TRUVEN HEALTH ANALYTICS™

MICROMEDEX® CLINICAL KNOWLEDGE SUITE

MICROMEDEX® 2.0 PLATFORM

USER GUIDE

JULY 2013

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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 *Content Updates* 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.

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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

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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
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
After business hours: **Voice mail messages** will be returned in the order they are received. Priority is assigned at that time. **Email** requests received outside of business hours will be assigned a priority level the following business day.	**Critical Priority** Multiple users cannot access or use major product functionality	Within 4 hours
	High Priority Missing or inaccurate data or functionality	Within 1 business day
	Medium Priority One user cannot access or use major product functionality	Within 2 business days
	Low Priority 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

For information on our products or services, visit our Web site at: www.micromedex.com or contact your local distributor.

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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 the Clinical Xpert and 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 and Clinical Xpert 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!**

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CUSTOMIZED BROWSER SETTINGS TO ENHANCE THE USER EXPERIENCE

Localized Language Support

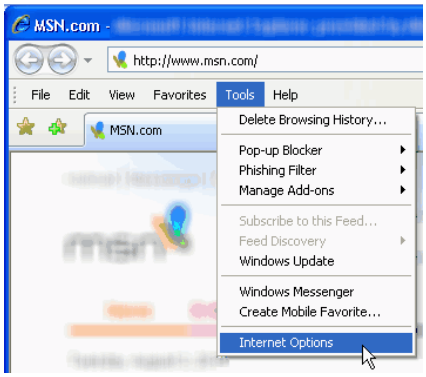
Truven Health Analytics is pleased to announce Micromedex® 2.0 with localized language support for the following languages:

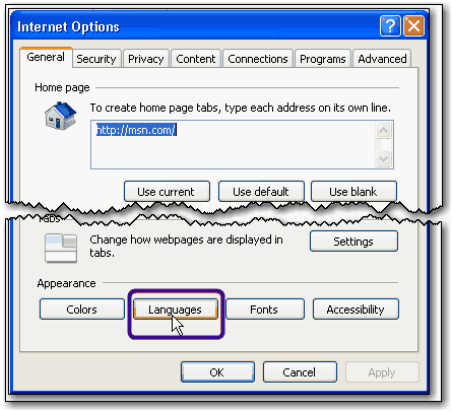
- Italian
- Chinese (simplified)
- Chinese (traditional)
- German
- Korean
- Portuguese (Brazilian)
- Spanish

By modifying a few settings in your Internet browser, you can view many of the elements of Micromedex® 2.0 in your local language. Future releases may include support for even more languages. Check the **Content Updates** link in the application or this guide for details.

Setting Up Language Support

1. From the **Tools** menu, select **Internet Options.**





2. Click **Languages.**

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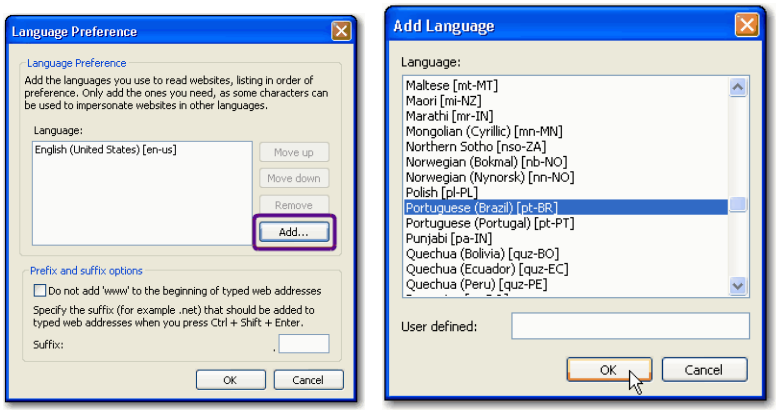
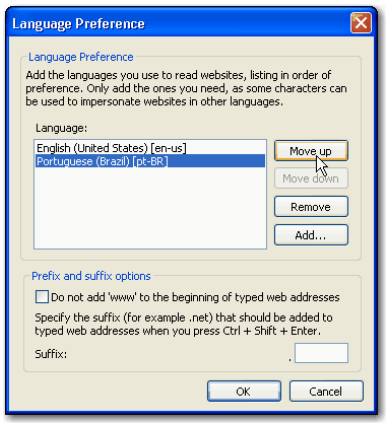
3. From the *Language Preference* dialog, click **Add...**



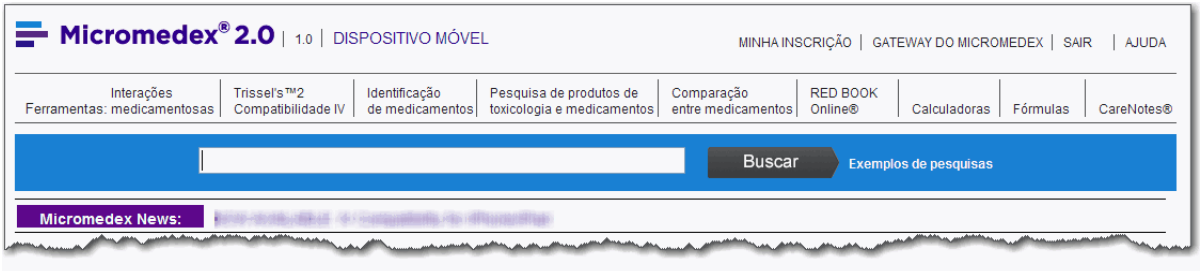
4. From *Add Languages*, scroll to the desired language, click to select, then click **OK**.

Note: 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]

5. From *Language Preference* select the language added in the previous step and then click **Move Up** to place it first (as the default).



6. Click **OK** until the Tools menu closes and you return to the browser.
7. Open Micromedex® 2.0. The default language is reflected in the user interface.



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Extend Your Internet Browser or Web Application to Search the Micromedex 2.0 Platform

Enjoy fast and easy access to clinical information in the Micromedex® Clinical Knowledge Suite from any browser-based program, using the Micromedex Search Accelerator. With some simple modifications to your Internet browser settings, Micromedex Clinical Knowledge Suite subscribers can search Micromedex Clinical Knowledge from other web applications (e.g., an EHR or HIS) or Internet browser sessions without having to first navigate to the www.micromedexsolutions.com site.

With an active Micromedex 2.0 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 result page in Micromedex 2.0.

What Does the Micromedex Search Accelerator Do?

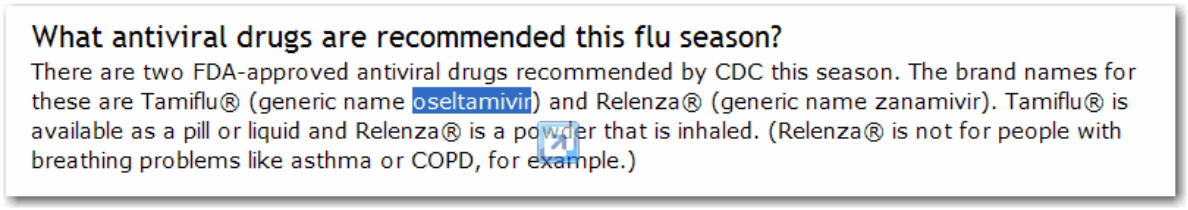
The Micromedex Search Accelerator allows you to gain direct access into the Clinical Knowledge Suite from any Web page without having to first navigate to the Micromedex 2.0 home page.

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.

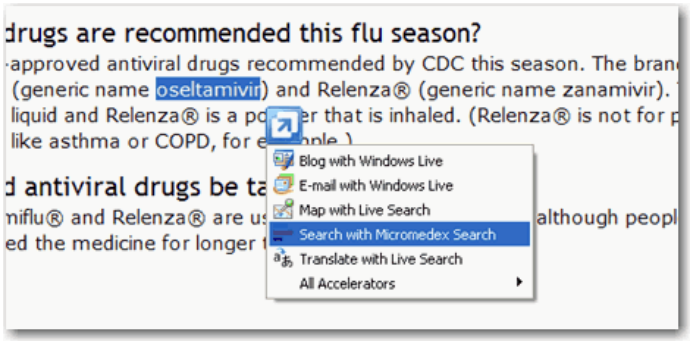
Workflow Example:

(*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.



Select **Search with Micromedex Search**.



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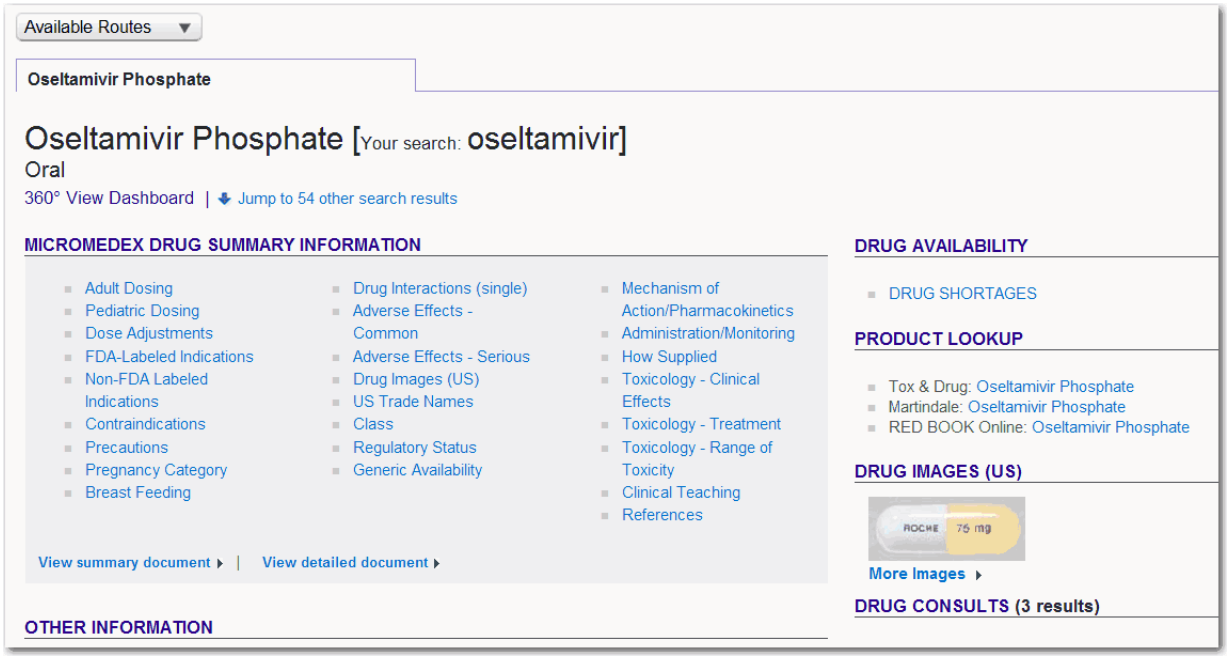
The Micromedex 2.0 Drug Dashboard displays:



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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 or 10

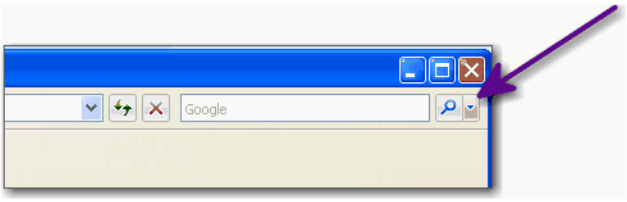
Note: Internet Explorer Version 10 users (with **Microsoft Windows 8** operating system) - The Micromedex Search Accelerator functionality is available in the Desktop view only.

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 or 10 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.

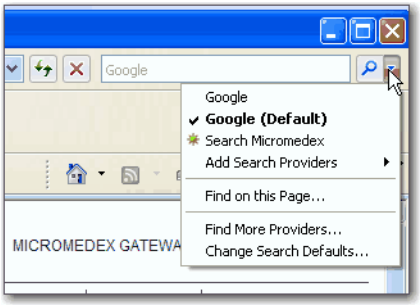
Internet Explorer Version 7 or 8

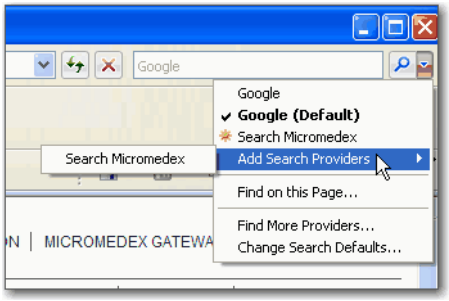
Note: If you do not see the options shown in the following steps, contact your systems administrator or Help Desk for assistance.

1. From an active Micromedex® Clinical Knowledge Suite session on the Micromedex® 2.0 platform, notice that the arrow in the Search drop-down is highlighted (yellow). This means that Micromedex 2.0 is a supported Search Provider. Click on the on the arrow to open the menu.



2. Select Add Search Providers.





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3. Select Search Micromedex.

Direct searches into the Micromedex® Clinical Knowledge Suite 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 Clinical Knowledge Suite without first visiting the Micromedex 2.0 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.

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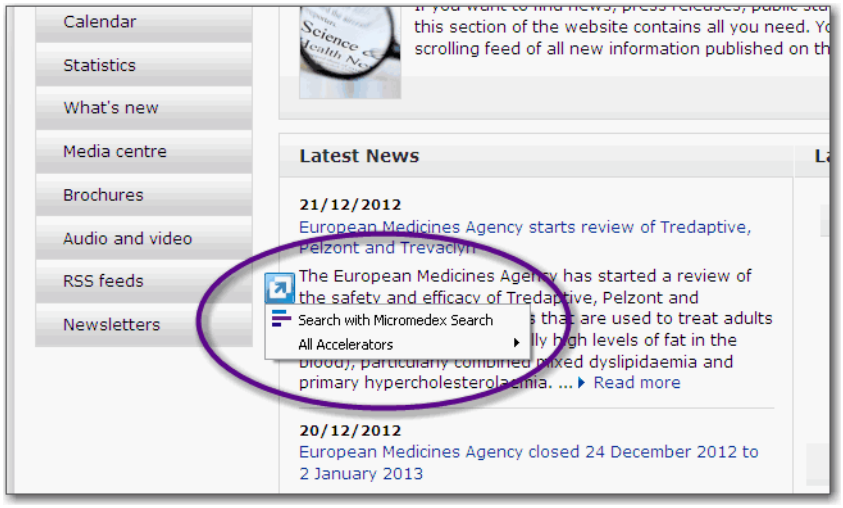


IP-Authenticated Users

The search should be seamless, requiring no additional steps or logins when searching using the search box, or the Micromedex Search Accelerator.

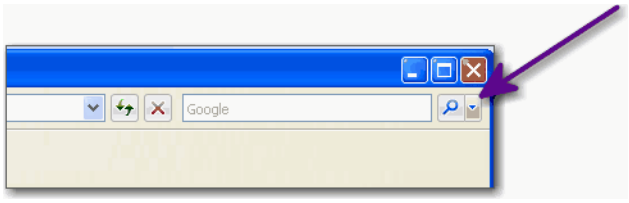
User Name and Password Users and Trusted source URL

You will be required to login to Micromedex 2.0 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 the Micromedex® Clinical Knowledge Suite from any website or tool without first visiting the Micromedex 2.0 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.



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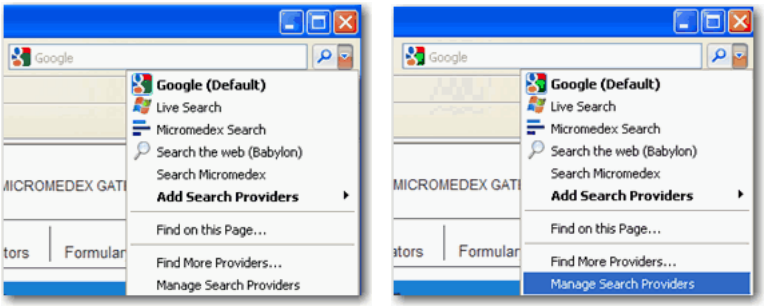
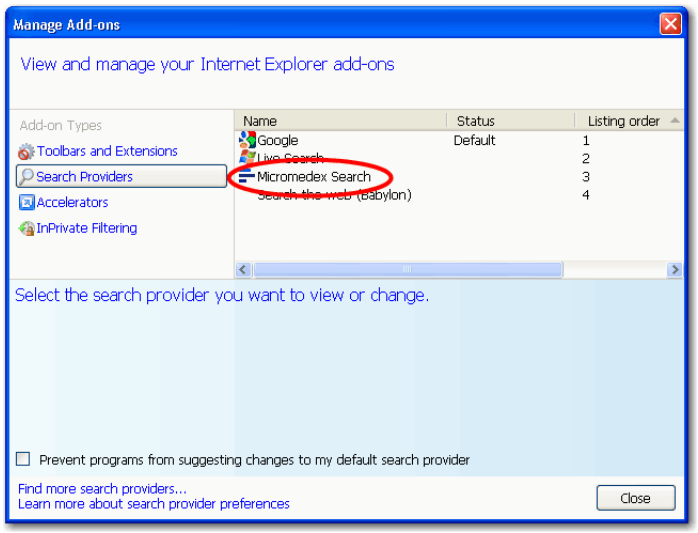
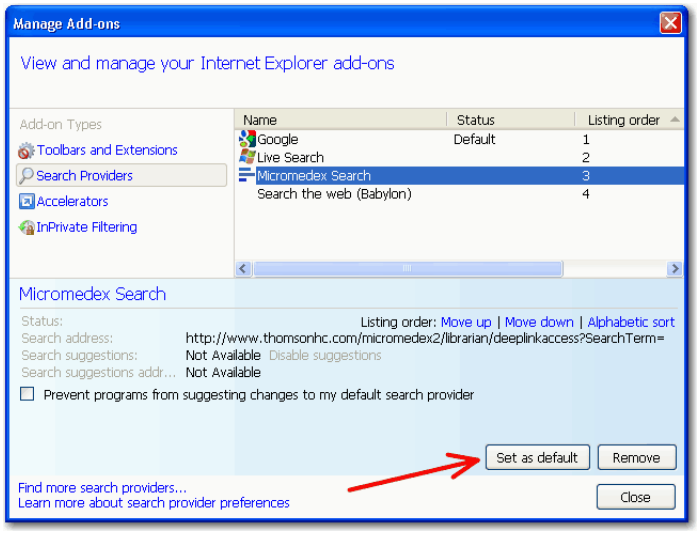
2. Click Manage Search Providers.



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 2.0 search

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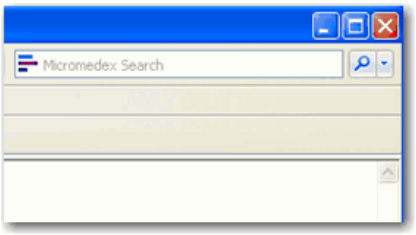
results page.



Internet Explorer 7

Click on the Accelerator icon, and then select: **Change Search Defaults**. Follow the prompts to designate Micromedex Search as the default search provider.

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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:

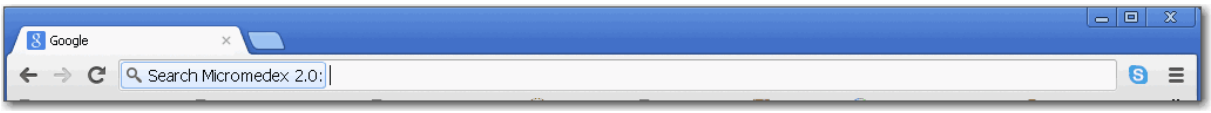
1. Open the Google configuration screen by selecting the ≡ icon in the upper-right, then select *Settings*.
2. Find the Search area of the settings screen and select Manage Search Engines…
3. On the Search Engines screen, scroll to the bottom of the screen to find the text boxes to enter the parameters 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 syntax with no spaces or line breaks: http://www.micromedexsolutions.com/micromedex2/librarian/deeplinkaccess?SearchTerm=%s
5. Select OK to complete adding the Micromedex® Clinical Knowledge Suite to Google Chrome.

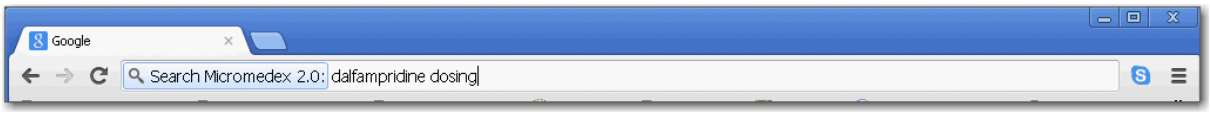
Note: If you choose to set Micromedex as the default search engine in Google Chrome, any terms entered into the Google Chrome Omnibox will search Micromedex first

Search Accelerator Workflow (Google Chrome)

1. Enter your shortcut trigger word in the Omnibox and hit the Tab key.
   This populates Search Micromedex 2.0 in the search bar as shown in the example below.



2. Type your search term(s). (Example below: *dalfampridine dosing*)



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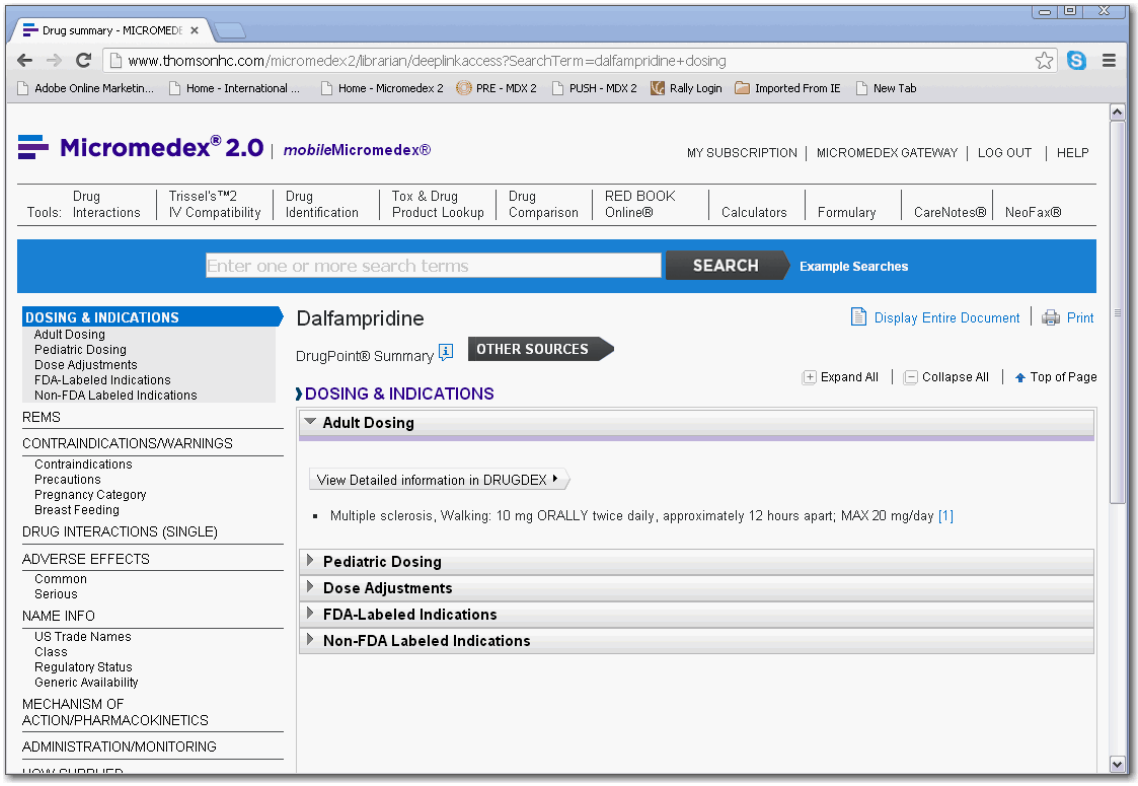
3. You will navigate directly to the Dosing section of the Micromedex drug information monograph for Dalfampridine.



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® Clinical Knowledge from the body of a web page as in Internet Explorer and Firefox.

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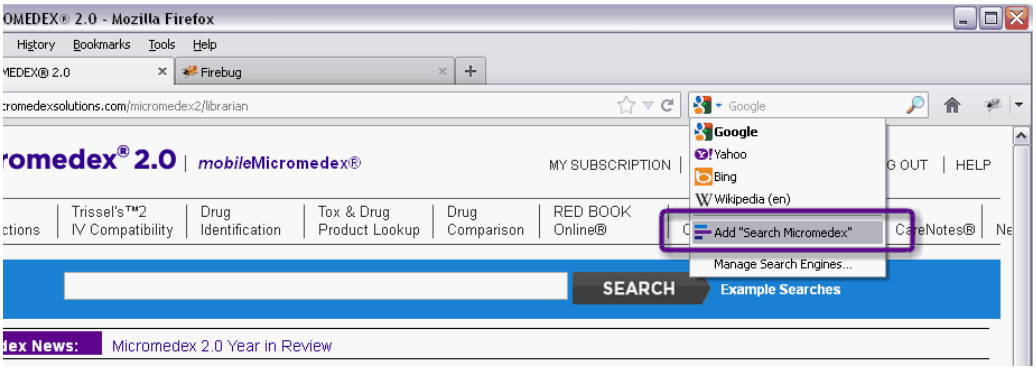
Mozilla Firefox®

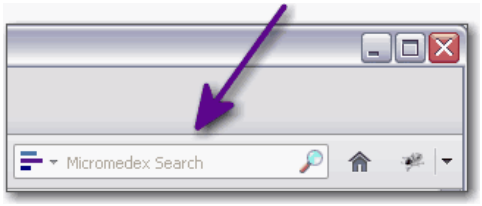
The Micromedex® Clinical Knowledge Suite can also be added as a search engine in Firefox, but it requires an “Add-on” to the browser. In most cases, the workflow and user experience for the Search Accelerator is very similar to the experience in Microsoft Internet Explorer. Follow the instructions below:

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. On completing the installation of the add-on, restart the browser.
3. Login to the Micromedex 2.0 Platform at: www.micromedexsolutions.com/micromedex2/librarian
4. On the Micromedex 2.0 home page, select the arrow in the right-hand search box in the header of the browser.
5. 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. As an individual, you are able to manage the priority of your search engines and establish a default from the drop-down.



With an active session in Micromedex® Clinical Knowledge Suite and proper authentication, you can search without first visiting the Micromedex 2.0 home page.

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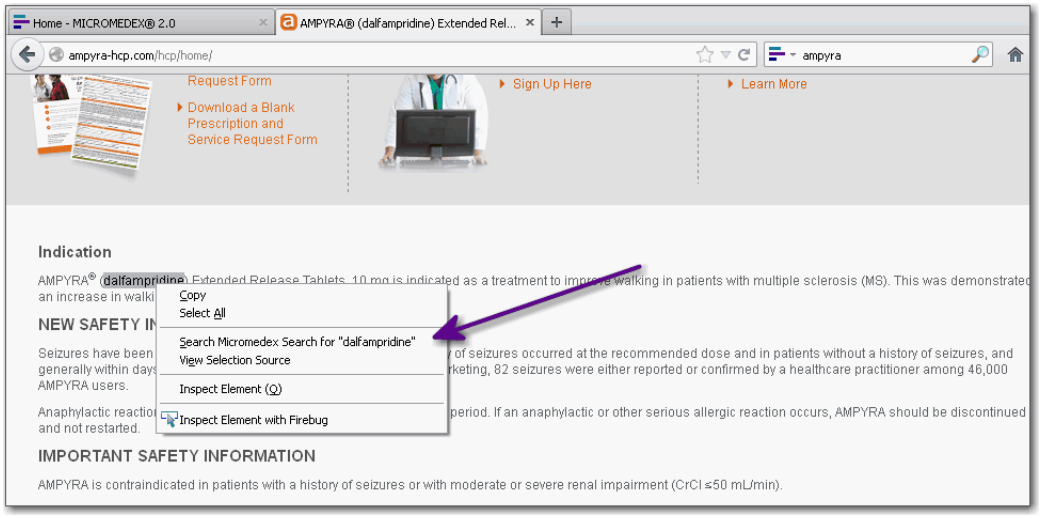

Note: Other web-based applications such as a HIS or EHR can also access Micromedex 2.0. Simply right-click on your selected terms and select the Micromedex Search option. Please note however that the Micromedex Search must be set as your default search engine.

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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). 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 "Technical & Customer Support" on page ii.

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CHAPTER 1: MICROMEDEX® 2.0 OVERVIEW

Designed specifically for point-of-care clinicians, Micromedex® 2.0, the point-of-care solution, makes it easier than ever to access the information you trust – when and where you need it. The browser-based interface is intuitive and easy-to-use, providing quick access to summary-level content at any point in the patient care process.

Micromedex® 2.0 offers:

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

Plus, Micromedex® 2.0 provides enhanced summary drug information:

- Indications and Dosing – now 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
- Clinical Teaching – offers point-of-care counseling information for clinicians to use when educating patients about their medications

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 solutions, like the new Micromedex® 2.0 to meet your specific needs.

Who can benefit from Micromedex® 2.0?

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

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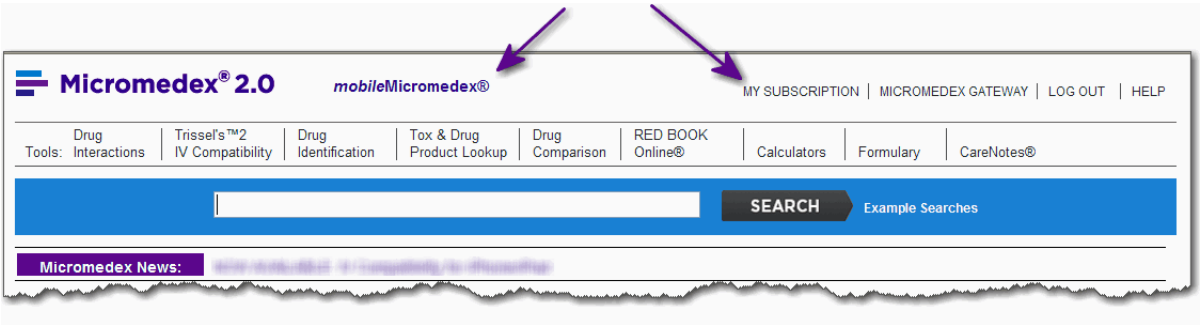
NAVIGATING THE MICROMEDEX® 2.0 INTERFACE

Usability experts and clinical focus groups were utilized to develop an intuitive, easy-to-use interface. Extra care was used to ensure that users didn't have to re-enter the same search over and over. Now it's simple to jump from a disease state, to a drug, and then to the relevant patient education document, all from one search.

Many elements on the interface appear throughout the application. These common elements and functions are described here.



*mobile*Micromedex®

Much more than quick drug look-ups, *mobile*Micromedex powers your mobile device with a wealth of clinical knowledge from Micromedex, the industry's leading provider of evidence-based clinical information.

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

See "Micromedex® 2.0 for Mobile Devices" on page 205 to learn more about these exciting offers from Micromedex:

- Web-based access to Micromedex 2.0
- Apps available for download from the iTunes® store and Google play

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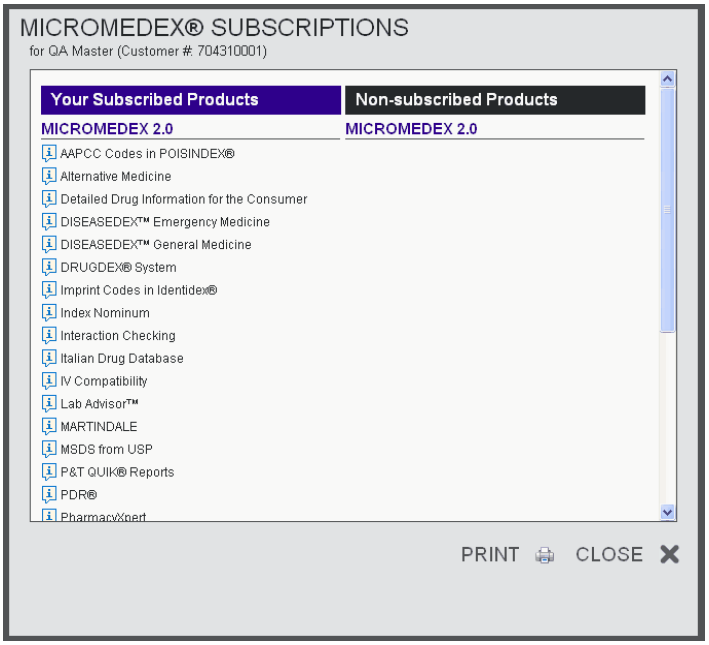
MY SUBSCRIPTION

View all of the Micromedex® products you subscribe to by clicking the **MY SUBSCRIPTION** link located near the top right side of every page. 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.

MICROMEDEX GATEWAY

The **MICROMEDEX GATEWAY** link allows you quick access to all applications available to you from Truven Health. Click the **MICROMDEX GATEWAY** link to move to another application.

LOG OUT

Whenever you are going to be away from your workstation, is good practice to log out of the Micromedex® 2.0 application. Use the **LOG OUT** hyperlink to close your session.

HELP

Help is always just a click away. Click the **HELP** link to open the help application for Micromedex® 2.0. Navigate to any topic by clicking on the books (chapters). Use the **Index** or **Search** tabs to search for help by a keyword.

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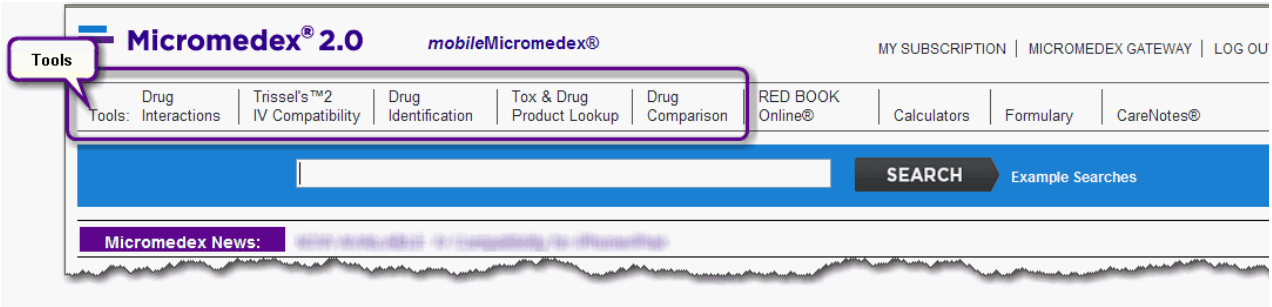
TOOLS



There are five tools available in the Micromedex® 2.0 application:

- **Drug Interactions** - allows you to check for interacting drug ingredients, their effects, and their clinical significance. Interaction information can be calculated for a single drug or between multiple drugs.
- **Trissel's™ 2 IV Compatibility** - provides easy access to proven Trissel's 2 data to assist with accurate IV compatibility decisions
- **Drug Identification** - 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 2.0*.

Note: * Single drug interactions and single IV compatibility information is available from within the DrugPoint® summary document

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Additional Applications from Micromedex

To the right of the Tools menu, and depending upon your Micromedex® 2.0 subscription, you may see additional application links such as Formulary, CareNotes®, RED BOOK, NeoFax®, or Pediatrics. These links allow you to launch the external application and continue your work.

NEWSFEED

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

(Available to customers in the United States and Canada only)

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Stay informed with late-breaking clinical news, Micromedex product, and event information with the Micromedex Newsfeed. Our newsfeed 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.

Page Footer Links

At the bottom of every page (in the page footer) in Micromedex® 2.0 are links to the following information:

Home

Click on the Home link to return to the Micromedex® 2.0 home (Main) page.

Contact us

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 to two business days. Editorial content inquiries may take three to five business days depending on the complexity of the inquiry.

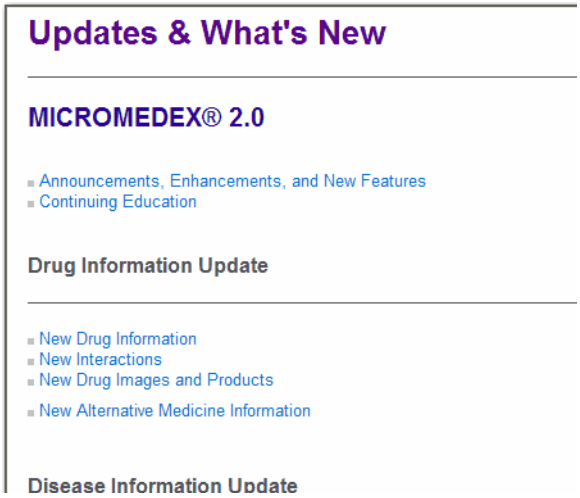
For urgent matters, please contact our Customer Resource Center. See Contact Truven Health Analytics in the Preface to this guide for phone and facsimile numbers and other contact information.

About us

Click this link to open a page with information about Truven Health and Micromedex®

Content updates

Information on the latest enhancements, product announcements, as well as links to the various “What’s New” in this release pages can be found from the Content updates link.



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Training center

Learn about the powerful features and functions or tips and tricks 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. Certificates of Completion can be printed upon completion of the course. In addition, a selection of the Micromedex courses have been translated into other languages to support our international customers.

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 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 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.

Warranty and disclaimer

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

Editorial info

Provides you with complete information on our editorial process.

User guide

This link opens the latest Micromedex® 2.0 User Guide in Adobe® Acrobat (.pdf) format.

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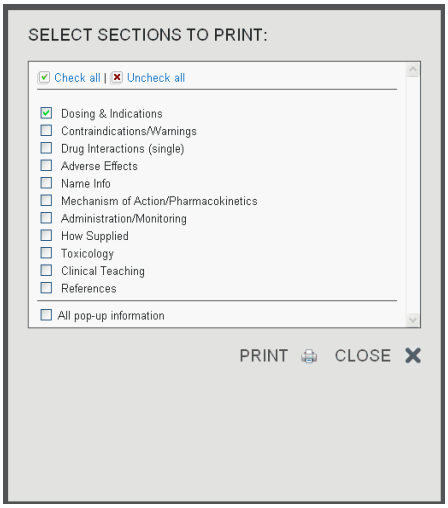
Print

The option to print the page or document is available at all times in Micromedex® 2.0.

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



- Click the **Print** icon to open the print options.

- The topic you were viewing when you clicked the print drop-down 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 the supporting information for the summary. This information can include: Definitions - such as Strength of Evidence or Strength of Recommendation; Ratings - such as Pregnancy Ratings; Risks; and Warnings.

- When you have selected the desired topics, click the **PRINT** option 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 selected document.

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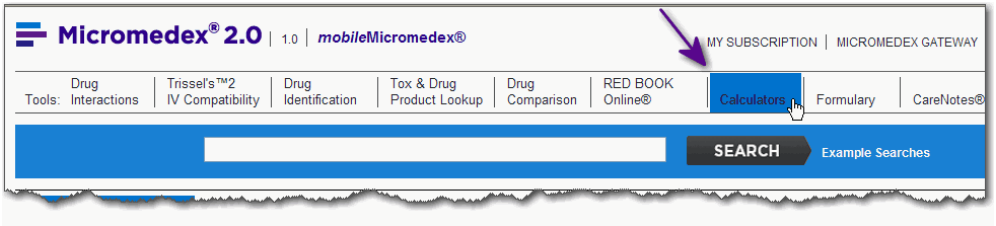
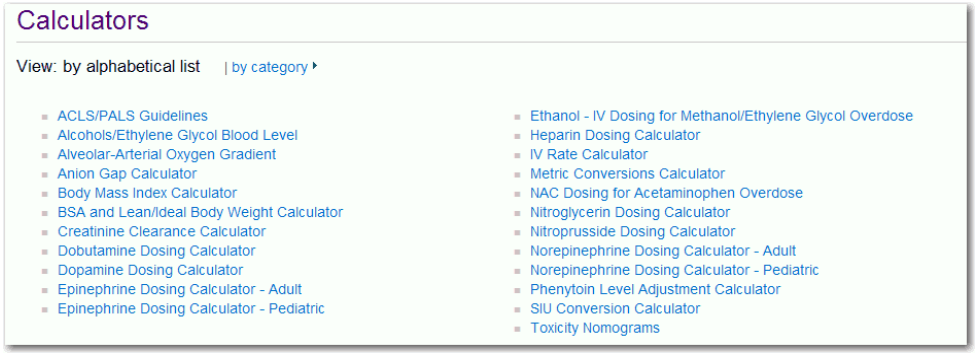
CALCULATORS

All of the calculators available in Micromedex® 2.0 can be found by clicking the **Calculators** toolbar 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 full list of calculators available in Micromedex® 2.0 and a brief description of each follows.

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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

Calculates creatinine clearance, based on lean/ideal body weight (kg/lb), patient's age and sex, current serum creatinine level in mg/dl, and the initial therapy utilized.

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).

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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 >= 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.

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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.

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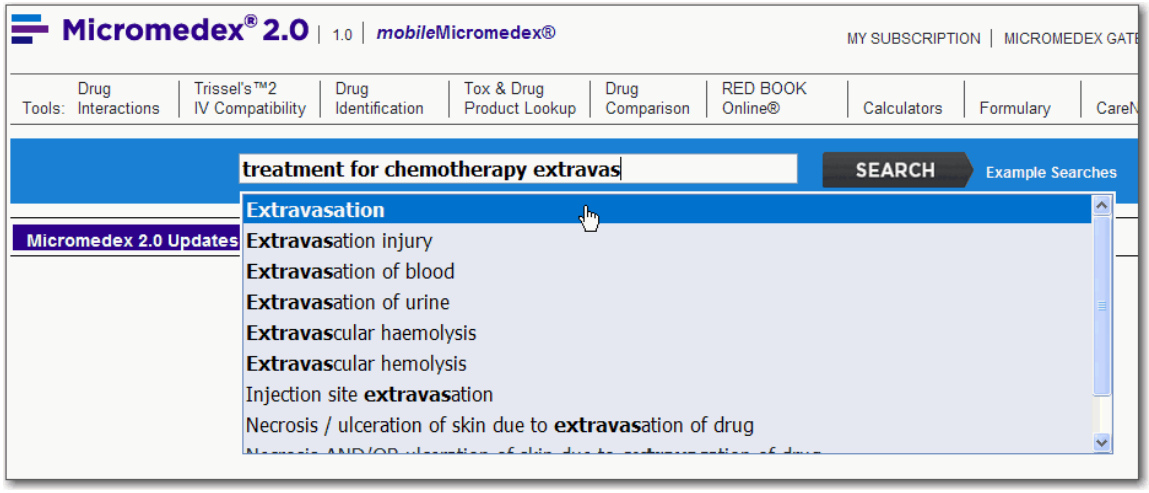
CHAPTER 2: SEARCHING MICROMEDEX

Micromedex® 2.0 makes finding answers as simple as a single query. The smarter search functionality includes a single search box on every page so you can perform searches using your own terms and have results displayed on a single page - much like the functionality of popular search engines available on the Internet. Whether the answer to your question is about a drug, a condition, reproductive risk, toxicity or overdose, alternative medicine or therapy, you can search from the common search field to quickly find the information you are looking for.



Simply type any term, phrase, or question into the search box that is available on every page. Micromedex 2.0 is designed to work like familiar search engines and deliver results in a clean, uncluttered interface.

Your request automatically searches across all content to which you are subscribed, and Micromedex 2.0 performs these sophisticated searches without having to know complicated rules or software application navigation.

All searches occur from the single search box located at the top of every page.

Searches can be conducted using:

- **A single term** (such as a drug, condition, or laboratory test name)
- **Multiple terms** (such as two drugs or a drug and a condition)
- **A simple question**

Typically, the more information you can provide, the faster we can move you directly to the answer to your question. Not all questions 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: English search terms 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.

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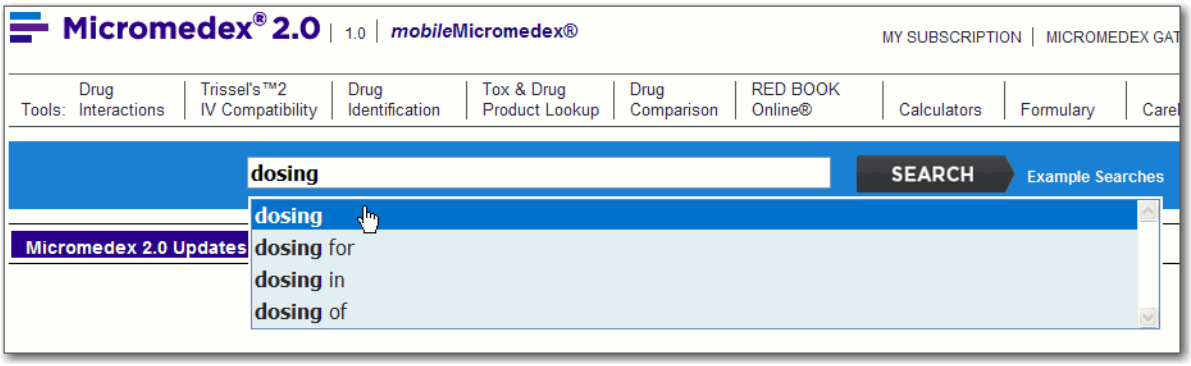
Drop-Down Suggestions

Help to build your search is built-in with the use of the drop-down suggestions.



As you type in the search box, the drop-down list opens as soon as you enter three or more characters and pause. The drop-down makes suggestions based on what you've typed.

For example, if you typed "dosing", the drop-down list would suggest:

- dosing
- dosing for
- dosing in
- dosing of

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

- **Add it to the search and continue building your query**
  Single-click on one of the drop-down suggestions to add it to your search query and then continue building your search with additional terms and keywords.
- **Start the search** using the item(s) selected
  Single-click on an item in the drop-down and click the **SEARCH** button (or the **Enter** key) to immediately start the search using the item selected.
  - or -
  Double-click on the item in the drop-down list to add it to the query and start the search.

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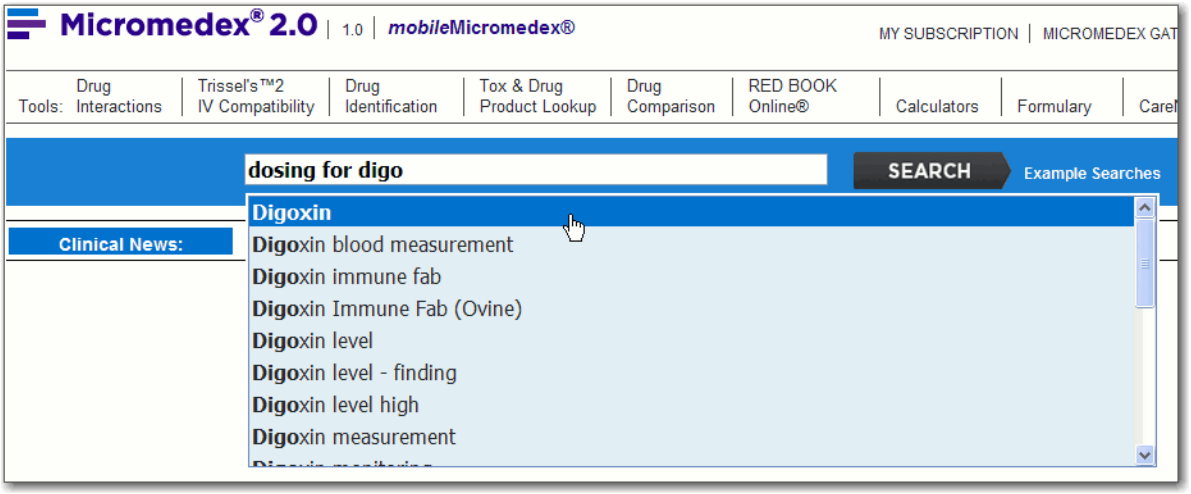
- **Keep typing**
  The list narrows with each match to the characters you type. When a full match has been typed (or if no matching keyword was found), the drop-down disappears.

  For example, if you continue typing "dosing for", it is added to your query and the drop-down disappears. You can then add additional parameters (e.g., adding the drug to the "dosing for" search), or begin the search based on what is currently in the search box by clicking the **SEARCH** button (or pressing the **Enter** key).



- **Highlight** an item in the drop-down list using the arrow up/down keys, or by hovering over the item with your mouse. You can also select items in the drop-down list using your **mouse** or the arrow **up/down** keys and a single-click, or by typing the entire word or phrase in the search box.
- **Start the Search** by clicking the **SEARCH** button (or the **Enter** key) when all words, terms, phrases already in the search box, or by double-clicking on the item in the drop-down list.

Targeted Searches

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

- **Adverse Reaction Lists** (drugs that cause [condition])
- **Therapeutic options** (drugs that treat [condition])
- **Brand name drug search**
- **List of drugs with a Black Box Warning**
- **List of drugs that have FDA-approved REMS (Risk Evaluation and Mitigation Strategies)**
- **List of drugs that sound alike/look alike**
- **List of Drug Consults**

See "Targeted Searches" on page 20 for more information.

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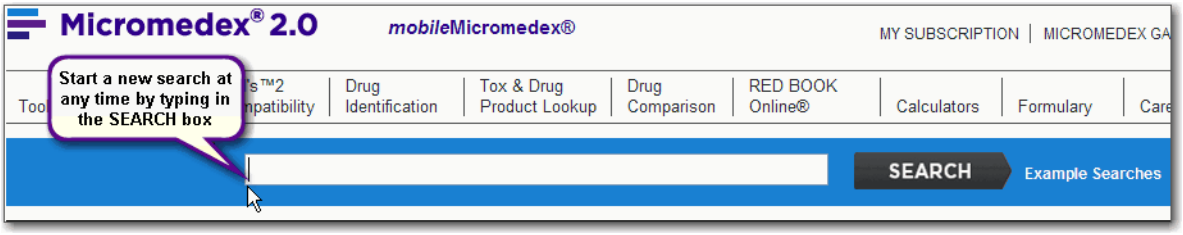
Building a New Search

Any time you wish to search for something else, enter the new search term(s) or phrase in the search box, located at the top of every page.



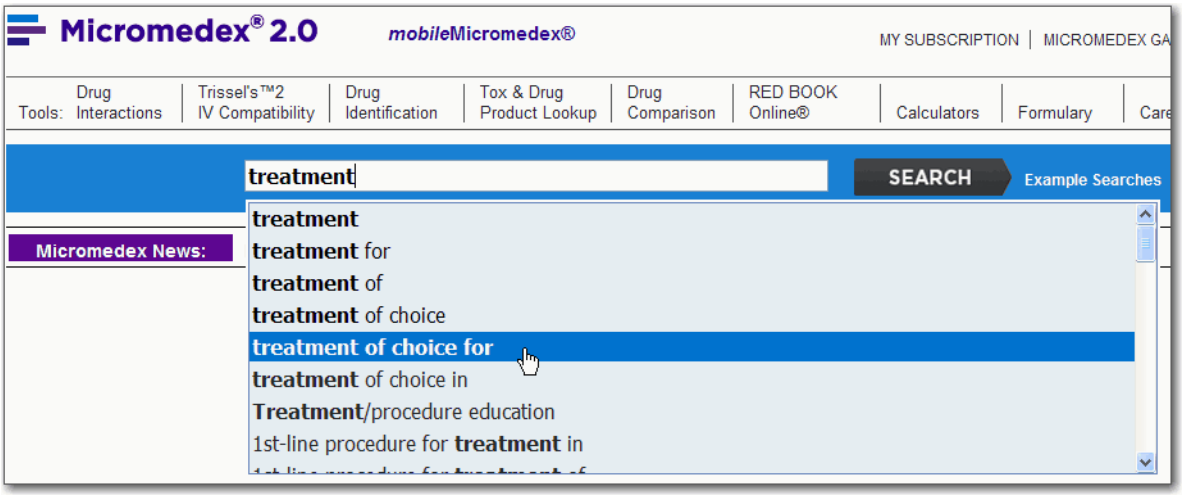
Building Searches - with Multiple Terms or Phrases

The drop-down list opens as soon as you enter three or more characters (and pause slightly) and suggests keywords or phrases based on what you've typed. You can use the drop-down list to help you create searches using combinations of terms and phrases.

