex search to the Microsoft® Internet Explorer and Mozilla Firefox® browser is based on the OpenSearch specification ([www.opensearch.org](http://www.opensearch.org)). Using an Open Search Description document, web developers have the ability to describe a search engine to a browser or search client application. The goal of the Micromedex open search is to allow faster and easier access to preferred clinical information.

For desktops installed with Internet Explorer, the Micromedex Search Accelerator can be distributed via Group Policy settings. Refer to the Microsoft Knowledge Base (<http://support.microsoft.com/kb/918238>, *How to create custom .adm or .admx files to add search providers to the toolbar search box in Internet Explorer*) and TechNet articles (<http://technet.microsoft.com/en-us/library/cc985351.aspx>, *Group Policy and Internet Explorer 8*) for suggestions on deploying custom Search Provider lists.

The policy to apply search providers to end user desktops can be found in the “*Add a specific list of search providers to the user’s search provider list*” group policy. If you have already applied restrictions on search providers, the “*Restrict search providers to a specific list of providers*” group policy may also apply. These policies reside in the Windows Components\Internet Explorer area of the group policy tree.

### Adding the Micromedex Search Accelerator to the Preferred Provider List:

1. Using the Group Policy Management Editor (an Active Directory snap-in), create a new Group Policy Object (GPO) for the preferred provider list, which will include Micromedex Search.
2. Edit the newly created GPO to include Micromedex Search.
3. Policy is configured under User Configuration> Policies> Administrative Templates> Windows Components> Internet Explorer.
4. Enable the Add a specific list of search providers to the search provider list policy and include Micromedex.  
If your facility is currently in the practice of restricting Search Providers, it is recommended that you also configure the Restrict search providers to a specific list of providers policy, and include Micromedex.
5. Create the necessary .ADM file (e.g. providers.adm).



**Note:** Depending on your environment and other policies, this new template may need to be applied in both the Computer and User Configuration policy settings.

Right-click on Administrative Templates and select Add/Remove Templates and add the new .adm file

6. The GPO has now been created. Add groups and computers to the GPO to enforce your new policy.

If you require assistance, please contact us. See [“Contact Truven Health Analytics” on page ii.](#)

## COMPATIBILITY VIEW IN INTERNET EXPLORER

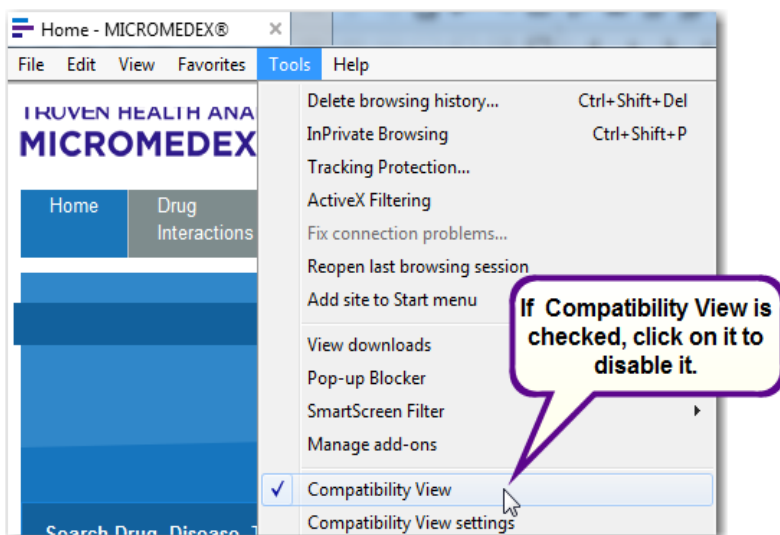
If Micromedex Solutions does not display correctly in Internet Explorer, it may be because Compatibility View is enabled. Use one of the following options to disable Compatibility View.