For example, if you were interested in the best treatment for atrial fibrillation, you could simply type your question in the search box, “what is the best treatment for atrial fibrillation” and press the **Enter** key.

Or, you can build your search using our drop-down suggestions.

1. Start by typing the word, “treatment”, and then pause for a moment. The drop-down list will suggest terms and phrases that relate to treatment.



2. Select "treatment of choice for" with a single-click of the mouse on the "treatment of choice for" list item.
3. To add to the search, type a space and then type "atrial" in the search box. The drop-down list opens again, this time with suggestions for "atrial".

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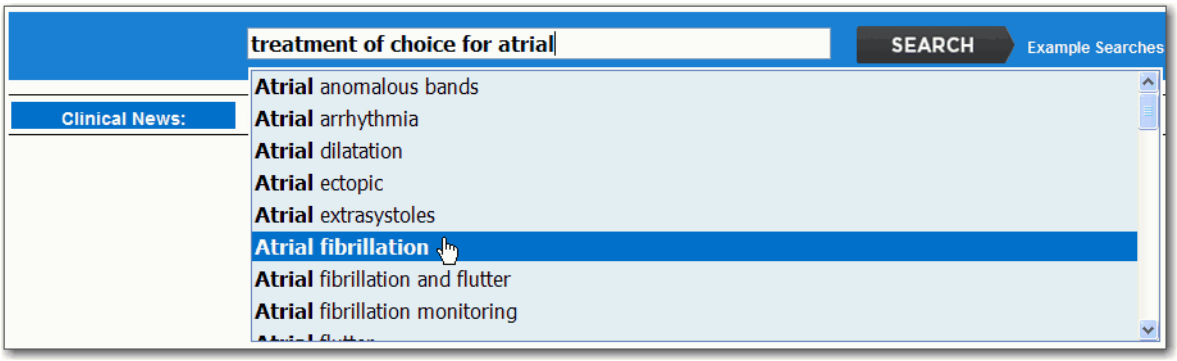

4. Add this to the search with a single-click on the "Atrial fibrillation" list item.
5. Click the **SEARCH** button (or press the **Enter** key) to begin the search for the treatment of choice for Atrial fibrillation.

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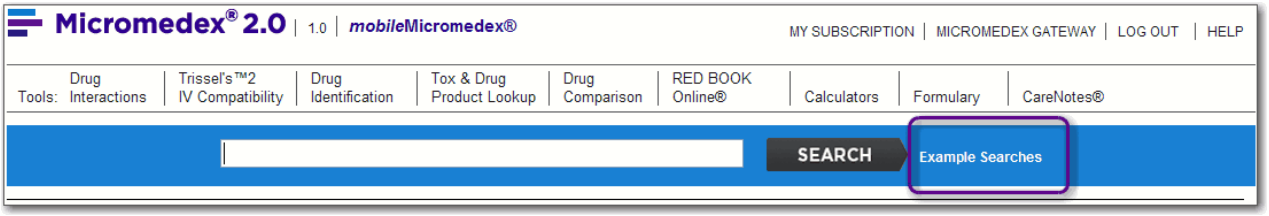
Example Searches

Certain search terms produce even more focused results, often times positioning you directly into the information topic of interest (e.g., dosing). The list of terms and phrases that produce these results will continue to grow with each release of Micromedex 2.0.

To view the list of search terms, and some search examples, click the **Example Searches** link located near the top of every page.



The following examples show the search terms that will result in opening the document positioned at the desired topic/section with this release:

Search Term(s)		Search Example
Dosing	dosing + drug	• dosing for propofol • basiliximab dosage • what is the dosing for minoxidil
Treatment (therapy)	treatment + drug	• eszopiclone treatment • capreomycin treats
Causes	causes + drug + condition	• nail damage caused by docetaxel
FDA-Labeled (FDA approved)	FDA-labeled + drug FDA-labeled + condition + drug	• benzonatate approved for • sumatriptan FDA-labeled • is rituximab approved for rheumatoid arthritis • scopolamine FDA-labeled for motion sickness
Non FDA-Labeled (Non FDA approved)	non FDA-labeled + condition + drug	• Non FDA-Labeled postoperative wound infection benzoyl peroxide • excessive salivation scopolamine non-FDA-labeled
Drug Interactions	drug interactions + drug	• drug interactions for amiodarone hydrochloride

The number of terms with this focused search functionality will continue to grow with each release of Micromedex 2.0.

Note: Searches are NOT case-sensitive

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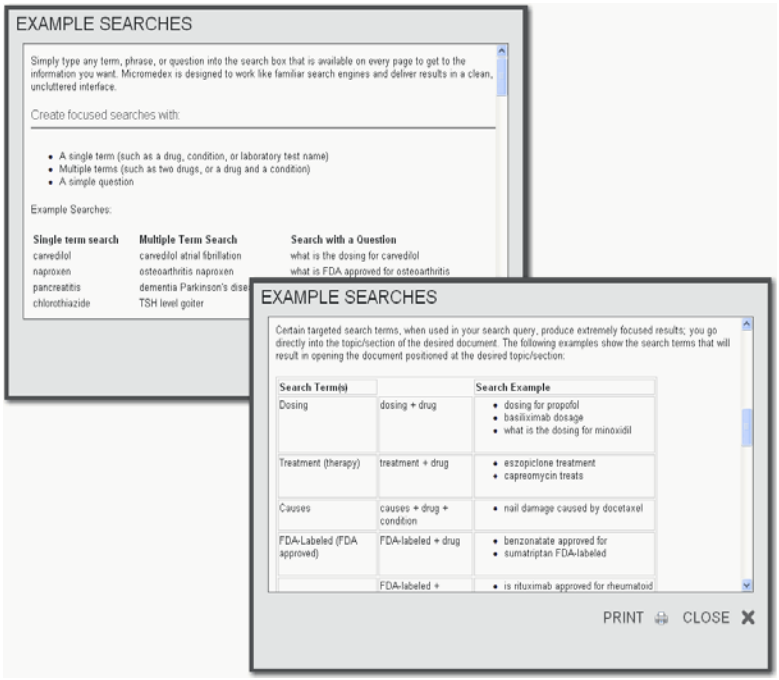
The following terms are examples of terms in the drop-down suggestion list and can help provide you with smarter search results. This list will continue to grow with each release.

Search Term(s)		Search Example
Treatment (therapy)	treatment + condition	• what is the treatment of hypertension • therapy for porphyria
Procedure to treat	treatment + procedure + condition	• what is the procedure to treat DVT
Procedure	condition + procedure	• deep vein thrombosis procedure
Causes	causes + condition causes + drug	• causes of adrenal insufficiency • aspirin causes
FDA-Labeled (FDA approved)	FDA-labeled + condition	• FDA approved for Parkinson's disease • FDA approved for Kawasaki disease
Non FDA-Labeled (Non FDA approved)	non FDA-labeled + condition non FDA-labeled + drug	• non FDA approved for excessive salivation • non-FDA-labeled coccidioidomycosis • off label use for lamotrigine • scopolamine non-FDA-labeled uses
Indication	indication + lab	• protein assay indicated in
Drug Treatment	condition + drug treatment	• drug treatment of HIV infection

Note: English search terms 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.



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TARGETED SEARCHES

Micromedex 2.0 also provides some highly focused searches that present you with results that are specific to your clinical question. These include:

- **Drugs that Cause [*condition*] (Adverse Reactions List)**

  An alphabetical list of drugs in Micromedex 2.0 that cause a condition or adverse reaction.

  Search results return the list of drugs as links, allowing you immediate access to the adverse affects topic in the drug information. See "Drugs that Cause [condition] (Adverse Reactions list)" on page 21 for additional information.

- **Drugs that Treat [*condition*]**

  This search provides the clinician with an alphabetical list of drugs in Micromedex 2.0 that treat a condition or disease.

  The results return drugs grouped alphabetically within an efficacy rating. See "Drugs that Treat [condition]" on page 23 for additional information.

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

  This search provides a list of drugs and biological products in Micromedex 2.0 that have FDA-approved REMS.

  Drug names are displayed as links and when selected open directly to the REMS information for the drug. See "List of Drugs with a Risk Evaluation and Mitigation Strategy" on page 25 for more information.

- **Black Box Warnings**

  An alphabetical list of all drugs in Micromedex 2.0 with a black box warning can be found using a single search.

  Search results return the list of drugs (with a black box warning) as links, allowing you fast access directly to the black box warning topic in the drug information. See "Black Box Warning List" on page 26 for additional information.

- **Searching for Drugs by Brand Name**

  Searching for drug information can be accomplished using either the common generic or the brand name drug. Searches using the brand name produce slightly different results from others. See "Searching Brand Name Drugs" on page 28 for additional information.

- **Do Not Confuse Drug List**

  An alphabetical list of confused drug names, including look-alike and sound-alike name pairs can be found with a single search. See "Confused Drug List - Drugs that Sound Alike/Look Alike" on page 29 for more information.

- **Drug Consults**

  A single search can find the complete list of all DRUGDEX® Drug Consult articles available in Micromedex 2.0. See "Drug Consults" on page 31 for more information.

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Drugs that Cause [*condition*] (Adverse Reactions list)

An alphabetical list of the drugs in Micromedex 2.0 that cause an adverse effect or condition is available with a single search.

Build the search using the noun “drugs”, “medications”, “substances”, or “agents” with any form of the words “... that cause”.

Example:

- Drugs that cause skin rash
- Medications that cause insomnia
- Substances that cause edema
- Agents that cause pruritic disorder

Adverse Reactions search results are displayed on a *Drugs That Cause xxx* page where xxx is the condition or reaction searched.

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.

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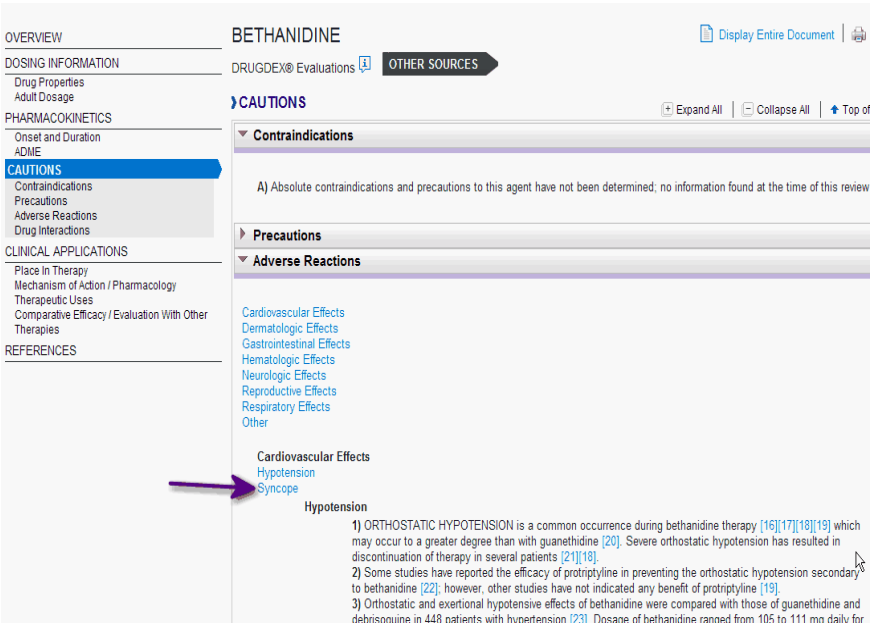
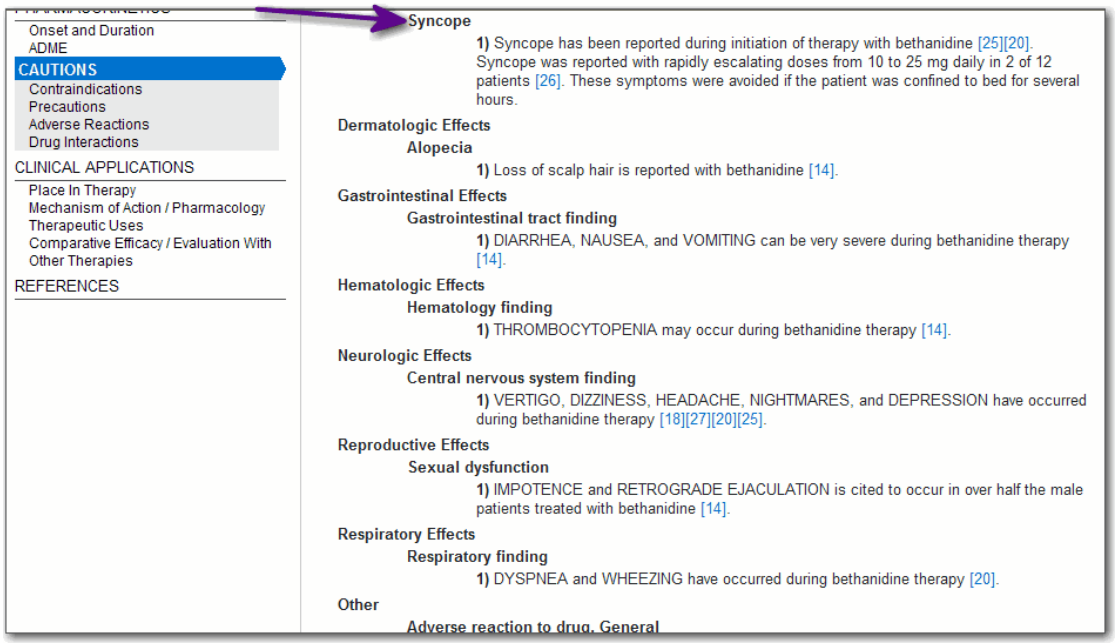
Click on a title to open the Adverse Effects (Summary) or Adverse Reactions (Detailed) topic in the associated drug information.



Click on the condition link to view additional information.



See Chapter 4: Drug Information for more information on drug information documents available in Micromedex 2.0.

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Drugs that Treat [*condition*]

This search provides the clinician with an alphabetical list of drugs in Micromedex 2.0 that treat a condition or disease.

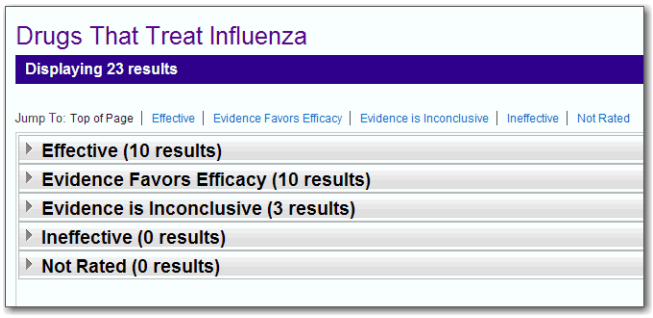
The results return drugs grouped alphabetically within an efficacy rating.

Build the search using the noun “drugs”, “medications”, “substances”, or “agents” with any form of the word “treat”.

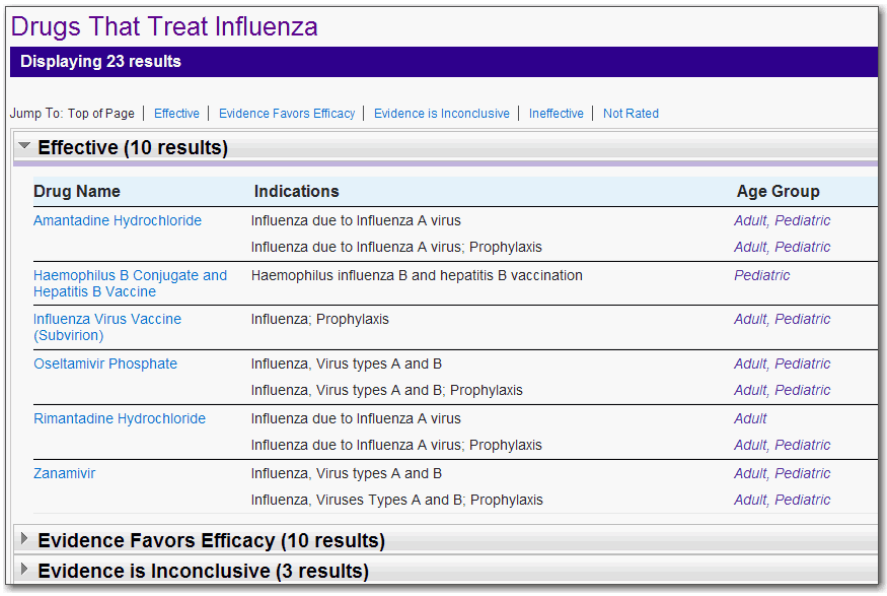
Example:

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

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.



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.

Click the link to open the summary drug information document, positioned in the DOSING & INDICATIONS section.

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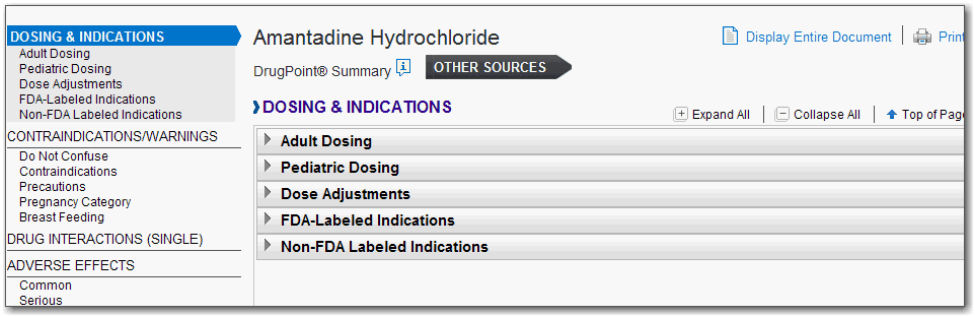

See Chapter 4: Drug Information for more information on drug information documents available in Micromedex 2.0.

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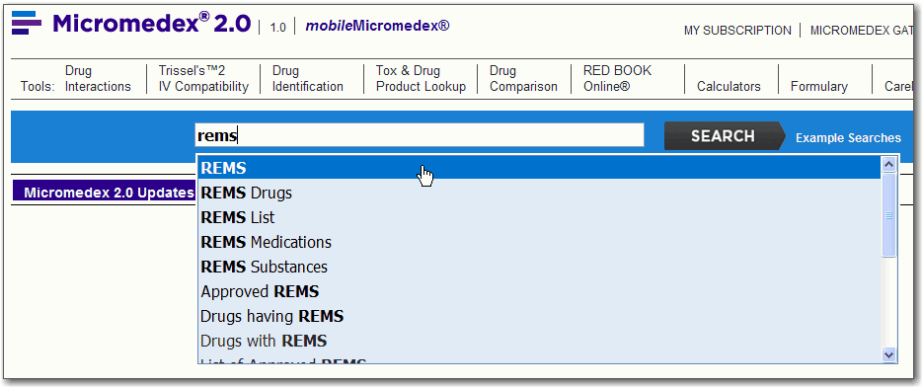
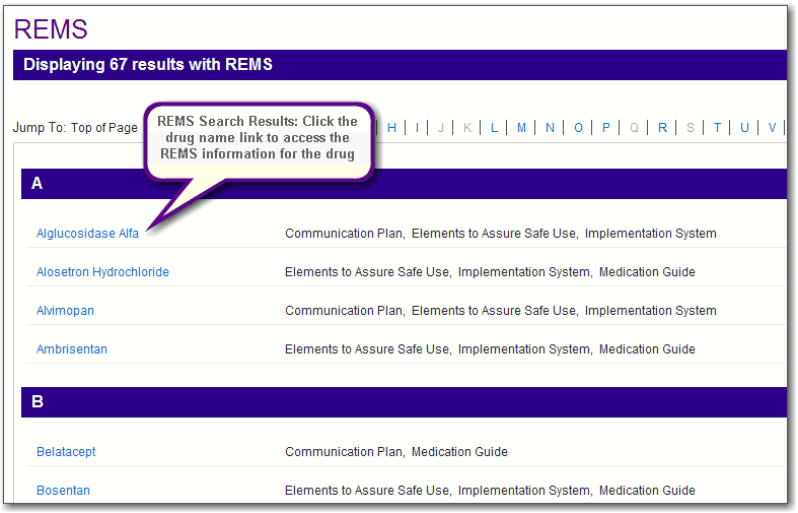
List of Drugs with a Risk Evaluation and Mitigation Strategy

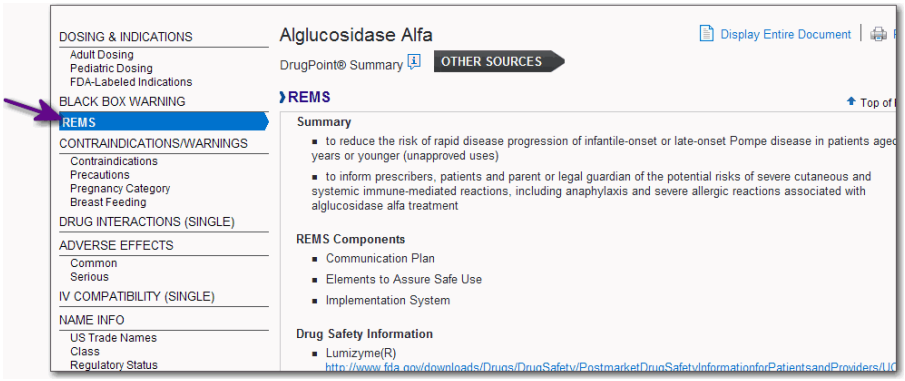
A list of drugs with current REMS requirements can be obtained without leaving the Micromedex 2.0 workflow to perform a search of the FDA or a manufacturer information source.

Simply type the search term **REMS** and click **SEARCH**.



Click the drug name link to open the document 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.





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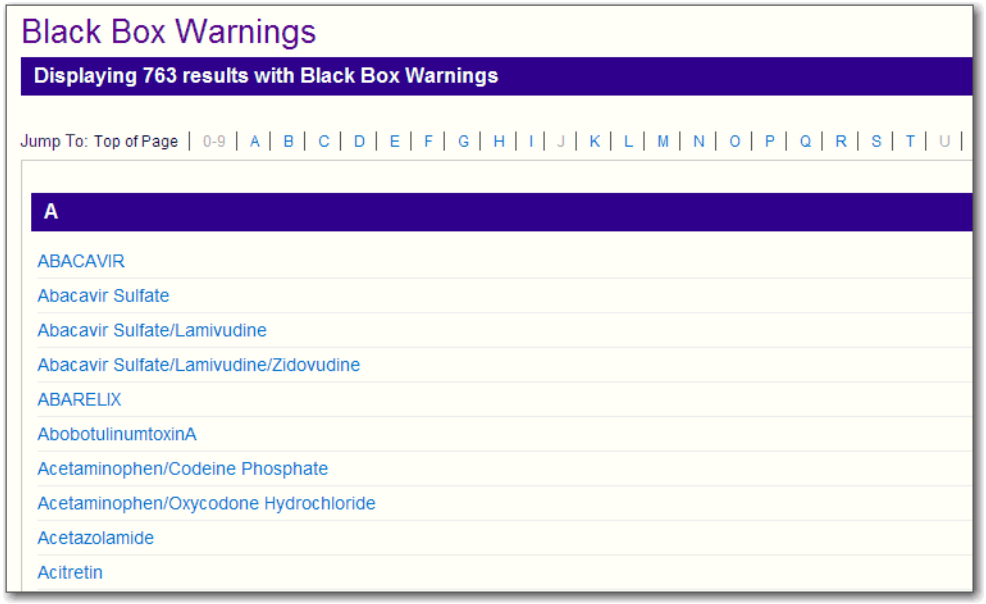
Black Box Warning List

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.

An alphabetical list of all the drugs in Micromedex 2.0 that have a black box warning is available with one search.

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



2. Select black box warning (or BBW) from the list.
3. Click the **SEARCH** button (or press the **Enter** key) to retrieve the list of drugs that carry this warning.

   The list of drugs with black box warnings is shown, in alphabetical order, as hypertext links.
4. Click on a title to open directly to the black box warning topic in the associated drug information.

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 the drug name link to open the document positioned at the top of the Black Box Warning topic in the associated drug information.

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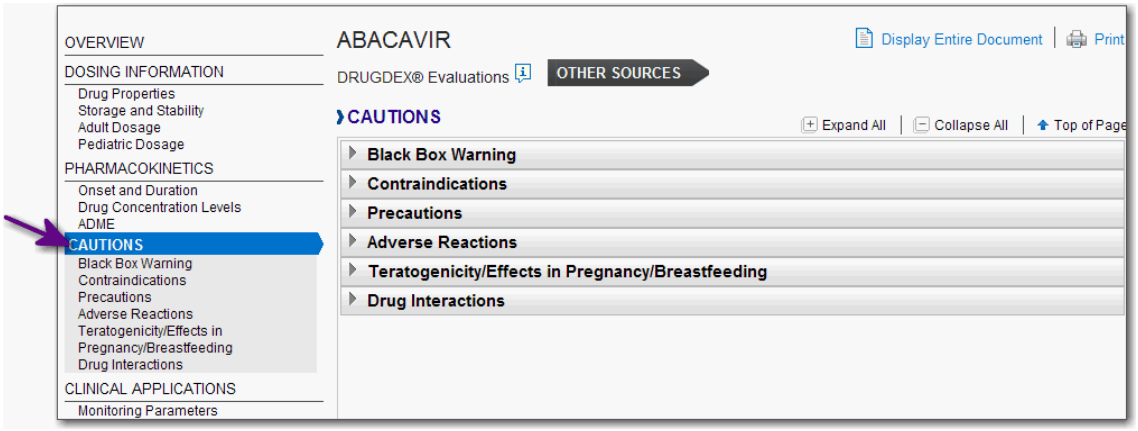

See Chapter 4: Drug Information for more information on drug information documents available in Micromedex 2.0.

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Searching Brand Name Drugs

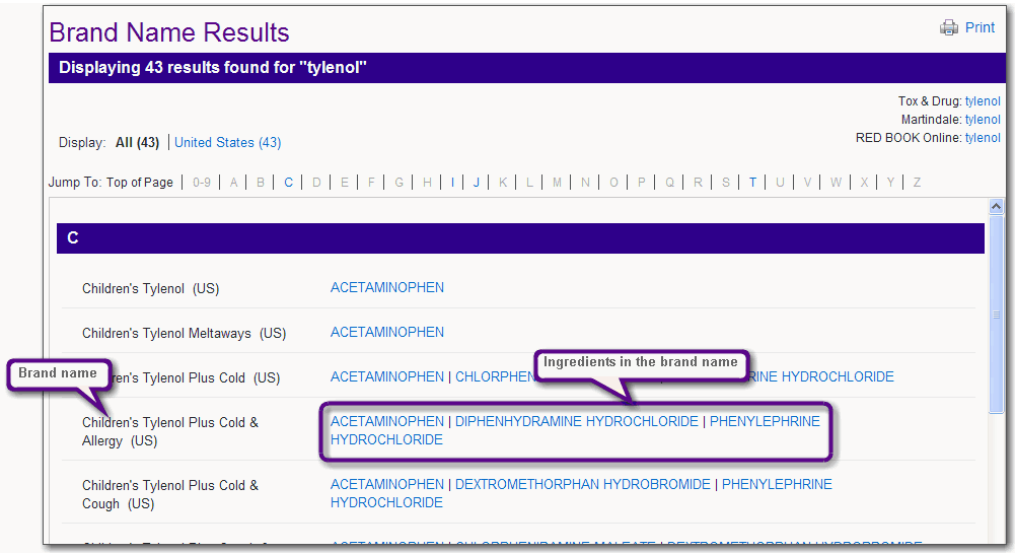
Micromedex 2.0 allows you to search for drug information using either the common generic or the brand name as the search term.

Note: Generic or 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.

Searching on a brand name drug that has only *one* generic drug counterpart will result in the Dashboard for the generic drug being displayed (e.g., “Erythromycin”). See “DASHBOARDS” on page 35 for more information on drug dashboards.

Searching on a brand name drug that has *multiple* generic drug counterparts will result in a list of the corresponding generic drugs being displayed on a *Brand Name Results* page (see “tylenol” example below).

The 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.



Drug information in Micromedex 2.0 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.

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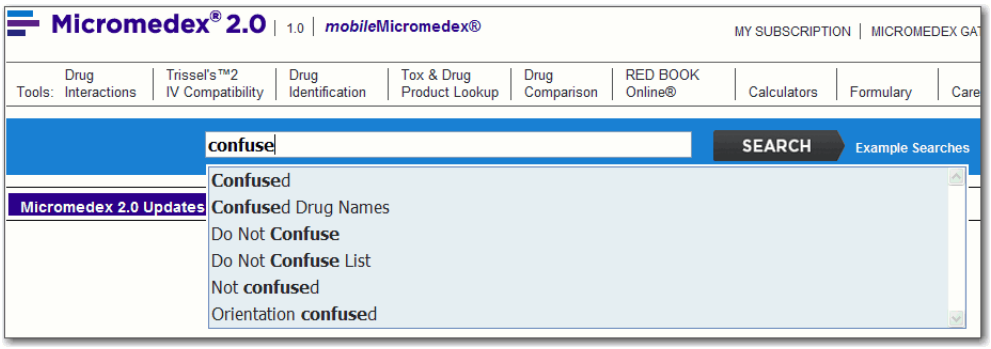
Confused Drug List - Drugs that Sound Alike/Look Alike

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.

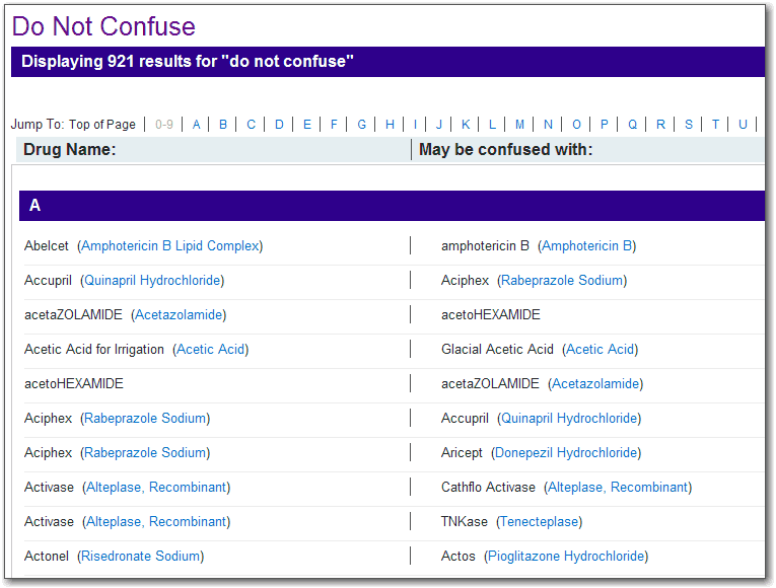
An alphabetical list of confused drug names, including look-alike and sound-alike name pairs can be found with a single search in Micromedex 2.0. The list consists of name pairs that have been involved in medication errors. The list also contains the names that appear on the Joint Commission's list of look-alike and sound-alike names.

1. Type 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".

   Click **SEARCH**.



- The *Do Not Confuse* - results page is displayed.
- 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.



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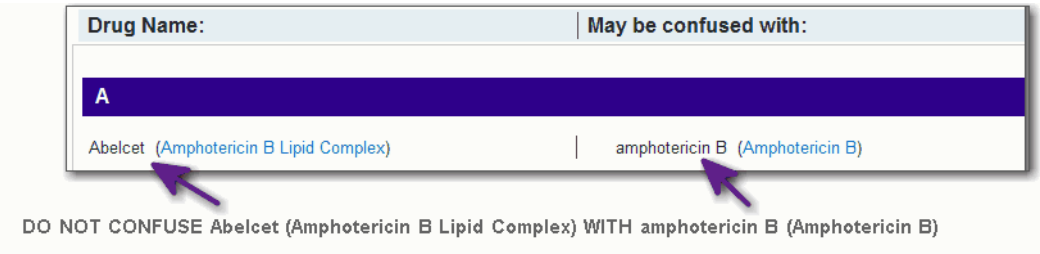

2. Click any link to open the associated dashboard.

3. To move to a title 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.

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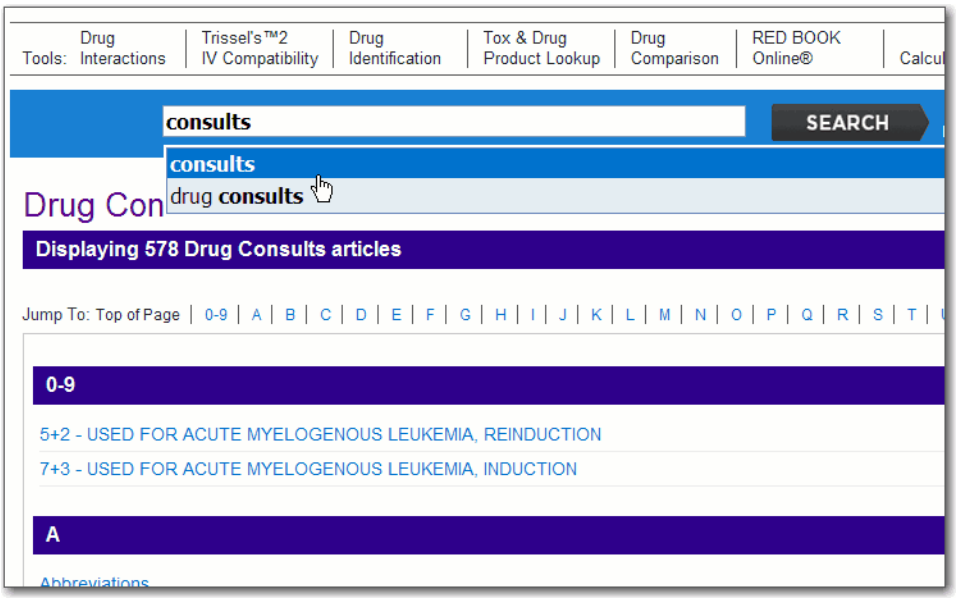
Drug Consults

An alphabetical list of all of the Drug Consult articles available in Micromedex 2.0 can be found with one search.

1. Type: "consults" or "drug consults" into the search box.



2. Select consults (or drug consults) from the list to retrieve the list of drug consult documents available.
3. The list of DRUGDEX® Drug Consults is shown in alphabetical order.
4. Click on a title to open the associated drug consult document.
5. To move to a title 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.

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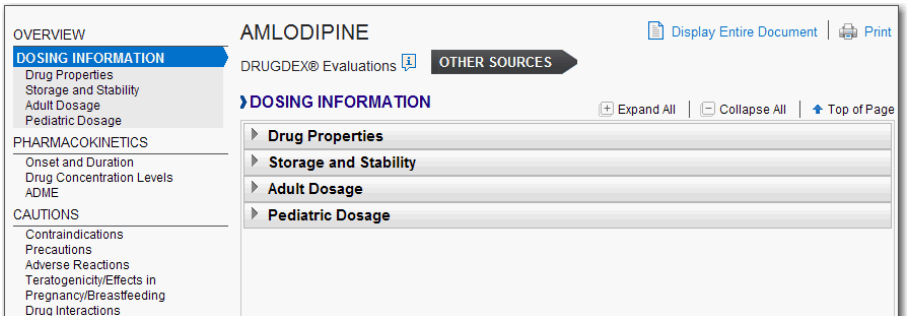
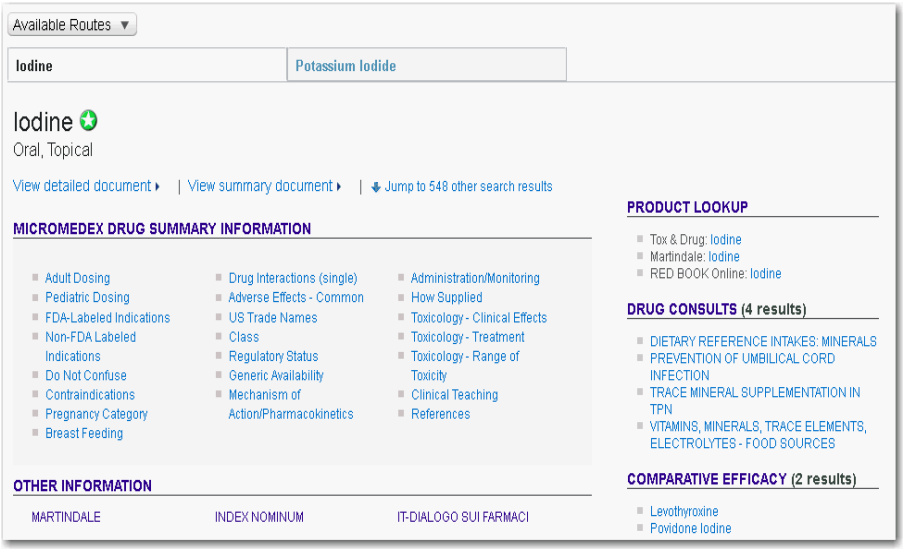
CHAPTER 3: SEARCH RESULTS

Search results can vary depending on the amount of information provided for the search and the type of match found. Types of search results available in Micromedex® 2.0 are:

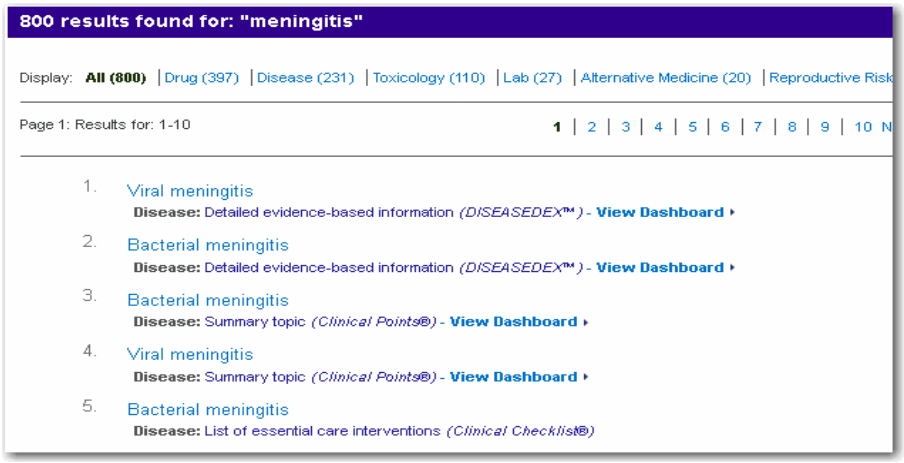
- **Directly to the document and topic**



- **Dashboard**



- **Intermediate Search Results**



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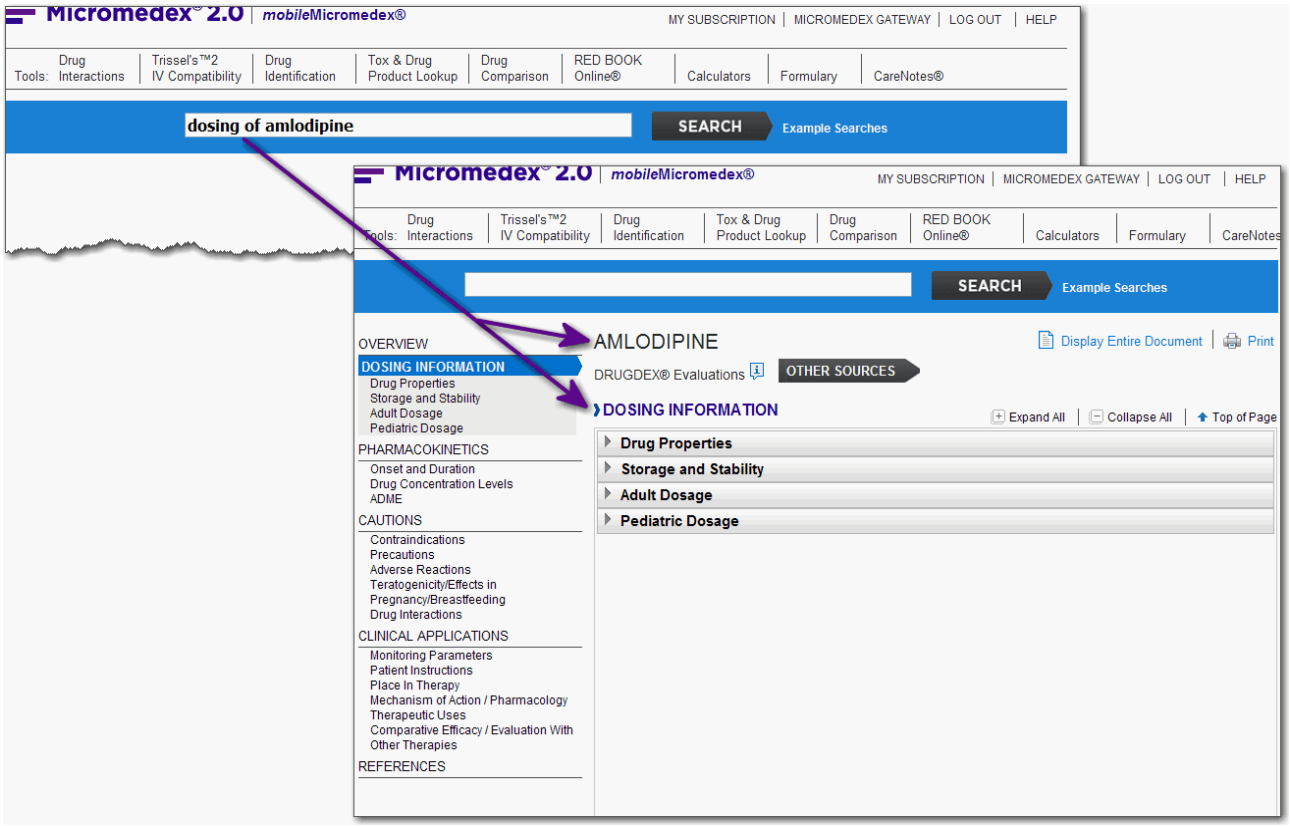
- **A List of**: Confused Drug Names, Black Box Warnings, Brand names, or Drug Consults or other targeted search results (see "Targeted Searches" on page 20)

GOING DIRECTLY TO THE DOCUMENT (& TOPIC SECTION)

Some searches in Micromedex 2.0 take you directly from the search query to the exact topic/ area in the document (see "Example Searches" on page 18). This behavior occurs when the application determines there is a high percentage of certainty that this is the one and only document ***and*** topic that will answer your search query.

For example, searching on "dosing of amlodipine" results in the Amlodipine Besylate DrugPoint® Summary document opened to the Dosing and Indications topic.

Not all phrases found in the drop-down suggestion list will result in a match directly to the document topic, but more and more direct matches will be available with each release of Micromedex 2.0.



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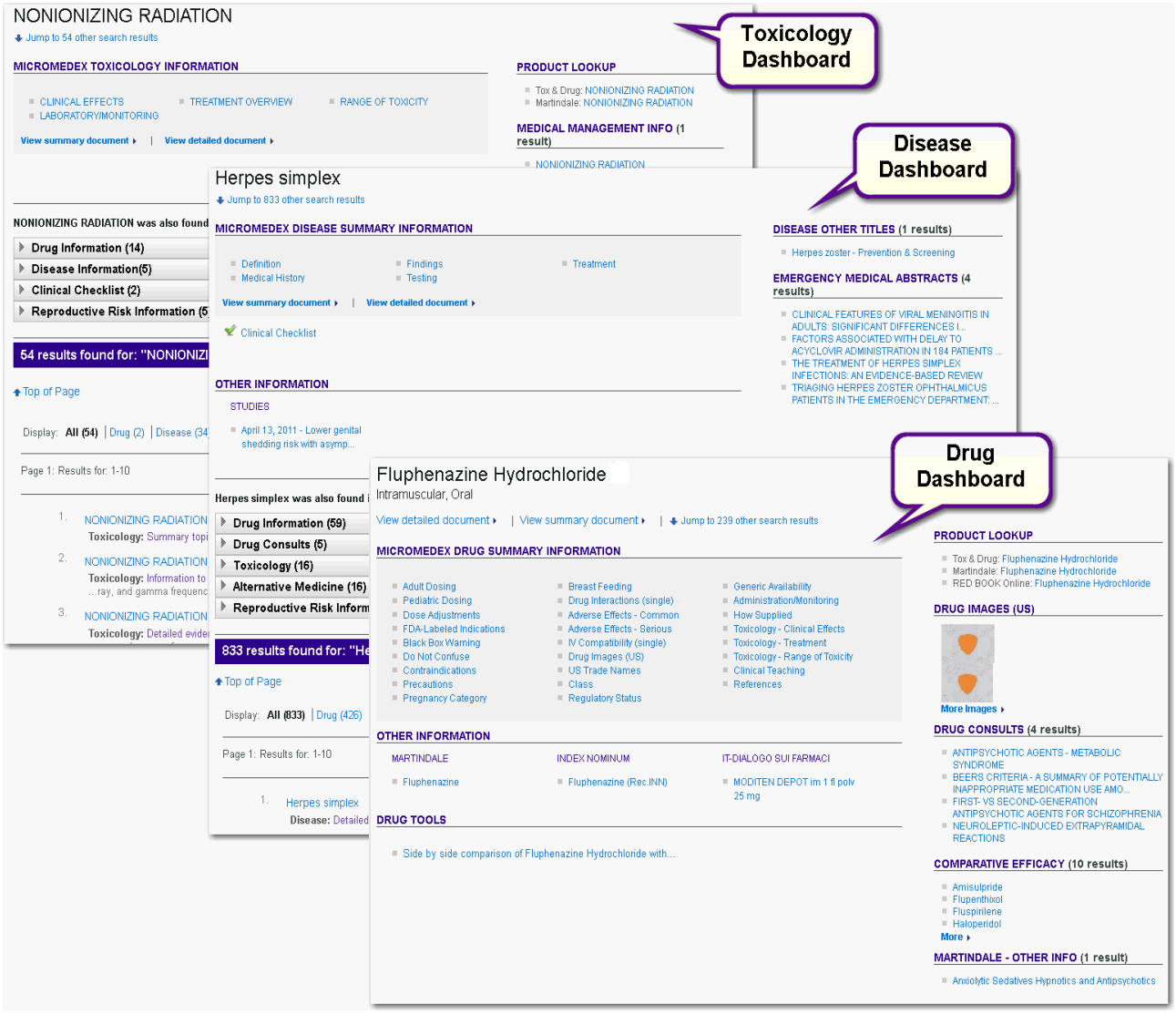
DASHBOARDS

Whether you arrive on the dashboard directly from your search, or you clicked on the *View Dashboard* link from the *Intermediate Search Results* page, the dashboard gathers all the related results for the search together into one compact view.

The purpose of the dashboard is to show all relevant and related information at a glance, so you can quickly navigate to your specific area of interest. Based on the search term(s) used, Micromedex 2.0 may take you directly to the dashboard page, when the application deems it highly likely that this is your area of interest or the answer to your question.

The amount and layout of the information shown on a dashboard will vary by your subscription and the various dashboard types. Dashboards are available for Drug, Disease, Toxicology and Alternative Medicine information. A description of each follows.



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DRUG DASHBOARDS

Dashboards deliver you directly to the information you seek with the least amount of clicks and drill-downs possible. We didn't want you to have to remember rules or special search methods to find your answer, so whenever possible, we bring the answer directly to you.

The dashboard displays all of the relevant and related information for the substance searched.

Links are available: directly into to the summary document, to a related drug consult, consumer drug information, other subscribed drug information (PDR®, Consumer Drug Information, P&T QUIK, Martindale, Index Nominum, international drug databases such as: Dialogo sui Farmaci and eMC SmPC), etc.

For an explanation of each area found on a drug dashboard, see "Information & Links on Drug Dashboards" on page 47.

Dashboards presented for searches on substances can vary depending on your subscription and the type of information available for your search term. In many cases, the search will go directly to the dashboard for the substance searched. However, there are conditions that may follow a slightly different work flow. See "Search Results When..." on page 37 and "Searching on Brand Names" on page 40 for detailed explanations on how these searches can produce a different result.

Note: Dashboards for Disease (page 51), Toxicology (page 54), and Alternative Medicine (page 56) organize information differently from Drug Dashboards. Each is explained in detail later in this chapter.

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SEARCH RESULTS WHEN...

Searching on a Substance

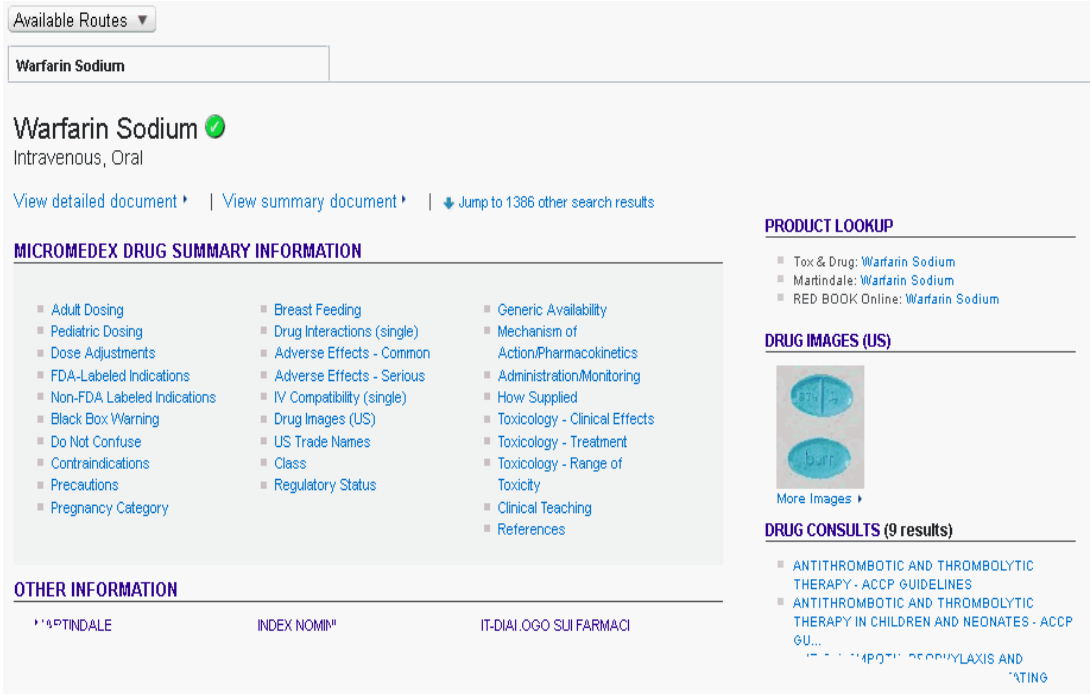
Type the substance in the search field. Whenever possible, Micromedex 2.0 gathers all of the related matches and presents the results in a dashboard layout.

With Only One Possible Answer

Search Example: Warfarin

Search Micromedex 2.0 using the substance “Warfarin” and the Warfarin Sodium dashboard displays. There is only one possible match for the search term “Warfarin”. This illustrates a drug dashboard that is shown when there is only one possible match to your substance. Even though the search was on “warfarin” the Warfarin Sodium drug dashboard is shown.

Tip: A search using a brand name may produce an intermediate result page. See “Searching Brand Name Drugs” on page 28 and “Searching on Brand Names” on page 40 for more information.



When more than one possible answer exists for the substance searched, a ‘tabbed’ (or combined) dashboard page is displayed. See the example shown on the following page.

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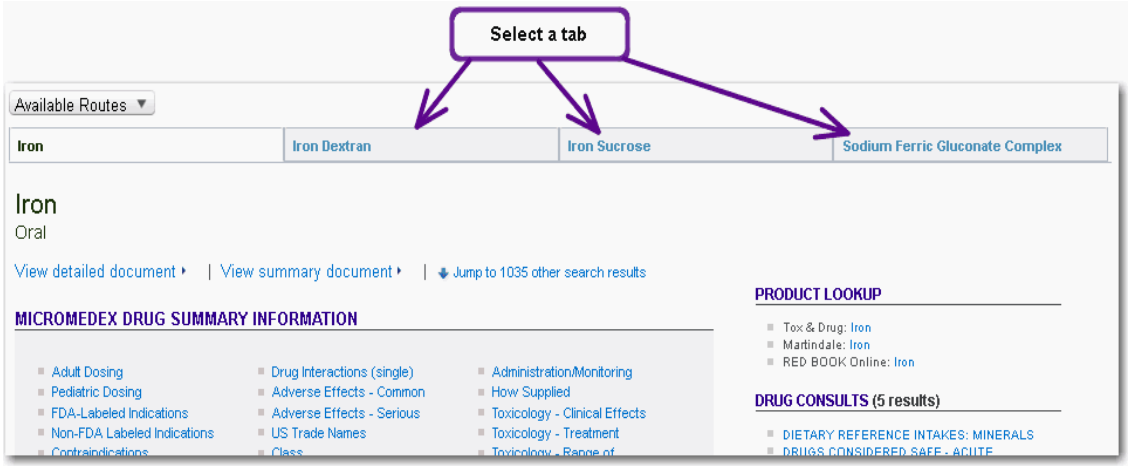
When Multiple Answers are Possible

Search Example: Iron

When searching on a substance such as “Iron”, it is not known whether you are looking for information on: Iron, Iron Dextran, Iron Sucrose, or possibly even Sodium Ferric Gluconate Complex. Rather than make any assumptions, Micromedex 2.0 returns a dashboard with tabs to allow you to choose the specific substance.



A search on “iron” presents the Iron dashboard because it is the closest (and in this case, the exact) match to your search term. However, as stated previously, it wasn’t known if you were looking for iron, or another form/route of iron. Tabs across the top of the page identify the other dashboards available for the other forms/routes found. To view the other dashboards, click the substance name link on the tab at the top of the page.

The Iron dashboard shown above includes links to the summary drug information. The dashboard also provides quick access to related information via links to: Drug Consults, Comparative Efficacy, Other Information (global drug information), etc.

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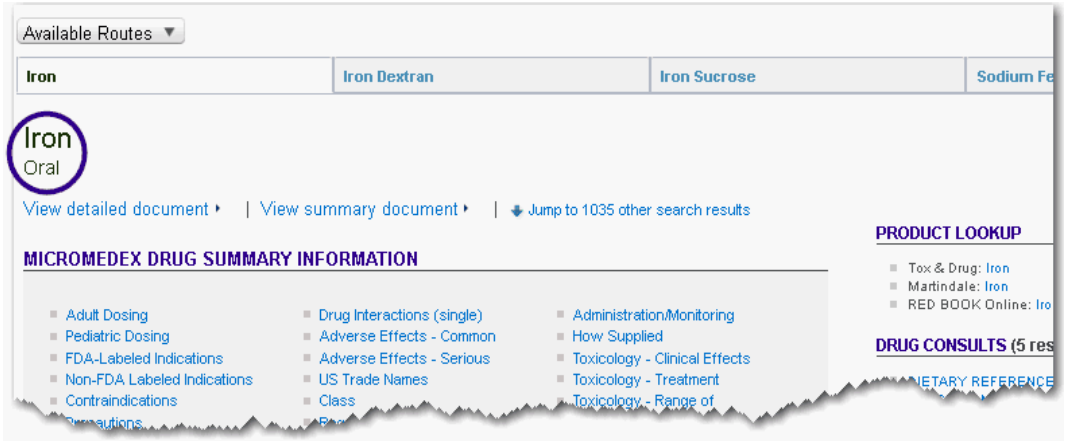
Available Routes

Information on the routes available for all substances returned in the search can be displayed by hovering your cursor over the **Available Routes** drop-down. The available routes are shown directly below the substance.

Route

The selected dashboard displays the available routes for the substance directly below the title (see Oral in the Iron dashboard example below).



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Searching on Brand Names

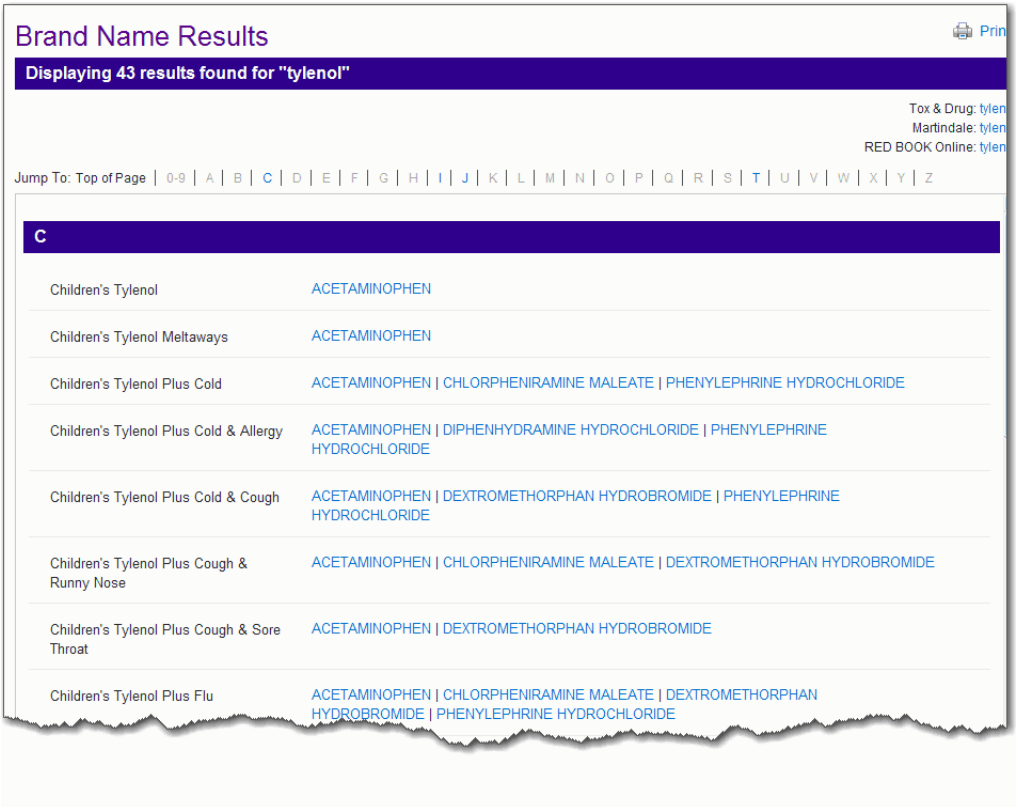
Micromedex 2.0 is designed to accommodate searches by generic or brand name. When there is a one-to-one match (only one generic for the brand) your search will land directly on the appropriate Drug Dashboard.

Note: Subscribers to the international drug databases (Italian, United Kingdom, etc.) see different brand name search results and should reference "International Drug Customers" on page 43.

When a brand name drug may be comprised of many different formulations and/or routes, there is a many-to-one match. When this occurs, the following workflow is presented:

Using the example of the search term "Tylenol", demonstrates there are too many possible results to know, beyond a shadow of a doubt, exactly which drug you want.

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.). Therefore, it is impossible to go directly to a dashboard.



In instances like the one shown above, the Micromedex 2.0 application provides you with the *Brand Name Results* page, which allows you to choose the specific brand name and/or formulation before presenting you with the associated drug dashboard. See "Searching Brand Name Drugs" on page 28 for more information and examples.

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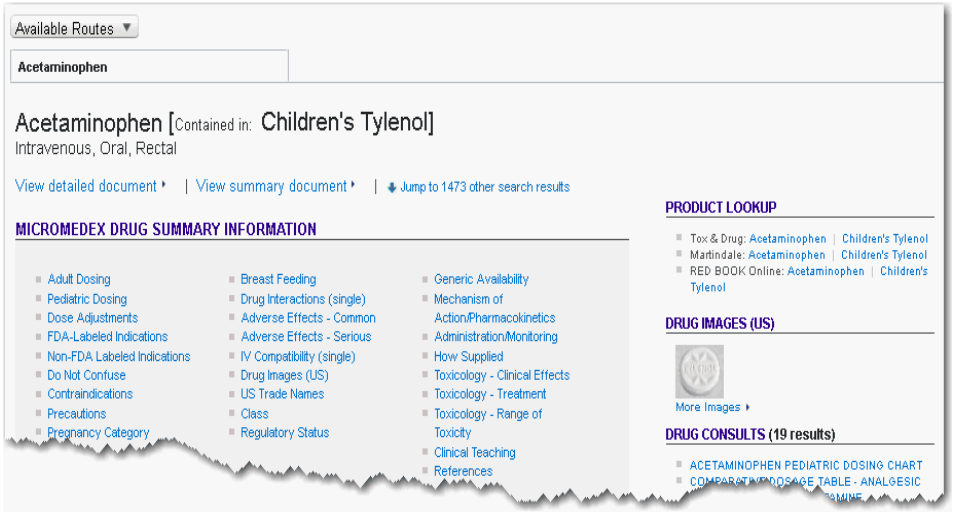
When you click the link to the desired information, the dashboard is presented.

Notice that the brand name is included in brackets next to the title:

Acetaminophin [Contained in: Children's Tylenol]



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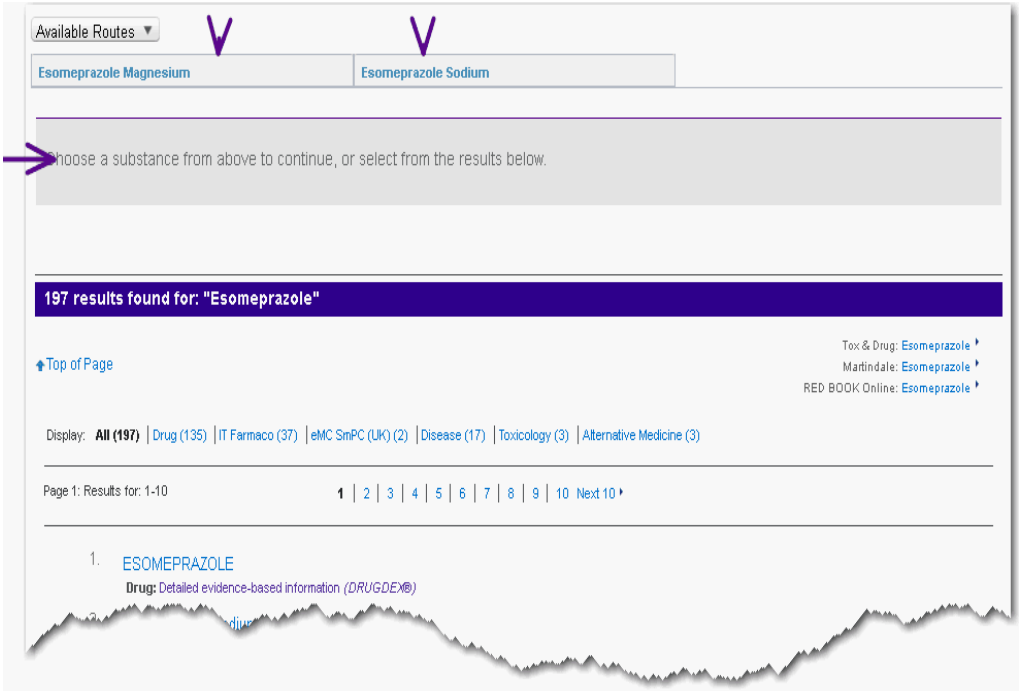
Brand Name with Multiple Routes (Administerable Forms)
Example: Nexium (Esomeprazole Magnesium) & Nexium I.V. (Esomeprazole Sodium)

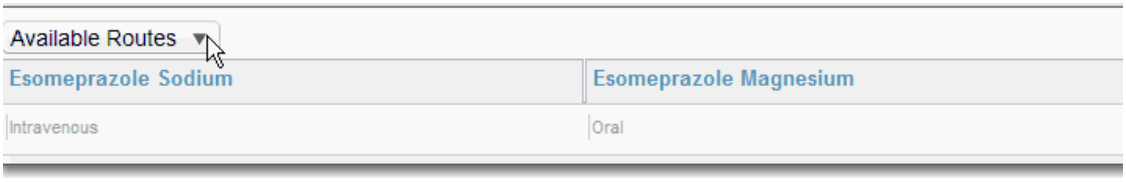
Searching on the term "**Nexium**" in Micromedex 2.0 presents the *Brand Name Results* page (described previously) where you can choose Nexium (Esomeprazole Magnesium) or Nexium I.V. (Esomeprazole Sodium).

However, if you search on "**Esomeprazole**" you will receive a preliminary search result page similar to the following:



This interim page appears because there are two different substances available for esomeprazole. Before delivering you to the dashboard, you must choose which form you are looking for.

To view the route for a substance, hover your cursor over the Available Routes drop-down. This displays the route below the substance name link.



Choose the substance by clicking the name link. The drug dashboard for the selected substance is then displayed.

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International Drug Customers

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 United States drugs. When clicked, the corresponding drug dashboard is displayed.

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 (such as, **Italia** in the example above). View only results for US brand name drugs by clicking on the **United States** link.

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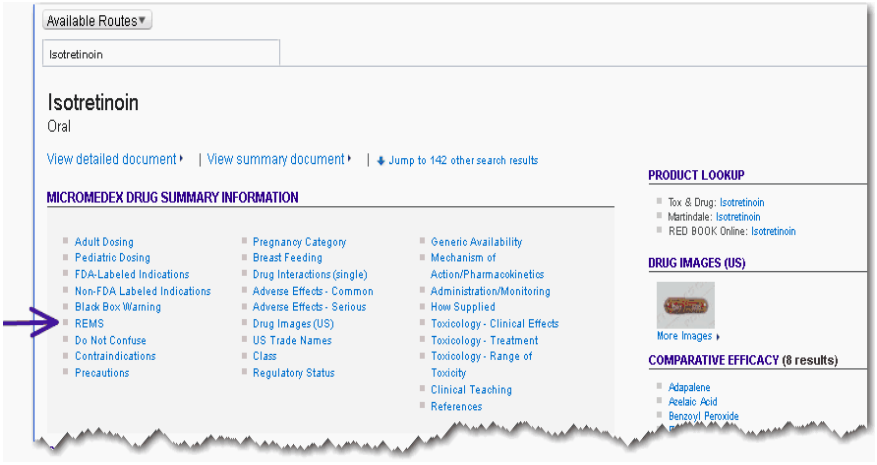
Risk Evaluation and Mitigation Strategies (REMS) on the Dashboard

Any drug approved by the Food and Drug Administration (FDA), can have risks associated with its use. These risks are communicated through the product package insert.

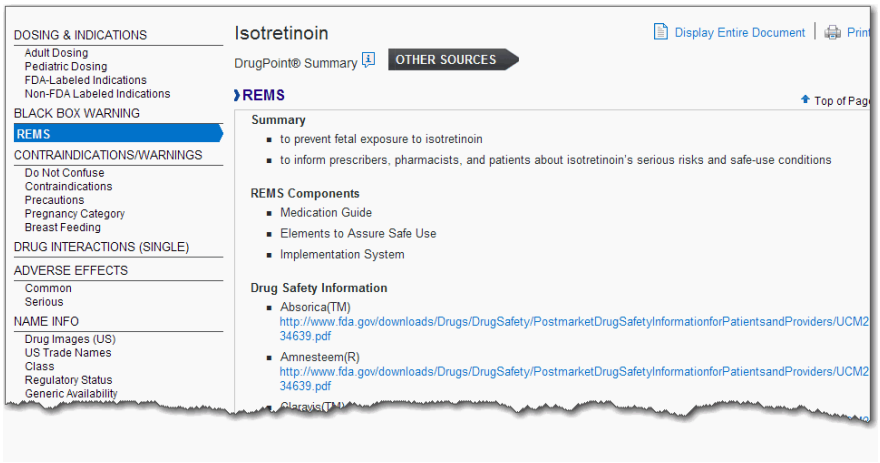
The Food and Drug Administration Amendments Act (FDAAA) enacted in 2007 provides the FDA with the authority to require a Risk Evaluation and Mitigation Strategy (REMS) from manufacturers to ensure the benefits of a drug or biological product outweigh the risks. In some cases, however, the manufacturer and/or the FDA may determine 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.

The FDA Postmarket Drug Safety Information for Patients and Providers Web site lists the drugs with approved REMS, including the date of the approval, the specified REMS components for the drug (Example: medication guide, elements to assure safe use, implementation system) and a link to the REMS document for the drug.

Searches for drugs and biological products in Micromedex 2.0 that carry an FDA-approved REMS display a link on the dashboard document topic links.



Click the REMS link to open the selected drug document positioned directly in the REMS topic.



The applicable 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.

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A list of all drugs in Micromedex 2.0 with REMS information can be obtained by employing the REMS targeted search. See “List of Drugs with a Risk Evaluation and Mitigation Strategy” on page 25 for details and examples.

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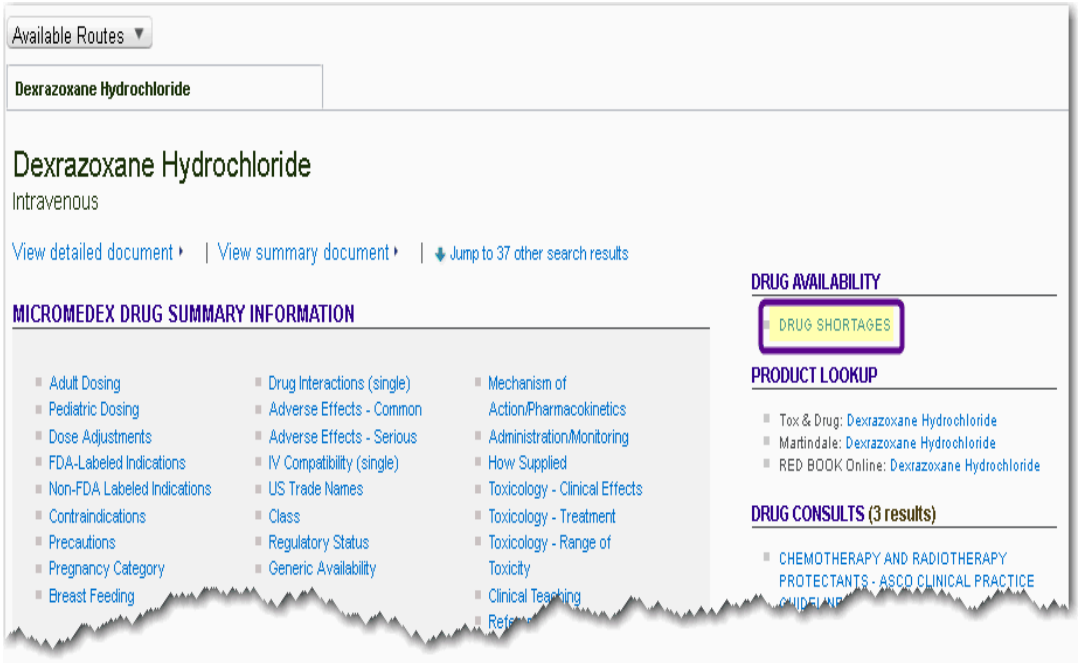
Drug Shortages on the Dashboard

Drug availability can be affected due to a variety of problems in the market, such as manufacturing and quality problems, delays, and discontinuation. When this occurs and becomes known to the US Food and Drug Administration (FDA), the drug will be listed on their Web site on their drug shortage page. The cause of the shortage, if known, is also listed.

Micromedex 2.0 displays a link to the DRUG SHORTAGES - Drug Consult document below the DRUG AVAILABILITY heading on the drug dashboards when searching for drug that is on the FDA drug shortage list. This document includes a link to the FDA Web site where additional information regarding the drug shortage may be available.



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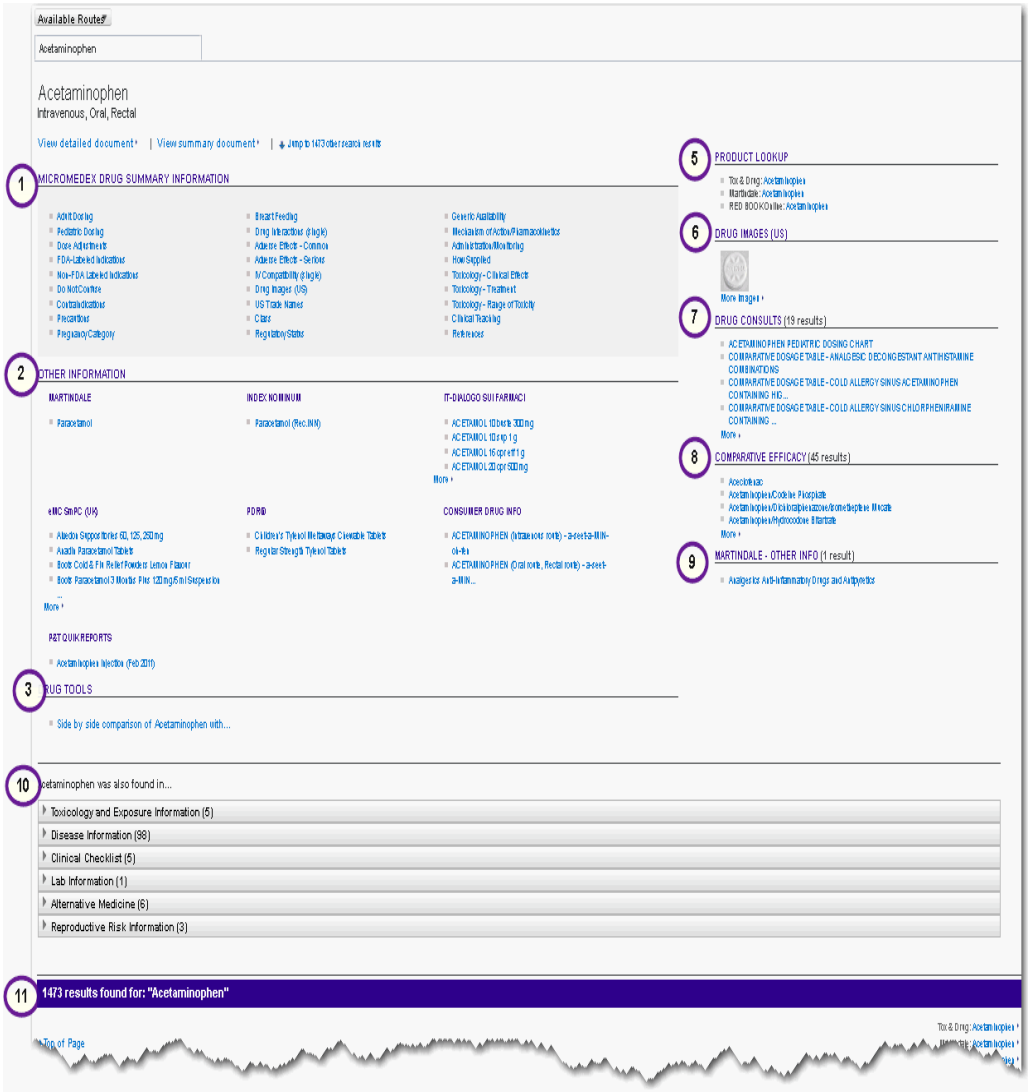
Information & Links on Drug Dashboards

Information presented on drug dashboards contains links to related topics. The following example shows a typical drug dashboard:



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Note: Summary vs. Detailed Dashboards
When summary information is not available for a substance, the detailed drug dashboard is displayed. See "DETAILED DRUG DASHBOARDS" on page 49 for more information and examples of a detailed drug dashboard.

The substance is shown at the top of the page, just below the search box and **Available Routes** (see Acetaminophen) Formulary status, if applicable, is designated by an icon (Formulary Advisor® customers).

1. **MICROMEDEX DRUG SUMMARY INFORMATION**
   Below this heading are links to all of the topics in the summary (DrugPoints) document. Click a link to open the summary document positioned directly in the topic link selected.

   View summary document > | View detailed document >
   These links open the document specified (summary or detailed) at the top (beginning) of the document. The summary document link opens the DrugPoint summary document; the detailed document link opens the DRUGDEX Drug Evaluation document.

2. **OTHER INFORMATION**
   When information in other subscribed databases such as: PDR , Index Nominum, Martindale, Consumer Drug Info, P&T QUIK, or one of the available international drug databases (IT-Dialogo sui Farmaci or eMC SmPC (UK) for example) exists for the drug searched, it is shown using links below the OTHER INFORMATION heading.

3. **DRUG TOOLS**
   Click **Side by side comparison of** *drug_name* **with**... to open the Drug Comparison Tool, populated with the current drug. For additional information on this tool, see "Drug Comparison Tool" on page 163.

4. **DRUG AVAILABILITY** (not applicable to Acetaminophen example)
   When the drug searched is associated with an FDA drug shortage, the Micromedex 2.0 Drug Consult is listed below this heading.

5. **PRODUCT LOOKUP**
   Clicking the **Tox & Drug**, **Martindale** or **RED BOOK** links shown below this heading result in searches in the associated Tool or application using the drug used in the initial search. See Chapter 12: Tox & Drug Product Lookup Tool for additional information. RED BOOK subscribers may see links to RED BOOK in this area of the dashboard. Click the RED BOOK link to display search results in RED BOOK based on the active ingredient of the drug. See "Searching RED BOOK Online®" on page 170 for more information on active ingredient search results in the RED BOOK product.

6. **DRUG IMAGES**
   If available, photos of the drug are shown. If more than one image exists, access additional images by clicking the **More Images >** link.

7. **DRUG CONSULTS**
   Drug Consult articles that may be applicable to, or associated with, the drug are shown as links. Click the article title to open the drug consult.

8. **COMPARATIVE EFFICACY**
   Click a link to view the comparative efficacy of the selected drug with others. If

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comparative information is not available, the DrugPoint document opens at the top of the dosing topic.

9. **MARTINDALE - OTHER INFO**
   Shown if you are a subscriber to the Martindale database, and if additional information for the drug is available.

10. ***x* was also found in...** Disease/Labs/Clinical Checklist/Reproductive Risk/etc. Information Headers
    When the drug is found in other Micromedex 2.0 content or databases, the expandable header(s) (accordion bars) display, along with the number of matches found. Click the header to expand the accordion bar and view the list of results.

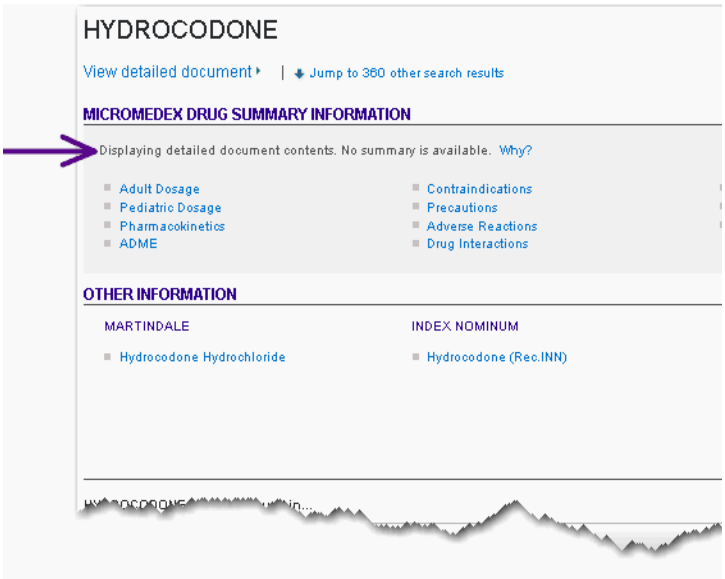
11. **x Results found for** drug_name
    This section displays all matches found for the substance and is organized exactly like the Intermediate Results Page. Matches are ranked by relevance and shown, in numbered order. Each result is typically presented on multiple lines organized in the following order:

- The title
- Route (if applicable)
- The type of information (drug, disease, lab, etc.), the type of document (detailed, summary, etc.), and a link to the associated dashboard (if available)

DETAILED DRUG DASHBOARDS

Detailed drug information does not always have corresponding summary information.

In the occasional instance where a summary document does not exist for the substance searched, the dashboard presented links to the detailed drug document topics rather than the summary. You will notice a message stating that you are viewing the detailed information with a link to an explanation for the list of possible reasons this can happen.



The drug may not be commercially available. This can be due to various reasons such as discontinuation, recall, voluntary withdrawal, or investigational status. Commercial availability may vary by country.

The search was for class-type information. Summary information is not provided for: Antacids, Sunscreens, Contraceptive Combinations, Parenteral Amino Acids, and other classes/topics.

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The drug may have varying ingredients for the same name depending on manufacturer: eg, Green Soap

The summary information has not yet been created.

Information on a Dashboard When No Summary Information is Available

The information shown on the Detailed Drug dashboard is the same as what is displayed on the Summary Dashboard *except*:

- Links in the MICROMEDEX DRUG SUMMARY INFORMATION section link to the DRUGDEX® Drug Evaluation (rather than the DrugPoint® Summary drug document)
- No drug images are available on the Detailed Dashboard

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DISEASE DASHBOARD

Summary Information

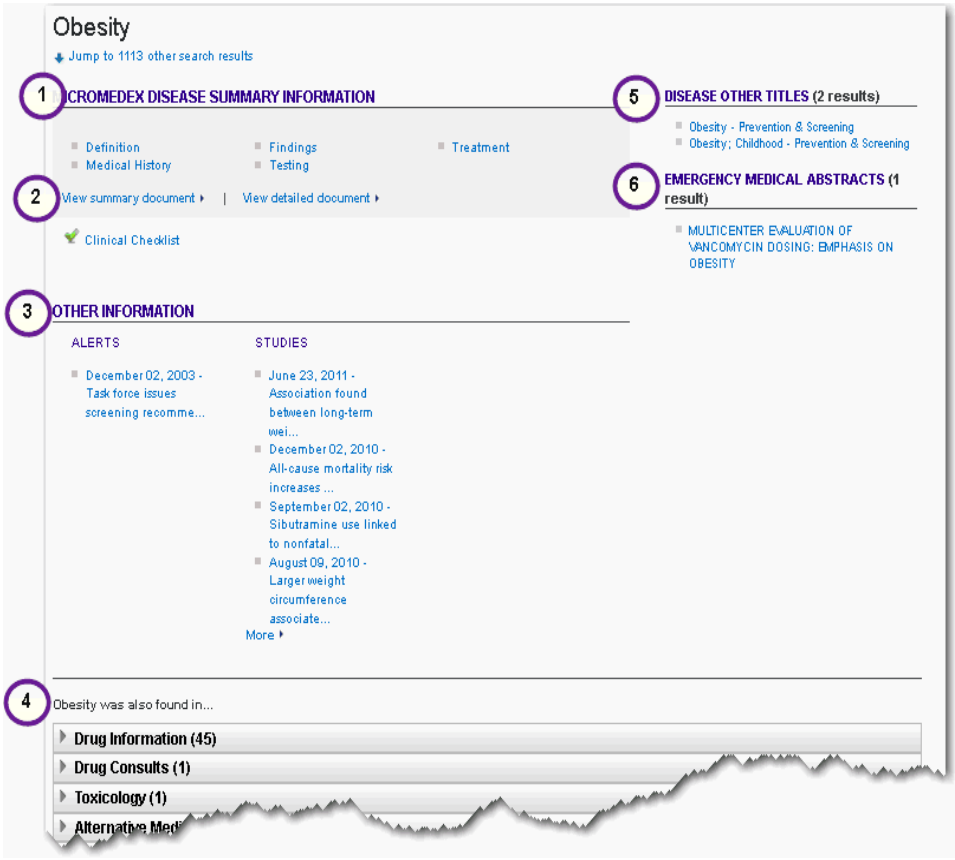
All related information for the selected disease or condition is gathered together in a logical and organized presentation so you can find the answer to your specific question fast.

Note: Dashboards for Drug Information (page 36), Toxicology (page 54), and Alternative Medicine (page 56) organize information differently from Disease Dashboards. Each is explained in detail in this chapter.

The purpose of the dashboard is to show you all relevant and pertinent related information at a glance, so you can quickly navigate to your specific area of interest. The search query didn't hold enough information to be able to take you directly to a document and topic, but information related to your search exists.

Summary vs. Detailed Dashboards

When both summary and detailed disease information exists for a disease or condition, the search always presents the summary dashboard first by default. The following is an example of a typical disease summary dashboard:



1. **MICROMEDEX DISEASE SUMMARY INFORMATION**
   Below this heading are links to all of the topics in the summary disease document.

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Click a link to open the summary document (ClinicalPoint®) positioned directly in the topic link selected.

2. **View summary document > | View detailed document >**
   These links open at the top (beginning) of the selected document. The *View summary document* link opens the ClinicalPoint® summary document; the *View detailed document* link opens the DISEASEDEX® General Medicine document.
3. **OTHER INFORMATION**
   Links to published Studies and Alerts related to the condition are shown as links.
4. "***x* was also found in...**" Drug/Toxicology/Labs/etc. Information Headers
   When the condition is found in other Micromedex 2.0 content, the expandable headers display, along with the number of matches found. Click a header to open the list of results.

   For example, when viewing a condition, laboratory test information may be available - so you may see hypertext links to common labs used for this condition when you click the Labs Information accordion bar. Click the link to open the document.
5. **DISEASE OTHER TITLES**
   Other phases of a disease or condition may exist (Acute, Chronic, Prevention & Screening for example). Links to this information are shown below the DISEASE OTHER TITLES heading.
6. **EMERGENCY MEDICAL ABSTRACTS**
   When Emergency Medical Abstracts from Rick Bukata, MD and Jerry Hoffman, MD related to the searched condition are found, they are shown as links below this heading. Click the link to view the abstract.
7. ***x* Results found for** "disease_name"
   This section displays all matches found for the search term and is organized exactly like the Intermediate Results Page. Matches are ranked by relevance and shown, in numbered order. Each result is typically presented on multiple lines organized in the following order:

- The title
- The type of information (drug, disease, lab, etc.), the type of document (detailed, summary, etc.), and a link to the associated dashboard (if available)
- A snippet of text with the search term(s) shown in bold text
- The topic

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DISEASE DASHBOARDS

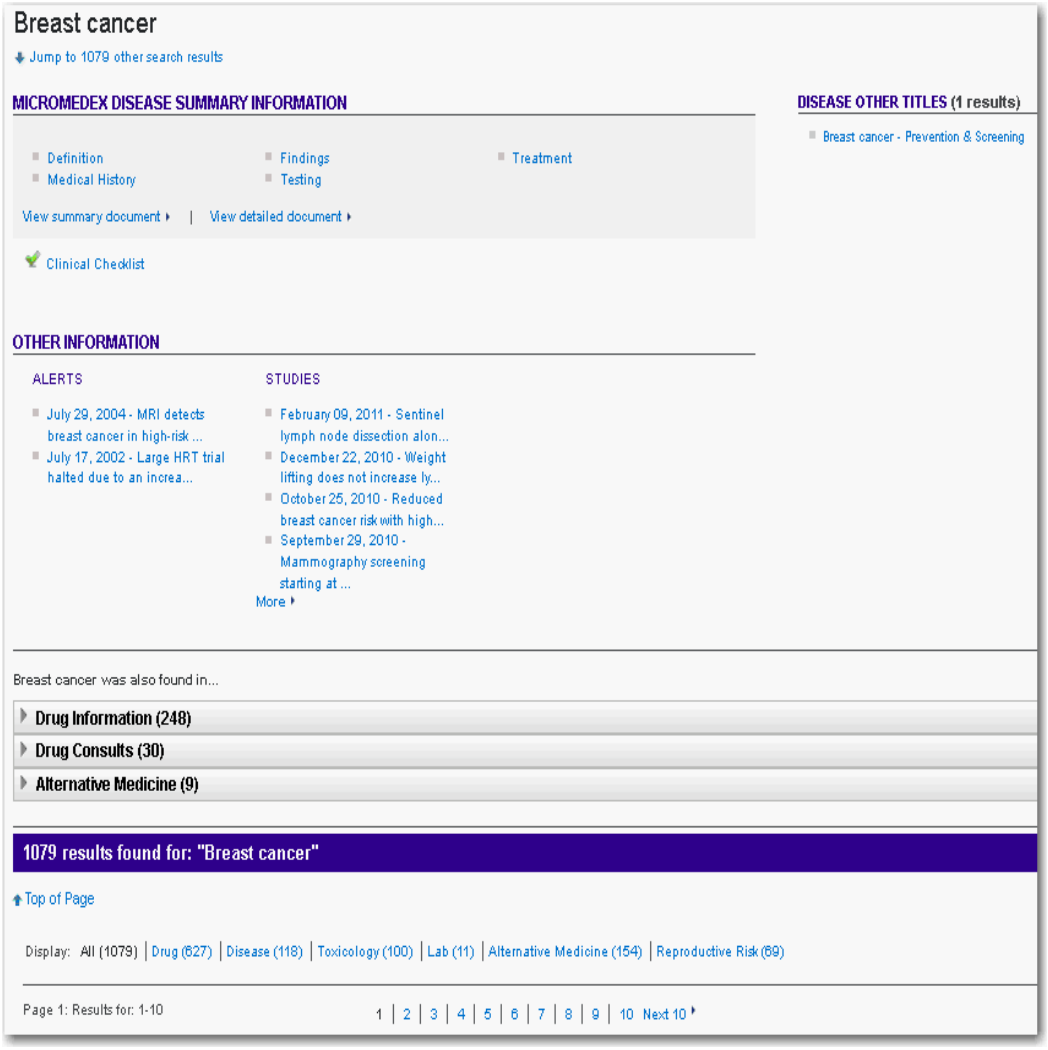
Detailed Information

Upon rare occasion, a ClinicalPoint® Summary document may not exist for the search term, and the Detailed Disease Information dashboard is shown by default.

When both detailed and summary information is available, the View Dashboard link is only available from the Intermediate Search Results (located at the bottom of the Summary Disease dashboard, beneath the ***x Results found for*** "disease_name" heading).

The information shown on the Detailed Drug dashboard is the same as what is displayed on the Summary Dashboard *except*:

- Links in the MICROMEDEX INFORMATION section link to the detailed disease (DISEASEDEX®) document.



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TOXICOLOGY DASHBOARDS

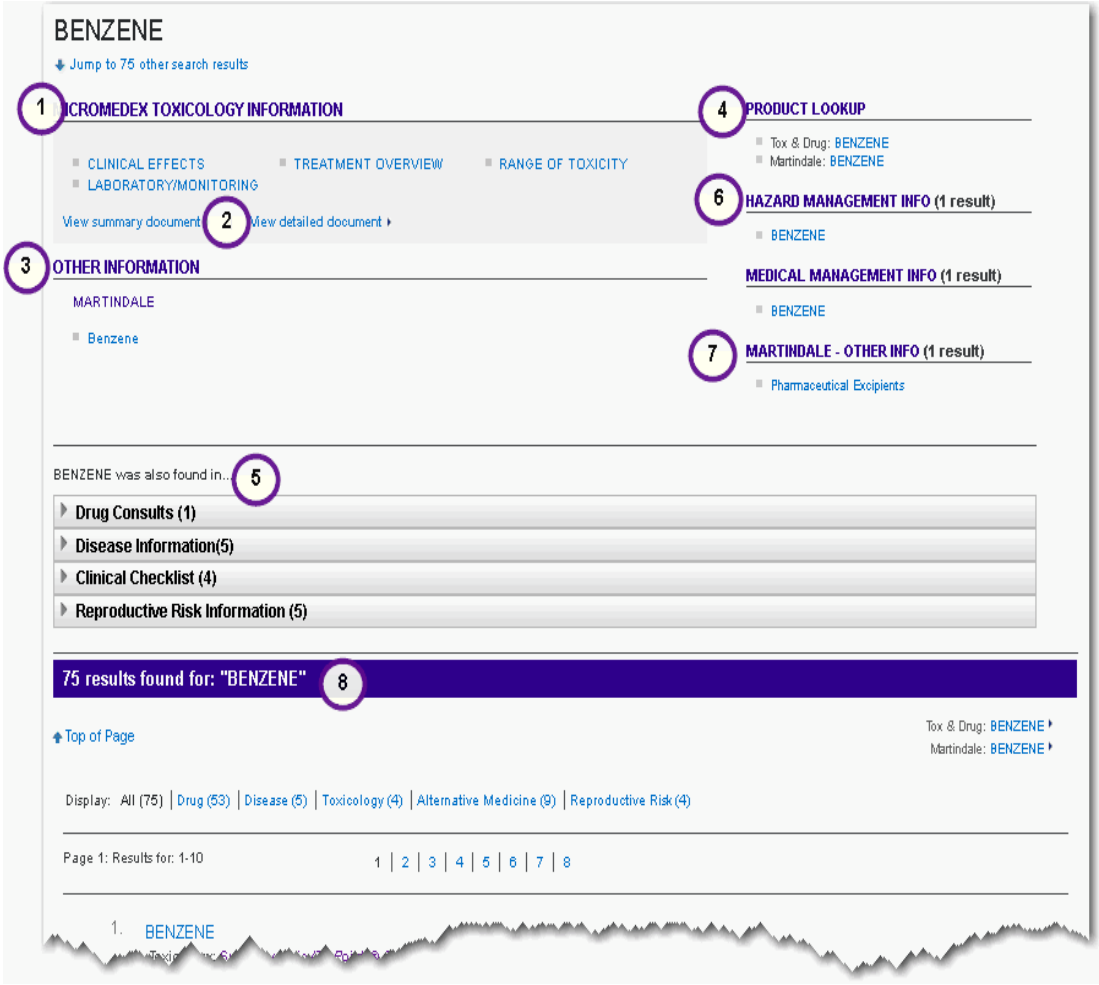
Summary Information

Related information for the selected ingredient, drug, or substance is gathered together in a logical and organized presentation so you can find the answer to your specific question fast.

Note: Dashboards for Drug (page 36),Disease (page 51), and Alternative Medicine (page 56) organize information differently from Toxicology Summary dashboards. Each is explained in detail in this chapter.

The purpose of the dashboard is to show you all relevant and pertinent related information at a glance, so you can quickly navigate to your specific area of interest. The search query didn't hold enough information to be able to take you directly to a document and topic, but information related to your search exists.

The following is an example of a typical toxicology summary dashboard:



The substance (or ingredient, or species, etc.) is shown at the top of the page, just below the search box.

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1. **MICROMEDEX TOXICOLOGY INFORMATION**
   Below this heading are links to all of the topics in the summary document. Click a link to open the ToxPoints® summary document positioned directly at the topic link selected.
2. **View summary document > | View detailed document**
   These links open at the top (beginning) of the selected document. The View summary document link opens the ToxPoint® summary document; the View detailed document link opens the POISINDEX® Management document.
3. **OTHER INFORMATION**
   When information in other subscribed databases such as: PDR , Index Nominum, Martindale, Consumer Drug Info, P&T QUIK, or one of the available international drug databases (IT-Dialogo sui Farmaci or eMC SmPC (UK) for example) exists for the drug searched, it is shown using links below the OTHER INFORMATION heading.
4. **PRODUCT LOOKUP**
   Tools available or associated with this item are shown in this area. Clicking the link automatically populates the tool with the selected item. Click the link to initiate the tool. For detailed information on this type of search, see "Tox & Drug Product Lookup Tool" on page 147 and "Searching RED BOOK Online®" on page 170.
5. "***x* was also found in...**" Drug/Disease/Clinical Checklist/Reproductive Risk/etc. Information Headers
   When the substance is found in other MICROMEDEX 2.0 content, the expandable headers display, along with the number of matches found. Click a header to open the list of results.
6. **HAZARD MANAGEMENT INFO**
   When hazard management information from HAZARDTEXT® is found for the searched term, it is displayed below this heading as a link.

   MEDICAL MANAGEMENT INFO
   When medical management information from MEDITEXT® is found for the searched term, it is displayed below this heading as a link.
7. **MARTINDALE: OTHER INFO**
   This section is shown if you are a subscriber to the Martindale database, and if additional information for the drug is available.
8. ***x* Results found for:** "item_name"
   This section displays all matches found for the search term and is organized exactly like the Intermediate Search Results page. Matches are ranked by relevance and shown, in numbered order. Each result is typically presented on multiple lines organized in the following order:

- The document title
- The type of information (drug, disease, toxicology, lab, etc.), the type of document (detailed, summary, etc.), and a link to the associated dashboard (if available)
- A snippet of text with the search term(s) shown in **bold** text
- The topic

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ALTERNATIVE MEDICINE DASHBOARDS

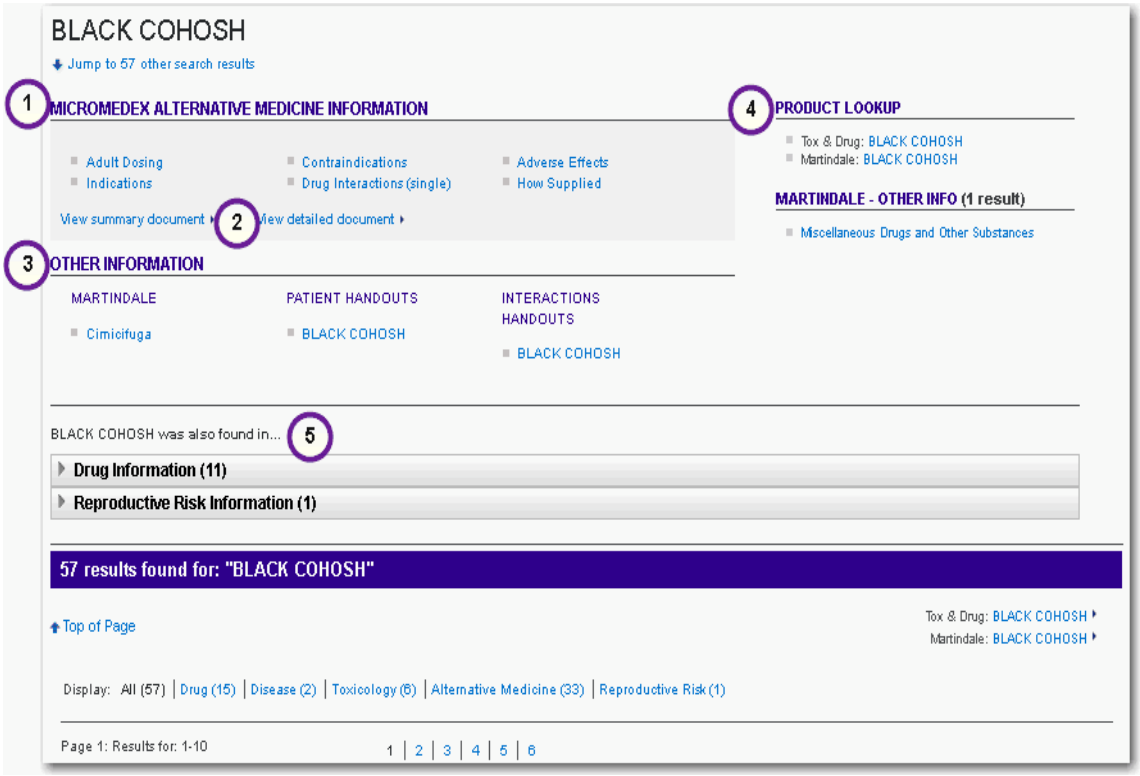
Related information for the herb, vitamin, mineral, or supplement etc., searched is gathered together in a logical and organized presentation so you can find the answer to your specific question fast.

Note: Dashboards for Drug (page 36),Disease (page 51), and Toxicology (page 54) organize information differently from Alternative Medicine Summary dashboards. Each is explained in detail in this chapter.

The purpose of the dashboard is to show you all relevant and pertinent related information at a glance, so you can quickly navigate to your specific area of interest. The search query didn't include enough information to be able to take you directly to a document and topic, but information related to your search exists.

The following is an example of a typical alternative medicine summary dashboard:

The substance is shown at the top of the page, just below the search box.



1. **MICROMEDEX ALTERNATIVE MEDICINE INFORMATION**
   Below this heading are links to all of the topics in the summary document. Click a link to open the AltMedDex® summary document positioned directly at the topic link selected.
2. **View summary document > | View detailed document**
   These links open at the top (beginning) of the selected document. The View summary document link opens the AltMedDexPoints® summary document; the View detailed document link opens the AltMedDex® Evaluation.

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3. **OTHER INFORMATION**
   Links to other related information are displayed. Information can be from the following sources: Martindale - The Complete Drug Reference, AltCareDex®, or AltMedReax for the Patient®. In the example, links to patient education and interaction information handouts are listed.

4. **PRODUCT LOOKUP**
   Tools available or associated with this item are shown in this area. Clicking the link automatically populates the tool with the selected item. Click the link to initiate the tool. For detailed information on this type of search, see "Tox & Drug Product Lookup Tool" on page 147 and "Searching RED BOOK Online®" on page 170.

   MARTINDALE: OTHER INFO
   This section is shown if you are a subscriber to the Martindale database, and if additional information for the drug is available.

5. "***x* was also found in...**" Drug/Disease/Reproductive Risk/etc. Information Headers
   When the substance is found in other MICROMEDEX 2.0 content, the expandable headers display as an accordion bar, along with the number of matches found. Click a header to open the list of results.

   For example, studies may show that the substance carries a risk to the mother or unborn child - so you may see the Reproductive Risk Information header, which when expanded, displays links to the supporting information. Click the link to open the document.