**Note:** Depending on the version of Internet Explorer, your browser may look slightly different than the example.

### Option 1

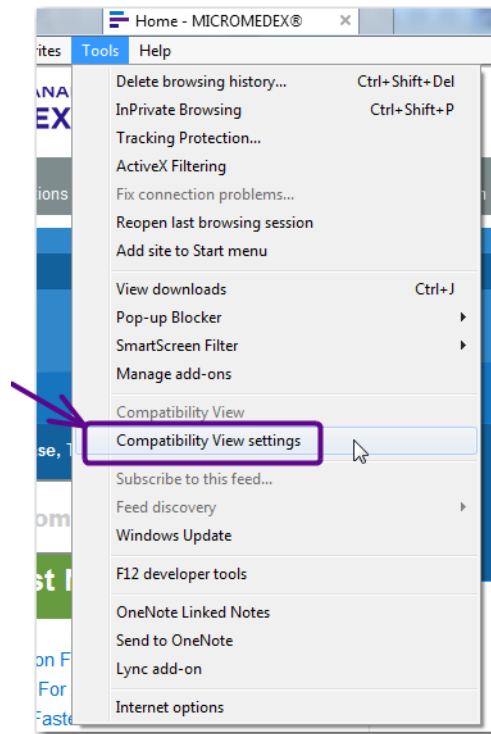
1. Click **Tools** in the Internet Explorer menu.
2. If Compatibility View is checked, click on it to disable it.



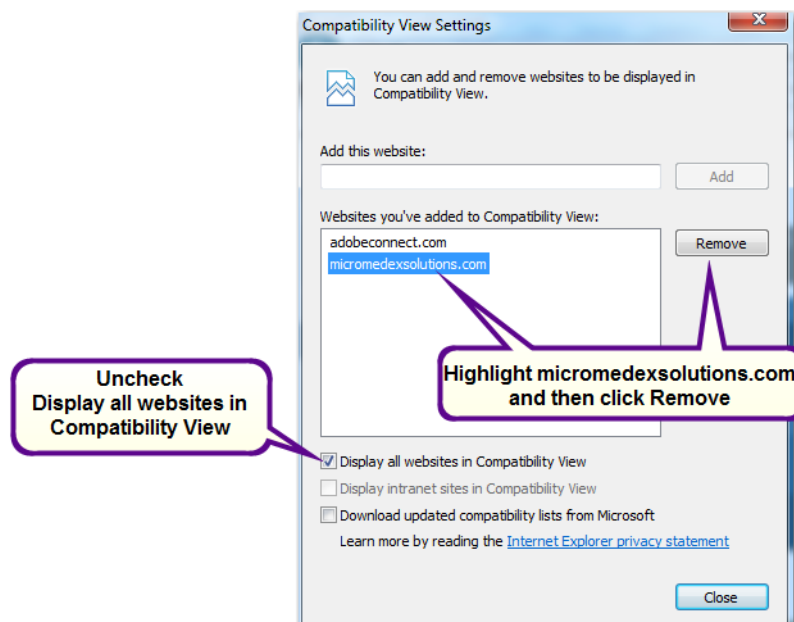


### Option 2

1. Click **Tools** in the Internet Explorer menu.
2. If Compatibility View is not checked, click **Compatibility View settings**.



3. Uncheck **Display all websites in Compatibility View**, if applicable.
4. If micromedexsolutions.com is listed in the box in the middle of the window, click on it and then click **Remove**.



5. Click **Close**.

If you need assistance, contact the Customer Resource Center. See [“Contact Truven Health Analytics” on page ii](#).

# APPENDIX C: RED BOOK ONLINE - AWP POLICY

Revised: October 1, 2014

## Average Wholesale Price (AWP) Policy

The Average Wholesale Price (AWP) as published by Truven Health Analytics<sup>SM</sup> is in most cases the manufacturer's<sup>1</sup> suggested AWP and does not reflect the *actual* AWP charged by a wholesaler. Truven Health bases the AWP data it publishes on the following:

- AWP is reported by the manufacturer, **or**
- AWP is calculated based on a markup specified by the manufacturer. This markup is typically based on the Wholesale Acquisition Cost (WAC) or Direct Price (DIRP), as provided by the manufacturer, but may be based on other pricing data provided by the manufacturer, **or**
- Suggested Wholesale Price (SWP) is reported by the manufacturer

When the manufacturer does not provide an AWP, a markup formula from which AWP can be calculated, or an SWP, Truven Health will calculate the AWP by applying a standard 20% markup over the manufacturer supplied WAC. If a WAC is not provided, the standard markup will be applied to the DIRP.

When the manufacturer supplies an SWP, the Truven Health AWP for that drug will be the manufacturer's reported SWP, even if the manufacturer supplies either or both a WAC and DIRP. Consequently, the published AWP may be greater than a 20% markup over the manufacturer supplied WAC or DIRP.