6. ***x* Results found for:** "item_name"
   This section displays all matches found for the search term and is organized exactly like the Intermediate Search Results page. Matches are ranked by relevance and shown, in numbered order. Each result is typically presented on multiple lines organized in the following order:

- The document title
- The type of information (drug, disease, toxicology, lab, etc.), the type of document (detailed, summary, etc.), and a link to the associated dashboard (if available)
- A snippet of text with the search term(s) shown in **bold** text
- The topic

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Dashboard Hierarchy

When multiple dashboards exist for a search result (drug, disease, toxicology, alternative medicine), the dashboard that is displayed (opened) for the search result is determined by where if falls in the following hierarchy:

If all of the following Dashboards Exist for a search:	Then the Dashboard Shown is:
• Drug: Summary • Drug: Detailed • Alternative Medicine: Summary • Alternative Medicine: Detailed • Toxicology • Disease: Summary • Disease: Detailed	Drug Summary (**DrugPoint® Summary**)
• Drug: Detailed • Alternative Medicine:Summary • Alternative Medicine: Detailed • Toxicology • Disease: Summary • Disease: Detailed	Detailed Drug information (**DRUGDEX® Detailed**)
• Alternative Medicine: Summary • Alternative Medicine: Detailed • Toxicology • Disease: Summary • Disease: Detailed	Summary Alternative Medicine (**AltMedDex® Summary**)
• Alternative Medicine: Detailed • Toxicology • Disease: Summary • Disease: Detailed	Detailed Alternative Medicine (**AltMedDex® Evaluations**)
• Toxicology • Disease: Summary • Disease: Detailed	Summary Toxicologic dashboard (**ToxPoints® Summary**)
• Disease: Summary • Disease: Detailed	Summary Disease dashboard (**ClinicalPoints® Summary**).
• Disease: Detailed	Detailed Disease dashboard (**DISEASEDEX® Detailed**)

You can navigate to any and all available dashboards when multiple dashboard types exist, but the hierarchy described above explains which dashboard opens by default.

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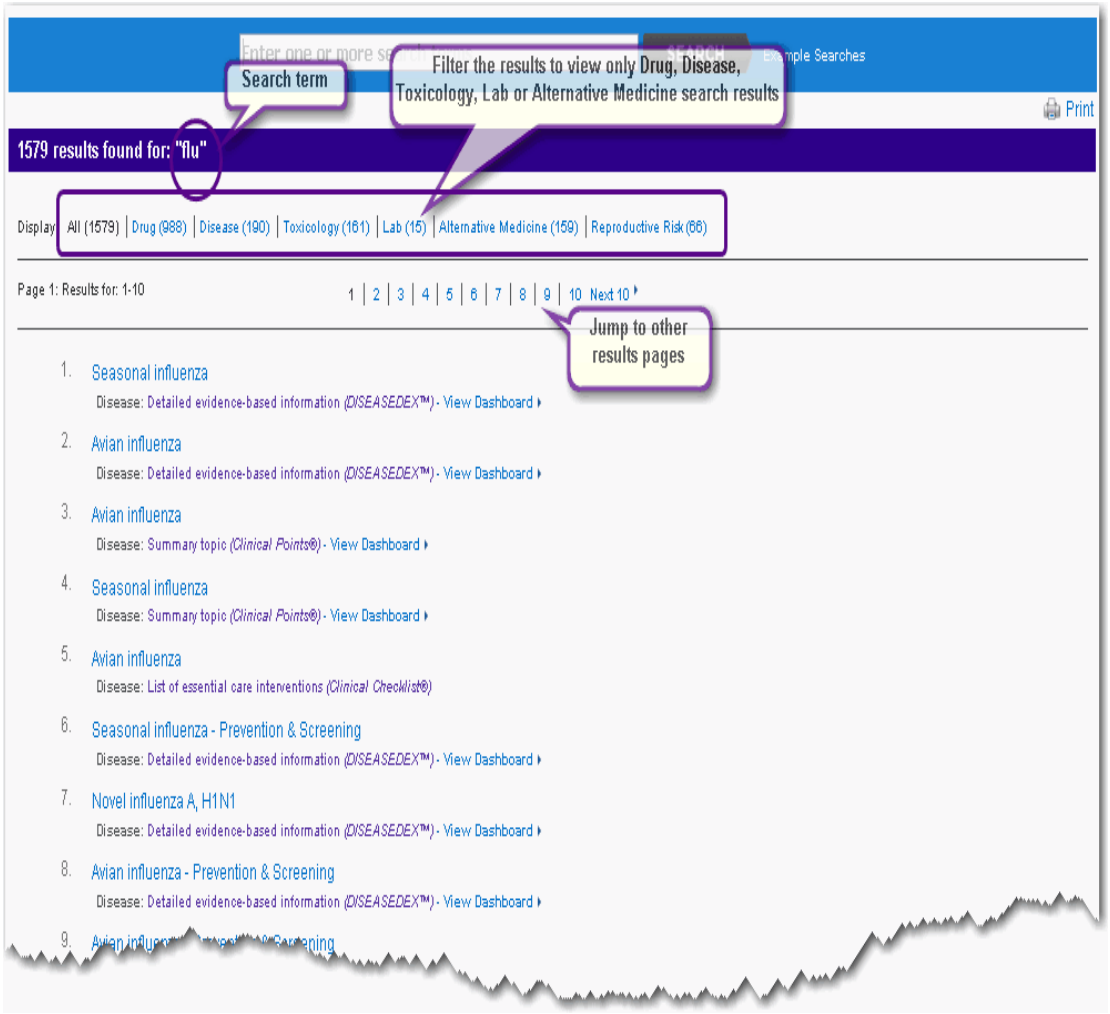
INTERMEDIATE SEARCH RESULTS

The amount of information presented on the intermediate search results page will depend on the search performed.

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 2.0:



Since no other parameters (terms or phrases) were included in the search for "flu" there was no way 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.

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Understanding the Intermediate Search Results Page

Each search result found is numbered, with the result that was ranked highest in relevance returned as number one.

The first line of each result shows the document title as a link. Clicking on the title opens the document at the beginning (top) of the document.

The second line shows the content type (Disease), followed by the information type (Emergency medicine summary topic), followed by the database name (ClinicalPoints®), and lastly, a link to the Dashboard for this document.

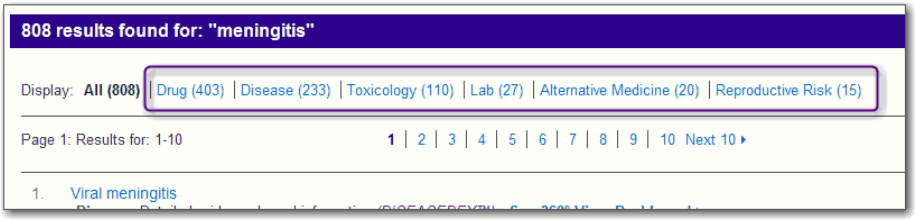
The Intermediate Search Results list displayed for a substance may also include the available route of the drug in the line directly below the substance name.

RESULTS FOUND

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

DISPLAY

Search results are ranked by relevance and presented accordingly. However, you have the option to view only a specific content type (Drug, Disease, Lab, Alternative Medicine). The Display links show the content type and number of matches found for each. Click the link to filter the results to the requested type.



PAGE

Quickly move through the search results using the page navigation links. When there are more than 10 pages of results, the *Next 10* > (and/or < *Previous 10*) link is displayed and allows you to jump 10 pages at a time.

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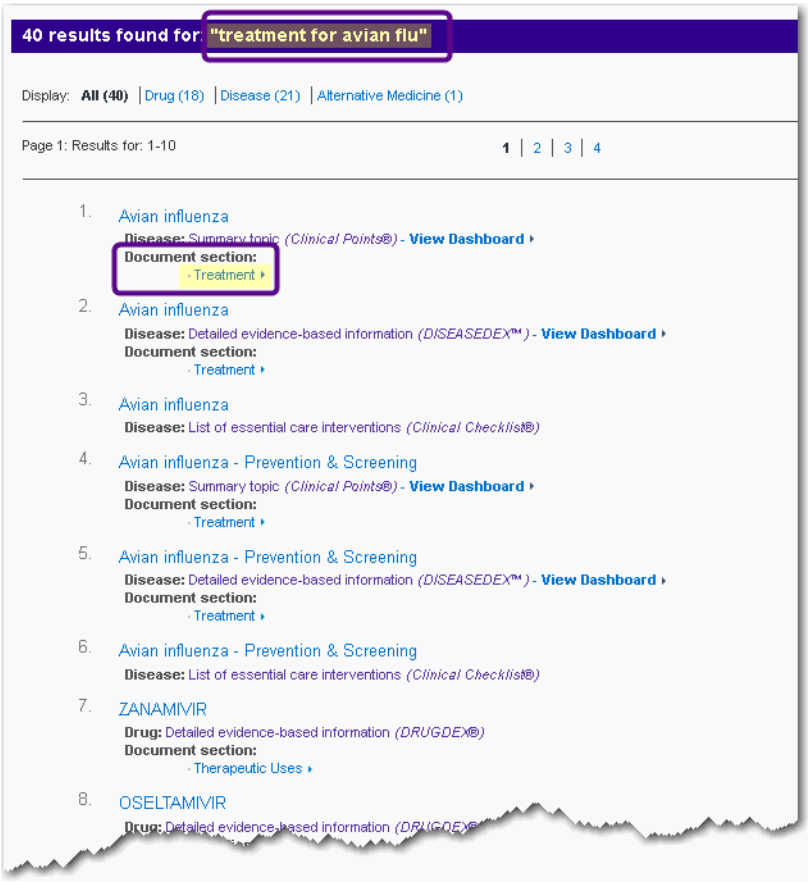
Other Intermediate Search Results

Searches with multiple search terms or with a phrase may produce more focused search results.

In the following example, a search for "treatment for avian flu" not only narrows the results to a specific type of flu, but it also focuses results on treatment:



Two additional lines, **Document section** and the topic (**Treatment**) presented as a link are shown on this intermediate search results page. Click on the topic link and the document opens positioned directly at the specified topic.

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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® Clinical Knowledge 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, clinical teaching for the patient, adverse effects, comparative efficacy, and toxicology information.

TARGETED DRUG INFORMATION SEARCHES

The Micromedex 2.0 platform provides some highly focused searches that present you with results that are specific to your clinical question. These include:

- **Drugs that Cause [*condition*] (Adverse Reactions List)**

  An alphabetical list of drugs that cause a condition or adverse reaction. Drugs are shown as links, allowing you immediate access to the adverse affects topic in the drug information. See "Drugs that Cause [condition] (Adverse Reactions list)" on page 21 for additional information.

- **Drugs that Treat [*condition*]**

  This search provides the clinician with an alphabetical list of drugs that treat a condition or disease. Results group drugs alphabetically within an efficacy rating. See "Drugs that Treat [condition]" on page 23 for additional information.

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

  This search 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 "List of Drugs with a Risk Evaluation and Mitigation Strategy" on page 25 for more information.

- **Black Box Warnings**

  An alphabetical list of all drugs in Micromedex 2.0 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 26 for additional information.

- **Searching for Drugs by Brand Name**

  Drug information can be found using either the common generic or the brand name. Searches using the brand name produce slightly different results from others. See "Searching Brand Name Drugs" on page 28 for additional information.

- **Do Not Confuse Drug List**

  An alphabetical list of confused drug names, including look-alike and sound-alike name pairs can be found with a single search. See "Confused Drug List - Drugs that Sound Alike/Look Alike" on page 29 for more information.

- **Drug Consults**

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A single search can find the complete list of all Drug Consult articles available in Micromedex® Clinical Knowledge. See "Drug Consults" on page 31 for more information.

OTHER DRUG INFORMATION

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 the Micromedex 2.0 platform. See "DRUG DASHBOARDS" on page 36 for examples and details on accessing global drug information.

Other Drug Information Sources in MICROMEDEX 2.0

Physicians' Desk Reference® (PDR) - The same information available in the popular print version is available in Micromedex® Clinical Knowledge.

Detailed Drug Information for the Consumer - Easy-to-understand, in-depth materials to help educate your patients about medications and their proper use.

P&T QUIK® Reports - Reports for Pharmacy and Therapeutic Committees

Reproductive Risk Information

Information from multiple sources is integrated into reproductive risk searches in the Micromedex 2.0 platform

The Reprorisk System (comprised of the **Reprotext®**, **Reprotox®**, **Shepard's** and **TERIS** databases) 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. The Reprorisk System suggests treatment plans to minimize risks during pregnancy.

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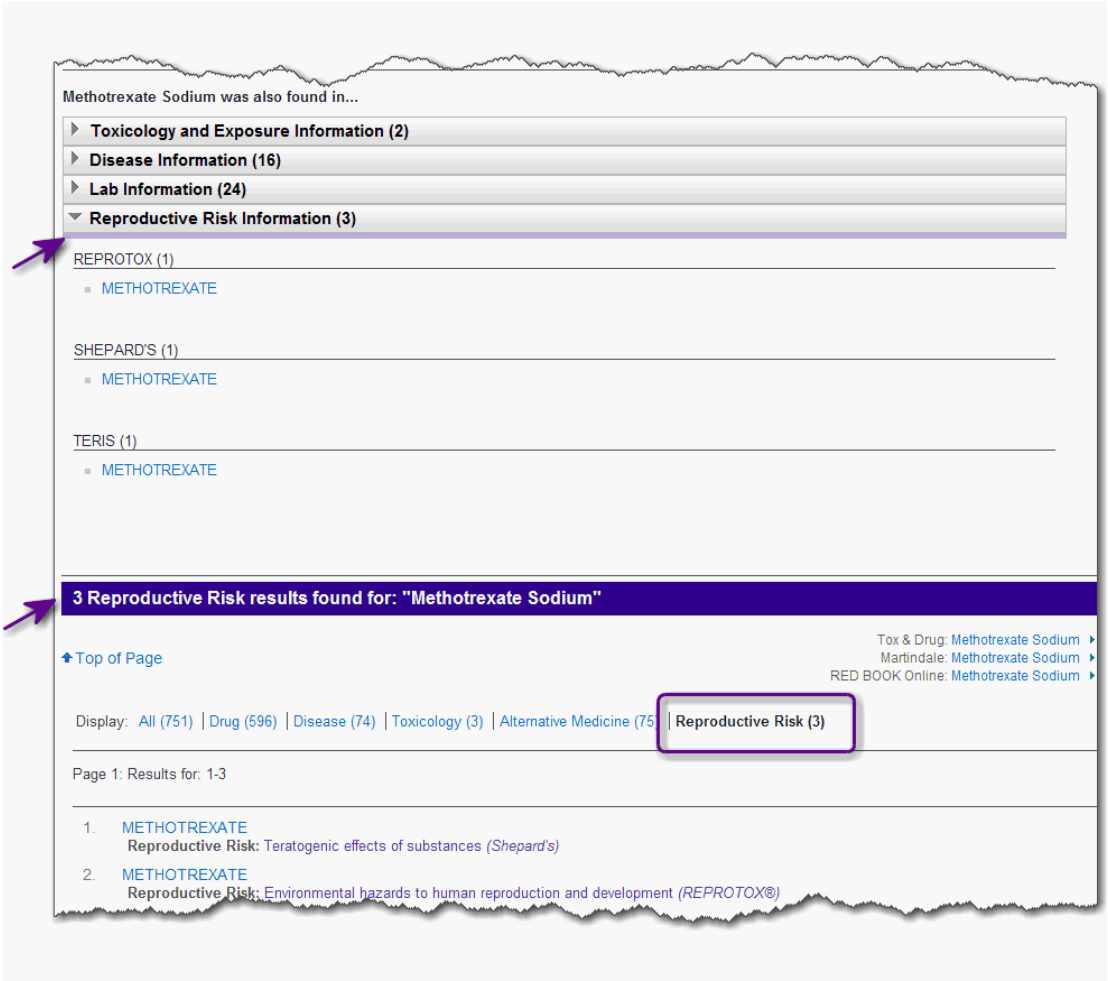

Reproductive Risk results found are normally shown on the dashboard and/or the Intermediate Search Results area.

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TIPS FOR FINDING DRUG INFORMATION

Find a Drug or Substance

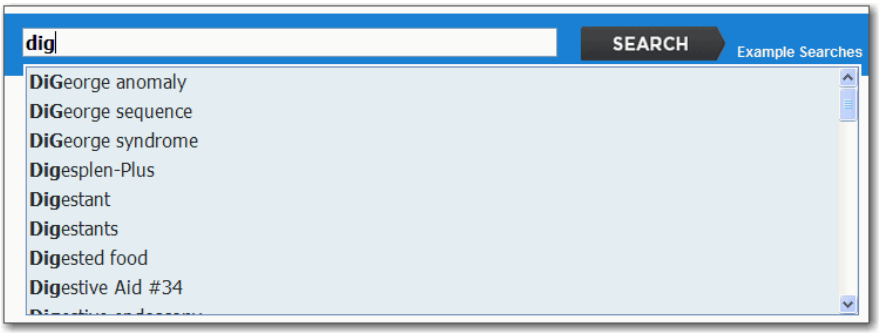
You can search for drug information using an ingredient, the brand name, or the generic name as the search term.

Free Text Searches & Searches Using Targeted Search Terms

We encourage you to search for your drug information using natural language queries such as, “does docetaxel cause nail damage”, or, “what is the FDA approved drug for hypokalemia”.

Certain search terms will produce a result directly positioned to the appropriate topic in the summary drug document (see “Example Searches” on page 18 for more information). If the application is unable to determine a drug summary and topic to fit your search criteria, you are presented with either a dashboard or intermediate search results page. In all cases, search results are presented in an easy to understand format and page layout. Sample Drug Search

1. Begin to type the drug (brand or generic) or search phrase in the search box. If you are unsure of the spelling, just type as many characters as you know.
2. As you type, the application narrows your search results in the drop-down list (if you pause) based on the characters you’ve entered. The more characters you type, the more focused the results.



If the drug you are interested in is listed, double-click on the item (or single-click and press the **Search** button) to begin the search.

3. If you continue to enter the search term(s), the drop-down list may disappear. This may mean the search term you entered does not match a system entry. However, there may still be a match if you are searching on a keyword or typing partial or multiple search terms. Click the **Search** button. The search results page opens showing matches found to your search term or keyword.

Search Results

Searches produce one of the following results:

- Opens directly in the DrugPoint® Summary document, positioned at a specific topic
- On a Dashboard (see page 35)
- On the Intermediate Search Results page (see page 59)

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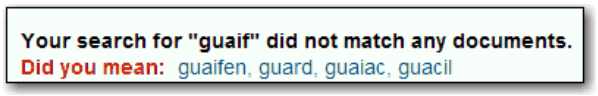
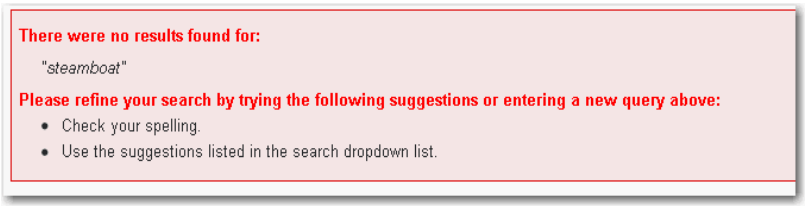
Spelling Help

The Micromedex 2.0 application may make suggestions if the search term you typed doesn't produce a match but 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 below the '*Did you mean:*' heading. Click the link of the drug to open the drug summary, or begin a new search by typing a new search term in the box and click the **Search** button.



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.

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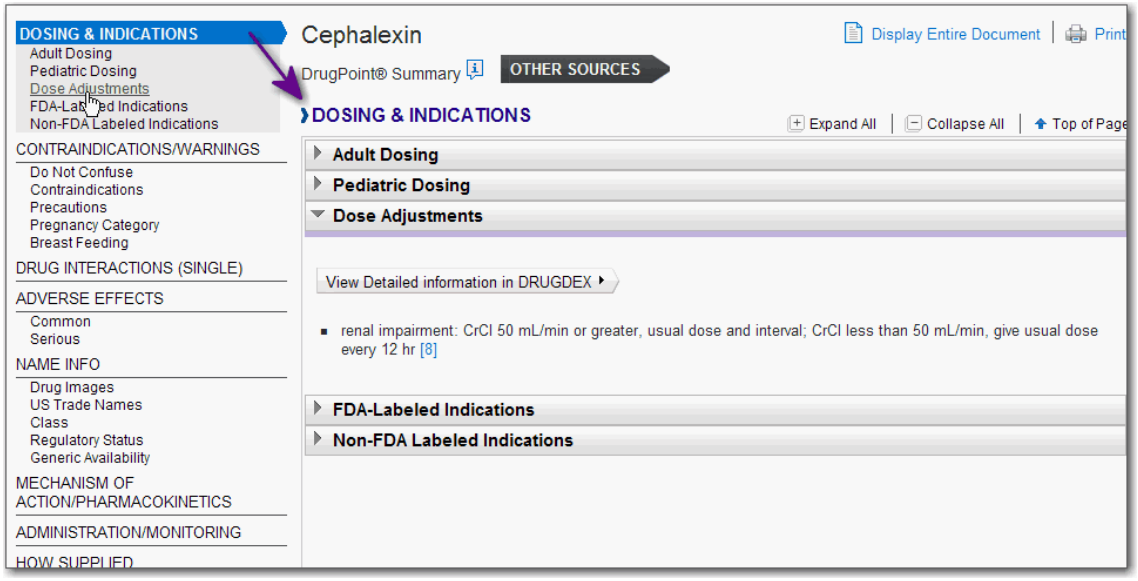
SUMMARY DRUG INFORMATION

When viewing a summary drug information document you can:

- Scroll the entire topic using the scrollbar on the right
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 7 for more information)

Note: What you see on the drug summary page may depend on your Micromedex® Clinical Knowledge subscription.



Topics Links

All topics (Dosing & Indications, Contraindications/Warnings, etc.) with information for this drug are shown as active links in the outline on the left side of the page. Clicking the link takes you to the beginning of the selected topic.

Sub-topics

If sub-topics (such as Adult Dosing, Pediatric Dosing, Dose Adjustments, etc.) exist, clicking on either the topic link in the left side navigation, or on the sub-topic header bar in the document expands the list showing the information below.

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Hypertext Links within the Drug Summary

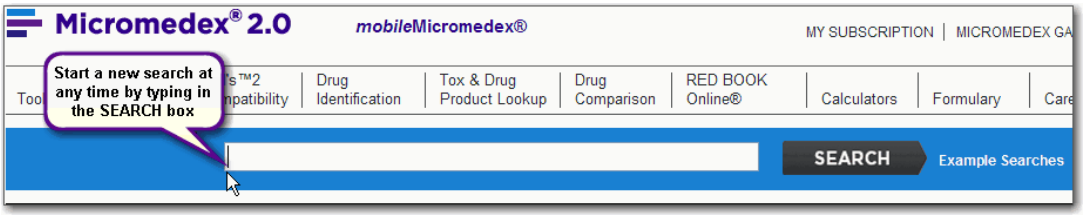
Links shown within drug summary information mean that further information exists. Click the link to view the information. Links shown as numbers within brackets (e.g., [1]) link to the reference or citation for the information. Links can also open definitions for items shown in the summary information (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.

OTHER SOURCES > Button

Clicking the OTHER SOURCES button opens a pop-up that displays options for finding other search results for the drug or substance you are currently viewing. The pop-up list may vary based on your subscription, but it can include: the detailed drug information document, View Dashboard, or offer the option of running a Product Lookup tool (Tox & Drug, Martindale, or RED BOOK).

Start a New Search



If at any time you wish to search for something else, enter the new search term(s) in the Search box, located at the top of the page.

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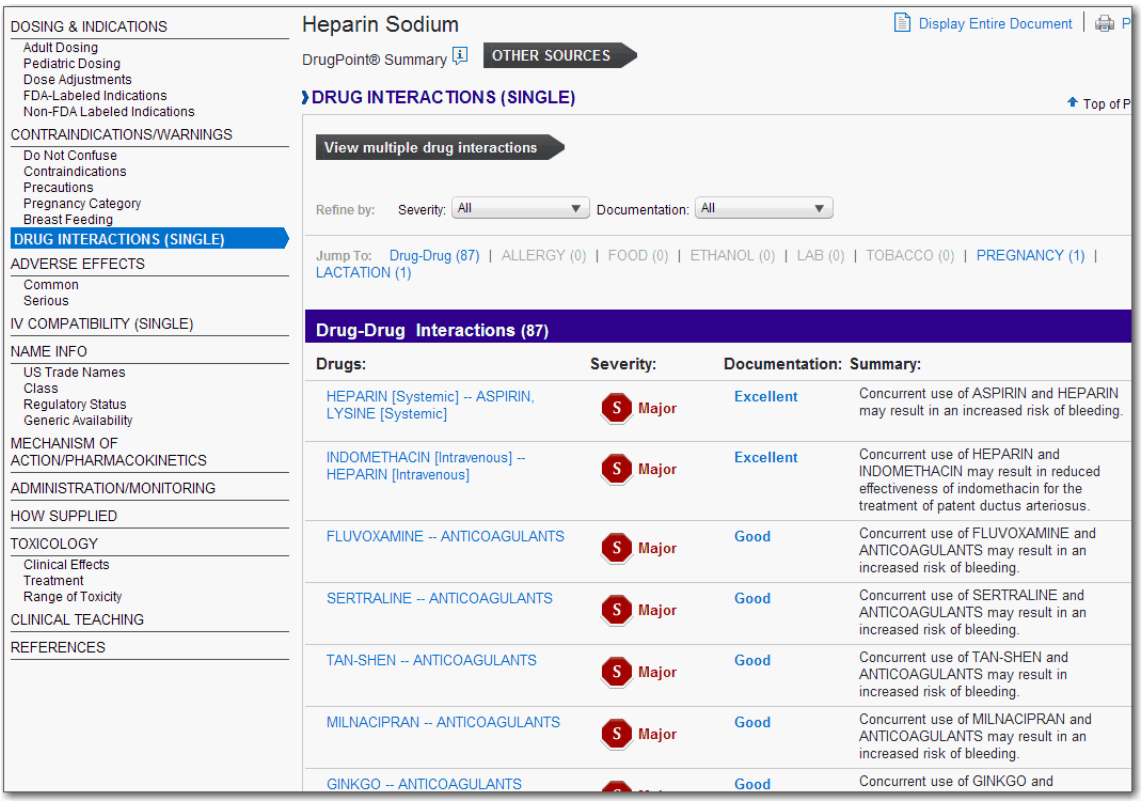
Additional Information: Single Drug Interactions, IV Compatibility, and Patient Education

Some topics display the information in a unique presentation. Clicking the link to these topics will pre-populate the selected tool with the drug you have selected. An overview of the additional topics follow:

Drug Interactions (Single)

Checks the currently viewed drug for drug-drug, drug-food, drug-ethanol, and drug-lab interactions.



Drug interactions found for the drug are grouped by interaction type: drug-drug interactions are displayed first, followed by drug-food, drug-ethanol, and drug-lab. Interactions found within each type are sorted by severity, displaying the most severe first. A complete legend of all interaction types is shown at the bottom of the page. Hovering over the interaction type in the legend opens a pop-up with the full interaction definition.

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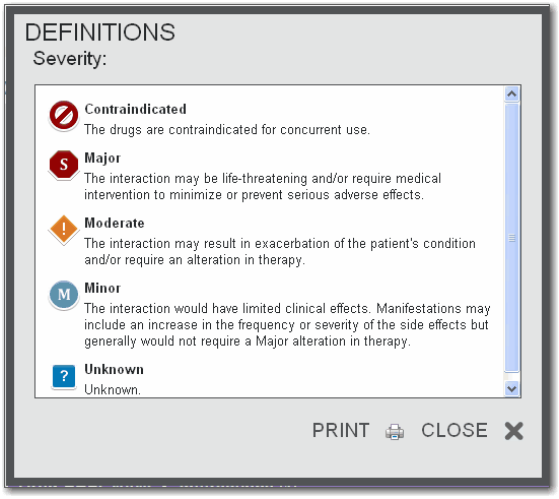
Interaction Severities

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



- *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

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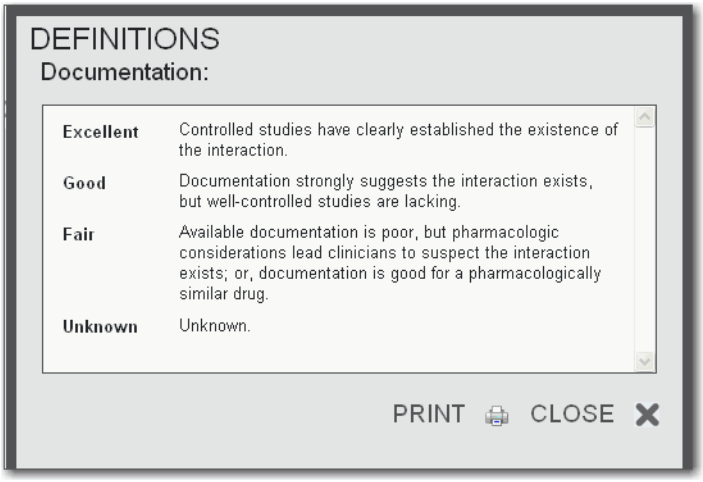
Documentation Ratings

The amount and strength 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

Note: By default, *all Severities* and *all Documentation Ratings* are displayed.

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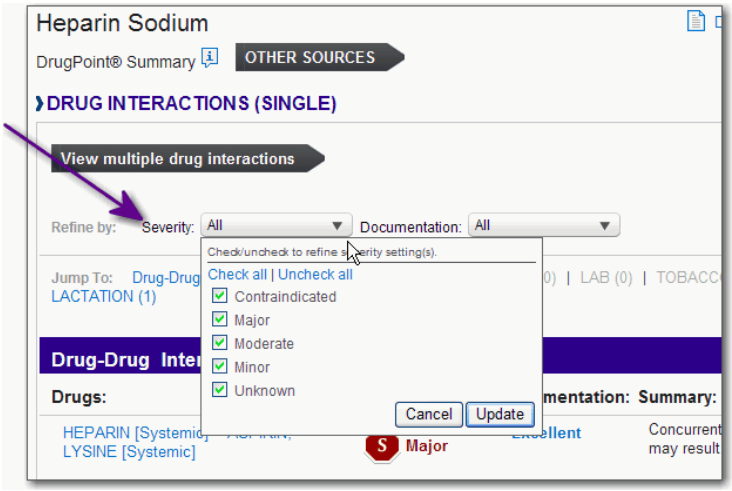
Filtering Results

To show results for selected severities, select the levels desired from the corresponding **Severity** drop-down menu at the top of the page. Check the box for the desired severity, then click the **Update** button.

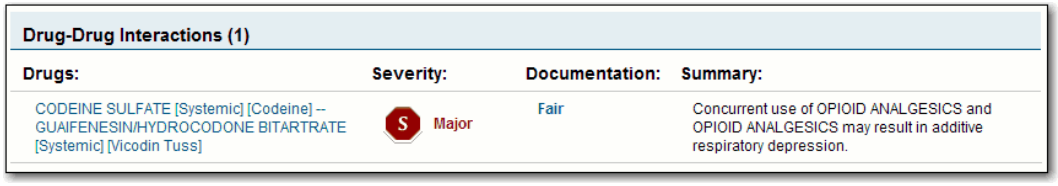


After refining the selections, the title of the drop-down changes from '*All*' to '*(#) Selected*', and only the severities ratings chosen display on the page.

Use the Documentation drop-down to filter for results with specific documentation strengths.

Single Interactions Results

Interactions are grouped by type (drug-drug, drug-food, etc.) and the total number of interactions found for that type is shown in the heading. See the following example: *Drug-Drug Interactions (1 Results)*.



Note: Any interaction type that contains a combination marked as contraindicated is also noted in the Interactions Type list. For example: Drug-Drug Interactions (32 results) (1 contraindication)

The selected drug and the interacting agent is shown in the first column, followed by the severity and documentation ratings in the second and third column.

The summary column (furthest column to the right) 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.

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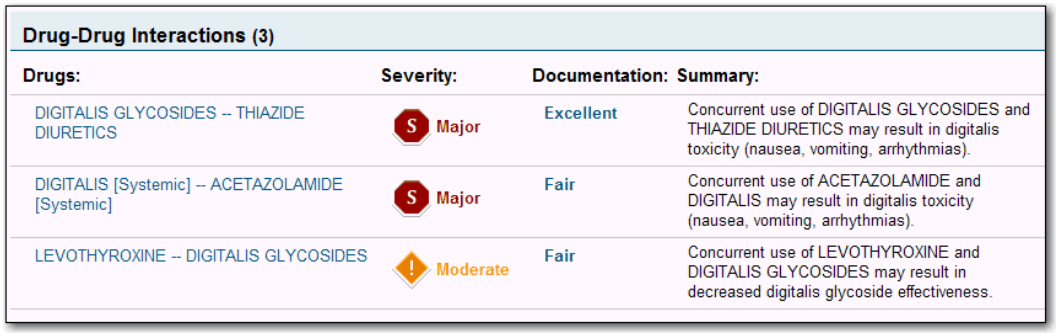
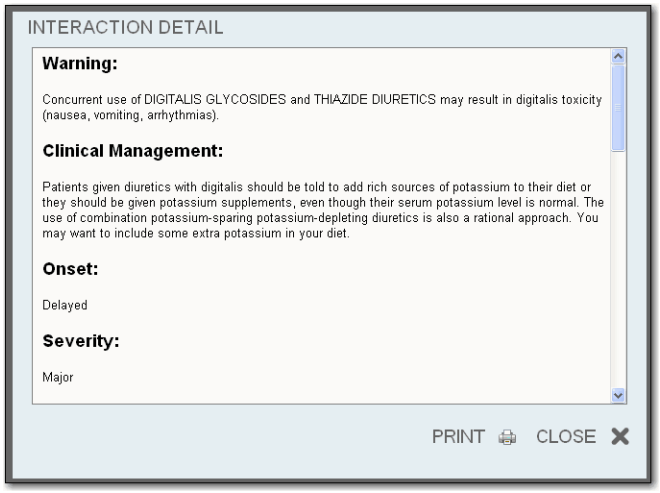


Drug-Drug Interactions (3)

Drugs:	Severity:	Documentation:	Summary:
DIGITALIS GLYCOSIDES -- THIAZIDE DIURETICS	Major	Excellent	Concurrent use of DIGITALIS GLYCOSIDES and THIAZIDE DIURETICS may result in digitalis toxicity (nausea, vomiting, arrhythmias).
DIGITALIS [Systemic] -- ACETAZOLAMIDE [Systemic]	Major	Fair	Concurrent use of ACETAZOLAMIDE and DIGITALIS may result in digitalis toxicity (nausea, vomiting, arrhythmias).
LEVOTHYROXINE -- DIGITALIS GLYCOSIDES	Moderate	Fair	Concurrent use of LEVOTHYROXINE and DIGITALIS GLYCOSIDES may result in decreased digitalis glycoside effectiveness.

Click the link to expand the group or class. A pop-up window displays detailed information about the interaction. For additional information on drug interactions, see Chapter 9: Drug Interactions Search Results.



INTERACTION DETAIL

Warning:

Concurrent use of DIGITALIS GLYCOSIDES and THIAZIDE DIURETICS may result in digitalis toxicity (nausea, vomiting, arrhythmias).

Clinical Management:

Patients given diuretics with digitalis should be told to add rich sources of potassium to their diet or they should be given potassium supplements, even though their serum potassium level is normal. The use of combination potassium-sparing potassium-depleting diuretics is also a rational approach. You may want to include some extra potassium in your diet.

Onset:

Delayed

Severity:

Major

PRINT CLOSE

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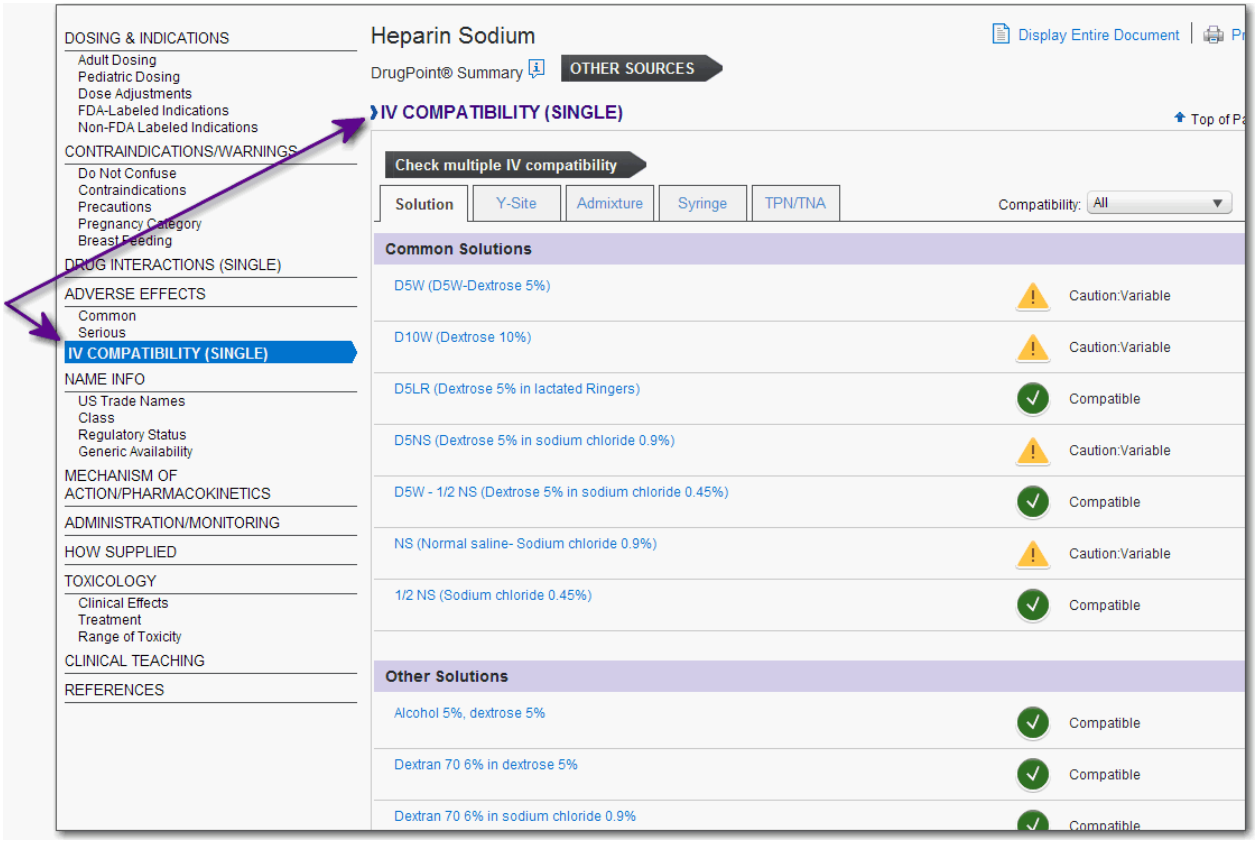
IV Compatibility (Single)

Checks for potentially dangerous IV drug combinations with a single click. When IV medications are combined, the risk of complication is very real. Efficacy of a drug can be reduced or a potentially dangerous incompatibility can occur. The IV Compatibility (single) topic provides easy access to compatibility information with proven data to assist with accurate IV dosing decisions at the point of care.

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 the Trissel's 2 IV Compatibility (IV INDEX®) application also have results for Syringe and TPN/TNA compatibility.



Check multiple IV compatibility

Check the compatibility of multiple medications by clicking the Check multiple IV compatibility button. See "IV Compatibility Tool" on page 119 for detailed information on checking compatibility for multiple drugs.

Compatibility

Compatibility is denoted by an icon and simple description. Hovering your mouse over the compatibility icon opens a pop-up with the full compatibility description.

The full descriptions follow:

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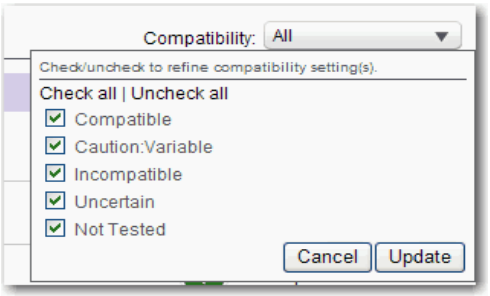
- *Compatible* - all studies showed these items as compatible
- *Caution: Variable* - study results show IV compatibility is variable
- *Incompatible* - all studies showed these items as incompatible
- *Uncertain* - study results were inconclusive, compatibility wasn't determined
- *Not Tested* - IV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

Note: By default, *all Compatibilities* are displayed.

Filtering Results



To show results only for selected Compatibilities, select the levels desired from the **Compatibility** drop-down menu at the top of the page. Check the box 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 incompatibilities 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%.

Note: Solution results include those marked as a solution type, but can also include: Y-Site or Admixture results that do not have a secondary agent.

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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.

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 the pop-up with the compatibility details.

Y-Site results are calculated and displayed for Y-Site scenarios for the selected drug as the primary and secondary agent.

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.

Syringe Overview (available to IV INDEX® 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.

TPN/TNA Overview (available to IV INDEX® 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 either the primary or secondary agent, and the drug 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.

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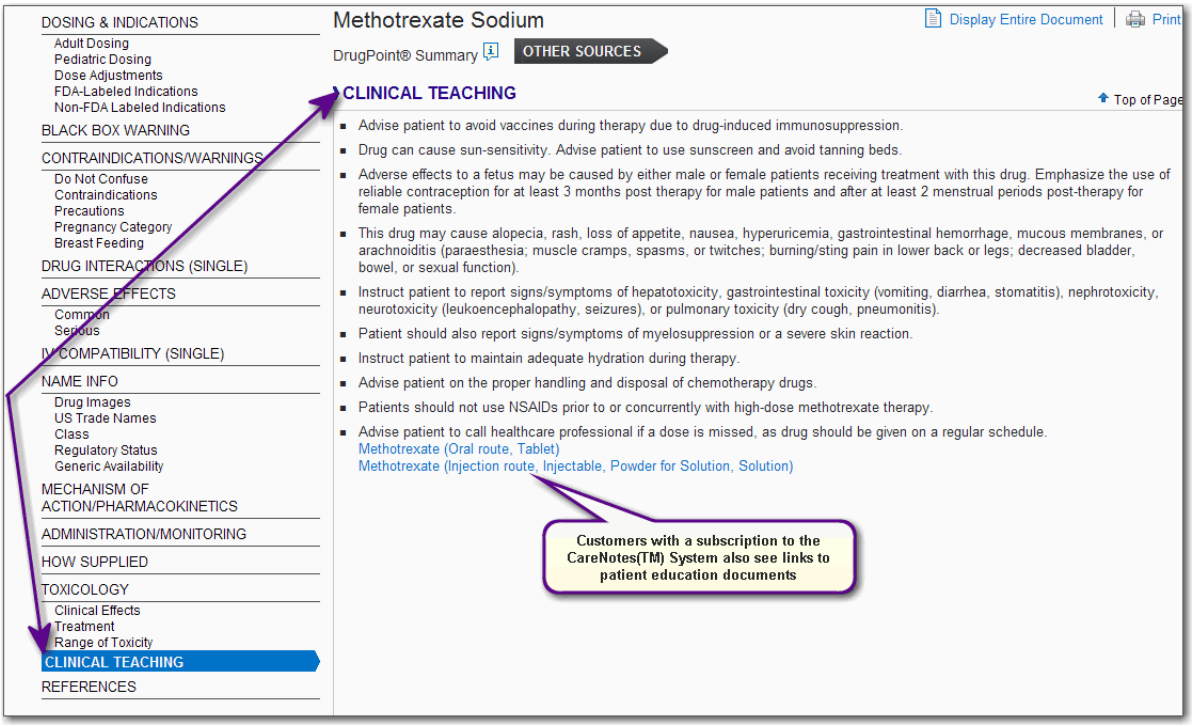
Clinical Teaching



The Clinical Teaching topic contains information that should be relayed to the patient regarding the selected drug.

Links to patient education information are shown as links (with a CareNotes® System subscription) in the text. Click the link to go directly to the patient education information for the drug selected.

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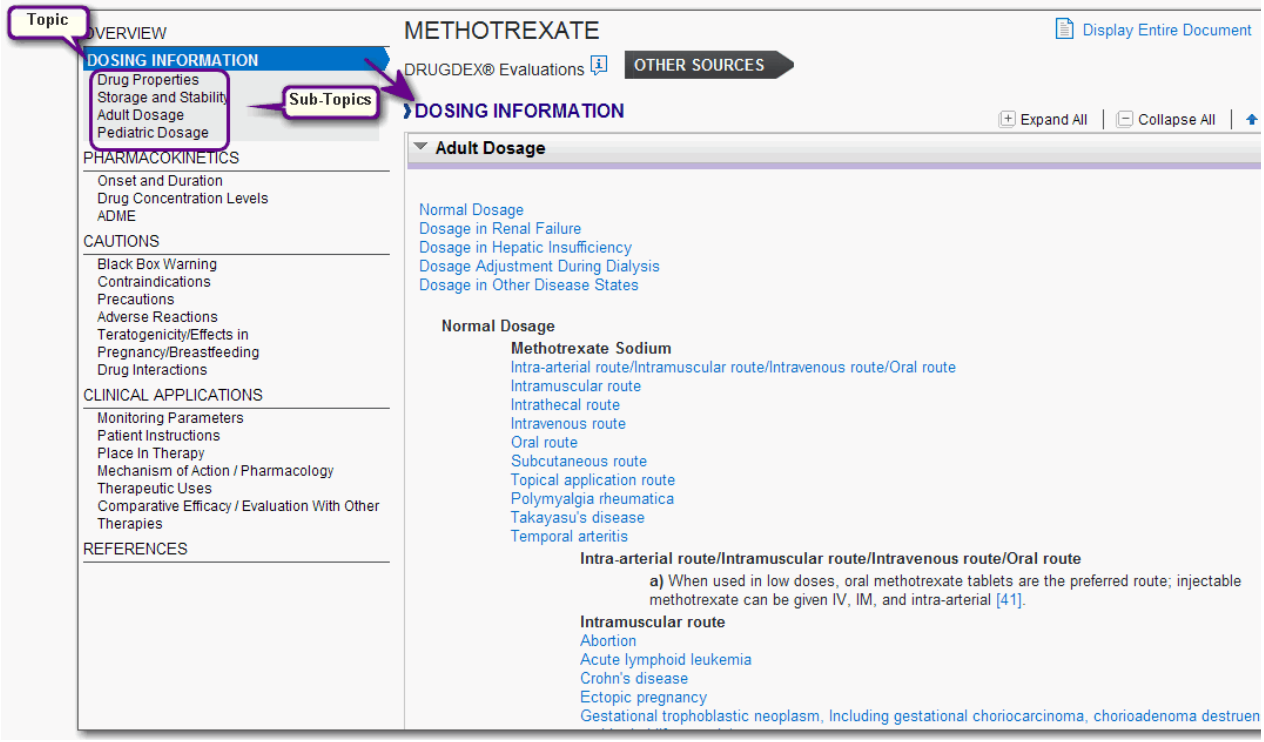
The Detailed DRUGDEX® Evaluation

When viewing detailed drug information you can:

- Open sub-topics clicking on the sub-topic header bar shown on the right side of the page
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Scroll the entire document by clicking on the **Display Entire Document** link

Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 7 for more information)



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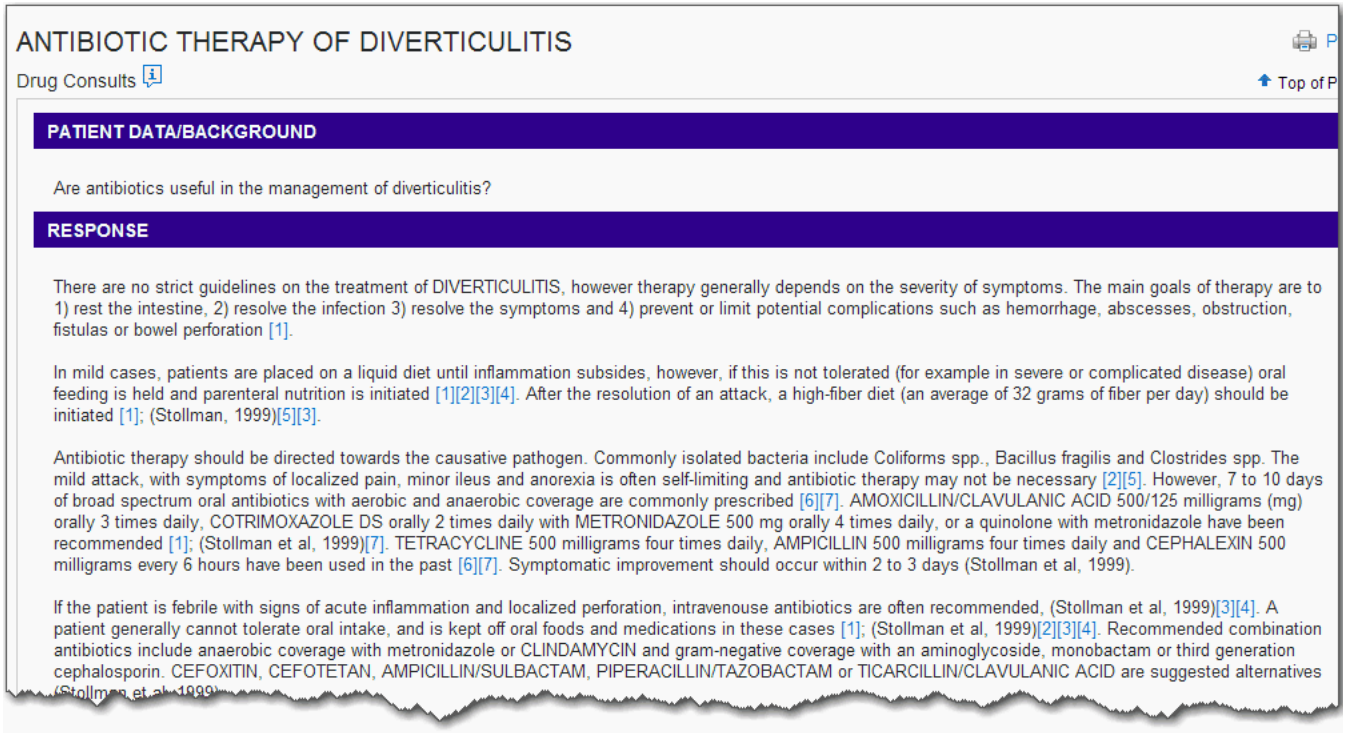
Drug Consults from DRUGDEX®

Evidence-based, fully-referenced articles covering drug therapies and drug guidelines.

When viewing a drug consult you can:

- Return to the top of the topic using the **Top of Page** links.
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon.


ANTIBIOTIC THERAPY OF DIVERTICULITIS

Drug Consults

Top of P

PATIENT DATA/BACKGROUND

Are antibiotics useful in the management of diverticulitis?

RESPONSE

There are no strict guidelines on the treatment of DIVERTICULITIS, however therapy generally depends on the severity of symptoms. The main goals of therapy are to 1) rest the intestine, 2) resolve the infection 3) resolve the symptoms and 4) prevent or limit potential complications such as hemorrhage, abscesses, obstruction, fistulas or bowel perforation [1].

In mild cases, patients are placed on a liquid diet until inflammation subsides, however, if this is not tolerated (for example in severe or complicated disease) oral feeding is held and parenteral nutrition is initiated [1][2][3][4]. After the resolution of an attack, a high-fiber diet (an average of 32 grams of fiber per day) should be initiated [1]; (Stollman, 1999)[5][3].

Antibiotic therapy should be directed towards the causative pathogen. Commonly isolated bacteria include Coliforms spp., Bacillus fragilis and Clostrides spp. The mild attack, with symptoms of localized pain, minor ileus and anorexia is often self-limiting and antibiotic therapy may not be necessary [2][5]. However, 7 to 10 days of broad spectrum oral antibiotics with aerobic and anaerobic coverage are commonly prescribed [6][7]. AMOXICILLIN/CLAVULANIC ACID 500/125 milligrams (mg) orally 3 times daily, COTRIMOXAZOLE DS orally 2 times daily with METRONIDAZOLE 500 mg orally 4 times daily, or a quinolone with metronidazole have been recommended [1]; (Stollman et al, 1999)[7]. TETRACYCLINE 500 milligrams four times daily, AMPICILLIN 500 milligrams four times daily and CEPHALEXIN 500 milligrams every 6 hours have been used in the past [6][7]. Symptomatic improvement should occur within 2 to 3 days (Stollman et al, 1999).

If the patient is febrile with signs of acute inflammation and localized perforation, intravenouse antibiotics are often recommended, (Stollman et al, 1999)[3][4]. A patient generally cannot tolerate oral intake, and is kept off oral foods and medications in these cases [1]; (Stollman et al, 1999)[2][3][4]. Recommended combination antibiotics include anaerobic coverage with metronidazole or CLINDAMYCIN and gram-negative coverage with an aminoglycoside, monobactam or third generation cephalosporin. CEFOXITIN, CEFOTETAN, AMPICILLIN/SULBACTAM, PIPERACILLIN/TAZOBACTAM or TICARCILLIN/CLAVULANIC ACID are suggested alternatives (Stollman et al, 1999)

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CHAPTER 5: DISEASE INFORMATION

With more treatments being developed and put into practice every day, it is difficult to find time to research the latest treatments of choice, even for the most common of ailments.

The MICROMEDEX® 2.0 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® 2.0 delivers both etiology and treatment information, with summary overviews for each medical condition providing recommendations for appropriate care.

Disease information is designed and presented to assist in the rapid, effective diagnosis and treatment of patients in acute care settings. Evidence-based, it instantly answers the "what, when, and how" of emergency medicine. Information includes clinical presentation, laboratory and diagnostic findings, and therapeutic modalities. It also provides an ongoing cumulative review of international literature discussing emergency and acute care medicine and includes clinical review, clinical abstracts, and prehospital care protocols.

MICROMEDEX® 2.0 saves clinicians time by providing instant access to relevant disease, drug, and lab information as well as patient education information through a single source.

Searching for Disease Information

You can search for disease information using the condition or disease name as the search term.

You can also search for disease information using any of the following as your search term:

- Signs and symptoms
- Drug therapy
- Treatment
- Medical history
- ...and just about any context string that can be found within the summary

Reproductive Risk Information

Information from the REPRORISK® System is integrated into all searches in MICROMEDEX® 2.0 as well.

The REPRORISK System (comprised of the Reprotext®, Reprotox®, Shepard's and TERIS databases) 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. The REPRORISK System suggests treatment plans to minimize risks during pregnancy.

Free Text Searches & Searches Using Targeted Search Terms

We encourage you to search for your disease information using natural language queries such as, "what is the treatment of hypertension", or, "what is the therapy for porphyria".

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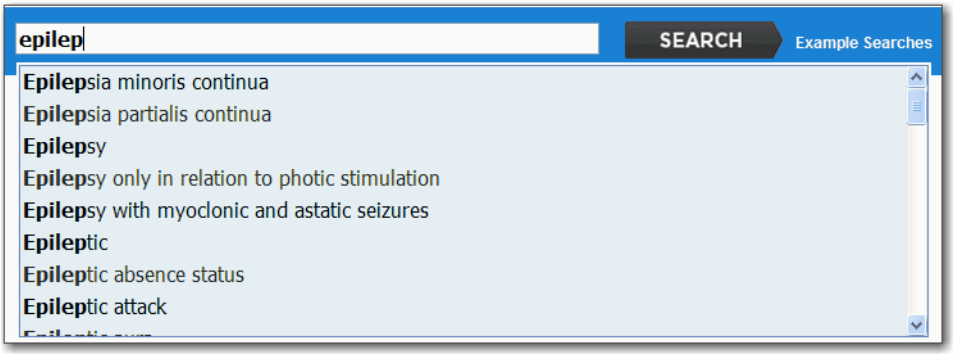
If the application is unable to determine an exact disease summary and topic to fit your search criteria, you are presented with either a dashboard or intermediate search results page. In all cases, search results are presented in an easy to understand format and page layout.

Sample Disease Search

1. Begin to type the disease by name, or type your free-text question in the search box. If you are unsure of the spelling, just type as many characters as you know.
2. As you type, the application narrows your search results in the drop-down list (if you pause) based on the characters you've entered. The more characters you type, the more focused the results.



   If the disease you are interested in is listed in the drop-down list, double-click on the item (or single-click and press the **Enter** key) to open the disease summary.

3. As you continue to enter the search term(s), the drop-down list may disappear. This means the search term you entered does not match a disease title. However, there may still be a match if you are searching on a keyword or typing partial or multiple search terms. Type the search term(s) and click the **Search** button (or press the **Enter** key). The search results page opens showing matches found to your search term or keyword.

Search Results

A successful search will produce one of the following results:

- DASHBOARDS
- INTERMEDIATE SEARCH RESULTS page

Acute, Chronic, Prevention & Screening, Studies & Alerts Summaries

Disease content is available for these types of information:

1. *Acute* - Emergency or immediate care presentations
2. *Chronic* - On-going health conditions and issues
3. *Prevention & Screening* - Relevant assessment and screening information.
4. *Studies & Alerts* - timely studies and update information

Acute, Chronic and Prevention & Screening disease information presents information focused on a specific phase of illness. If a single title has two or more of these content types available, you can switch to any available type from a link that is displayed at the top of the disease summary.

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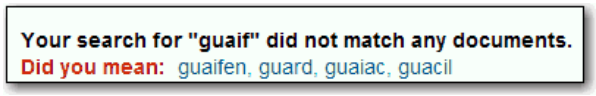
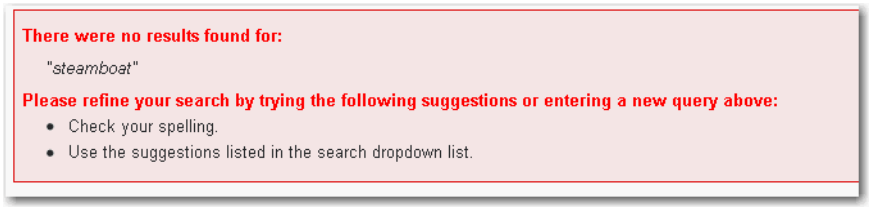
Spelling Help

The MICROMEDEX® 2.0 application may make suggestions if the search term you typed doesn't produce a match but is close or similar to a title or keyword. The search term is shown, along with the message that no matches were found. When the application finds names or keywords that are close or similar to the search term, they are listed as links below the '*Did you mean:*' heading. Click the link to open the summary, or begin a new search by typing a new search term in the box and click the **Search** button.



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.



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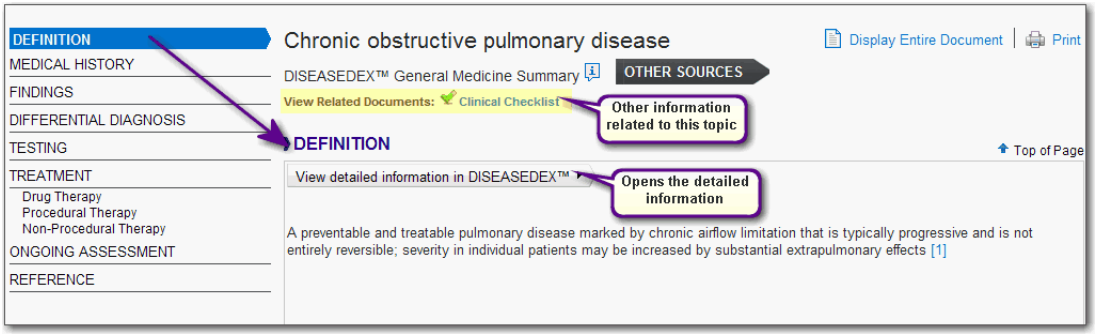
SUMMARY DISEASE INFORMATION

DISEASEDEX® Emergency (or General) Medicine Summary (ClinicalPoints®)

Once the summary information opens, you can:

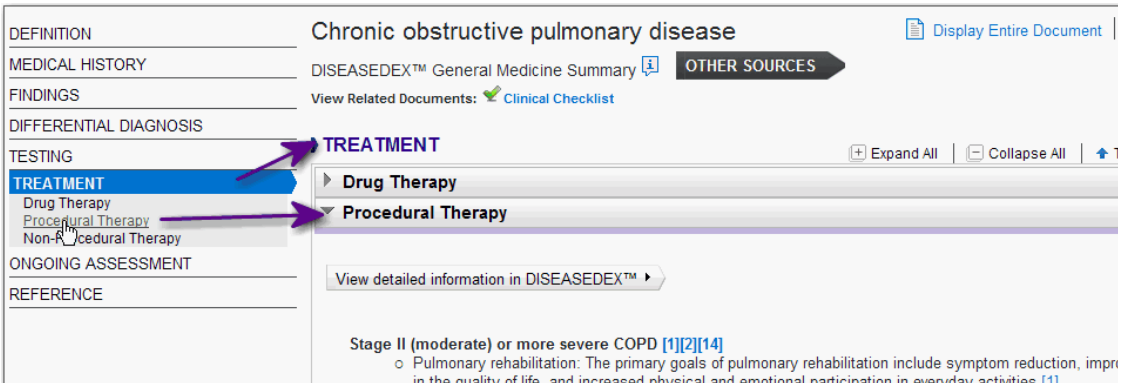
- Scroll the entire topic using the scrollbar on the right
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the summary using the outline on the left
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** hyperlink and selecting the topics desired (see "Print" on page 7 for more information)
- Click the **View related documents** link (if available) to open other types of information for the selected disease or condition



Note: Some customers may not see links to the detailed information. Links embedded within the summary information are based on your current MICROMEDEX® 2.0 subscription.

Topics Links

All topics with information for this disease (Definition, Findings, Treatment, etc.) are shown as active links on the left side of the page. Clicking the link opens the document positioned at the beginning of the selected topic.



Topics generally available within disease summary are:

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- Clinical Checklist™ information
- Definition
- Differential Diagnosis
- Findings
- Medical History
- Treatment
- Ongoing Assessment
- Testing
- References

Sub-topics

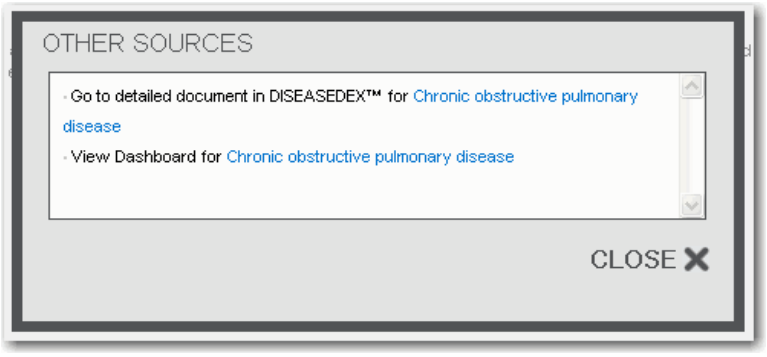
If sub-topics exist, (such as: Drug Therapy, Procedural Therapy) clicking on the topic link expands the list showing the sub-topics below. The window is shown at the top of the topic section. Go directly to a sub-topic by clicking the sub-topic link.

Hypertext Links within the Disease Summary

Links shown within the disease summary 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, or open other related summary information.

Linked information may be presented in its own pop-up box that can be printed if desired.

OTHER SOURCES > Button



Clicking the **OTHER SOURCES** button opens a pop-up that displays options for finding other search results for the disease or condition you are currently viewing. The pop-up may list the Detailed Disease (DISEASEDEX®) Dashboard associated with the current disease selected.

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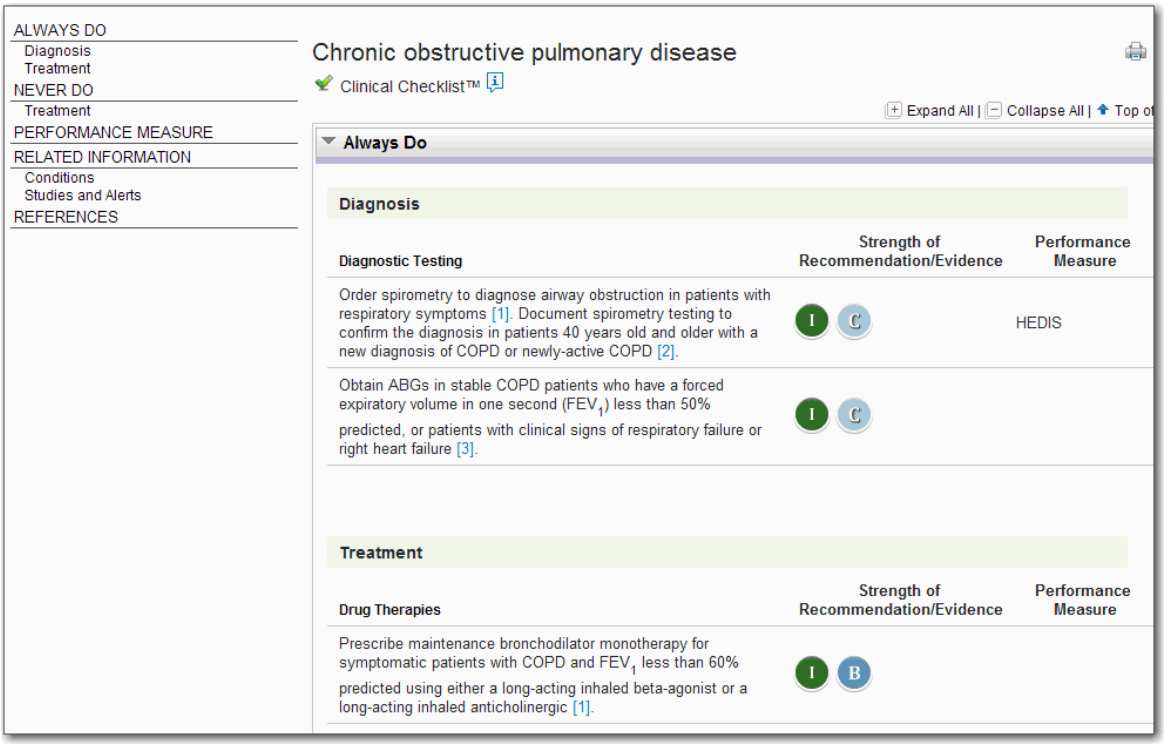
Clinical Checklist™

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.

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:

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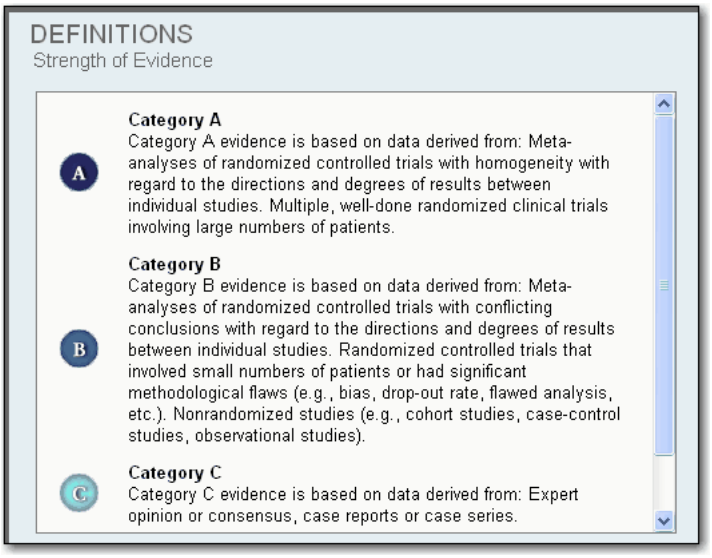
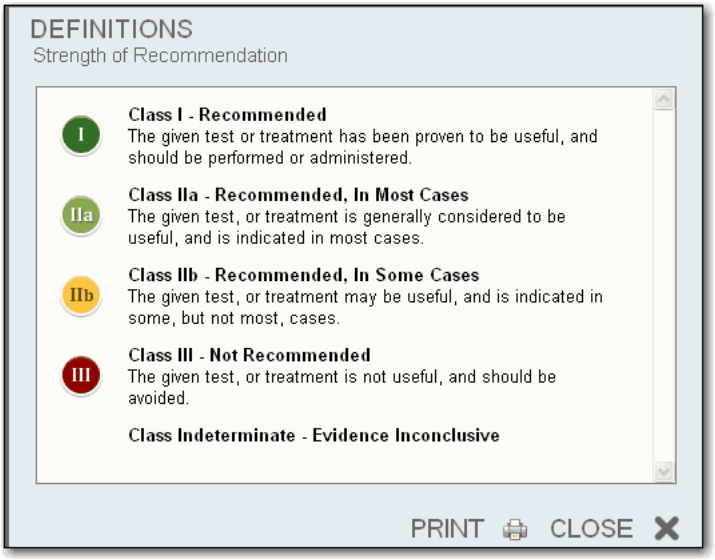
Strength of Evidence



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

Strength of Recommendation



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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

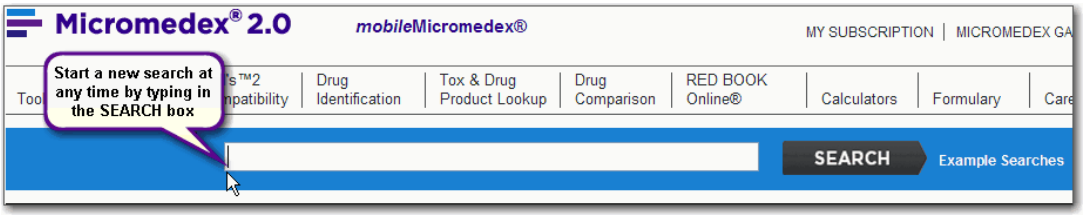
AHRQ - Agency for Health Research & Quality

AH - American Healthways

NQF - National Quality Forum

HEDIS - Health Plan Employer Data and Information Set

Start a New Search



If at any time you wish to search for something else, enter the new search term(s) in the Search box, located at the top of the page.

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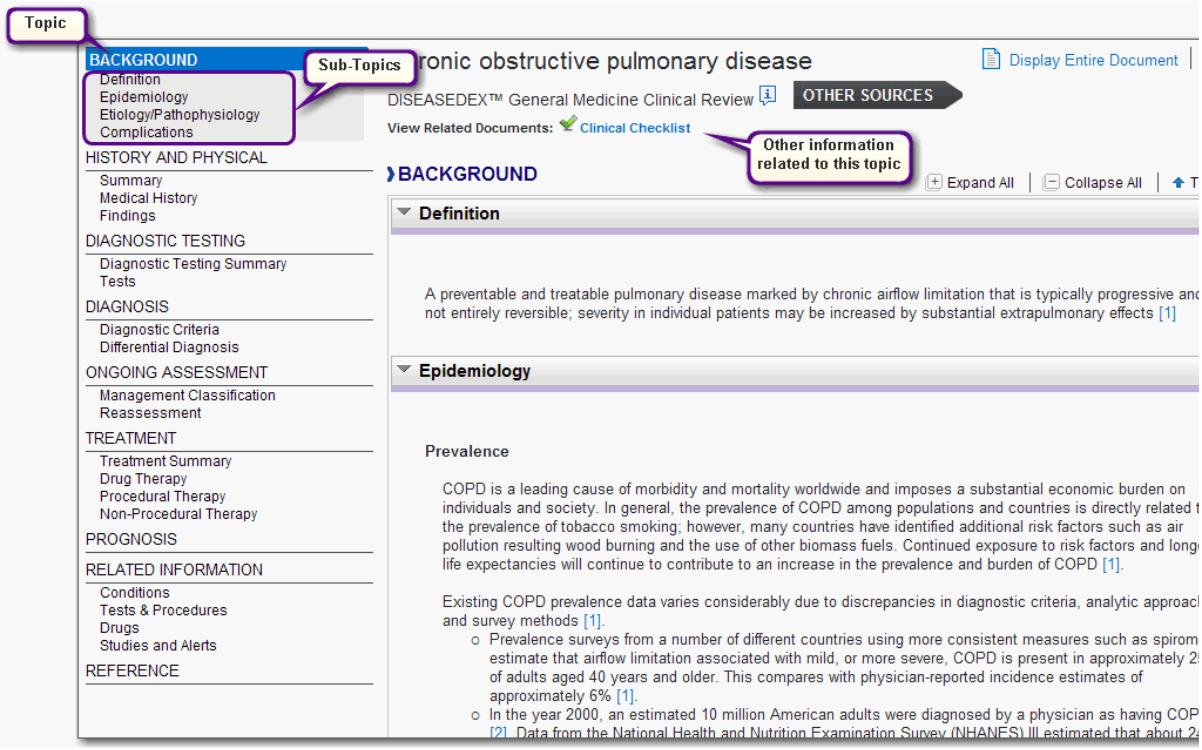
DETAILED DISEASE INFORMATION

DISEASEDEX® General/Emergency Medicine

When viewing a detailed disease document you can:

- Open sub-topics clicking on the sub-topic header bar shown on the right side of the page
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Scroll the entire document by clicking on the **Display Entire Document** link
- Click on the **View Related Documents** link (such as: Acute/Chronic, Prevention & Screening, or Studies & Alerts - if available) to open other types of information for the selected disease or condition

Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 7 for more information)



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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® database identifies ingredients for hundreds of thousands of commercial, biological, and pharmaceutical products. MICROMEDEX® 2.0 links that information directly to management documents providing data on clinical effects, range of toxicity, and treatment protocols for exposure.

Finding Information

You can search for toxicology information using an ingredient, slang terms, or carrier (such as funnel-web spider, or coral snake, etc.) as the search term.

Hazard & Medical Management Information

HAZARDTEXT® Hazard Managements and MEDITEXT® Medical Managements are available and integrated into all searches in MICROMEDEX® 2.0.

Global Drug Information

International drug information from Martindale: The Complete Drug Reference, Index Nominum, and Herbal Medicines: A Guide for the Health-Care Professional is integrated into all searches in MICROMEDEX® 2.0. See "DRUG DASHBOARDS" on page 36 for examples and details on accessing global drug information.

Reproductive Risk Information

Information from the REPRORISK® System is integrated into all searches in MICROMEDEX® 2.0 as well.

The REPRORISK System (comprised of the REPROTEXT® Database, REPROTOX®, Shepard's and TERIS databases) 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. The REPRORISK System suggests treatment plans to minimize risks during pregnancy.

Material Safety Data Sheets (MSDS)

Integrated into all searches in MICROMEDEX® 2.0 Material Safety Data Sheets (MSDS) offers quick access to drug and chemical information, including health hazards, handling procedures, and government regulations.

Free Text Searches & Searches Using Targeted Search Terms

We encourage you to search for your toxicology information using natural language queries such as, "what is the range of toxicity of a funnel-web spider bite", or, "what is the treatment for Q Fever".

Certain search terms will produce a result directly positioned to the appropriate topic in the ToxPoints® summary document (future enhancement - coming soon). If the application is unable to match a ToxPoints summary to fit your search criteria, you are presented with either a dashboard or intermediate search results page. In all cases, search results are presented in an easy to understand format and page layout.

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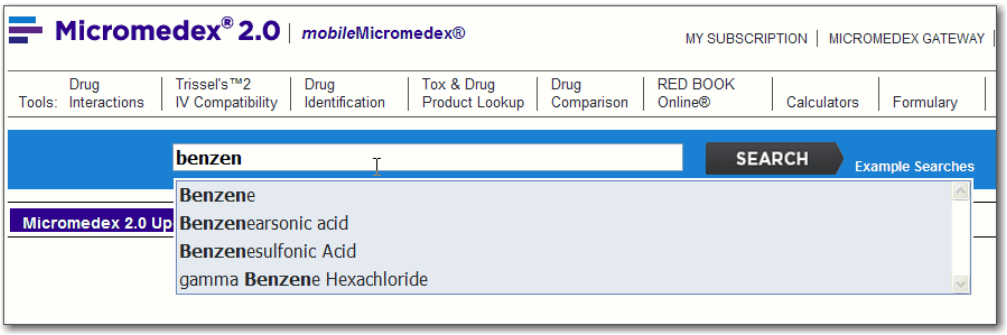
Sample Toxicology Search

1. Begin to type the ingredient (or slang term) or search phrase in the search box. If you are unsure of the spelling, just type as many characters as you know.
2. As you type, the application narrows your search results in the drop-down list (if you pause) based on the characters you've entered. The more characters you type, the more focused the results.



   If the item you are interested in is listed, double-click on the item (or single-click and press the **Search** button) to begin the search.
3. If you continue to enter the search term(s), the drop-down list may disappear. This may mean the search term you entered does not match a system entry. However, there may still be a match if you are searching on a keyword or typing partial or multiple search terms. Click the **Search** button. The search results page opens showing matches found to your search term or keyword.

Search Results

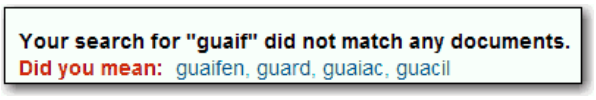
A successful search will produce one of the following results:

- DASHBOARDS
- INTERMEDIATE SEARCH RESULTS page

From the Dashboard or the Intermediate Search results, you can select the document you wish to view.

Spelling Help

The MICROMEDEX® 2.0 application may make suggestions if the search term you typed doesn't produce a match but 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 below the '*Did you mean:*' heading. Click the link of the drug to open the drug summary, or begin a new search by typing a new search term in the box and click the **Search** button.



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.

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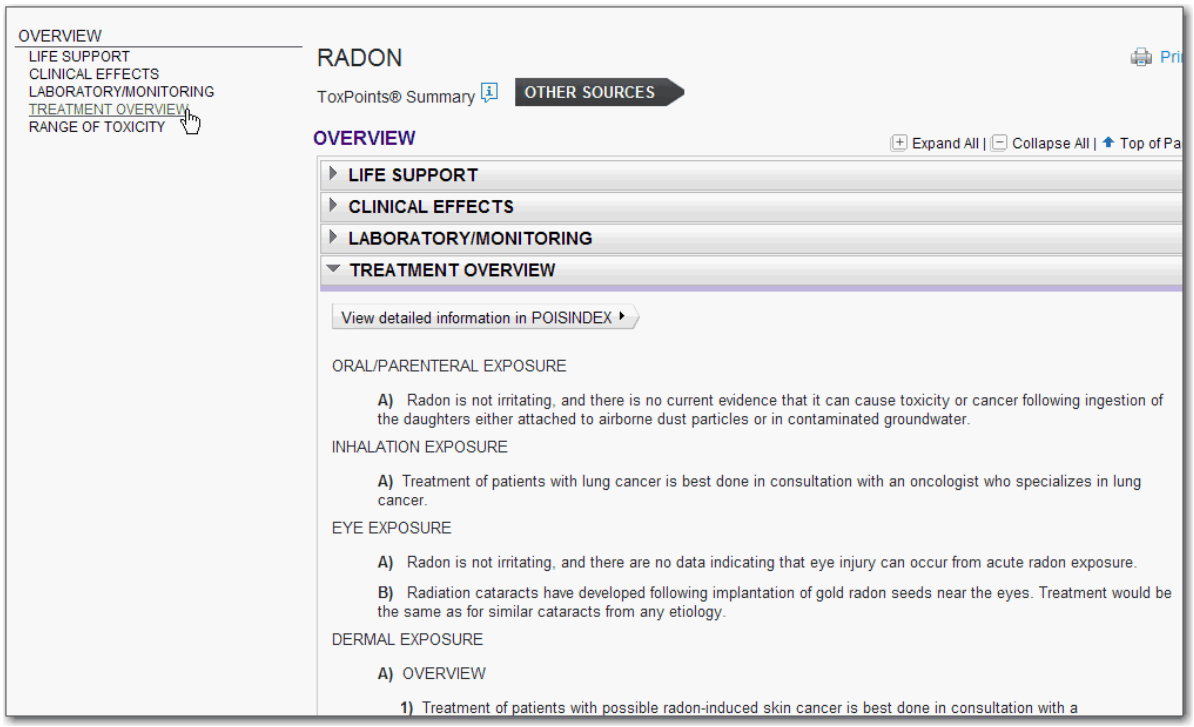
SUMMARY TOXICOLOGIC INFORMATION

ToxPoints® Summary Information

When viewing a summary document you can:

- Scroll the entire topic using the scrollbar on the right
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 7 for more information)



Note: Some customers may not see links to the detailed information. Links embedded within the summary information are based on your current MICROMEDEX® 2.0 subscription.

OVERVIEW

The Overview topic is shown as an active link in the outline on the left side of the page. Clicking the link takes you to the beginning of the Overview section.

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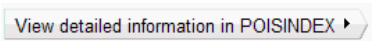
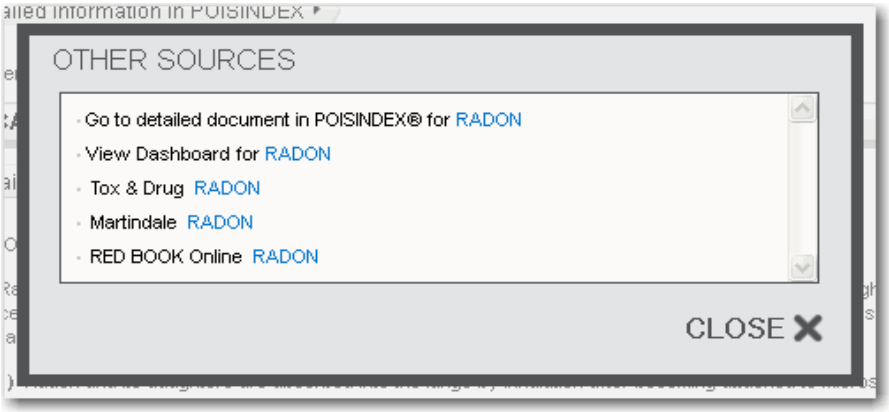
Sub-topics

Sub-topics (such as Life Support, Clinical Effects, etc.) exist, clicking on either the topic link in the left side navigation, or on the sub-topic header bar in the document expands the page showing the information below.

View Detailed information in POISINDEX 

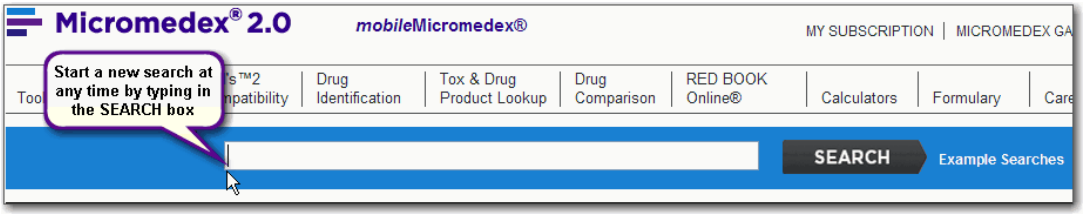
Clicking this button opens the POISINDEX Toxicologic Management for the substance.

OTHER SOURCES > Button



Clicking the OTHER SOURCES button opens a pop-up that displays options for finding other search results for the substance you are currently viewing. The pop-up may list the detailed POISINDEX Management document, View Dashboard, or offer a Product Lookup tool (e.g., Tox & Drug, Martindale, RED BOOK) based on your subscription.

Start a New Search



If at any time you wish to search for something else, enter the new search term(s) in the Search box, located at the top of the page.

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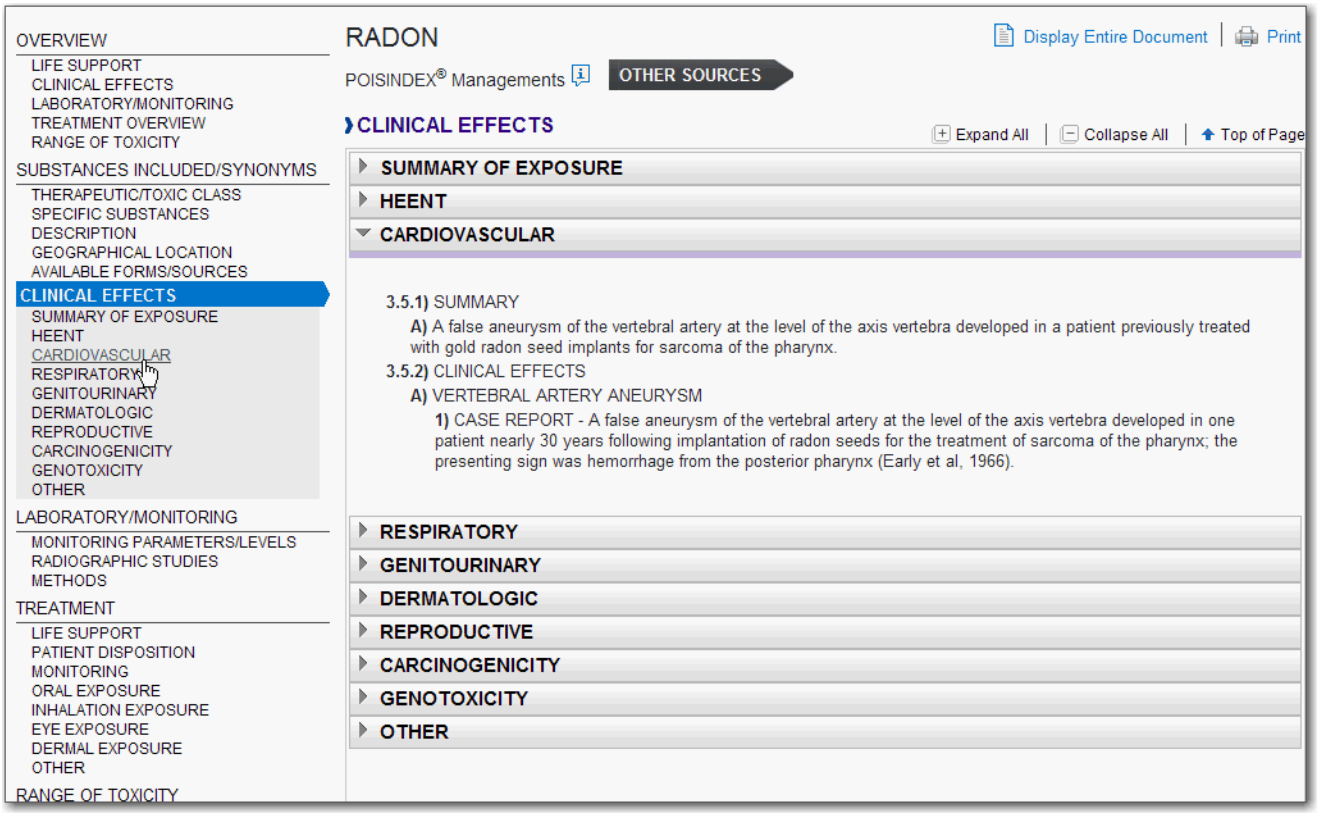
DETAILED TOXICOLOGIC INFORMATION

POISINDEX® Managements

When viewing detailed toxicologic information you can:

- Open a single sub-topic by clicking the link in the outline on the left side of the page, or by clicking the sub-topic header bar shown on the right side of the page.
- Expand all topics by clicking the **Expand All** link.
- Collapse all open topics by clicking the **Collapse All** link.
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Scroll the entire document by clicking on the **Display Entire Document** link
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 7 for more information)



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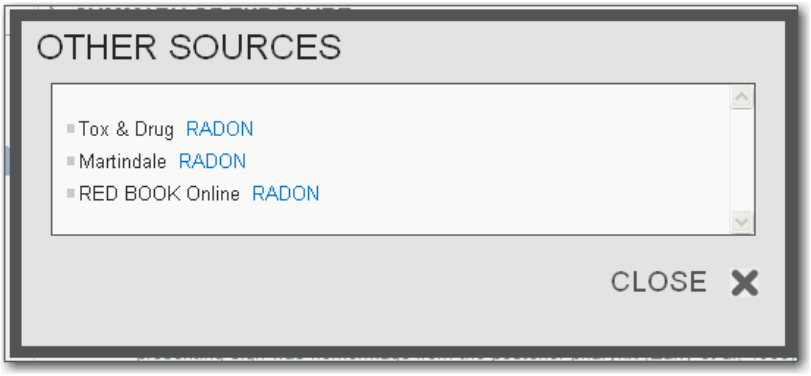
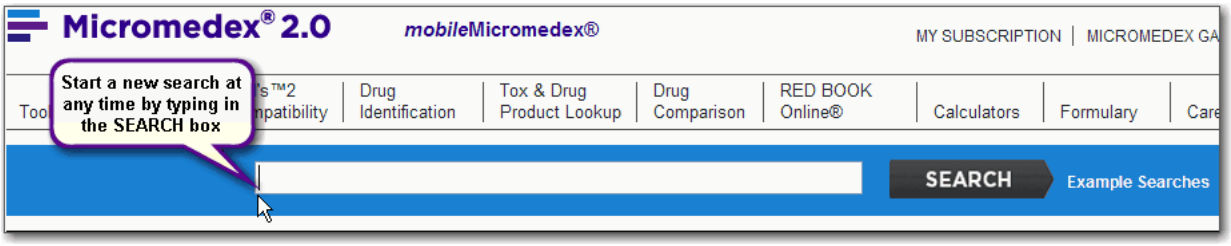
OTHER SOURCES > Button



Clicking the OTHER SOURCES button opens a pop-up that displays options for finding other search results for the substance you are currently viewing. The pop-up may offer to run a Product Lookup tool (e.g., Tox & Drug, Martindale) based on your subscription.

Start a New Search



If at any time you wish to search for something else, enter the new search term(s) in the Search box, located at the top of the page.

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CHAPTER 7: LAB INFORMATION

FIND A LAB TEST

MICROMEDEX® 2.0 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 Labs 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

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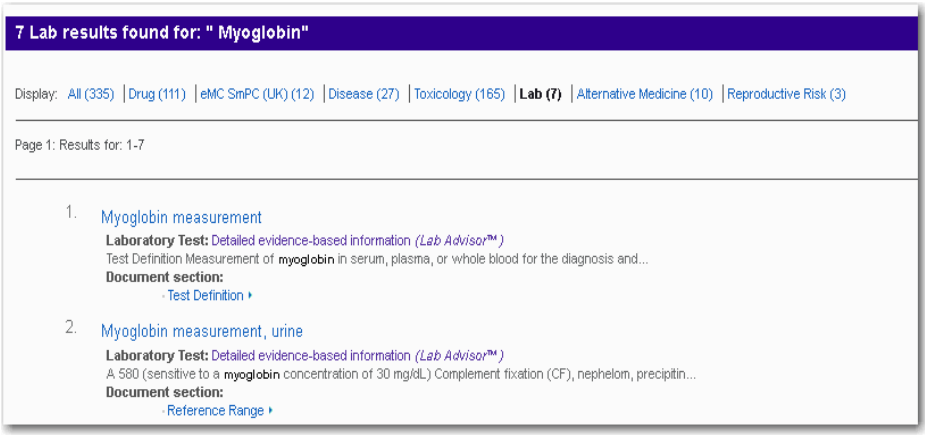
Searching for Lab Information

Laboratory test information can be found by searching on a test name, a LOINC code, or keyword.

Searching by Name

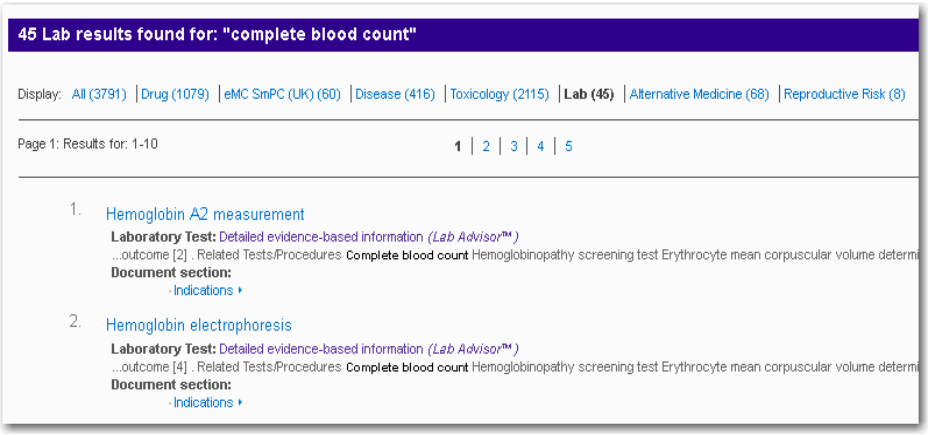
You can search for lab information using the test name as the search term.



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



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Searching by LOINC Code

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.

LOINC is likely to become a HIPAA standard for some segments of the Claims Attachment transaction. 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.

Finding a lab test by LOINC Code allows you to search for related lab information based on the standard LOINC code.

Create Your Search

1. Begin to type the lab by name, by keyword(s) or using the LOINC code in the search field. If you are unsure of the spelling, just type as many characters as you know.
2. As you type, the application narrows your search results in the drop-down menu based on the characters you've entered. The more characters you type, the more focused the results.
   a. If the lab you are interested in is listed in the drop-down menu, double-click on the item (or single-click and press the **Enter** key) to open the lab summary.
   b. As you continue to enter the search term(s), the drop-down list may disappear. This means the search term you entered does not match a lab title. However, there may still be a match if you are searching on a keyword or typing partial or multiple search terms. Type the search term(s) and click the **Search** button (or press the **Enter** key). The search results page opens showing matches found to your search term or keyword. A keyword (keyword examples: diabetes, cough, or edema).

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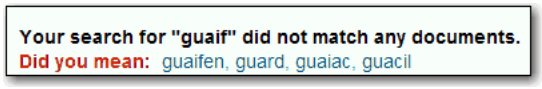
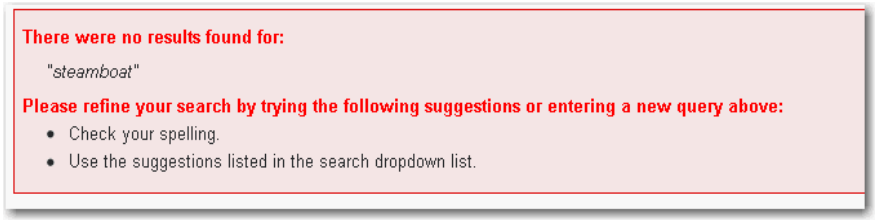
Spelling Help

The MICROMEDEX® 2.0 application may make suggestions if the search term you typed doesn't produce a match but is close or similar to a title or keyword. The search term is shown, along with the message that no matches were found. When the application finds names or keywords that are close or similar to the search term, they are listed as links below the '*Did you mean:*' heading. Click the link to open the summary, or begin a new search by typing a new search term in the box and click the **Search** button.



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.

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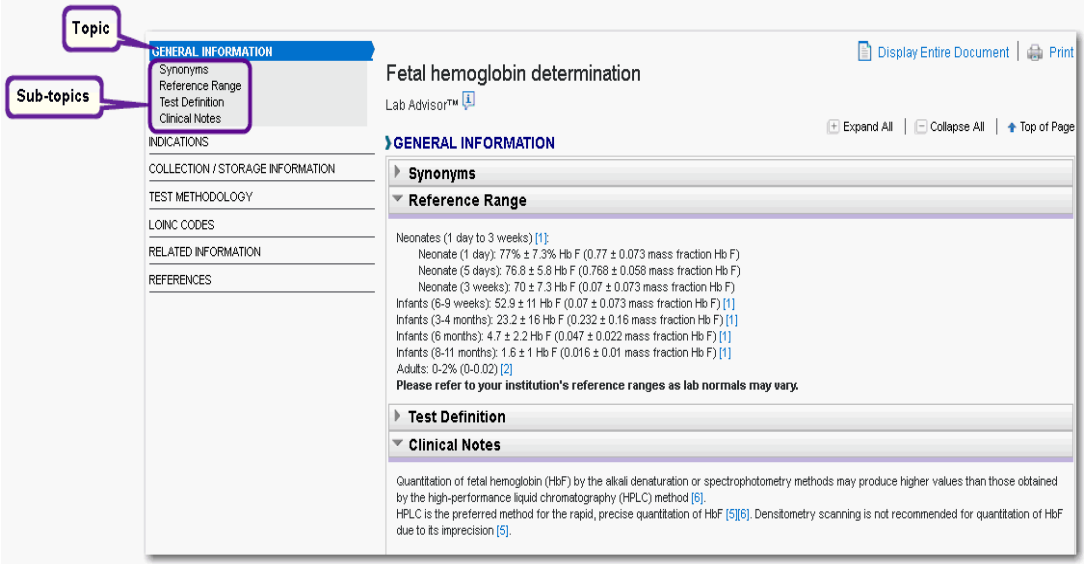
THE LAB ADVISOR® DETAILED LAB INFORMATION DOCUMENT

Lab Advisor® Detailed Lab Information Document

- The window opens directly to the General Information section. You can: Scroll the entire topic using the scrollbar on the right
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the document using the outline links
- Print the topic (or selected topics; or the entire document) by clicking the **Print** icon (see "Print" on page 7 for more information).

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.



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.

Hypertext Links within the Lab Summary

Links shown within the lab summary mean that further or related 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

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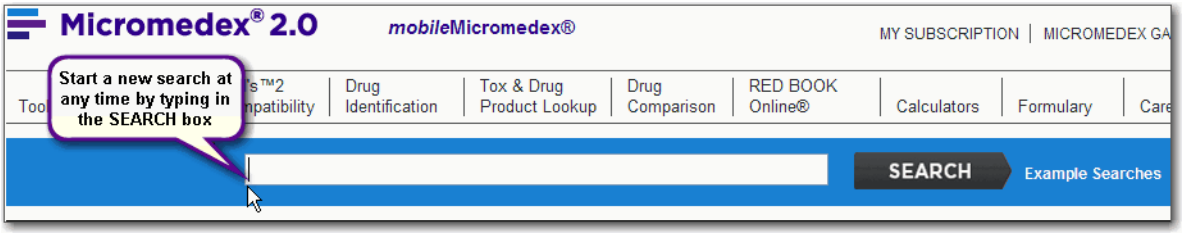
information (such as, Strength of Evidence, Strength of Recommendation, and so on).

Note: What you see on the page may depend on your Micromedex® 2.0 - User Guide subscription.

Start a New Search



If at any time you wish to search for something else, enter the new search term(s) in the Search box, located at the top of the page.

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CHAPTER 8: 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 area of Micromedex® 2.0 - User Guide.

MICROMEDEX® 2.0 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 the alternative medicine summaries is an indispensable tool for answering the growing number of patients' CAM questions and exploring the possibilities.

Finding Information

Information can be found on herbals, vitamins, minerals, other dietary supplements, Chinese medicine, acupuncture and more. It also includes data on dosing, pharmacokinetics, and clinical applications.

Note: Unlike the drug, disease, lab, and patient education, the alternative medicine information is not linked or cross-referenced to the other content types.

Global Drug Information

International drug information from Martindale: The Complete Drug Reference, Index Nominum, and Herbal Medicines: A Guide for the Health-Care Professional is integrated into all searches in MICROMEDEX® 2.0. See “DRUG DASHBOARDS” on page 36 for examples and details on accessing global drug information.

Reproductive Risk Information

Information from the REPRORISK® System is integrated into all searches in MICROMEDEX 2.0 as well.

The REPRORISK System (comprised of the Reprotext®, Reprotox®, Shepard’s and TERIS databases) 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. The REPRORISK System suggests treatment plans to minimize risks during pregnancy.

Sample Search for Alternative Medicine

The default search in alternative medicine is to search by substance name.

1. Begin to type the substance by name in the search field. If you are unsure of the spelling, just type as many characters as you know.

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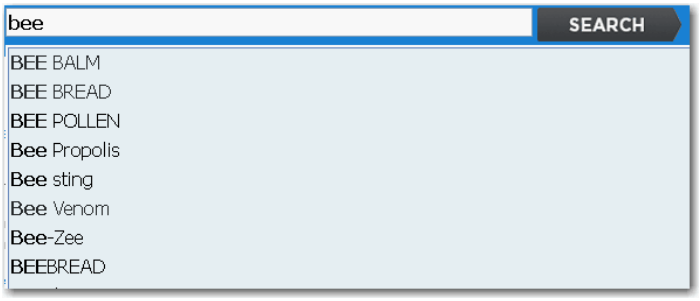
2. If you pause as you type, the application narrows your search results in the drop-down menu based on the characters you've entered. The more characters you type, the more focused the results.

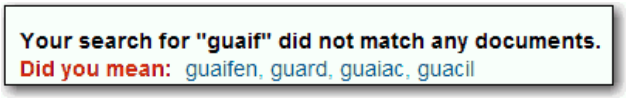


   If the substance you are interested in is listed in the drop-down menu, double-click on the item (or single-click and press the **Enter** key *-or-* arrow down to highlight the item and then press the **Enter** key) to begin the search.

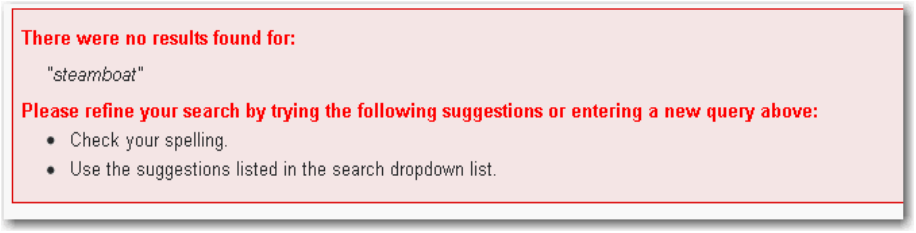
3. As you continue to enter the search term(s), the drop-down menu may disappear. This means the search term you entered does not match a title in our database. However, there may still be a match to a synonym or a free-text match if you are searching on a keyword or typing partial or multiple search terms. Type the search term(s) and click the **Search** button (or press the **Enter** key). The search results page opens showing matches found to your search term or keyword.