Please note that Truven Health does not perform any independent analysis to determine or calculate the actual AWP paid by providers<sup>2</sup> to wholesalers. Truven Health also does not independently investigate the actual WAC paid by wholesalers to manufacturers or DIRP paid by providers to manufacturers. Truven Health relies on the manufacturers to report the values for these categories as described above.

Truven Health provides a list of the manufacturers that do not provide the AWP or a markup formula. The list of these manufacturers and products is available at:

<http://www.micromedex.com/products/redbook/awp/>

Additionally, an ASCII text file with this same information is available to download. For more information on this file and instructions on downloading, please contact Truven Health Technical Support at:

<http://www.micromedex.com/support/request/>

Please refer to this AWP Policy as you review the pricing information contained in the Truven Health products.

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1. The term "manufacturer" includes manufacturers, distributors, repackagers, and private labelers.

2. The term "provider" includes retailers, hospitals, physicians, and others buying either from the wholesaler or directly from the manufacturer for distribution to a patient.

## Unit Price Calculations

Each product record in RED BOOK Online® contains as many as three of the following price quotations:

- The Average Wholesale Price (AWP)
- The Manufacturer's Direct Price (DIR)
- The Suggested Retail Price (SRP)
- The Federal Upper Limit Price (FUL) from the Healthcare Financing Administration (HCFA)
- The Wholesale Acquisition Cost (WAC)

The unit price is determined by dividing the per-package price by the total size of the package expressed as NCPDP (National Council for Prescription Drug Programs) units as shown below. Unit prices thus can be denoted three ways:

1. Price per gram (for products measured by weight, such as powders and ointments)
2. Price per milliliter (for products measured by liquid volume)
3. Price each, or apiece (for products sold by the item, such as tablets, lozenges, and suppositories)

For products measured by weight or volume, the following factors are used in converting to grams or milliliters.

Liquid		Dry	
1 cc =	1 ml	4 drams =	15 gm
1 oz =	30 ml	1 oz =	30 gm
1 pt =	480 ml	1 lb =	454 gm
1 qt =	960 ml		
1 gal =	3840 ml		



The following formulas are used to calculate unit prices.

**Formula 1 (for products sold by the item)**

$$\begin{array}{lcl} \text{Unit Price} = & \text{Price per package} & \\ & \text{Package Quantity} & \\ \text{e.g.} & & \\ & \$15.00 & \\ & \text{-----} = \$0.15 \text{ each} & \\ & 100 \text{ tablets} & \end{array}$$

**Formula 2 (for products sold by weight or volume)**

$$\begin{array}{lcl} \text{Unit Price} = & \text{Price per package or lot} & \\ & \text{Product-weight/volume} & \\ \text{e.g.} & & \\ & \$15.00 & \\ & \text{-----} = \$0.50/\text{gm} & \\ & 30 \text{ gm} & \end{array}$$

**Formula 3 (for packages of multiple containers of the product)**

$$\begin{array}{lcl} \text{Unit Price} = & \frac{\text{Price per package}}{\text{Product-weight/volume} \times \text{Package Quantity}} & \\ \text{e.g.} & & \\ & \$15.00 & \\ & \text{-----} = \$0.15/\text{ml} & \\ & 5 \text{ ml } 20\text{s} & \end{array}$$

## Dosage Form Descriptions

Code	Description
ACC	Accessory
AER	Aerosol Liquid
ARO	Aerosol powder
BAN	Bandage
BAR	Bar
BEA	Beads
C12	Capsule, extended release, 12 hour
C24	Capsule, extended release, 24 hour
CAK	Cake
CAP	Capsule
CER	Capsule, extended release
CHI	Chip
CRE	Cream
CRY	Crystal
CTB	Chewable Tablet
DAP	Patch, Device Assisted
DEV	Device
DRE	Dressing
DSK	Disk
ECC	Capsule, delayed release
ECT	Tablet, enteric coated
ELI	Elixir
EMO	Emollient cream
EMU	Emulsion
FDS	Food, solid
FIL	Film
FLA	Flake
FOA	Foam
GAS	Gas
GEF	Powder, effervescent
GEL	Gel/jelly
GER	Powder for suspension, extended release
GFS	Gel forming solution
GRA	Granule
GUM	Gum
ICR	Insert, controlled release