Spelling Help

The MICROMEDEX® 2.0 application may make suggestions if the search term you typed doesn't produce a match but is close or similar to a title or keyword. The search term is shown, along with the message that no matches were found. When the application finds names or keywords that are close or similar to the search term, they are listed as links below the '*Did you mean:*' heading. Click the link to open the summary, or begin a new search by typing a new search term in the box and click the **Search** button.



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.



4. If there is a direct match for your search term(s), you are presented with the Alternative Medicine Summary Dashboard. Otherwise, you are shown the INTERMEDIATE SEARCH RESULTS page.

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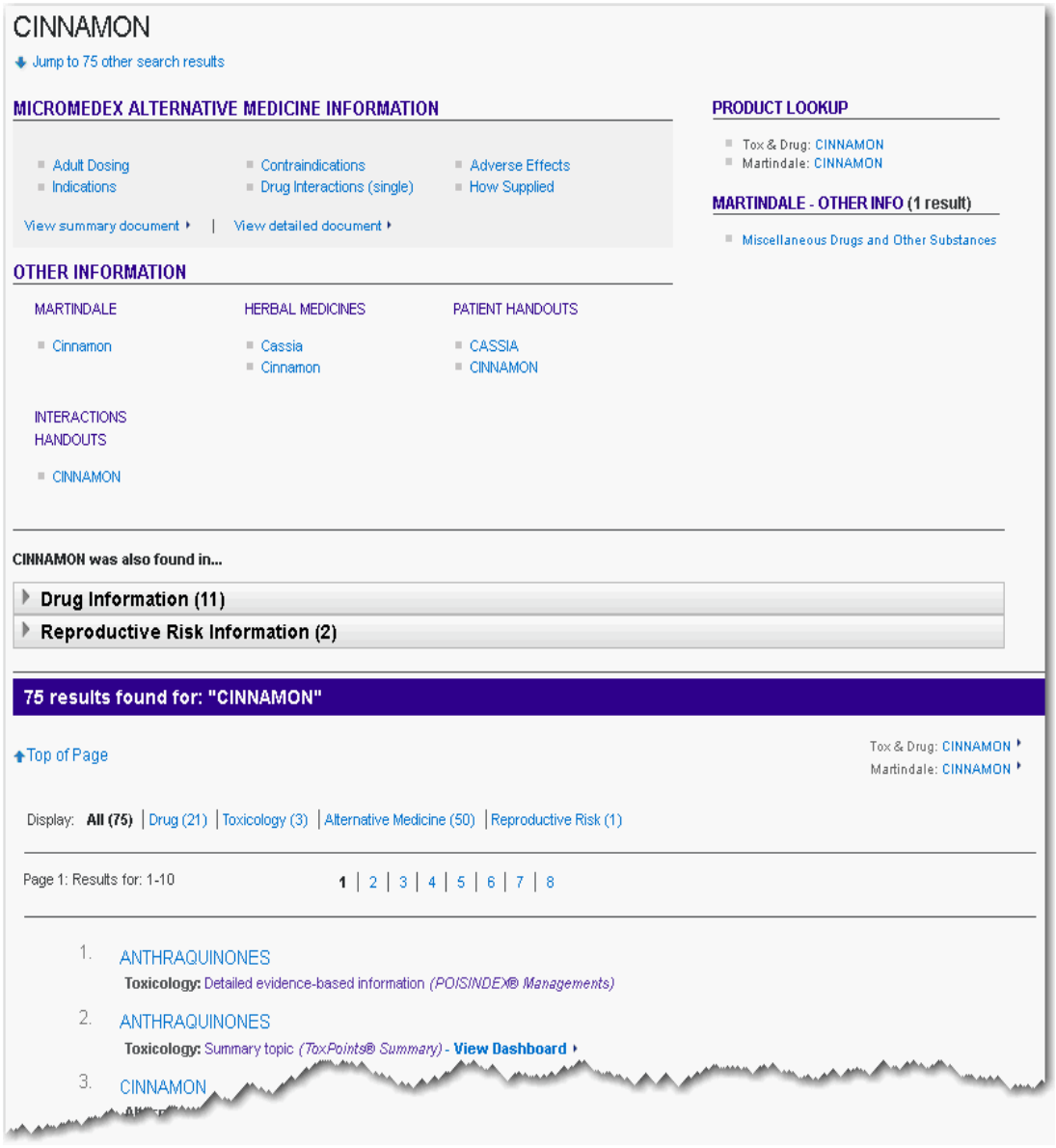
View Dashboard

Similar to the Drug and Disease Dashboards (see "DASHBOARDS" on page 35), the Alternative Medicine dashboards organize all information related to the searched item into one compact and logical page. Links to topic sections are shown, and when clicked, open the document positioned to the selected topic.



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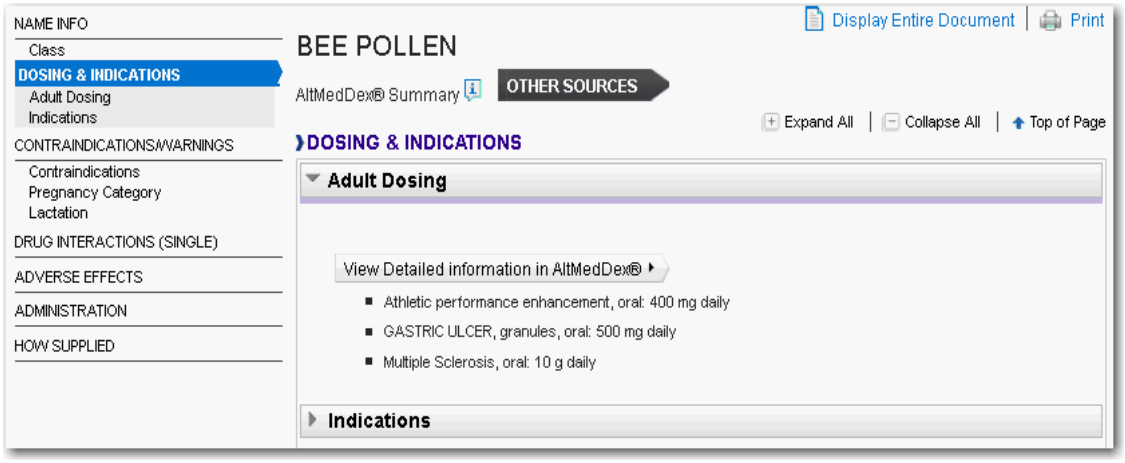
SUMMARY ALTERNATIVE MEDICINE INFORMATION

AltMedDex® Summary

The AltMedDex Summary document 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 document opens directly to the DOSING & INDICATIONS topic. You can:

- Scroll the entire topic using the scrollbar on the right
- Return to the top of the topic using the **Back to top** links.
- Navigate to other topics (and sub-topics) in the summary using the outline links
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** hyperlinks and selecting the topics desired (see "Print" on page 7 for more information)



Topics Links

All topics with information for this substance are shown as active links in the outline list on the left side of the page. Hovering the mouse over the topic links changes the font from a light font to a dark font.

Topics that do not have information for the drug are shown as a disabled (light grey font) link. Hovering over the disabled link opens a pop-up text box stating there is no information for this topic.

Sub-topics

If sub-topics exist, clicking on the topic link expands the list showing the sub-topics below. The window is shown at the top of the topic section. Go directly to a sub-topic by clicking the sub-topic link.

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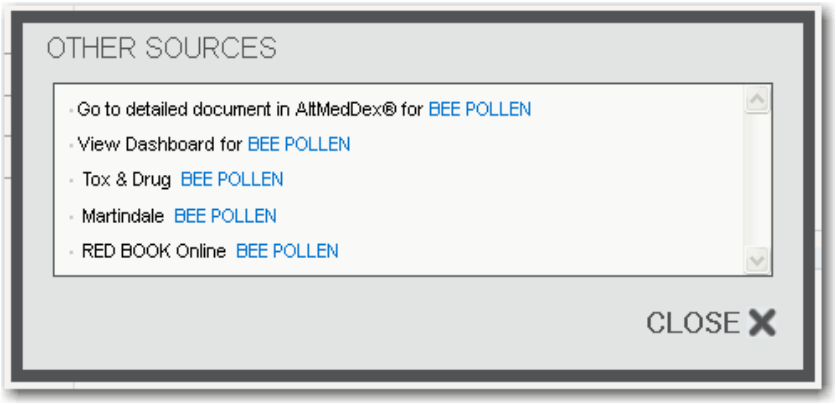
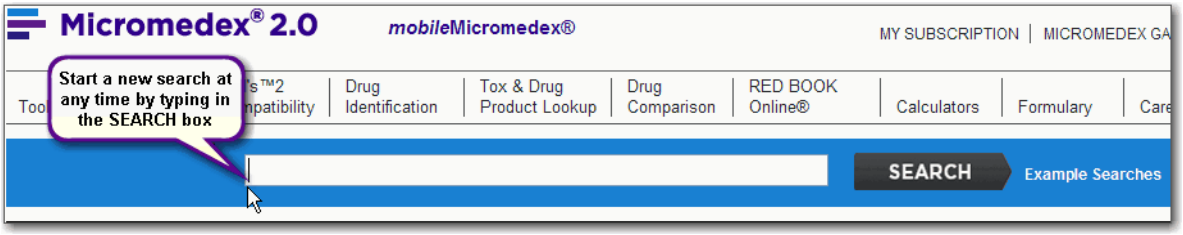
OTHER SOURCES > Button



Clicking the OTHER SOURCES button opens a pop-up that displays options for finding other search results for the substance you are currently viewing. The pop-up may list the detailed AltMedDex® document, View Dashboard, or a Product Lookup tool (based on your subscription).

Start a New Search



If at any time you wish to search for something else, enter the new search term(s) in the Search box, located at the top of the page.

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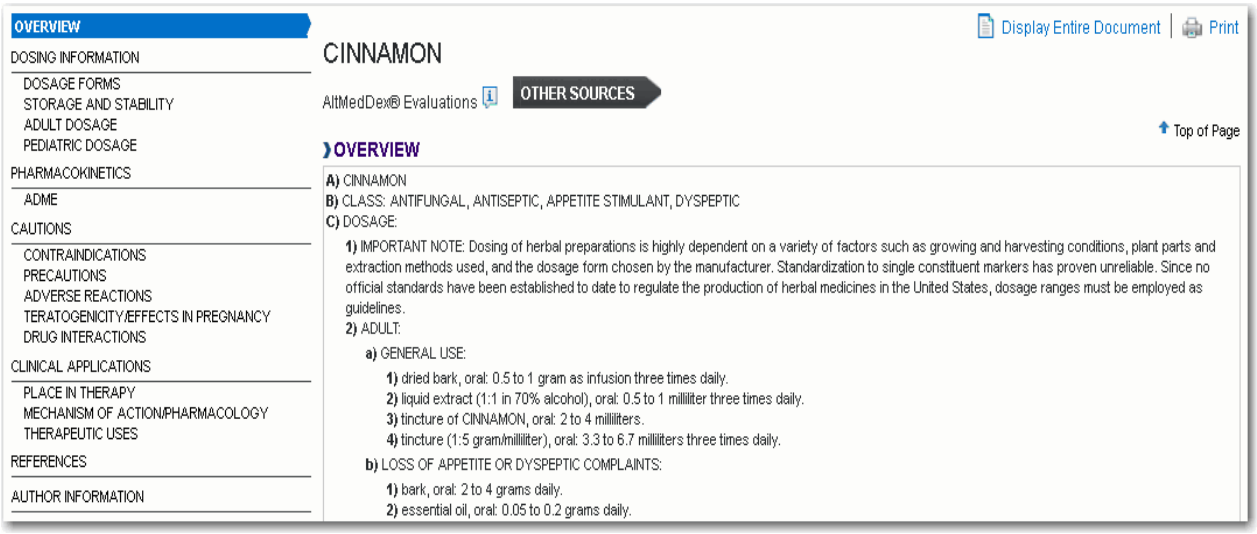
DETAILED ALTERNATIVE MEDICINE INFORMATION

AltMedDex® Evaluation

Alternative Medicine Evaluations 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

The document opens at the beginning of the document. navigation, printing, and the OTHER SOURCES button function similar to the Summary document.



OTHER ALTERNATIVE MEDICINE INFORMATION

AltMedDex® Consults

Alternative Medicine 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.

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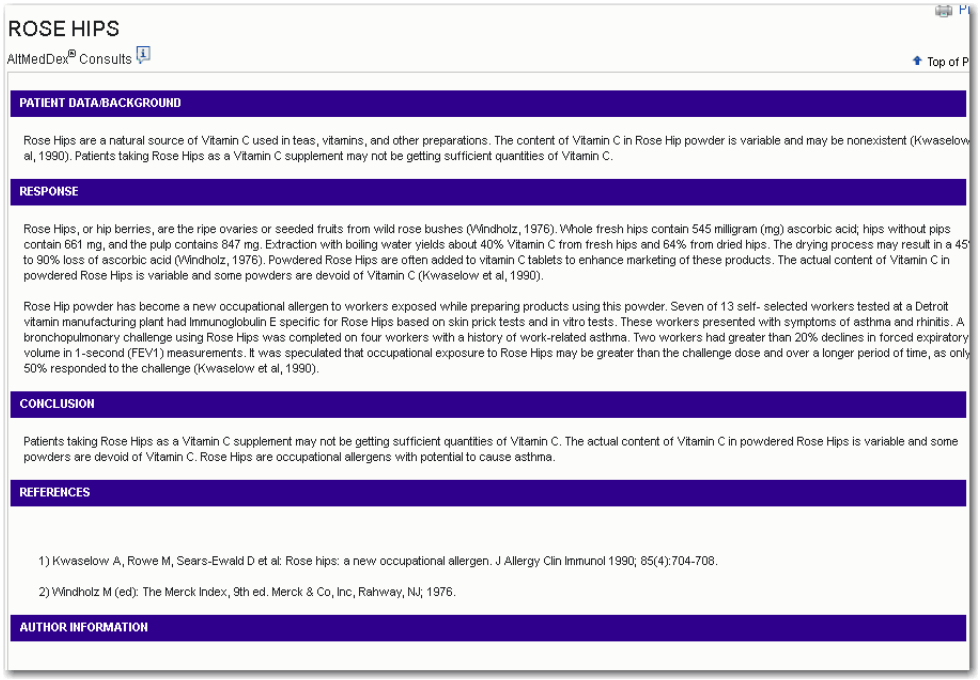
Consults can be viewed (using the scrollbar, or Top of Page links, if necessary) or printed in their entirety.



ROSE HIPS

AltMedDex® Consults

Top of P

PATIENT DATA/BACKGROUND

Rose Hips are a natural source of Vitamin C used in teas, vitamins, and other preparations. The content of Vitamin C in Rose Hip powder is variable and may be nonexistent (Kwaselow al, 1990). Patients taking Rose Hips as a Vitamin C supplement may not be getting sufficient quantities of Vitamin C.

RESPONSE

Rose Hips, or hip berries, are the ripe ovaries or seeded fruits from wild rose bushes (Windholz, 1976). Whole fresh hips contain 545 milligram (mg) ascorbic acid; hips without pips contain 661 mg, and the pulp contains 847 mg. Extraction with boiling water yields about 40% Vitamin C from fresh hips and 64% from dried hips. The drying process may result in a 45 to 90% loss of ascorbic acid (Windholz, 1976). Powdered Rose Hips are often added to vitamin C tablets to enhance marketing of these products. The actual content of Vitamin C in powdered Rose Hips is variable and some powders are devoid of Vitamin C (Kwaselow et al, 1990).

Rose Hip powder has become a new occupational allergen to workers exposed while preparing products using this powder. Seven of 13 self- selected workers tested at a Detroit vitamin manufacturing plant had Immunoglobulin E specific for Rose Hips based on skin prick tests and in vitro tests. These workers presented with symptoms of asthma and rhinitis. A bronchopulmonary challenge using Rose Hips was completed on four workers with a history of work-related asthma. Two workers had greater than 20% declines in forced expiratory volume in 1-second (FEV1) measurements. It was speculated that occupational exposure to Rose Hips may be greater than the challenge dose and over a longer period of time, as only 50% responded to the challenge (Kwaselow et al, 1990).

CONCLUSION

Patients taking Rose Hips as a Vitamin C supplement may not be getting sufficient quantities of Vitamin C. The actual content of Vitamin C in powdered Rose Hips is variable and some powders are devoid of Vitamin C. Rose Hips are occupational allergens with potential to cause asthma.

REFERENCES

1) Kwaselow A, Rowe M, Sears-Ewald D et al: Rose hips: a new occupational allergen. J Allergy Clin Immunol 1990; 85(4):704-708.

2) Windholz M (ed): The Merck Index, 9th ed. Merck & Co, Inc, Rahway, NJ; 1976.

AUTHOR INFORMATION

AltMedDex® 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. AltMedDex® 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.

Protocol documents can be viewed (using the scrollbar, or Top of Page links, if necessary) or printed in their entirety.

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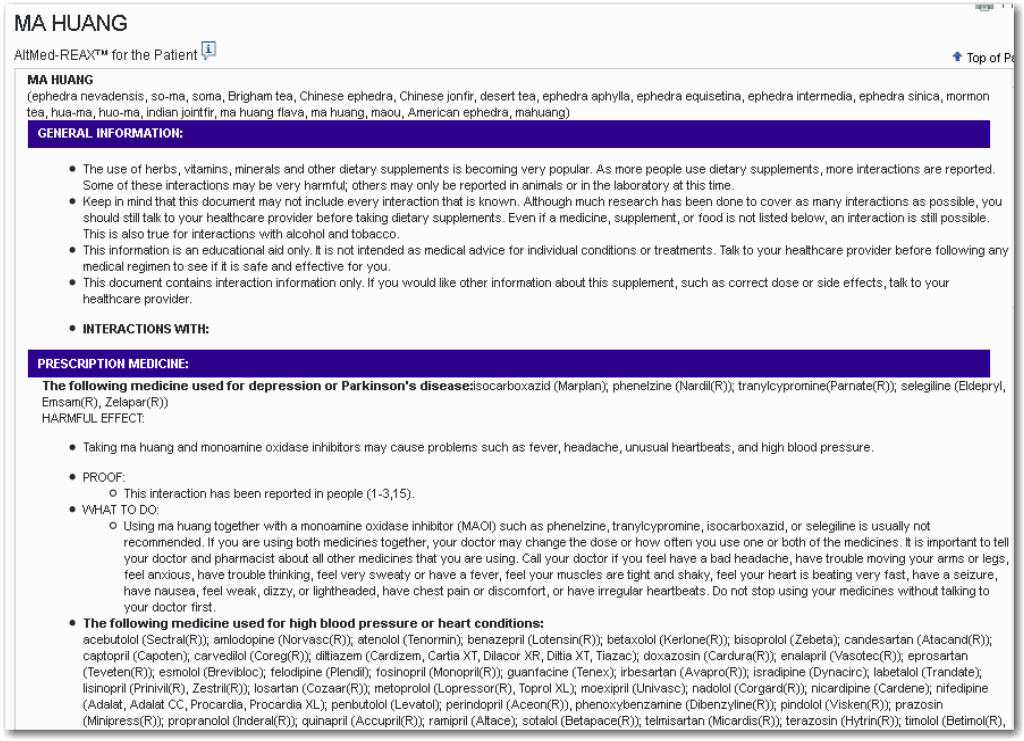
AltMed-REAX™ for the Patient

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. AltMed-REAX for the Patient 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.

Alternative medicine interactions documents can be found in the OTHER INFORMATION area of the dashboard, or in the intermediate results. Interaction documents can be viewed (using the scrollbar, or Top of Page links, if necessary) or printed in their entirety.



MA HUANG

AltMed-REAX™ for the Patient

Top of P

MA HUANG

(ephedra nevadensis, so-ma, soma, Brigham tea, Chinese ephedra, Chinese jonfir, desert tea, ephedra aphylla, ephedra equisetina, ephedra intermedia, ephedra sinica, mormon tea, hua-ma, huo-ma, indian jointfir, ma huang flava, ma huang, maou, American ephedra, mahuang)

GENERAL INFORMATION:

- The use of herbs, vitamins, minerals and other dietary supplements is becoming very popular. As more people use dietary supplements, more interactions are reported. Some of these interactions may be very harmful; others may only be reported in animals or in the laboratory at this time.
- Keep in mind that this document may not include every interaction that is known. Although much research has been done to cover as many interactions as possible, you should still talk to your healthcare provider before taking dietary supplements. Even if a medicine, supplement, or food is not listed below, an interaction is still possible. This is also true for interactions with alcohol and tobacco.
- This information is an educational aid only. It is not intended as medical advice for individual conditions or treatments. Talk to your healthcare provider before following any medical regimen to see if it is safe and effective for you.
- This document contains interaction information only. If you would like other information about this supplement, such as correct dose or side effects, talk to your healthcare provider.

- **INTERACTIONS WITH:**

PRESCRIPTION MEDICINE:

The following medicine used for depression or Parkinson's disease:isocarboxazid (Marplan); phenelzine (Nardil(R)); tranylcypromine(Parnate(R)); selegiline (Eldepryl, Emsam(R), Zelapar(R))

HARMFUL EFFECT:

- Taking ma huang and monoamine oxidase inhibitors may cause problems such as fever, headache, unusual heartbeats, and high blood pressure.

- PROOF:
  - This interaction has been reported in people (1-3,15).
- WHAT TO DO:
  - Using ma huang together with a monoamine oxidase inhibitor (MAOI) such as phenelzine, tranylcypromine, isocarboxazid, or selegiline is usually not recommended. If you are using both medicines together, your doctor may change the dose or how often you use one or both of the medicines. It is important to tell your doctor and pharmacist about all other medicines that you are using. Call your doctor if you feel have a bad headache, have trouble moving your arms or legs, feel anxious, have trouble thinking, feel very sweaty or have a fever, feel your muscles are tight and shaky, feel your heart is beating very fast, have a seizure, have nausea, feel weak, dizzy, or lightheaded, have chest pain or discomfort, or have irregular heartbeats. Do not stop using your medicines without talking to your doctor first.
- **The following medicine used for high blood pressure or heart conditions:**
  acebutolol (Sectral(R)); amlodopine (Norvasc(R)); atenolol (Tenormin); benazepril (Lotensin(R)); betaxolol (Kerlone(R)); bisoprolol (Zebeta); candesartan (Atacand(R)); captopril (Capoten); carvedilol (Coreg(R)); diltiazem (Cardizem, Cartia XT, Dilacor XR, Diltia XT, Tiazac); doxazosin (Cardura(R)); enalapril (Vasotec(R)); eprosartan (Teveten(R)); esmolol (Brevibloc); felodipine (Plendil); fosinopril (Monopril(R)); guanfacine (Tenex); irbesartan (Avapro(R)); isradipine (Dynacirc); labetalol (Trandate); lisinopril (Prinivil(R), Zestril(R)); losartan (Cozaar(R)); metoprolol (Lopressor(R), Toprol XL); moexipril (Univasc); nadolol (Corgard(R)); nicardipine (Cardene); nifedipine (Adalat, Adalat CC, Procardia, Procardia XL); penbutolol (Levatol); perindopril (Aceon(R)), phenoxybenzamine (Dibenzyline(R)); pindolol (Visken(R)); prazosin (Minipress(R)); propranolol (Inderal(R)); quinapril (Accupril(R)); ramipril (Altace); sotalol (Betapace(R)); telmisartan (Micardis(R)); terazosin (Hytrin(R)); timolol (Betimol(R),

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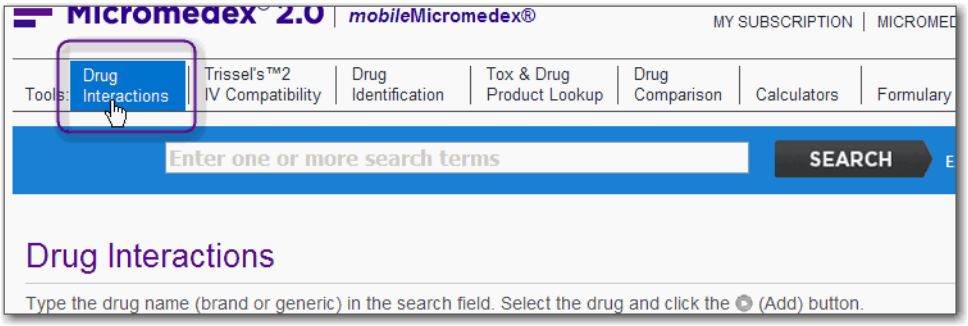
CHAPTER 9: DRUG INTERACTIONS TOOL

The Drug Interactions tool in MICROMEDEX® 2.0 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 DRUG-REAX® System will see functionality and links not displayed to non-subscribers. For example, DRUG-REAX customers will also see drug-tobacco, drug-pregnancy, drug-lactation, and drug-allergy reactions.

CALCULATING DRUG INTERACTIONS

A single drug can be checked for all known interactions, or you can calculate interaction information based on a list of drugs. 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

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Documentation Ratings

The amount and strength 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 trade name, brand name, generic name, or alternative/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.

Drug Allergies: (DRUG-REAX® customers only)
Patient allergies can be added to the list to check the drugs against the allergy. Click the **Add Allergies** button to open the allergy window.

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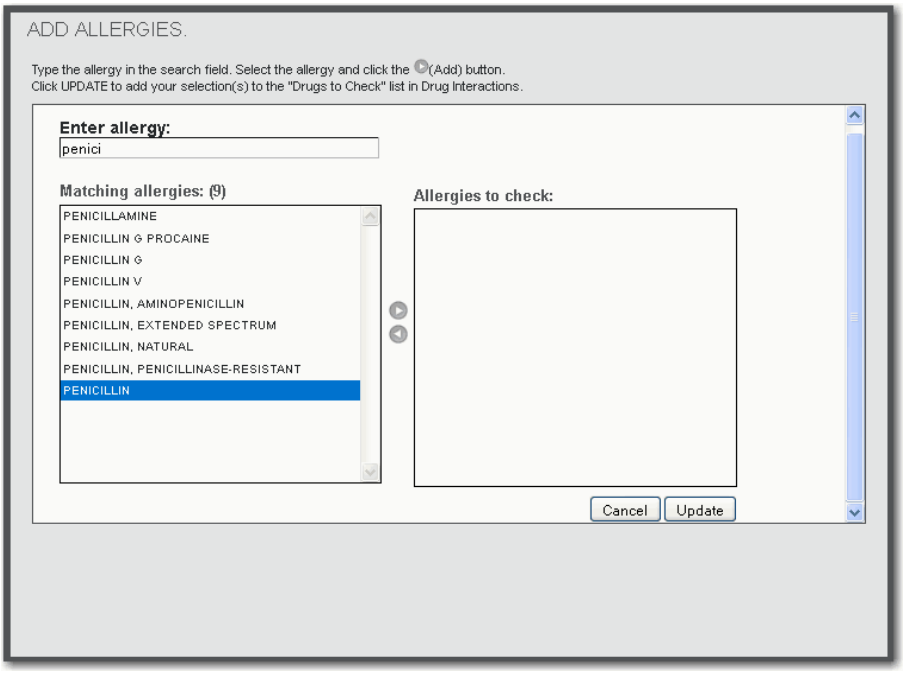
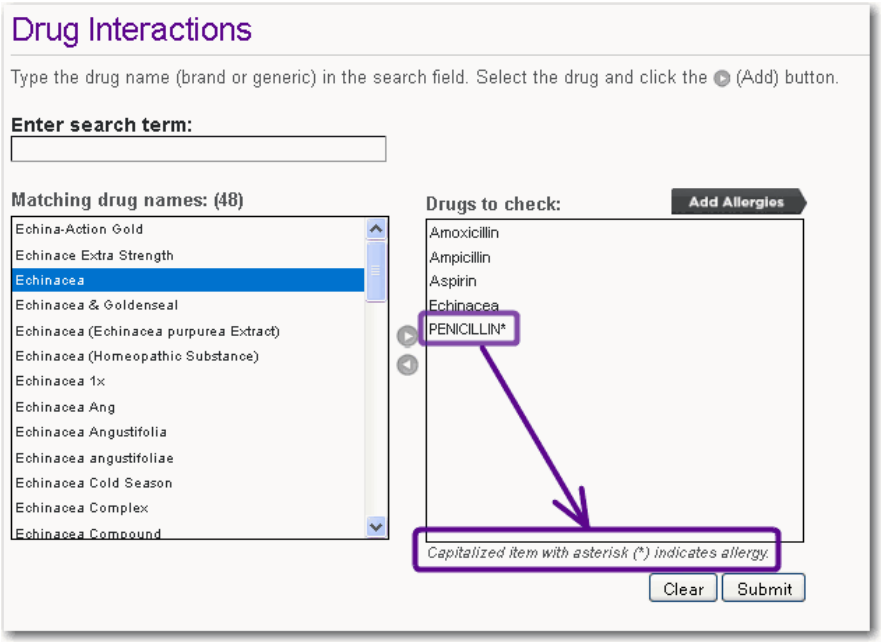


6. Type the first drug (brand or generic) in the *Enter Allergy:* field. If you are unsure of the spelling, just type as many characters as you know.

   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.



7. 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

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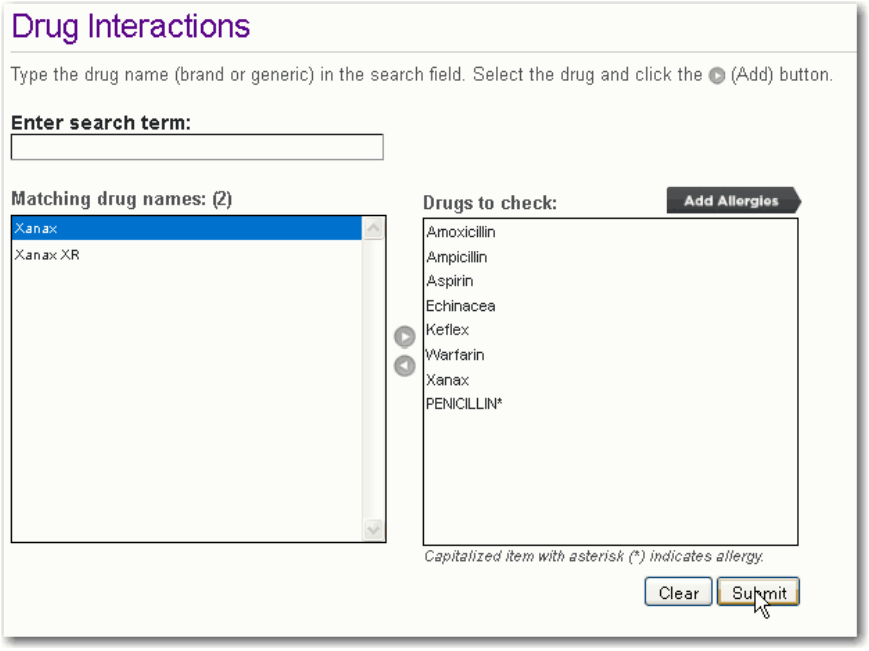
entered appear UPPERCASE, with an asterisk (*) in the *Drugs to check* list.



8. 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.

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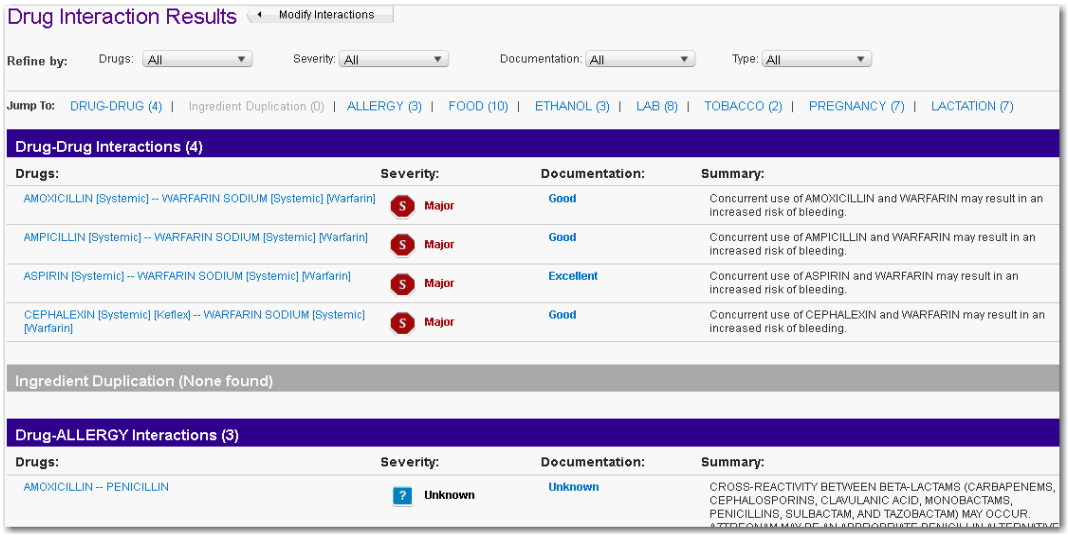
Drug Interactions Search Results

Interaction information is displayed on the *Drug Interactions Results* page.



Interactions Results

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 115 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 116.

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

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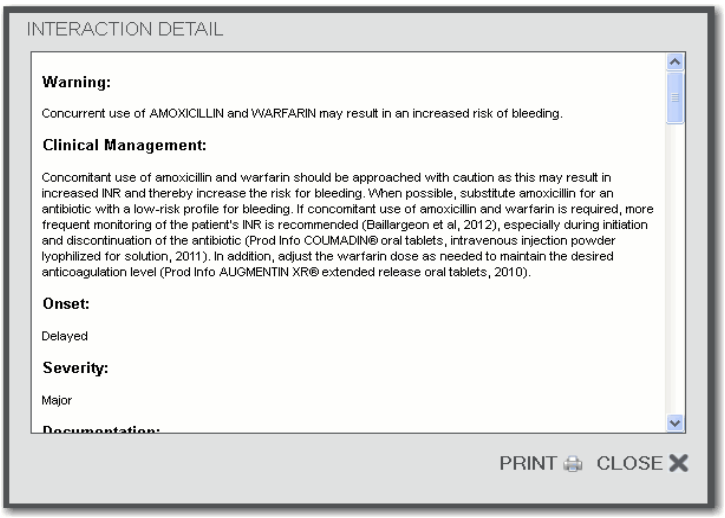
Documentation Ratings

The amount and strength 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

DRUG-REAX® 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, 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 calculate 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 the DRUG-REAX® System will see links to additional information about the interaction that is not displayed to non-subscribers.

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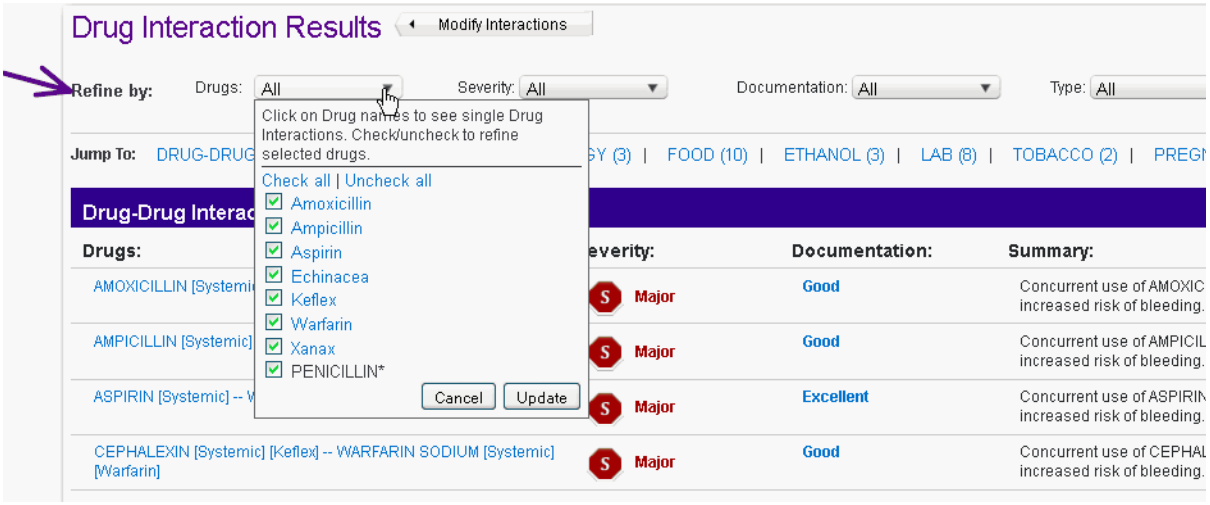
Refine by



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 to remove any of the interactions severities from the interactions results. 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 remove any of these types from the interactions results, de-select (uncheck) any type 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.

- 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.

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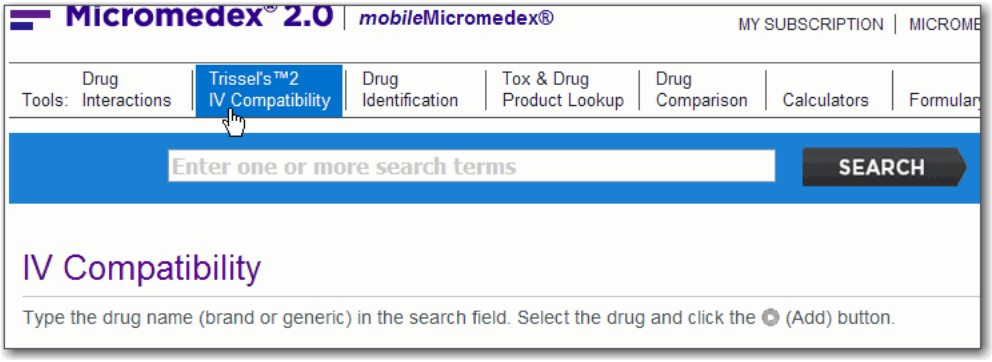
CHAPTER 10: IV COMPATIBILITY TOOL

Use the Trissel's™ 2 IV Compatibility tool to pinpoint potentially dangerous IV 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 Pharmaceutics Database (Parenteral Compatibility) with proven data to assist with accurate IV compatibility decisions at the point of care. Using information from leading IV compatibility expert, Lawrence Trissel, MS, FASHP, IV Compatibility in MICROMEDEX® 2.0 presents over 50,000 compatibility results for Y-Site, and Admixture administration.



Tests for compatibility are based on:

- Other drugs and solutions in Y-Site administration
- Administration as part of an Admixture
- Other drugs and solutions administered by Syringe
- Compatibility with common solutions
- Administration in conjunction with TPN/TNA

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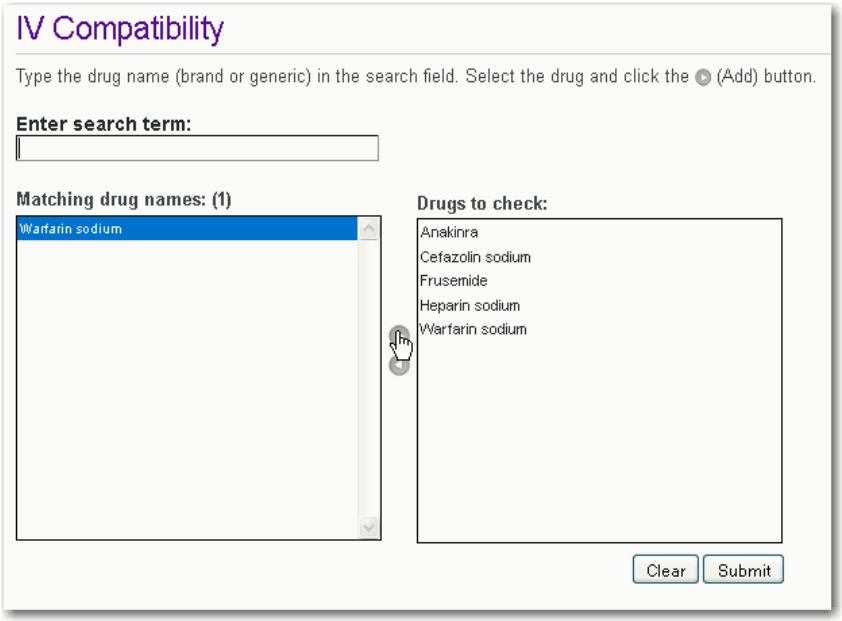
Building an IV Compatibility Search

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 based on a single drug, then click the **Submit** button. However, if more than one drug should be calculated, repeat steps one through three 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. When all drugs 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.

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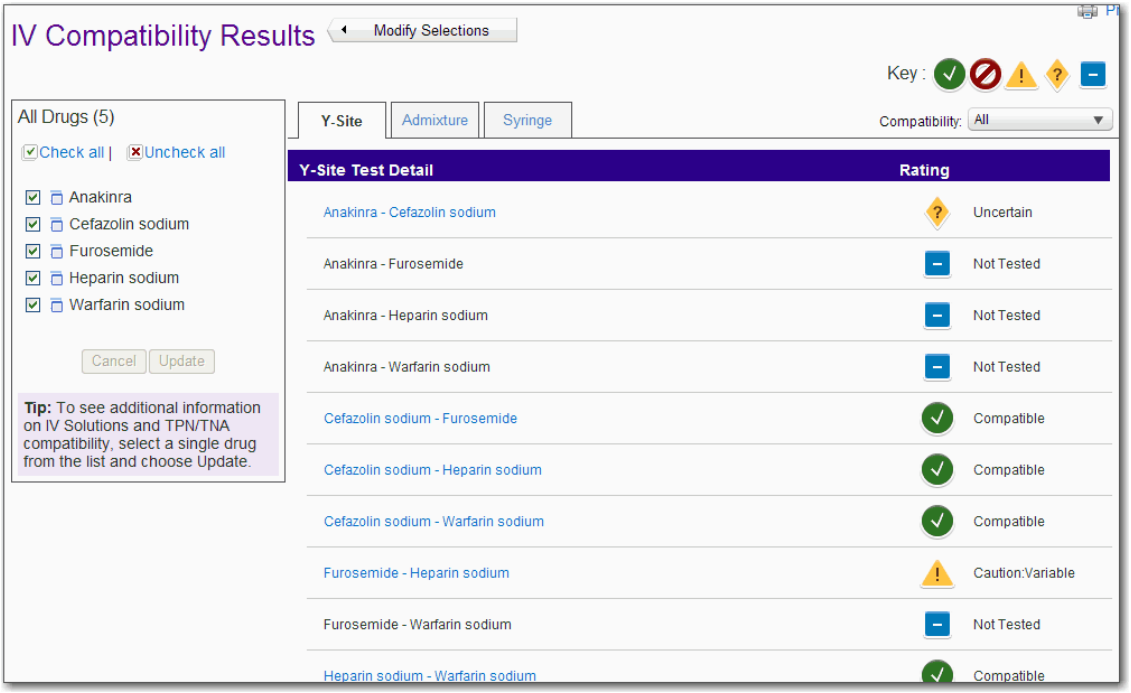
Compatibility Search Results

IV compatibility Y-Site, Admixture, and Syringe search results are separated onto different tabs, so that you can quickly access the route method in which you are interested.



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.

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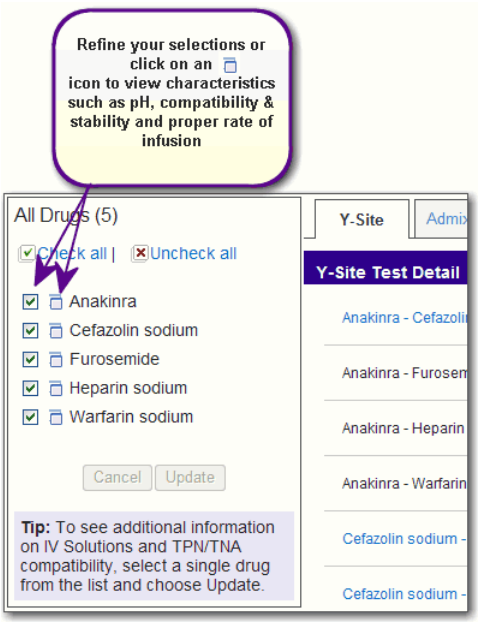
Modify the Drugs to Include

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 recalculate compatibility 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 Include 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

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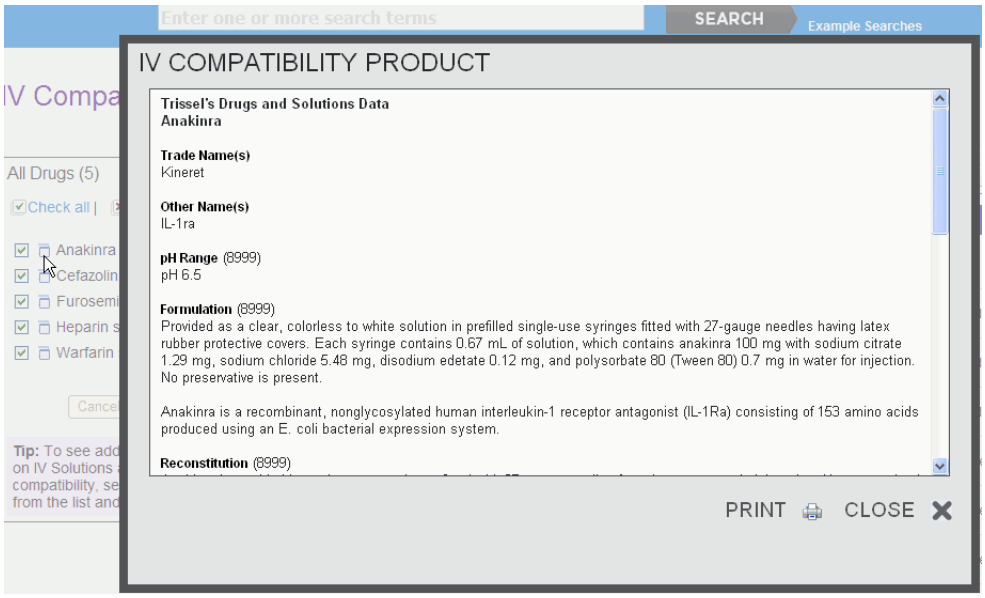
- Formulation
- Reconstitution
- Osmolality
- Storage
- Stability (detailed)
- ...and more



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.

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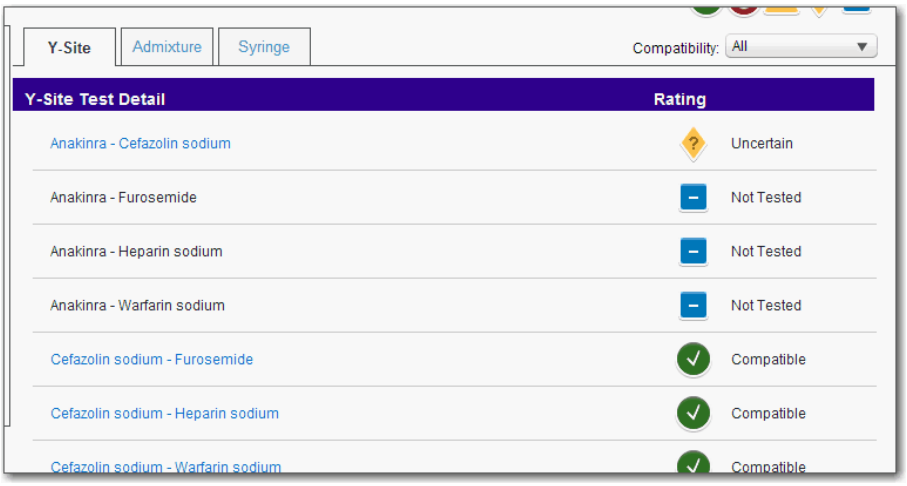
Y-Site

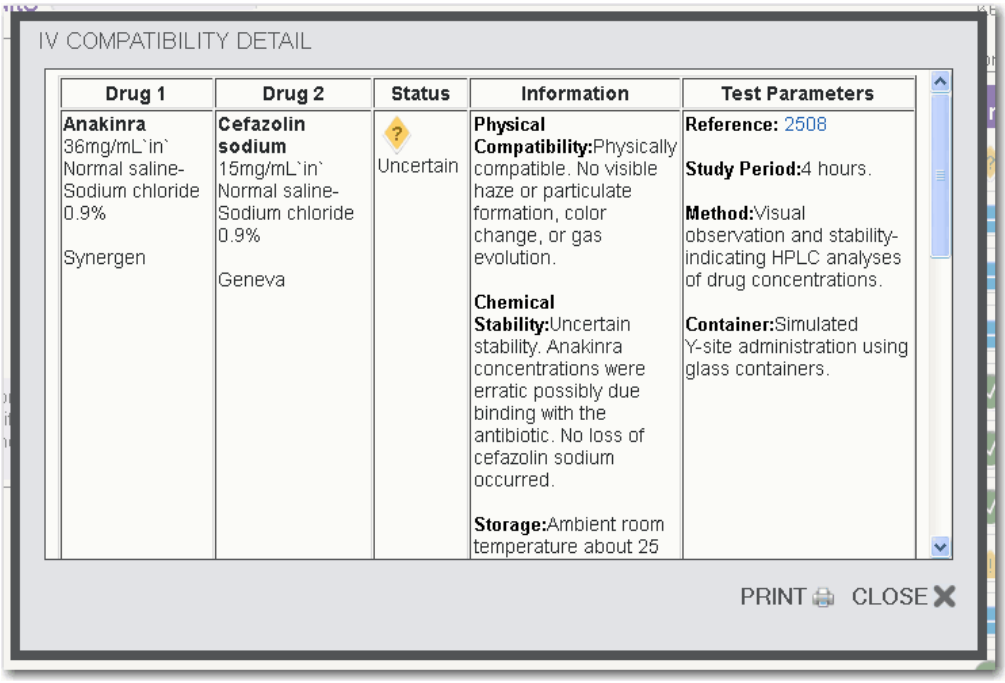
Results are calculated and displayed for Y-Site scenarios for the selected drug as both the primary and the secondary agent.



Click on the Y-Site drug combination link to view additional compatibility details.

Compatibility Details

Y-Site 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 agent name, concentration, and manufacturer's name

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- **Status** - lists the compatibility icon and description
- **Information** - displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** - contains a link to the reference, 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.