Code	Description
IMP	Implant
INJ	Injectable
KIT	Kit
LEA	Leaf
LIQ	Liquid
LOT	Lotion
LOZ	Lozenge/troche
LUM	Lump
NMA	Enema
ODT	Tablet, disintegrating
OEM	Emollient ointment
OIL	Oil
OIN	Ointment
PAD	Pad
PAS	Paste
PDR	Powder for suspension
PDS	Powder for solution
PEL	Pellet
PI1	Powder for suspension, 1 month
PI3	Powder for suspension, 3 month
PI4	Powder for suspension, 4 month
PI6	Powder for suspension, 6 month
PKT	Packet
POD	Pod
POW	Powder
PRO	Prophylactic
PUD	Pudding
SER	Suspension, extended release
SGL	Capsule, liquid-filled
SHA	Shampoo
SHE	Sheet
SOA	Soap
SOL	Solution
SPE	Suppository, extended release
SPG	Sponge
SPR	Spray
STI	Stick
SUP	Suppository

Code	Description
SUS	Suspension
SWA	Swab
SYR	Syrup
T12	Tablet, extended release, 12 hour
T24	Tablet, extended release, 24 hour
TAB	Tablet
TAM	Tampon
TAP	Tape
TBS	Tablet for suspension
TCP	Tablet, delayed release
TDM	Patch, extended release
TDR	Tablet, disintegrating, delayed release
TEC	Tablet, extended release, chewable
TEF	Tablet, effervescent
TER	Tablet, extended release
TES	Test
TIN	Tincture
TSN	Tablet for solution
WAF	Wafer
WAX	Wax



## Route Listing

Abbreviation	Route Listing
BC	BUCCAL MUCOSA
DE	DENTAL
EP	EPIDURAL
SG	GINGIVAL
IP	IMPLANTATION
IH	INHALATION
IJ	INJECTION
IC	INTRACAVERNOSAL
ID	INTRADERMAL
IM	INTRAMUSCULAR
IO	INTRAOCULAR
PT	INTRAPERITONEAL
PL	INTRAPLEURAL
IN	INTRATHECAL
IT	INTRATRACHEAL
IY	INTRATYMPANIC
IU	INTRAUTERINE
IV	INTRAVENOUS
IR	IRRIGATION
MR	MULTIPLE ROUTES
NS	NASAL
NA	NOT APPLICABLE
OP	OPHTHALMIC
PO	ORAL
MM	OROMUCOSAL
OT	OTIC
RC	RECTAL
NA	ROUTE NOT APPLICABLE
SC	SUBCUTANEOUS
SL	SUBLINGUAL
TP	TOPICAL APPLICATION
TD	TRANSDERMAL
UR	URETHRAL
IL	URINARY BLADDER
VG	VAGINAL

## Orange Book Codes

The Orange Book Codes supply the FDA's therapeutic equivalence rating for applicable multi-source categories. Codes beginning with 'A' signify the product is deemed therapeutically equivalent to the reference product for the category. Codes beginning with 'B' indicate bioequivalence has not been confirmed. 'EE' is assigned by RED BOOK Online to products that have been evaluated by the FDA but for which an equivalence rating is not available.

Code	Interpretation
AA	No bioequivalence problems in conventional dosage forms
AB	Meets necessary bioequivalence requirements
AB1	Meets bioequivalence requirement to AB1 rated reference drug
AB2	Meets bioequivalence requirement to AB2 rated reference drug
AB3	Meets bioequivalence requirement to AB3 rated reference drug
AB4	Meets bioequivalence requirement to AB4 rated reference drug
AN	Solution or powder for aerosolization
AO	Injectable oil solution
AP	Injectable aqueous solution
AT	Topical product
BC	Controlled-release tablet, capsule, or injectable
BD	Documented bioequivalence problem
BE	Enteric coated oral dosage form
BN	Product in aerosol-nebulizer delivery system
BP	Potential bioequivalence problem
BR	Suppository or enema for systemic use
BS	Testing standards are insufficient for determination
BT	Topical product with bioequivalence issues
BX	Insufficient data to confirm bioequivalence
B*	Requires further FDA investigation and review
EE	This entry has been evaluated by the FDA, but a rating is not available for this labeler's product



## RED BOOK Online Terms and Definitions

**AWP:** Average Wholesale Price

**DIR:** Direct Price

**FUL:** Federal Upper Limit

**HRI:** Health Related Item

**J-Codes:** J-Codes are a series of reimbursement codes created by the Centers for Medicare and Medicaid Services (CMS) to allow Medicare and Medicaid providers and carriers to communicate their services in a consistent manner and validate fee schedules through standardized coding. While originally developed for Medicare and Medicaid use, this nationally recognized coding system is required by many private insurance carriers for claims reimbursements. J-Codes are most often associated with drugs administered as part of an office-based procedure, such as injectables and drugs used in chemotherapy.

**NDC:** National Drug Code

**SRP:** Suggested Retail Price

**UPC:** Universal Product Code

**WAC:** Wholesale Acquisition Cost



# APPENDIX D: POISON CENTER INTEGRATION

This appendix is applicable to Poison Centers that have integrated Micromedex® Solutions Poisindex® with their case management tool.

As a Specialist in Poison Information you can easily add Micromedex Solutions product documents and detailed management documents to cases in your case management tool. The examples provided here are intended to show the general functionality that is available. You may encounter slight differences with your case management tool configuration.

## PRODUCT OR SUBSTANCE SEARCH

### Adding a Product Document

1. Enter a product or substance name, code, product ID, or active ingredient in your case management tool, and it initiates a search in Micromedex Solutions.
2. The Micromedex Solutions search results display in your Internet browser.
3. Click the **Select Product** icon next to one of the products to select it. Notice the message that temporarily displays indicating that the product was selected.

The screenshot shows the Micromedex Solutions interface. At the top, there's a navigation bar with links like 'Home', 'Drug Interactions', 'IV Compatibility', 'Drug ID', 'Drug Comparison', 'CareNotes®', 'NeoFax® / Pediatrics', and 'Other Tools'. Below this is a search bar and a 'Tox & Drug Product Results' section. The search results are displayed in a table with columns: Name, Country, Product ID, AAPCC Code, and Related Document(s). A callout box points to a 'Select Product' icon (a small blue square with a white 'S') next to the first product entry, 'Lysol Action Gel - Toilet Cleaner - Country'. The callout text says: 'Click a Select Product icon, and a message displays indicating that the product was selected.'

Name	Country	Product ID	AAPCC Code	Related Document(s)
1. Lysol Action Gel - Toilet Cleaner - Country	United States	7413175	077309	IRRITANTS - POISINDEX® DETERGENTS-CATIONIC - POISINDEX®
2. Lysol Action Gel - Toilet Cleaner - Country	United States	7413323	077309	IRRITANTS - POISINDEX® DETERGENTS-CATIONIC - POISINDEX®
3. Lysol Antibacterial Hand Soap No-Touch Kitchen System - Shimmering Berry	United States	7411179	013283	DETERGENTS AND SOAPS-ANIONIC AND NONIONIC - POISINDEX® HAND DISH DETERGENTS - POISINDEX®

-OR-

- Click a product name to view the product document. Then click the **Select Product** icon. Notice the message that temporarily displays indicating that the product was selected.

**Tox & Drug Product Results** Modify Search - Export a

Displaying results found for "lysol" Case: 788956

Results from: **United States** | Other Countries Display: **Product/Substance Names (225)** | Synonyms (202) | Manufacturer Contact Info (0)

Results begin

Results 1 - 50 Page **1** of 5 Go

	Name	Strength/ Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document
1.	<a href="#">Lysol Action Gel - Toilet Bowl Cleaner - Country</a>	Clear Gel Liquid	Reckitt Benckiser	United States	7413175	077309	<a href="#">IRRITANTS - POIS DETERGENTS-CA POISINDEX®</a>
2.	<a href="#">Lysol Action Gel - Toilet Bowl Cleaner - Spring Waterfall</a>	Clear Gel Liquid	Reckitt Benckiser	United States	7413323	077309	<a href="#">IRRITANTS - POIS DETERGENTS-CA POISINDEX®</a>
3.	<a href="#">Lysol Antibacterial Hand Soap No-Touch Kitchen System - Shimmering Berry</a>	Opaque Liquid	Reckitt Benckiser	United States	7411179	013283	<a href="#">DETERGENTS AND AND NONIONIC - HAND DISH DETER POISINDEX®</a>

**TRUVEN HEALTH ANALYTICS**  
**MICROMEDEX® SOLUTIONS**

My Subscription | G

Product: Lysol Antibacterial Hand Soap Sys... has been select

Home Drug Interacti Comparison CareNotes® NeoFax® / Pedia

**Lysol Antibacterial**

POISINDEX® Product [Select Product](#) Case: 831923

Product ID: 7412599 - 04/12 AAPCC Code: 013283 - Anionic or Nonionic Hand Dishwashing Detergents

**Product Document Information**

POISINDEX® Managements: [DETERGENTS AND SOAPS-ANIONIC AND NONIONIC HAND DISH DETERGENTS](#)

**Ingredients**

Active-Ingredient: [Ammonium Benzyl Dimethyl Ammonium Chloride](#) - 2.5 to 10%

- Depending on the configuration of your case management tool, the product document is automatically added to the case record or you perform another step within the tool to add it.