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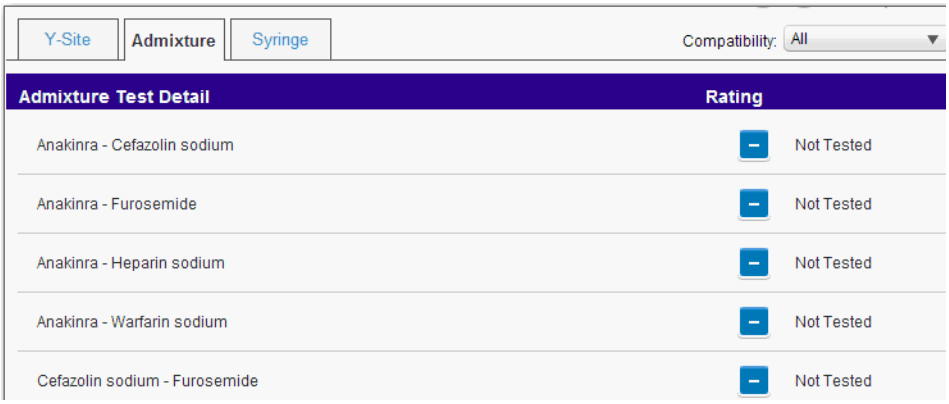
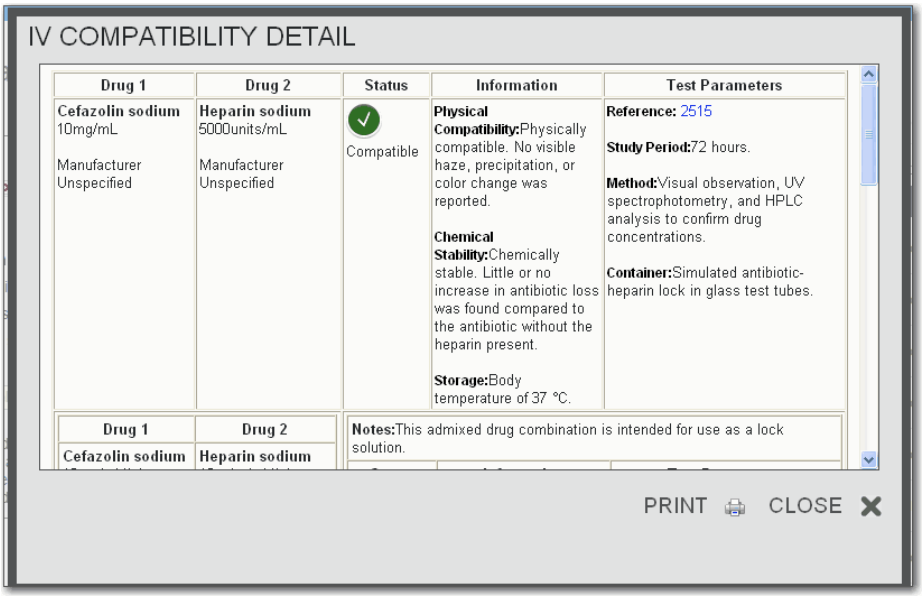
Admixture

Click the **Admixture** tab to view it. Overview information for multiple drug admixture compatibility is shown with the associated compatibility icon and description.



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



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 agent name, concentration, and manufacturer's name
- **Status** lists the compatibility icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a link to the reference, 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.

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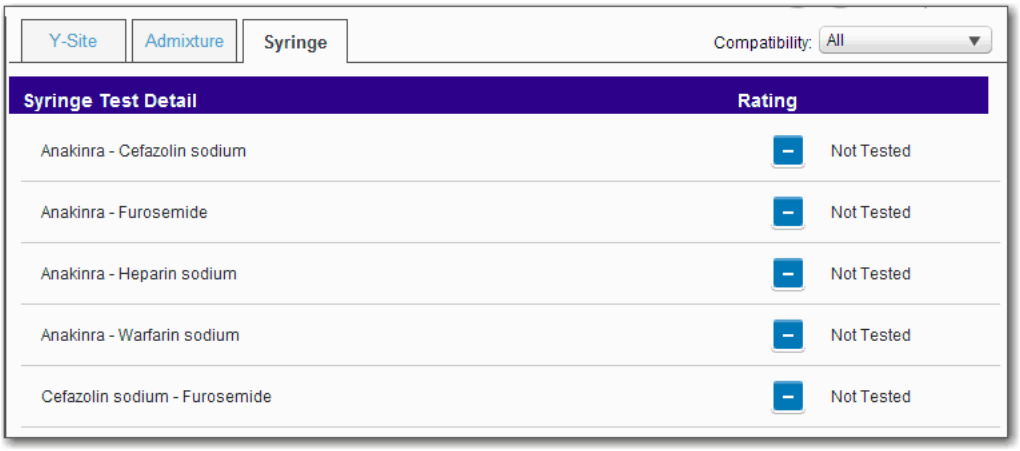
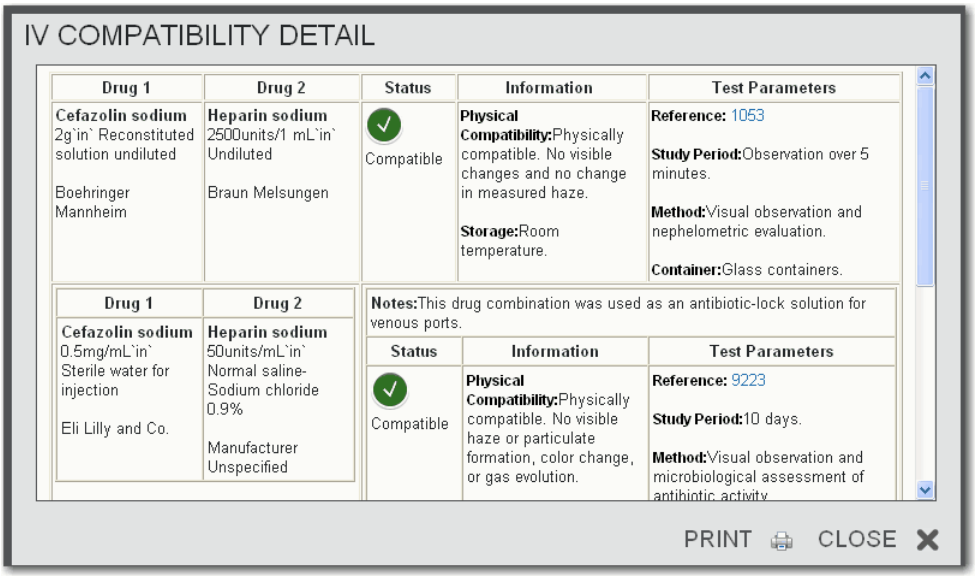
Syringe (IV INDEX® customers)

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



Click the drug name link to view the details of these tests



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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 agent name, concentration, and manufacturer's name
- **Status** column lists the compatibility icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a link to the reference, 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

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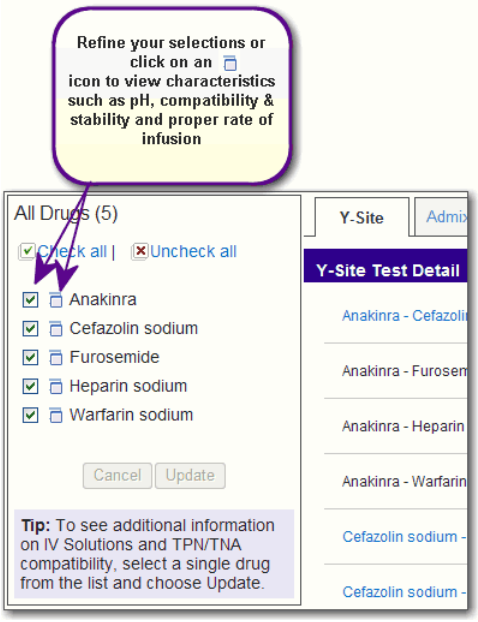
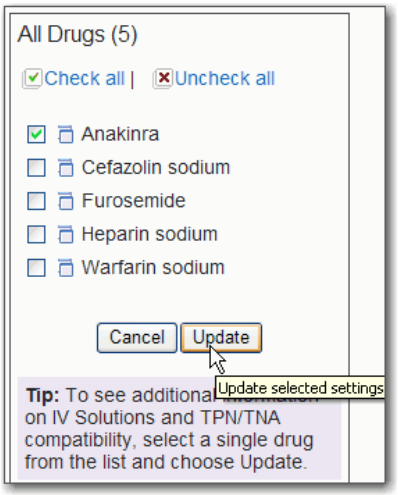
Single Drug IV Compatibility

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 checking on one drug, or by de-selecting all but one drug from a compatibility results screen and clicking the **Update** button.





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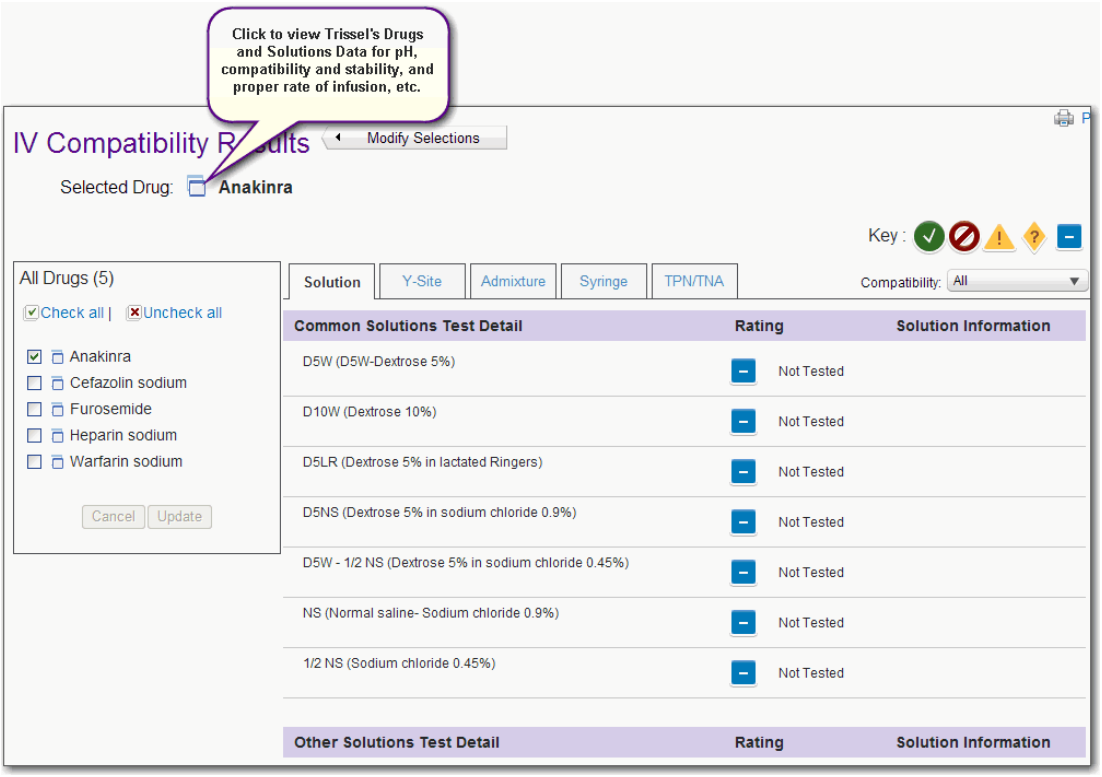
Common Solutions

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%.

Note: Solution results include those marked as a solution type, but can also include: Y-Site or Admixture results that do not have a secondary agent.

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.

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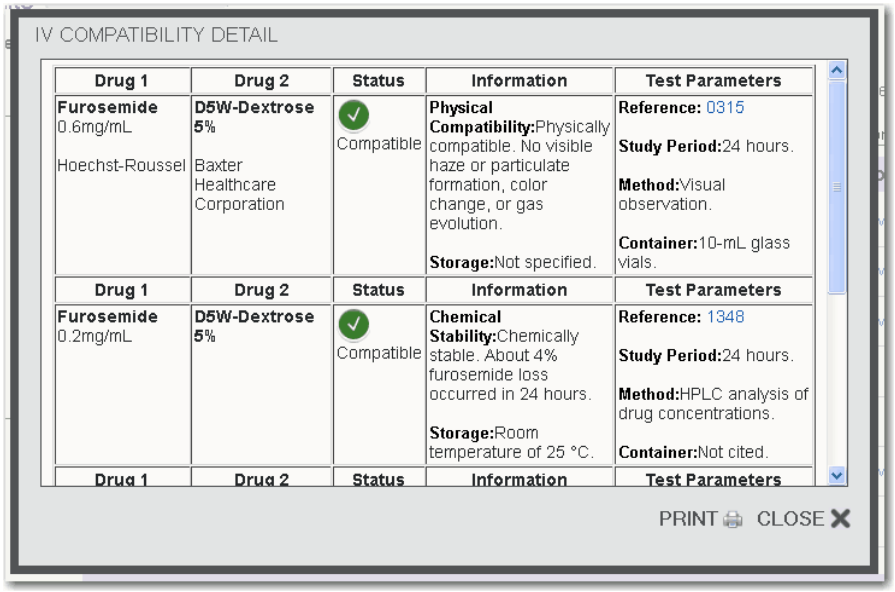

Solution compatibility details are shown in a five-column table:

- **Drug 1** contains the drug name, the concentration, and the manufacturer's name
- **Drug 2** shows the secondary agent name, concentration, and manufacturer's name
- **Status** column lists the compatibility icon and description
- **Information** displays the physical compatibility, chemical stability (if applicable), and storage information
- **Test Parameters** contains a link to the reference, 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.

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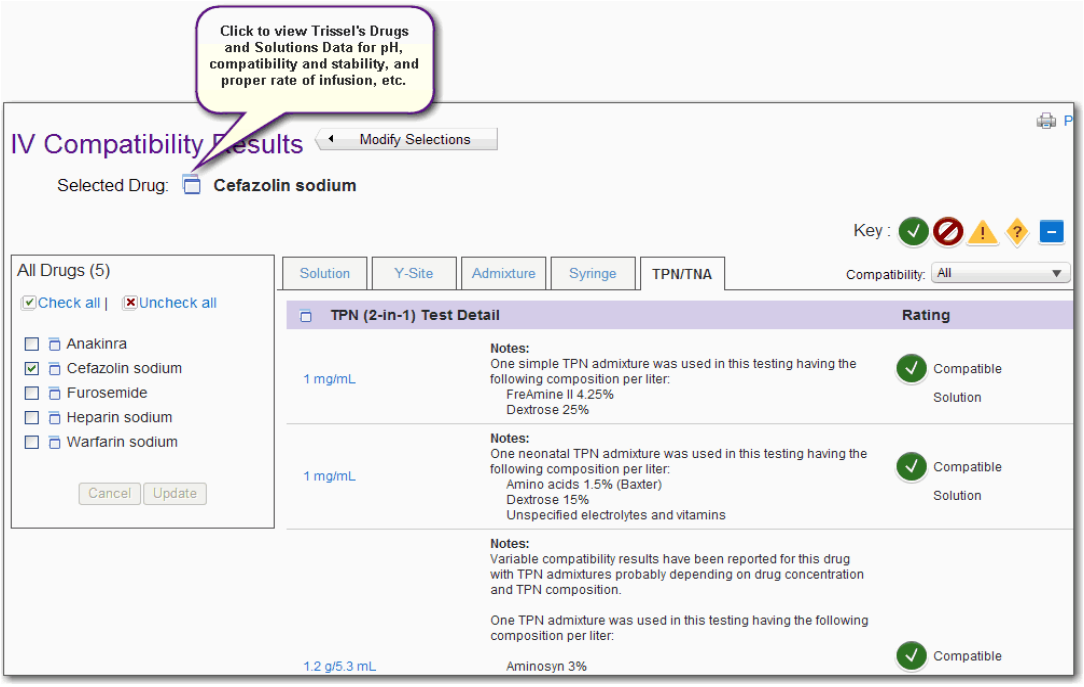
TPN/TNA Overview



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 either the primary or secondary agent, and the drug 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.

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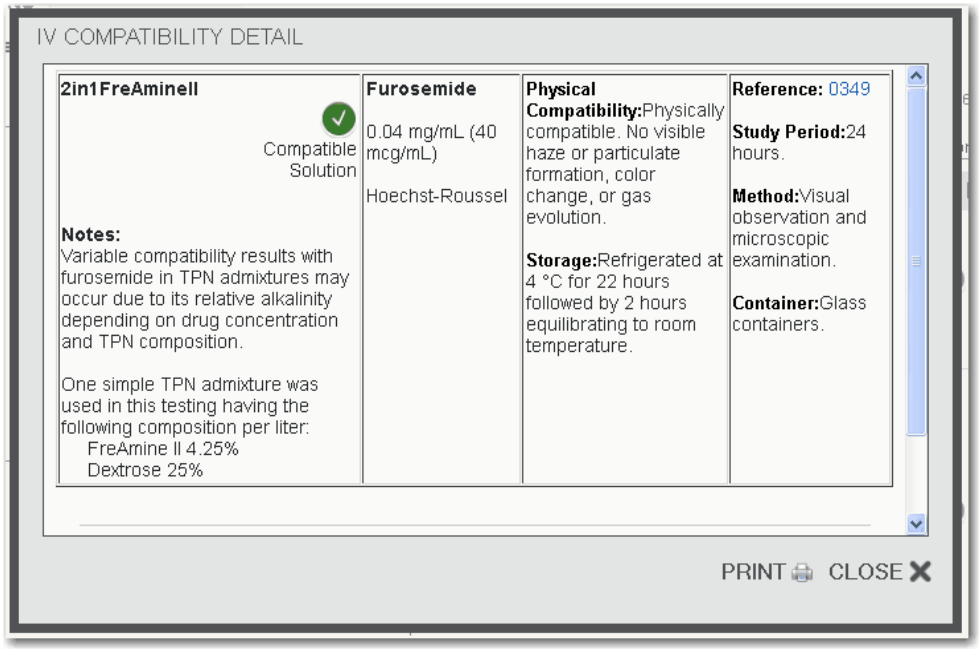
TPN/TNA Details



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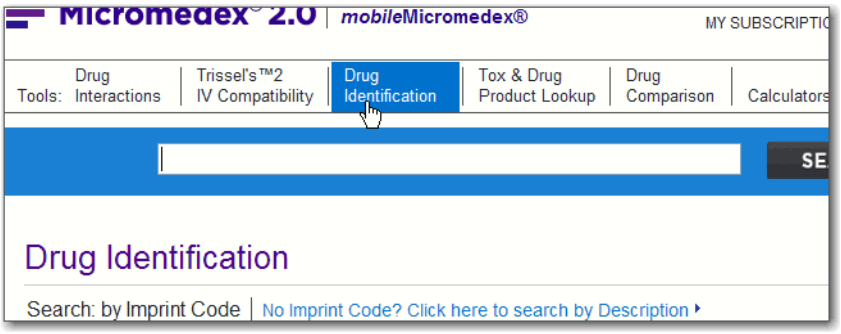
CHAPTER 11: DRUG IDENTIFICATION TOOL

IDENTIFY DRUGS BY IMPRINT OR PHYSICAL CHARACTERISTICS

The Drug Identification 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® 2.0 for Poison Centers customers can display additional information in the search results, including:

- Excipients
- Regulatory Status
- AAPCC Code
- Availability
- Product ID
- Contact Information

MICROMEDEX® 2.0 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® 2.0 returns a full-color image of the drug whenever possible, with a link to detailed product information.

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.

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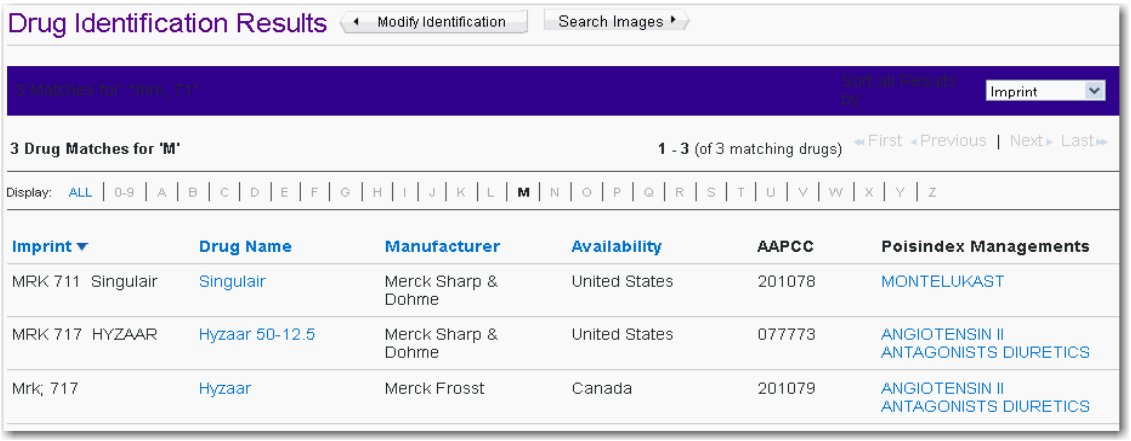
Partial Imprint

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.



Without the *Partial Imprint* checkbox selected, the default Drug Identification 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.

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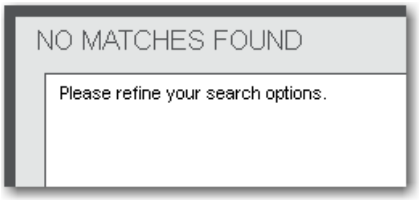

If only one side is legible, you can search using a single imprint code. For example, you could search on Side 1 = 71. This search finds all drugs with 71 as an imprint, which may produce a large list of matches.

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.

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Imprint Code Search Results

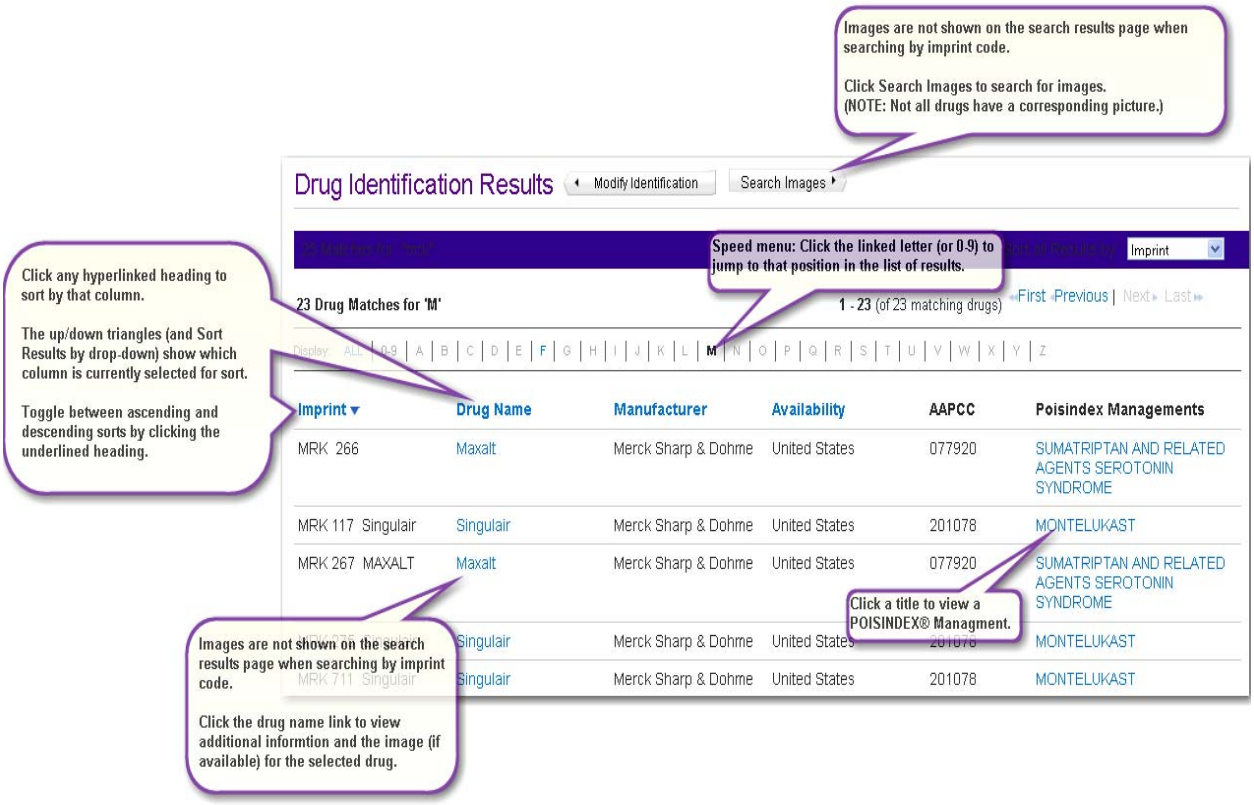
Search Results Page

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 139). 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 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.

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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.

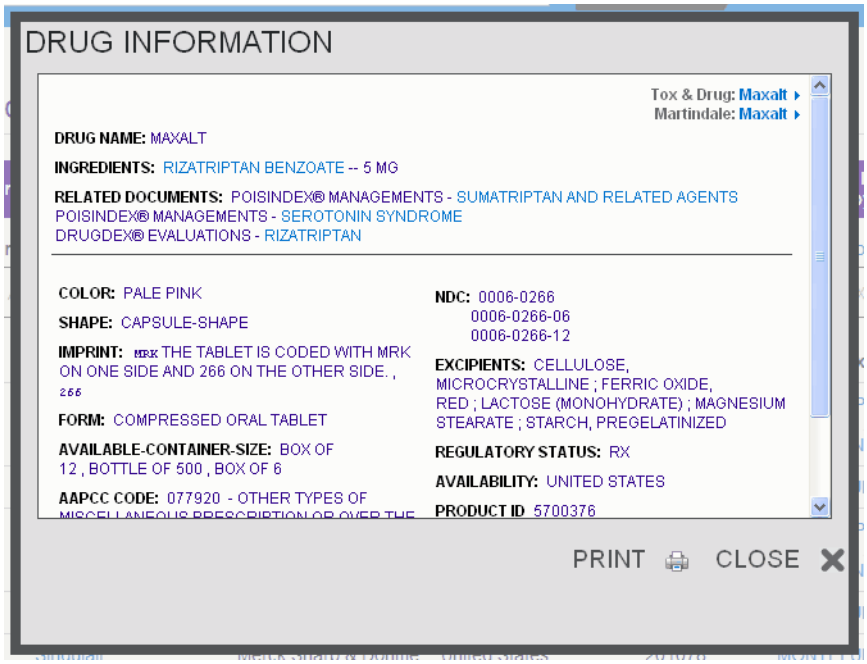
If more than one page of matches is found, move through the pages using the **<<First, <Previous | Next>** and **Last>>** navigation buttons.

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 the drug name link to view the details and open the *Drug Information* page for this substance.



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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* for the selected drug by clicking the link located near the top (right) of the window.

If an image of the pill is available, it is shown at the bottom of the *Drug Information* page.

Print the information or close the page using the links on the bottom right side of the page.

POISINDEX® Managements

Information related to the product or substance found in can be viewed by clicking the corresponding POISINDEX® Management link on *Drug Information* page. See "Toxicology Information" on page 91 for additional information on POISINDEX Managements.

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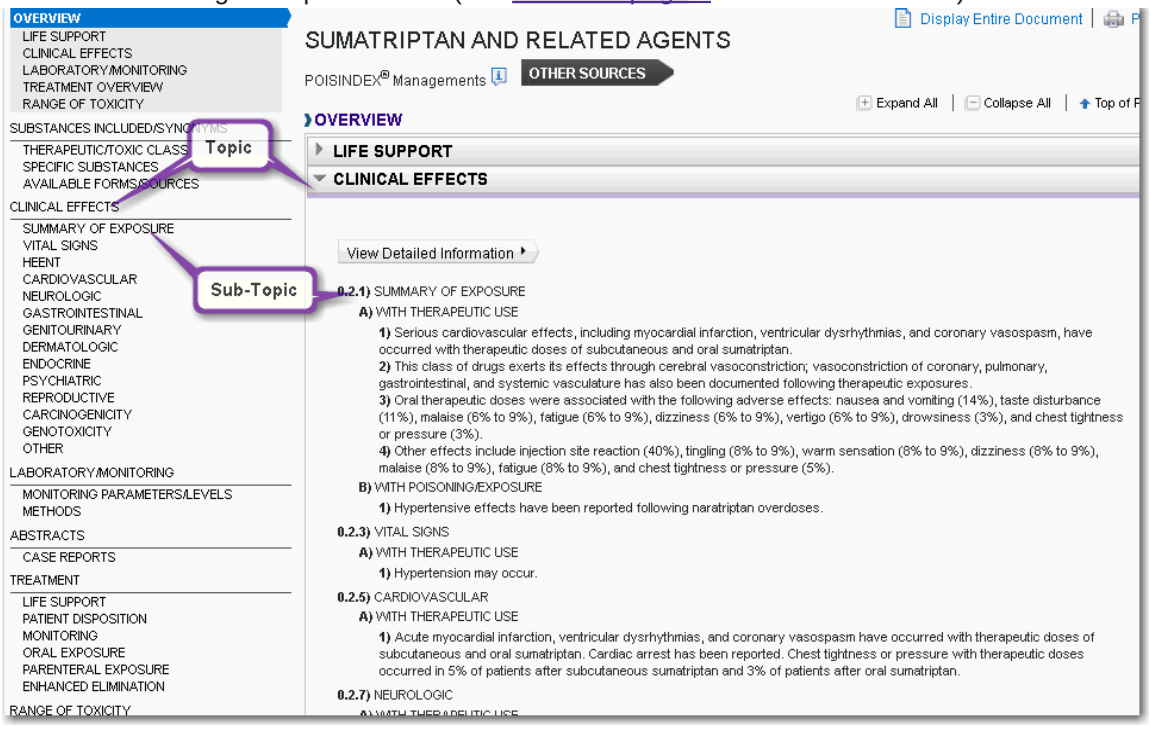
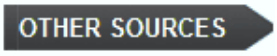
When viewing detailed toxicologic information you can:

- Open a single sub-topic by clicking the link in the outline on the left side of the page, or by clicking the sub-topic header bar shown on the right side of the page.
- Expand all topics by clicking the **Expand All** link.
- Collapse all open topics by clicking the **Collapse All** link.
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Scroll the entire document by clicking on the **Display Entire Document** link
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 4 for more information)



OTHER SOURCES > Button



Clicking the **OTHER SOURCES** button opens a pop-up that displays options for finding other search results for the substance you are currently viewing. The pop-up may offer to run a Product Lookup tool (based on your subscription).

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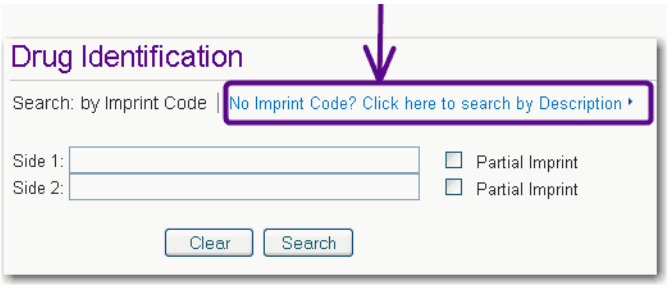
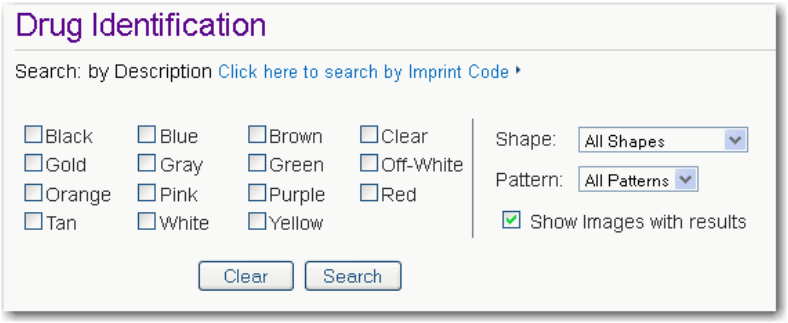
Drug Identification by Description - No Imprint Code Available



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.

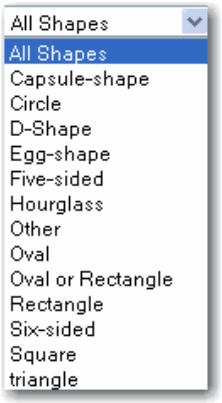


Type or select the known physical characteristics and then click the *Search* button to begin the search for matches to your criteria. Searches on this page execute using the Boolean 'OR' operator.

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.



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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.

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Search Results When Searching by Description

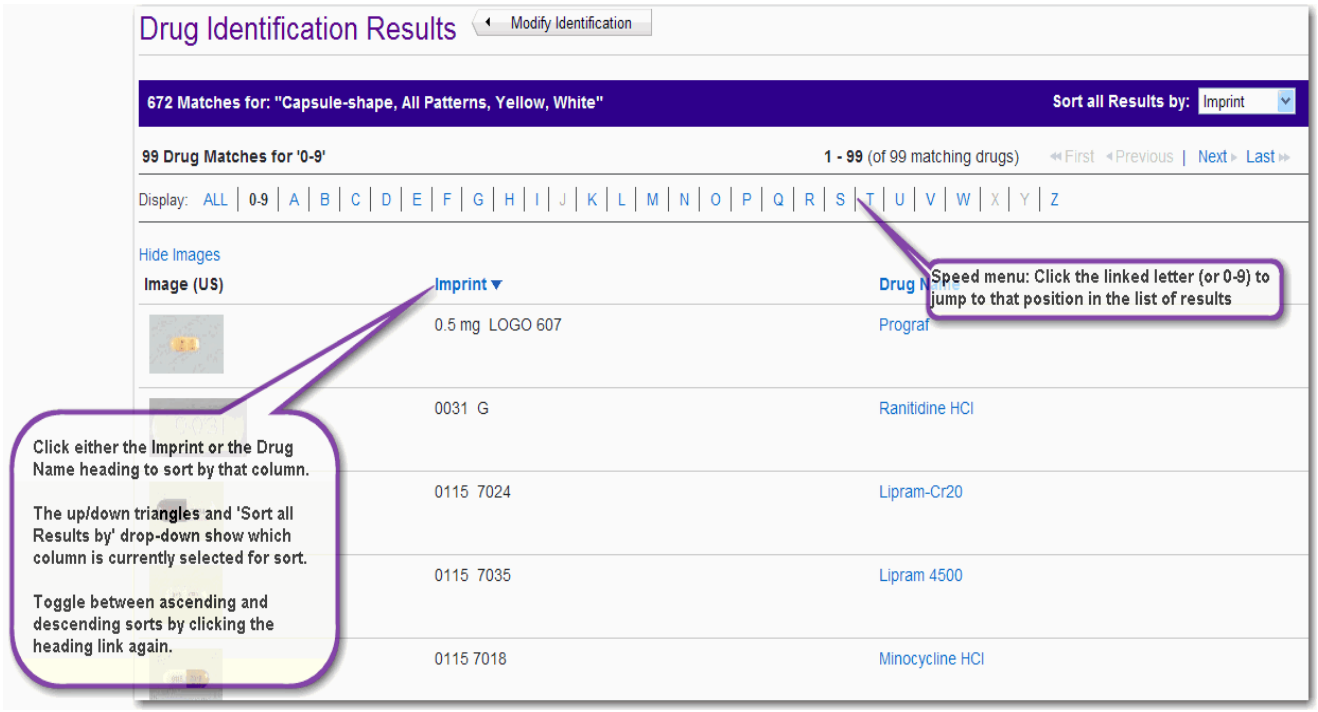
There is no Manufacturer, Availability, or AAPCC information available when searching using descriptive criteria (shape, color, pattern, etc.). If this type of information is what you need, you may be able to find it by performing a search strictly on the imprint code (no description criteria). See "Imprint Code Search Results" on page 138 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 "Capsule-shape, Yellow, White" 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.



If more than one page of matches is found, move through the pages using the **<<First, <Previous | Next>** and **Last>>** navigation buttons.

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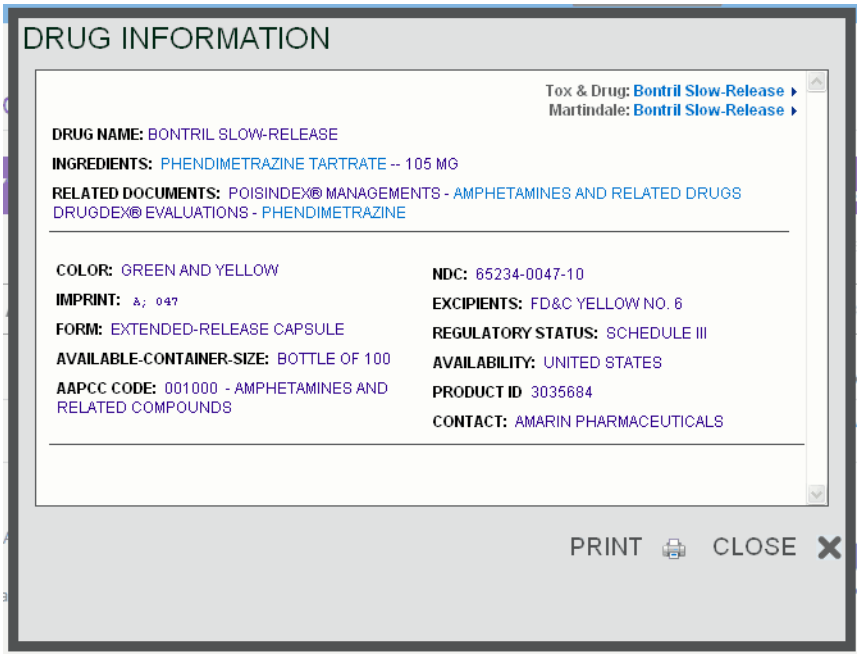
Sort All Results by

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.



The following information may be displayed in the *Drug Information* page:

- Color
- Shape
- Imprint
- Route
- Form
- NDC Code(s)

Conduct a Tox & Drug Product Lookup using the select drug by clicking the link located in the top right portion of the window.

Print the information or close the page using the links at the bottom right side of the page.rint the information, or close the page using the links at the top right side of the page.

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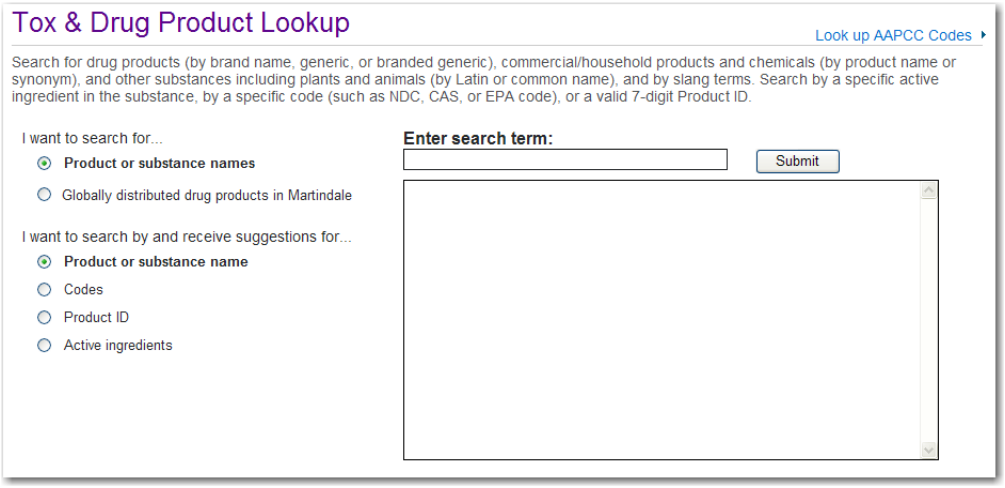
CHAPTER 12: TOX & DRUG PRODUCT LOOKUP TOOL

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



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 148)
- Specific **code** - such as: NDC, CAS, or EPA code (see page 155)
- Valid 7-digit **Product ID** (see page 158)
- Specific **active ingredient** in the substance (see page 160)
- Look up **AAPCC Codes** (available by subscription) shown as a link from the Tox & Drug Product home page (see page 155)

Search results include links to the associated POISINDEX® Management.

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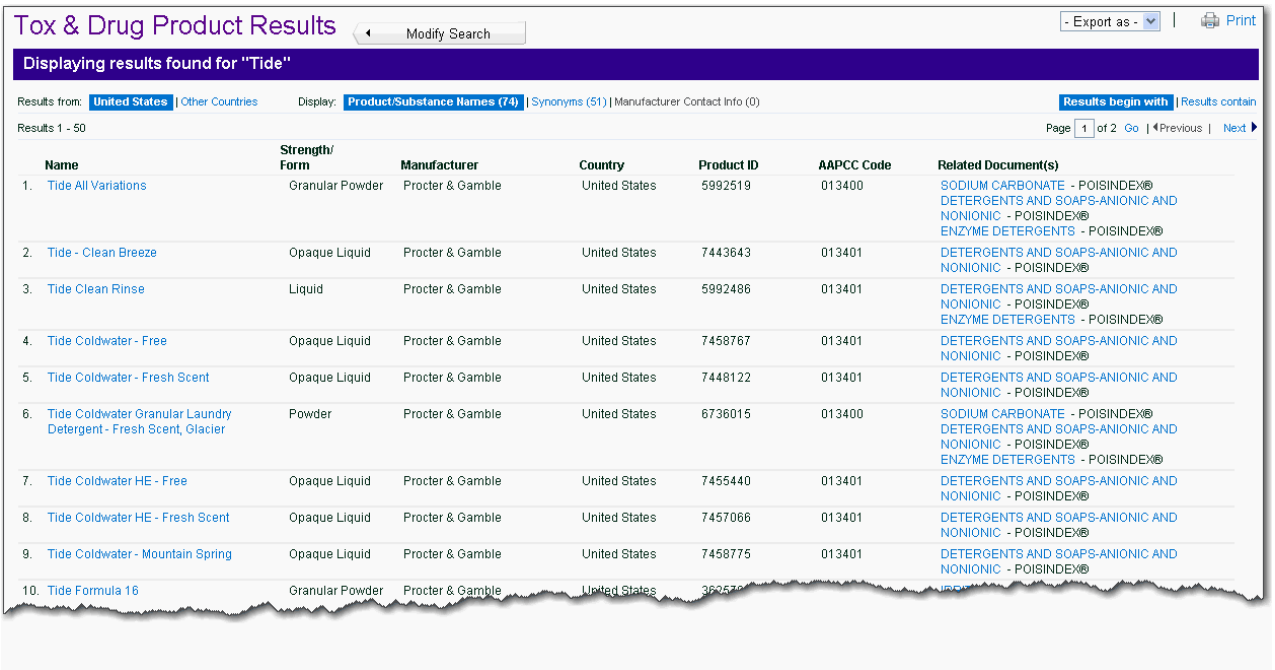
SEARCHING BY PRODUCT OR SUBSTANCE NAME

Select the *Product or substance name* option to search by common product or substance, name or synonym. The application will bring 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).

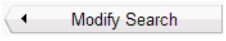
1. Leave or select the default search option as: **Product or substance name**.
2. Begin typing the name in the *Enter search term* field. The word wheel will populate with matches after you have typed at least three characters.
3. Continue to type the entire product name, then click **Submit** (or press 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.



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

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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

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.

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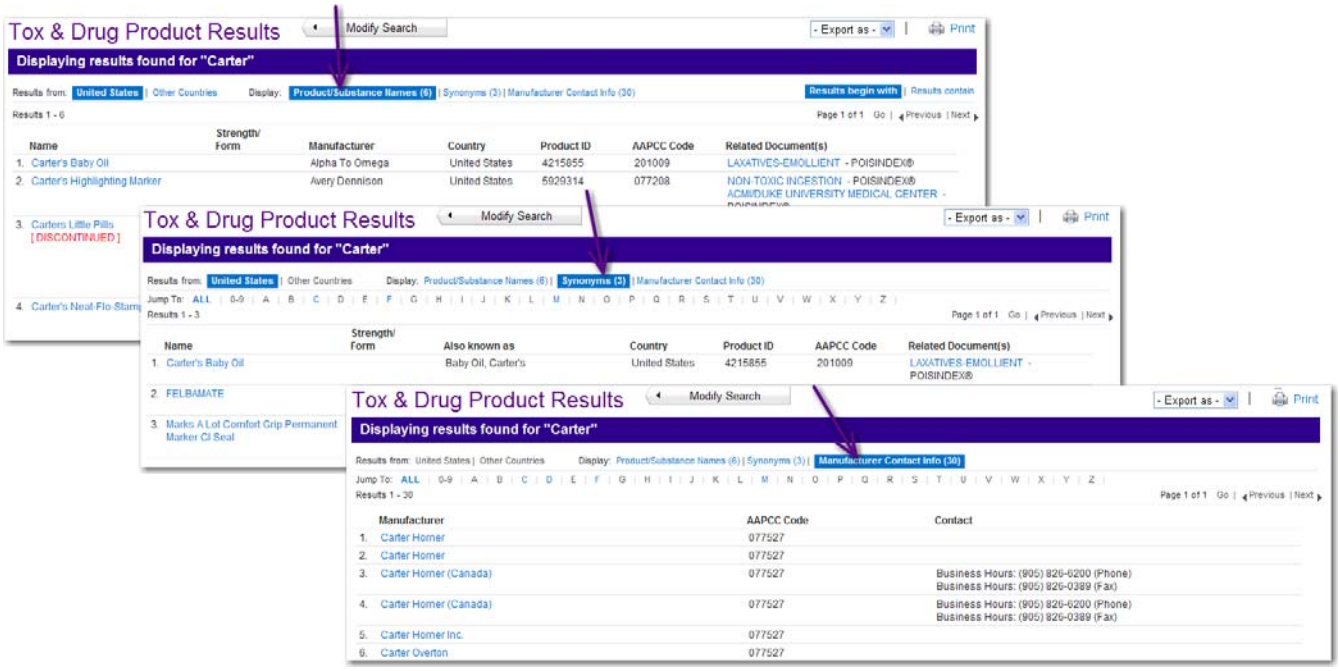

The type and layout of information displayed varies slightly depending on the link selected.

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

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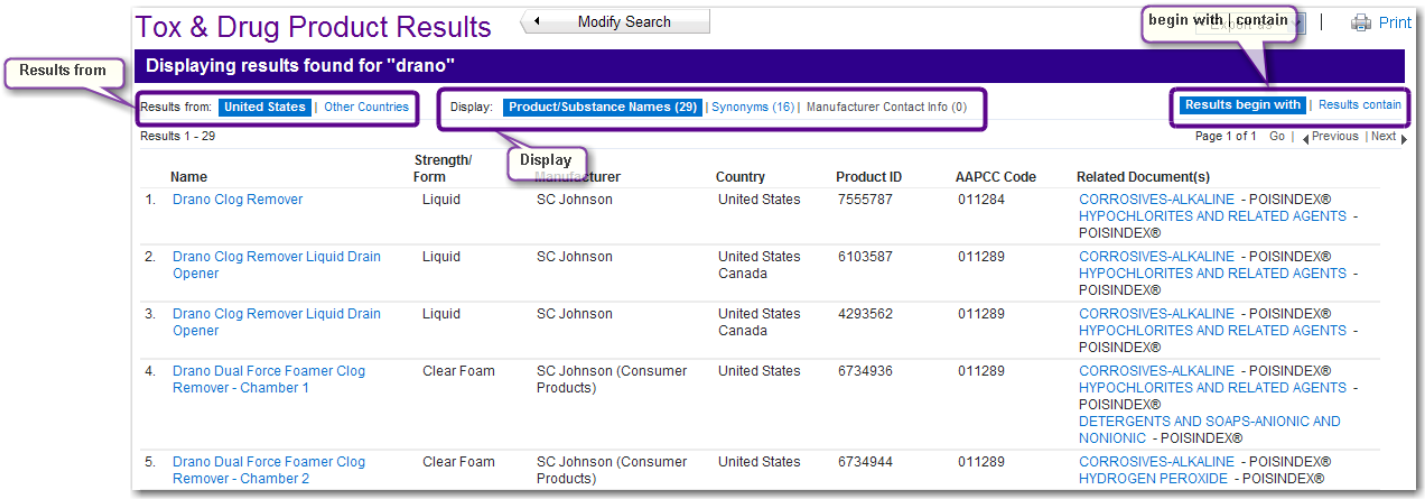
Results begin with | Results contain

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

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.

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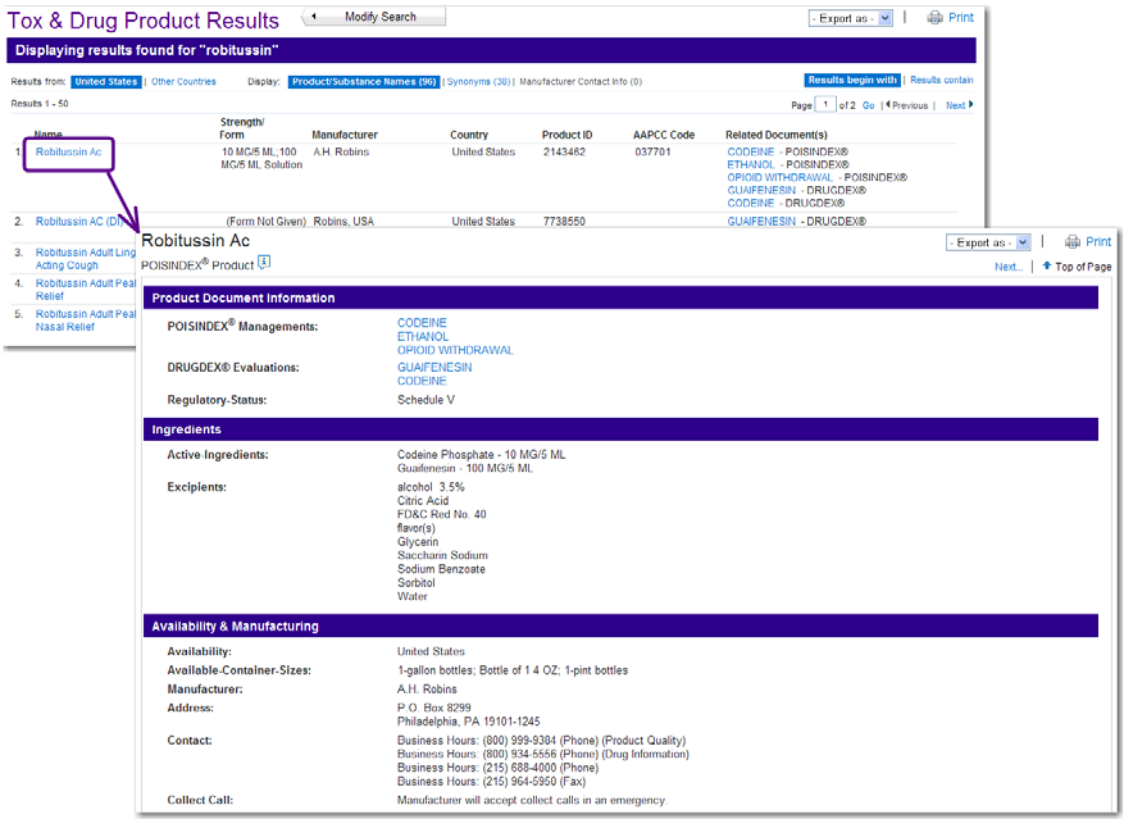
The Product Page



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.