## Adding a Detailed Management Document

1. Enter a product or substance name, code, product ID, or active ingredient in your case management tool, and it initiates a search in Micromedex Solutions.
2. The Micromedex Solutions search results display in your Internet browser.
3. Click on a Related Documents link for POISINDEX®, and the detailed management document displays. You can use the links on the left side of the page to view specific sections of the document, such as Range of Toxicity.

**Tox & Drug Product Results** Modify Search Export as Print

Displaying results found for "aspirin 80 mg" Case: 155762

Results from: United States | Other Countries Display: Product/Substance Names (63) | Synonyms (0) | Manufacturer Contact Info (0) Results begin with | Results contain

Jump To: ALL | 0-9 | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |

Results 1 - 50 Page 1 of 2 Go Previous Next

Name	Strength/Form	Manufacturer	Country	Product ID	AAPCC Code	Related Document(s)
1. Aspirin	80 MG Tablet	Bowman Pharmaceuticals	United States	2692675	041703	<a href="#">SALICYLATES - POISINDEX®</a> <a href="#">ASPIRIN - DRUGDEX®</a>
2. Aspirin For Children	80 MG Tablet	Penney Laboratories	United States	2692675	041703	<a href="#">SALICYLATES - POISINDEX®</a>
3. Aspirin						

**Salicylates**

Quick Answers In-Depth Answers All Results

**Overview**

- Life Support
- Clinical Effects
- Laboratory/ Monitoring
- Treatment Overview
- Range Of Toxicity**
- Substances Included/ Synonyms
- Therapeutic/ Toxic Class
- Specific Substances

**Overview**

**Range Of Toxicity**

A) TOXICITY: ACUTE INGESTION: The acute ingestion of less than 150 mg/kg or 6.5 g of aspirin equivalent, whichever is less, is not expected to cause significant toxicity. For oil of wintergreen (98% methylsalicylate), greater than a lick or taste by children under 6 years of age or greater than 4 mL by patients 6 years of age and older may cause toxicity and requires referral to an emergency department for evaluation.

B) FATALITIES: As little as 5 mL of oil of wintergreen has resulted in pediatric deaths.

C) CHRONIC: Ingestions of greater than 100 mg/kg/day over 2 days may produce toxicity.

D) THERAPEUTIC DOSE: For children an analgesic or antipyretic dose is 10 to 15 mg/kg; 325 to 650 mg for adults.

View Full Document Print Select Management Case: 155762

Click the POISINDEX link to display the detailed document.

Use the links to display sections of the document.

4. Click the **Select Management** icon to select the document. Notice the message that temporarily displays indicating that the management has been selected.



5. Depending on the configuration of your case management tool, the detailed management document is automatically added to the case record or you perform another step within the tool to add it.

## DRUG IMPRINT SEARCH

### Adding a Product Document

1. Enter the imprint on a pill you are trying to identify in your case management tool, and it initiates a search in Micromedex Solutions.
2. The Micromedex Solutions Drug Identification search results display in your Internet browser.



- Click the **Select Product** icon next to one of the products to select it. Notice the message that temporarily displays indicating that the product was selected.

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MICROMEDEX® SOLUTIONS

My Subscription | Gateway | Help | Download Center

Search for a product

Product: Mirtazapine has been selected




Home Drug Interactions IV Compatibility Drug ID Drug Comparison CareNotes® NeoFax® / Pediatrics Other Tools

### Drug Identification Results

5 Matches for: "mi" Case: 653336 Sort all Results by: Imprint

3 Drug Matches for 'M' 1 - 3 (of 3 matching drugs) First Previous Next

Display: ALL 0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Imprint ▼	Drug Name	Manufacturer	Availability	AAPCC	Poisindex Management
MI 15 APO MI15	 Mirtazapine	Apotex (Canada)	United States	310001	MIRTAZAPINE
MI 30 APO MI30	 Mirtazapine	Apotex (Canada)	United States	310001	MIRTAZAPINE
MI-45 APO	 Mirtazapine	Apotex (Canada)	United States	310001	MIRTAZAPINE

-OR-




- Click a product name to view the product document. Then click the **Select Product** icon. Notice the message that temporarily displays indicating that the product was selected.

### Drug Identification Results

5 Matches for: "mi" Case: 653336 Sort all Results by: Imprint

3 Drug Matches for 'M' 1 - 3 (of 3 matching drugs) First Previous Next

Display: ALL 0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Imprint ▼	Drug Name	Manufacturer	Availability	AAPCC	Poisindex Management
MI 15 APO MI15	 Mirtazapine	Apotex (Canada)	United States	310001	MIRTAZAPINE
MI 30 APO MI30	 Mirtazapine	Apotex (Canada)	United States	310001	MIRTAZAPINE
MI-45 APO	 Mirtazapine	Apotex (Canada)	United States	310001	MIRTAZAPINE

### DRUG INFORMATION

Tox & Drug: Mirtazapine  
Martindale: Mirtazapine

**DRUG NAME:** MIRTAZAPINE  
**INGREDIENTS:** MIRTAZAPINE -- 15 MG  
**RELATED DOCUMENTS:** POISINDEX® MANAGER - MIRTAZAPINE  
DRUGDEX® EVALUATIONS - MIRTAZAPINE

**COLOR:** PALE YELLOW  
**SHAPE:** OVAL  
**IMPRINT:** APO , MI 15 , MI15  
**FORM:** ORAL TABLET  
**AVAILABLE-CONTAINER-SIZE:** BOTTLE OF 30 , BOTTLE OF 100 , BOTTLE OF 500 , BOTTLE OF 1000  
**AAPCC CODE:** 310001 - MIRTAZAPINE

**NDC:** 60505-0247-8  
60505-0247-1  
60505-0247-3  
60505-0247-5  
**UPC:** 60505-02478  
60505-02471  
**EXCIPIENTS:** CELLULOSE

Product: Mirtazapine has been selected

Click the Select Product icon, and a message displays indicating that the product was selected.

SELECT PRODUCT Case: 653336 PRINT CLOSE

4. Depending on the configuration of your case management tool, the document is automatically added to the case record or you perform another step within the tool to add it.

## APPENDIX E: LANDING PAGE HIERARCHY

When multiple landing pages exist for a search result (drug, disease, toxicology, alternative medicine), the landing page that is displayed for the search result is determined by where it falls in the hierarchy below. You can navigate to any and all available landing pages when multiple landing page types exist, but the following table explains which landing page opens by default.

If all of the following landing pages exist for a search:	Then the landing page shown is:
<ul style="list-style-type: none"> <li>• Drug: Summary</li> <li>• Drug: Detailed</li> <li>• Alternative Medicine: Summary</li> <li>• Alternative Medicine: Detailed</li> <li>• Toxicology</li> <li>• Disease: Summary</li> <li>• Disease: Detailed</li> </ul>	Drug Summary
<ul style="list-style-type: none"> <li>• Drug: Detailed</li> <li>• Alternative Medicine: Summary</li> <li>• Alternative Medicine: Detailed</li> <li>• Toxicology</li> <li>• Disease: Summary</li> <li>• Disease: Detailed</li> </ul>	Detailed Drug information (DRUGDEX®)
<ul style="list-style-type: none"> <li>• Alternative Medicine: Summary</li> <li>• Alternative Medicine: Detailed</li> <li>• Toxicology</li> <li>• Disease: Summary</li> <li>• Disease: Detailed</li> </ul>	Summary Alternative Medicine
<ul style="list-style-type: none"> <li>• Alternative Medicine: Detailed</li> <li>• Toxicology</li> <li>• Disease: Summary</li> <li>• Disease: Detailed</li> </ul>	Detailed Alternative Medicine
<ul style="list-style-type: none"> <li>• Toxicology</li> <li>• Disease: Summary</li> <li>• Disease: Detailed</li> </ul>	Summary Toxicology
<ul style="list-style-type: none"> <li>• Disease: Summary</li> <li>• Disease: Detailed</li> </ul>	Summary Disease
<ul style="list-style-type: none"> <li>• Disease: Detailed</li> </ul>	Detailed Disease



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