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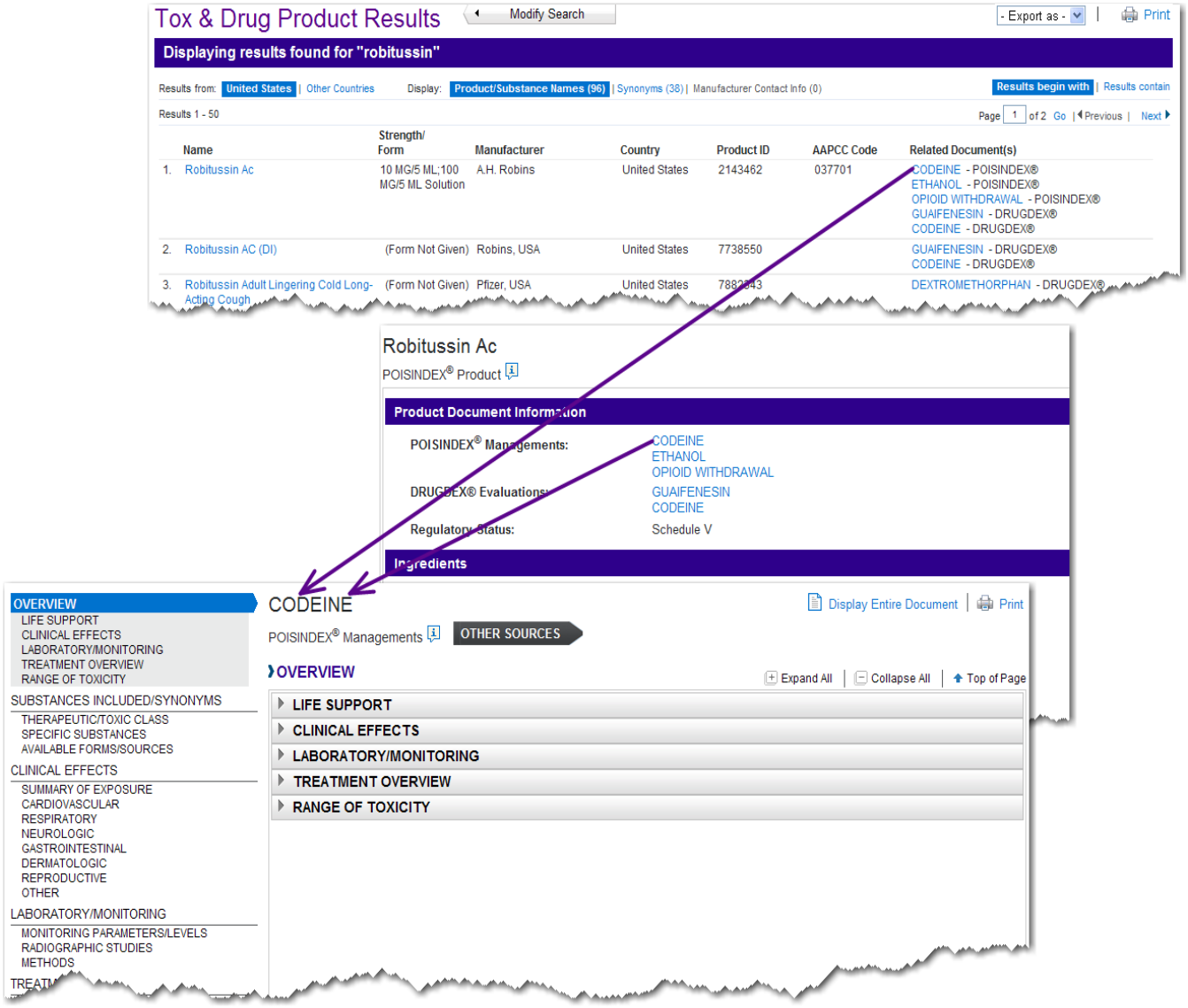
POISINDEX® Managements

Information related to the product or substance found in can be viewed by clicking the corresponding POISINDEX® Management link on either the Tox & Drug Product Results page or from within the product page.



When viewing detailed toxicologic information you can:

- Open a single sub-topic by clicking the link in the outline on the left side of the page, or by clicking the sub-topic header bar shown on the right side of the page.
- Expand all topics by clicking the **Expand All** link.
- Collapse all open topics by clicking the **Collapse All** link.
- Return to the top of the topic using the **Top of Page** links.
- Navigate to other topics (and sub-topics) in the monograph using the document outline links, located on the left-hand side of the page.
- Scroll the entire document by clicking on the **Display Entire Document** link

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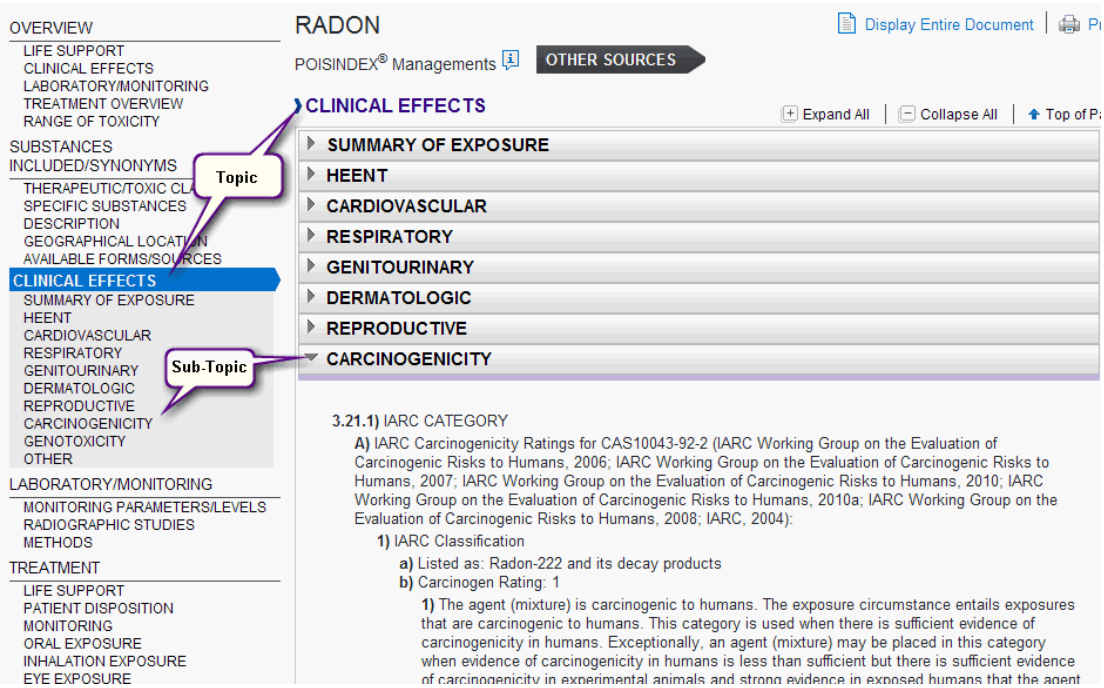
- Print the topic (or selected topics; or the entire summary) by clicking the **Print** icon and selecting the topics desired (see "Print" on page 4 for more information)



OTHER SOURCES > Button

Clicking the **OTHER SOURCES** button opens a pop-up that displays options for finding other search results for the substance you are currently viewing. The pop-up may offer to runa Product Lookup tool (e.g., Tox & Drug, Martindale, RED BOOK) based on your subscription.

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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.

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.

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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.

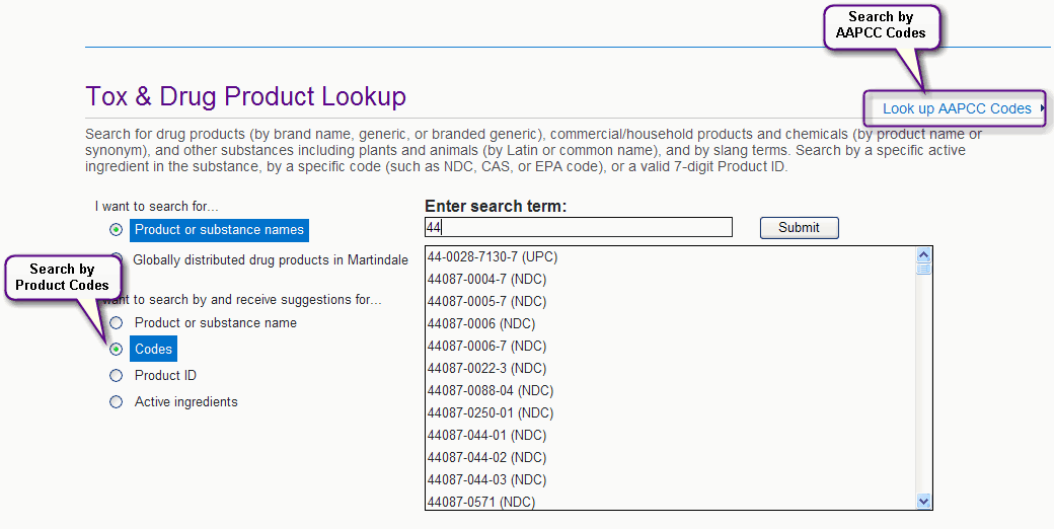
CAS numbers (Chemical Abstracts Service). CAS registry numbers standard format is 2- to 6-digits, then 2-digits, followed by 1-digit all separated by a dash (such as: 361377-29-9)

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**.



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**.

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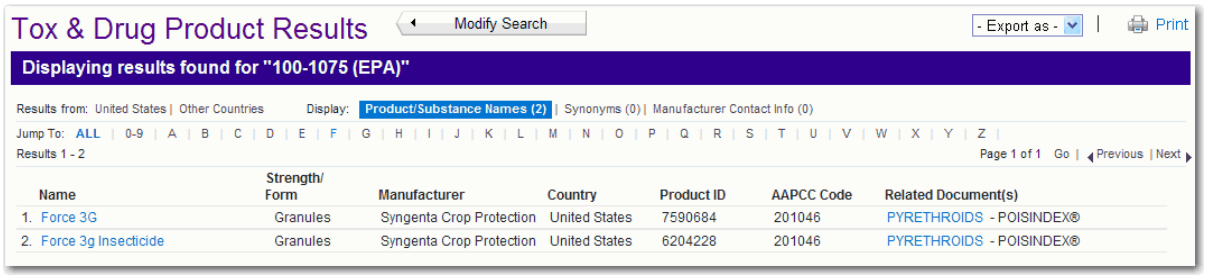
Search Results

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 148 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 152 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 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.

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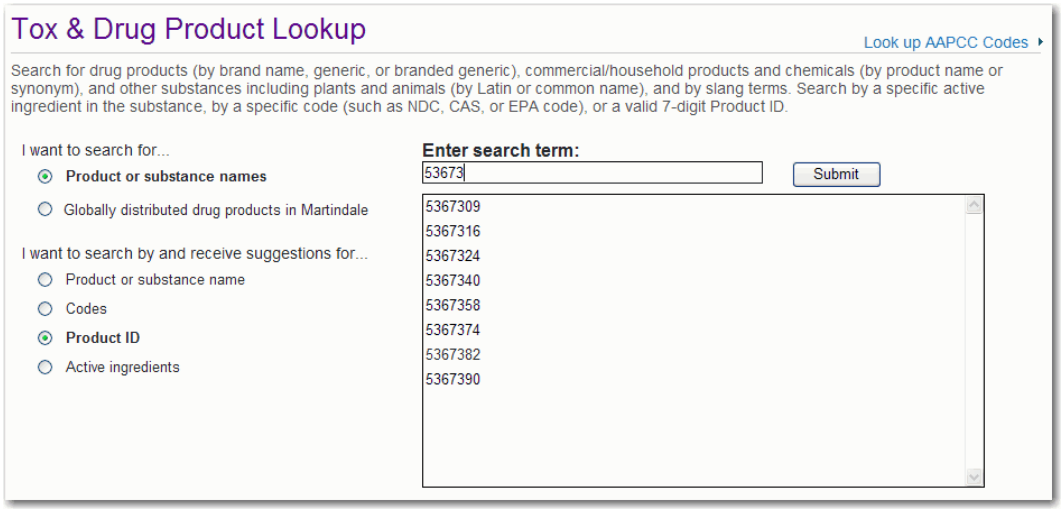
Product ID Search

Search by 7-digit product ID code.



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**.

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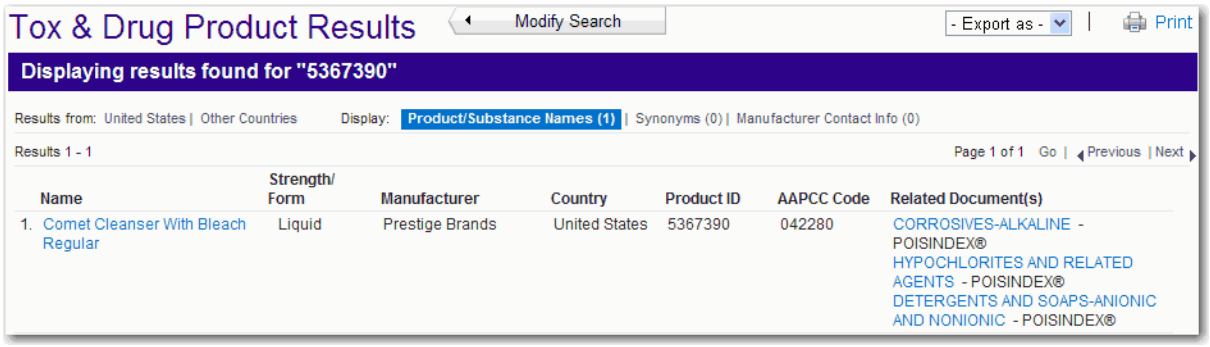
Search Results

A single product is returned in the 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 148 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 152 for a full description.

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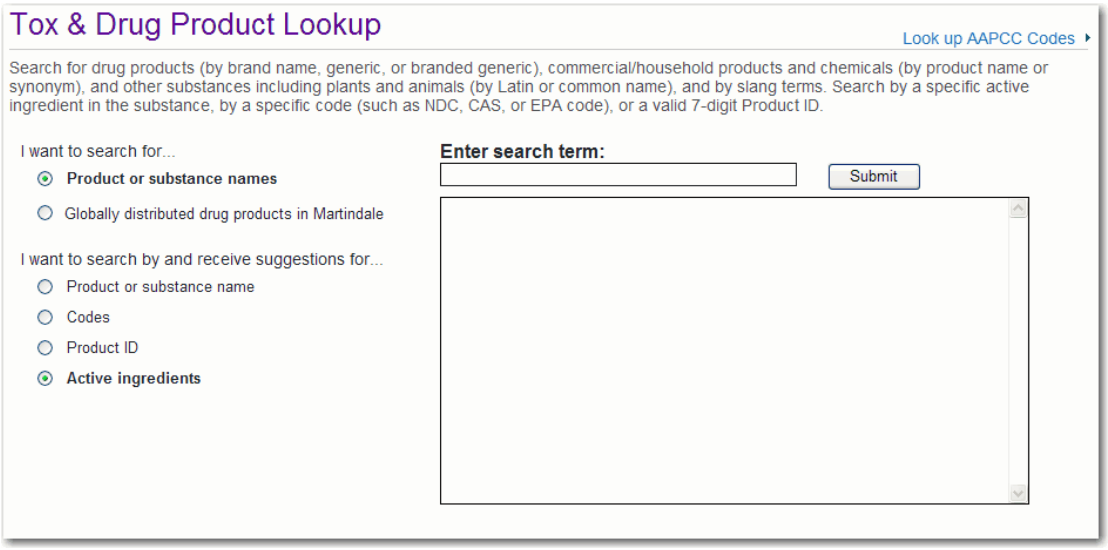
Active Ingredient Search



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**.

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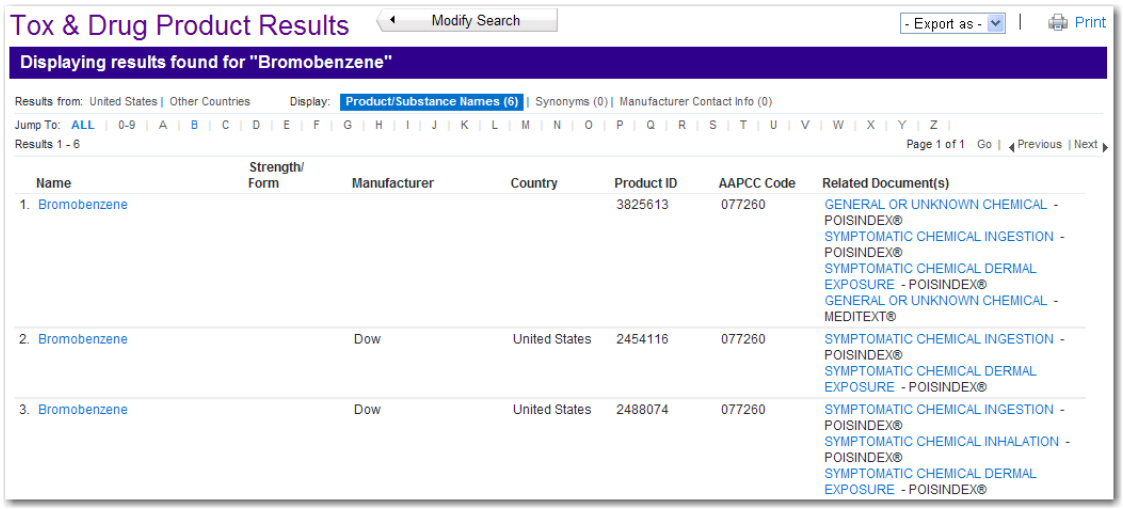
Search Results

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 148 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.



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 152 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.

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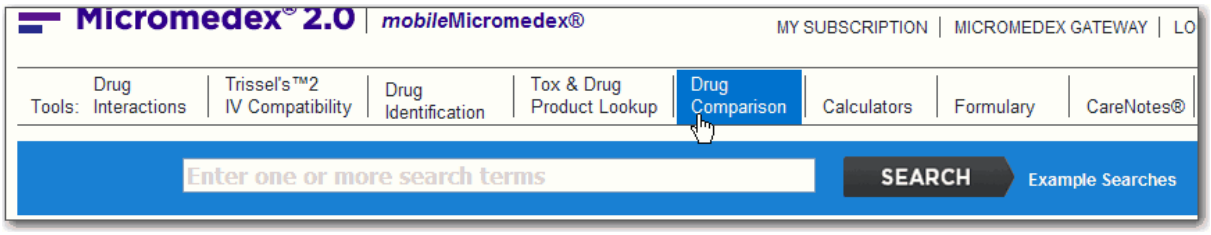
CHAPTER 13: DRUG COMPARISON TOOL

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® 2.0 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.

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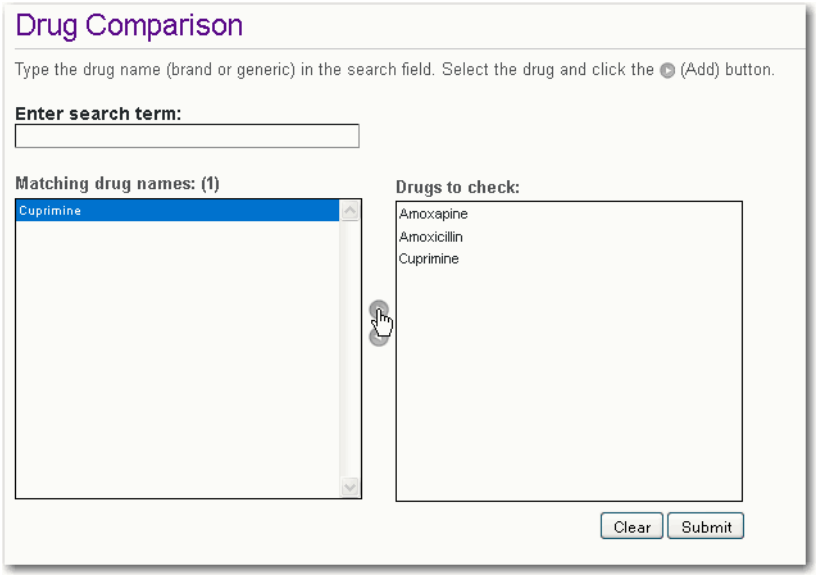
If the drug you are interested in is listed in the *Related Names* list, click on the item and then click the add button ( ) to add the drug to the *Drugs to Compare* list.



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.

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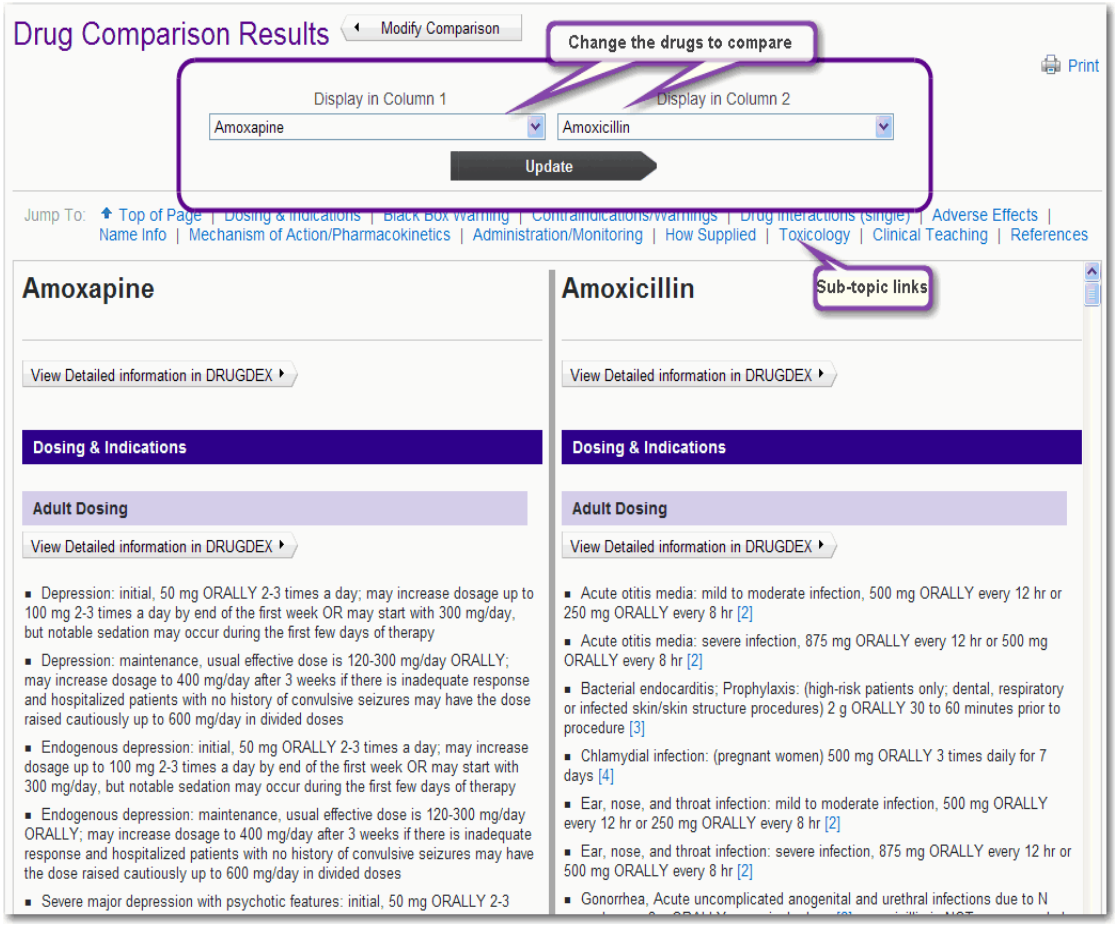
Drug Comparison Results

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 drugs selected.



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

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.

Topic Outline Section	Description
Dosing & Indications	Can include adult and pediatric dosing information; dose adjustments; and indications (FDA and non-FDA labeled).
Tradenames/How Supplied/Regulatory Status/Generic Availability	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.
Black Box Warning	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.
Contraindications/ Warnings	Includes contraindications, precautions, pregnancy category, and breast feeding information.
Drug Interactions (Single)	Interactions with the drug to: other drugs, food, ethanol, and labs.
Adverse Effects	Categorized into common and serious adverse affects.
Mechanism of Action/ Pharmacokinetics	Pharmacokinetics can include: absorption, metabolism, excretion, and elimination half life.
Administration/ Monitoring	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

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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.

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CHAPTER 14: 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 “AWP Policy” on page 227. for more information on 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 2.0 interface which can provide access to a broad range of clinical decision support tools available from Truven Health Analytics

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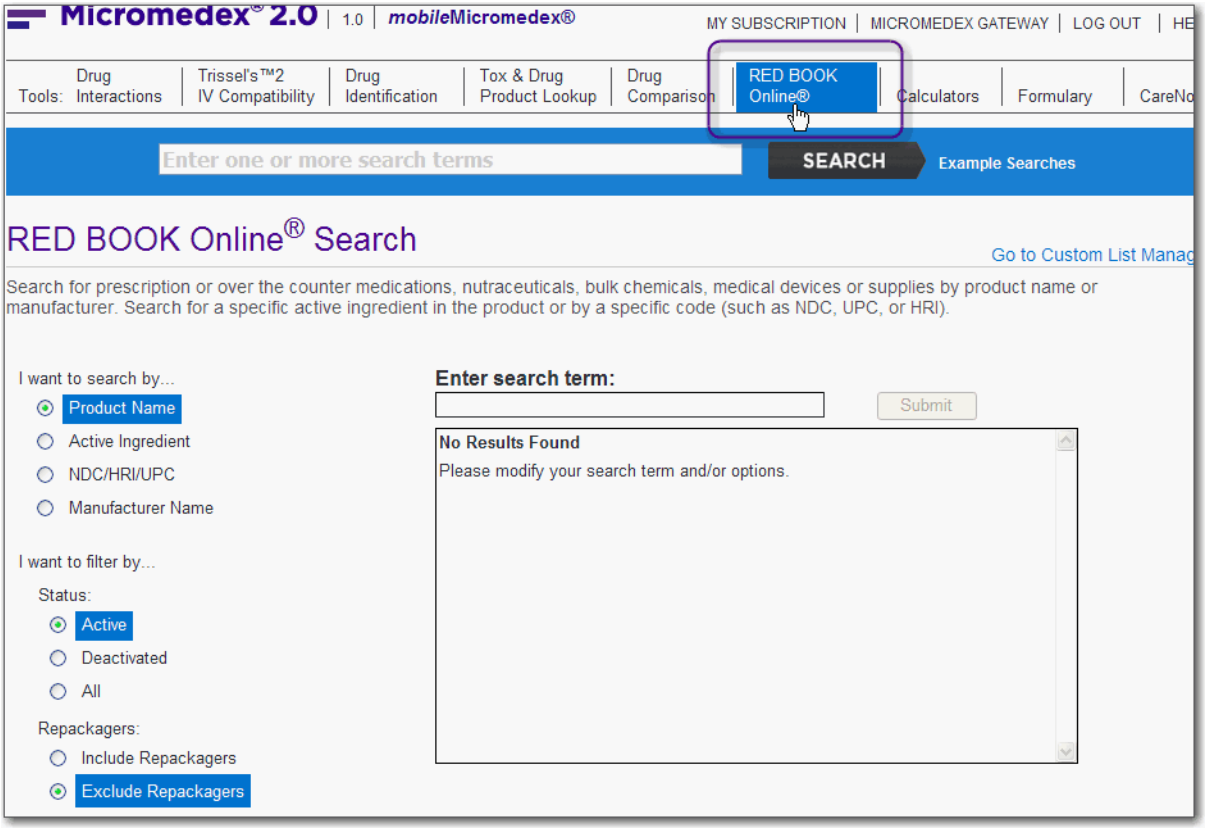
Searching RED BOOK Online®

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 subscriptions.

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 173. for more information.

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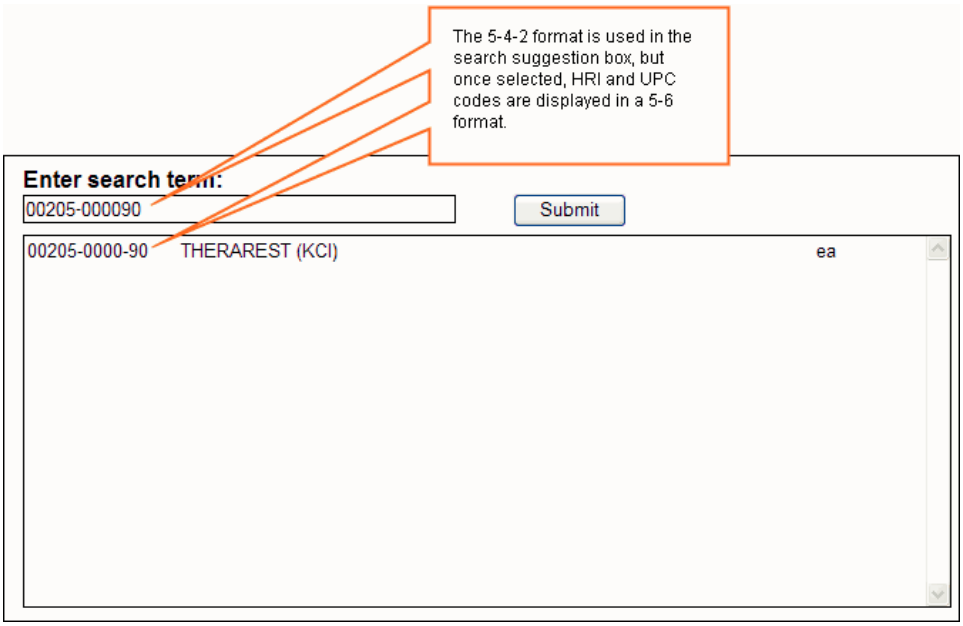
Note: NDC, HRI, and UPC codes are displayed in two formats within RED BOOK Online. When performing a search by code, the search box displays the code in a 5-4-2 format (e.g., 12345-6789-00) for an NDC, HRI, or UPC code. When an HRI or UPC code is selected from the search box, the code is displayed in a 5-6 format (e.g., 12345-678900). The identifying code has not changed, only the format has changed, as shown below.



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.

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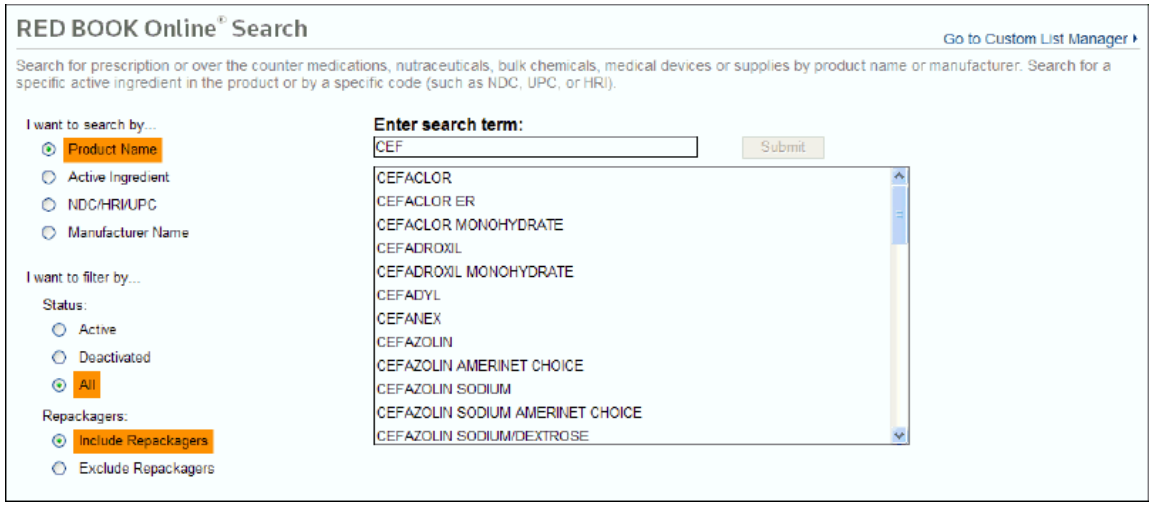
Search Options

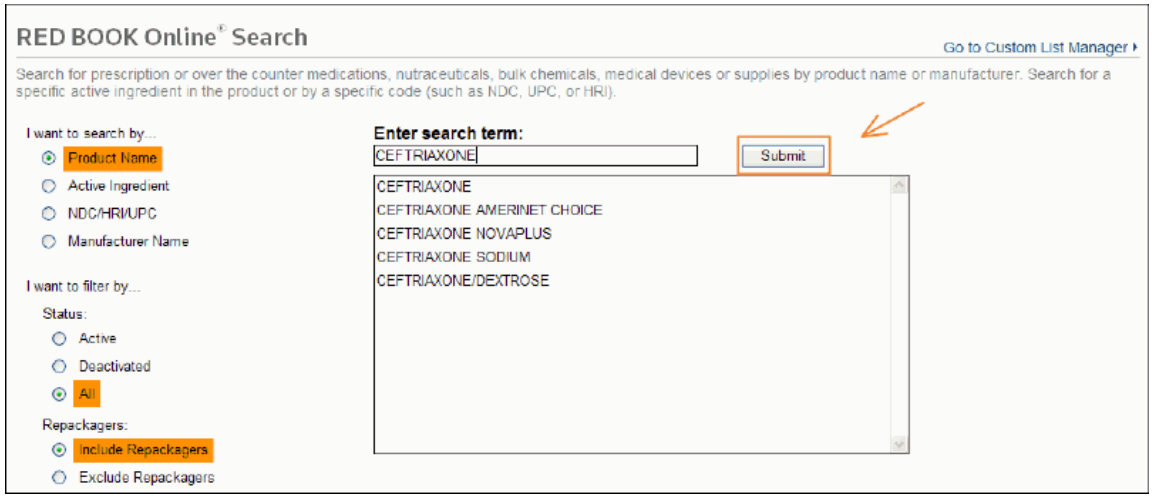
Next, enter the search term you want to use. For the purposes of this guide, the Product Name search will be used in conjunction with the search term *Ceftriaxone*.

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 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.



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.

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Filters

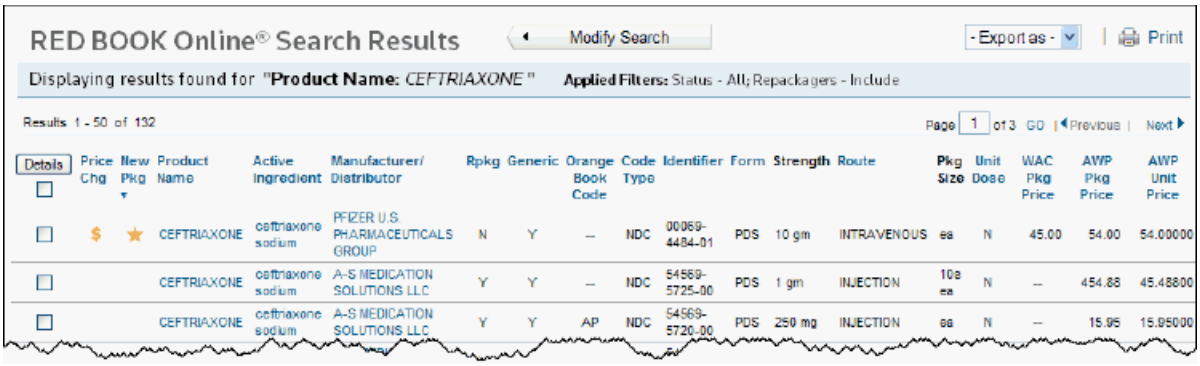
By default, the "active" filter option will be selected when searching by product name and active ingredient. Active drugs are those that are currently marketed while deactivated drugs are not currently marketed.

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.

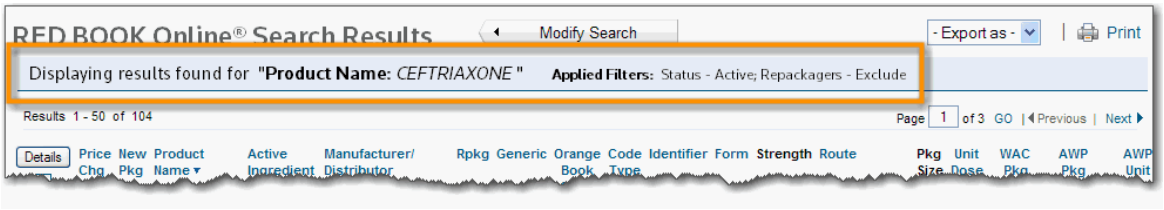
Understanding RED BOOK Online Search Results

The search results page displays detailed information about your search query. An example search with multiple results is shown below.



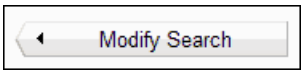
Results are displayed in rows, with links to additional information. Data can be re-sorted by most of the column headings.

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.

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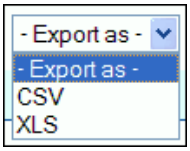
Exporting Search Results

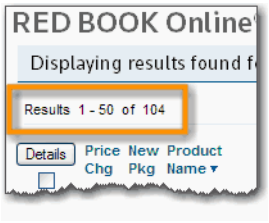
Search results can be exported to a Microsoft® Excel® (.xls) file, or a Comma Separated Values (.csv) file. Select the file type that you want to save the results as from the drop-down menu. A dialog box appears that provides the ability to select the location to which you want to save the file.



Printing Search Results

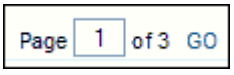
On the right side of the page is the **Print** icon. Clicking the **Print** icon launches the Windows® Print dialog window and allows you to print your RED BOOK Online search results.

Additional Search Results Information



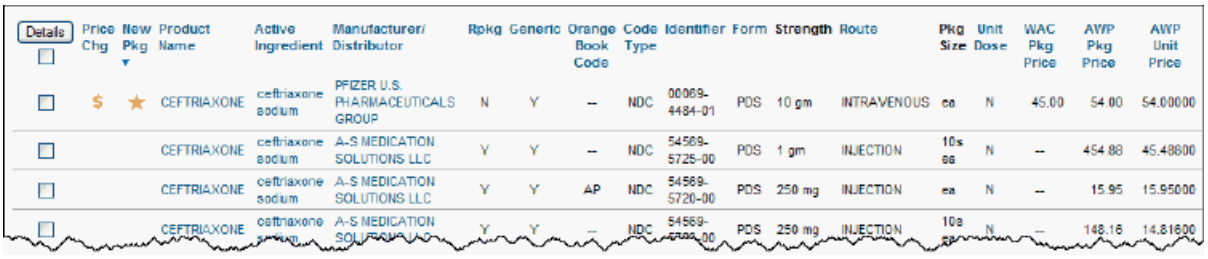
Below the search results header is the number of results returned for this particular search. In the example shown here, 104 results were found and results 1-50 are displayed on the first page.

On the right side of the page, the number of pages within the search result are displayed.



For this example, page 1 of 3 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



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:

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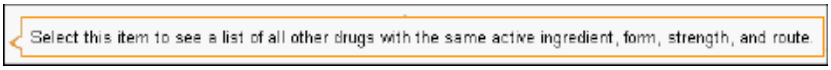
Columns on the RED BOOK Online Search Results

Column Name	Description
Details Button	The **Details** 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 **Details** button launches the *Product Details* pop-up box. The *Product Details* pop-up provides detailed information for the product(s) selected. See "Product Details Search Results" on page 184. for more information.
Price Chg	The **Price Chg** (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. If a price change has occurred within this time window, a dollar sign icon displays. Hovering the cursor over the icon displays the effective date of the price change.
New Pkg	The **New Pkg** 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. New entries in the database are indicated by a star icon in this column. Hovering the cursor over the icon displays the effective date of the new entry.
Product Name	The **Product Name** 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.
Active Ingredient	The **Active Ingredient** 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 (See "Searching for Similar Products in RED BOOK Online" on page 178. for more information). Hovering the mouse over the name of the active ingredient displays the information you can view by clicking the link.  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.

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Manufacturer/ Distributor	The **Manufacturer/Distributor** column displays the manufacturer/ distributor of an individual product in your search results. A single product name can be associated with multiple manufacturers/ distributors.
Rpkg	The **Rpkg** 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.
Generic	The **Generic** 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.
Orange Book Code	If a product has a corresponding Orange Book Code, that code will appear in the **Orange Book Code** 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. See "Orange Book Codes" on page 234. for more information.
Column Name	**Description**
Code Type	The **Code Type** 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 **Identifier** column.
Identifier	The **Identifier** column displays the NDC, HRI, or UPC code that is associated with the item for which you searched.
Form	The **Form** column displays the dosage form (tablet, solution, syrup, etc.) of a product.
Strength	The **Strength** column displays the active ingredient strength for the product for which you searched. The **Strength** column is limited to 24 characters. Entries in this field that exceed 24 characters are truncated. A longer description can be viewed on the *Product Details* page.
Route	The **Route** column displays the route of administration for the product. See "Route Listing" on page 233. for more information.
Pkg Size	The **Pkg** (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).
Unit Dose	The **Unit Dose** 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.
WAC Pkg Price	The **WAC Pkg Price** column displays the Wholesale Acquisition Cost of the package.
AWP Pkg Price	The **AWP Pkg Price** column displays the Average Wholesale Price per package.
AWP Unit Price	The **AWP Unit Price** column displays the Average Wholesale Price per unit. See "Unit Price Calculations" on page 228. 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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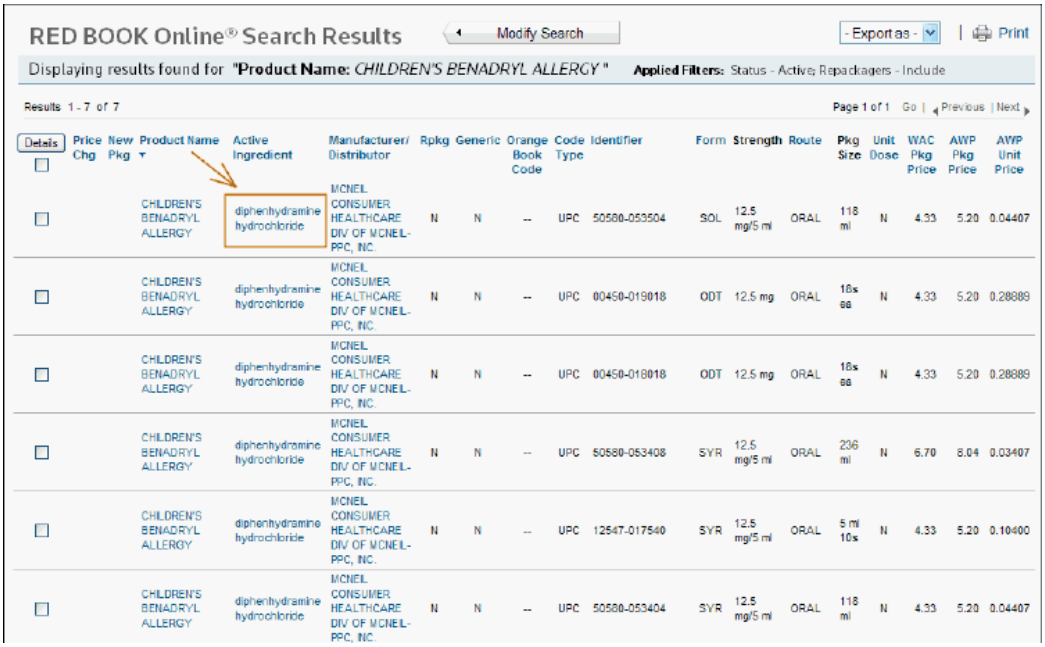
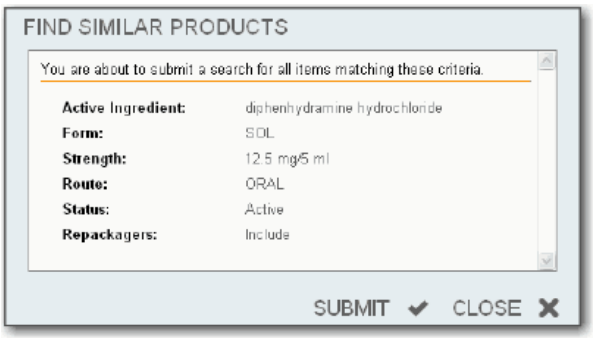
Searching for Similar Products in RED BOOK Online

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:



Click an active ingredient hypertext link. In this example, the active ingredient is *diphenhydramine hydrochloride*. The *Find Similar Products* pop-up box is displayed.



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

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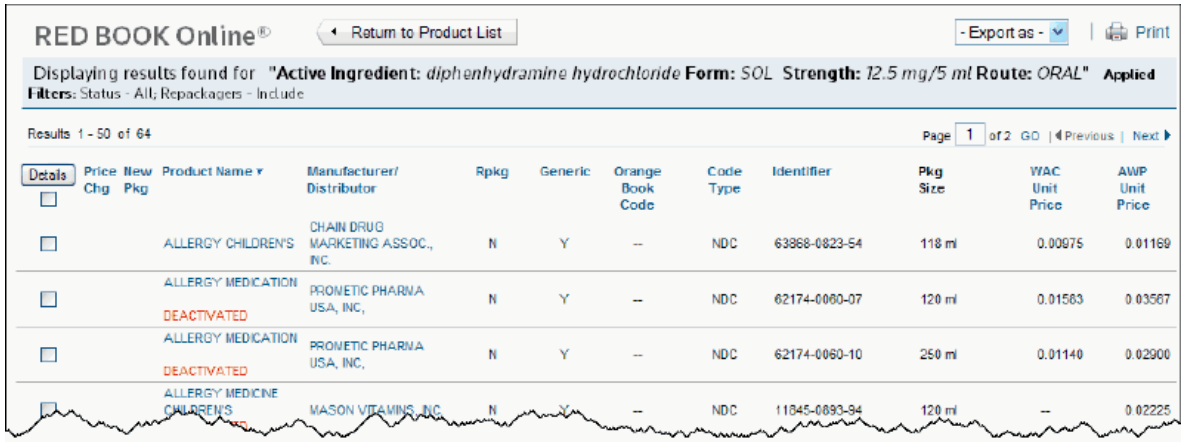
- Status (Active or Deactivated)
- Repackagers (Include or Exclude)

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.



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 173.). 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.

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The various column headings/items and their function are described in the table below.

Column	Description
Details Button	The **Details** 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 **Details** button launches the *Product Details* pop-up box (See "Product Details Search Results" on page 184.). The *Product Details* pop-up box provides detailed information for the product(s) selected.
Price Chg	The **Price Chg** (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. If a price change has occurred within this time window, a dollar sign icon displays. Hovering the cursor over the icon displays the date the price change became effective.
New Pkg	The **New Pkg** 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. New entries in the database are indicated by a star icon in this column. Hovering the cursor over the icon will display the effective date of the new entry.
Product Name	The **Product Name** 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. When the results are initially displayed in response to your search, they are sorted by this column.
Manufacturer/ Distributor	The **Manufacturer/Distributor** column displays the manufacturer/ distributor of an individual product in your search results. A single product name may be associated with multiple manufacturers/ distributors. See "Manufacturer Product List Search Results" on page 182. for more information.
Rpkg	The **Rpkg** 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.
Generic	The **Generic** 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.

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Orange Book Code	If a product has been assigned an Orange Book Code, that code will appear in the **Orange Book Code** 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. See "Orange Book Codes" on page 234. for more information.
Code Type	The **Code Type** 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 **Identifier** column.
Identifier	The **Identifier** column displays the NDC, HRI, or UPC code that is associated with each individual line item retrieved in your search.
Pkg Size	The **Pkg** (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).
WAC Unit Price	The **WAC Unit Price** column displays the Wholesale Acquisition Cost per unit.
AWP Unit Price	The **AWP Unit Price** column displays the Average Wholesale Price per unit. See "Unit Price Calculations" on page 228. 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."

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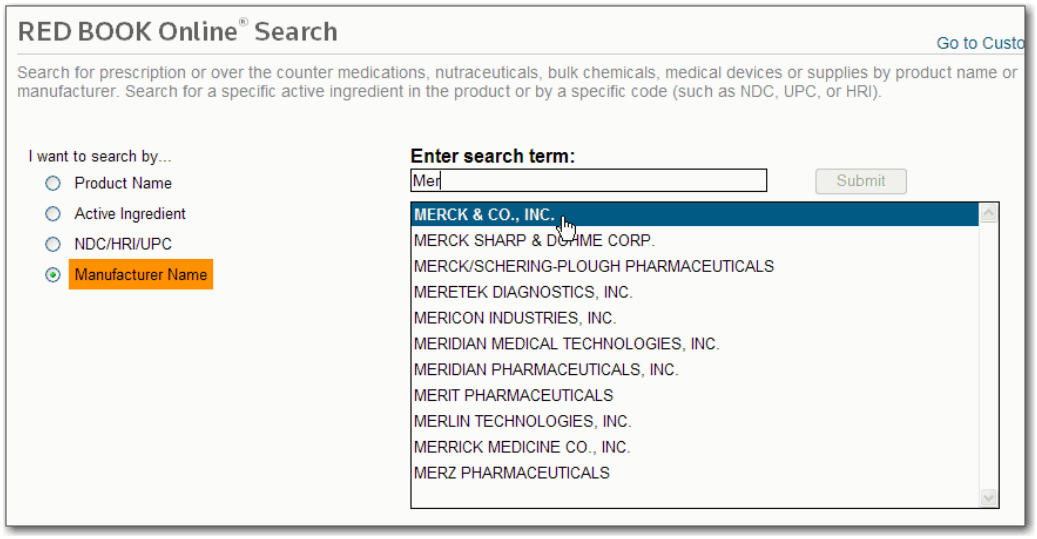
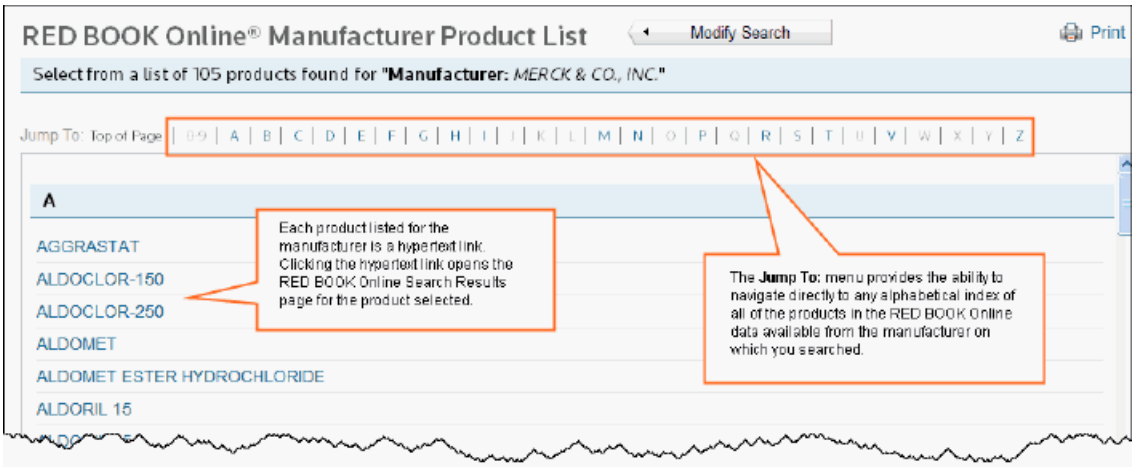
Manufacturer Product List Search Results

The Manufacturer search option enables you to view products in the RED BOOK Online data from a selected manufacturer.



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.



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 grey 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

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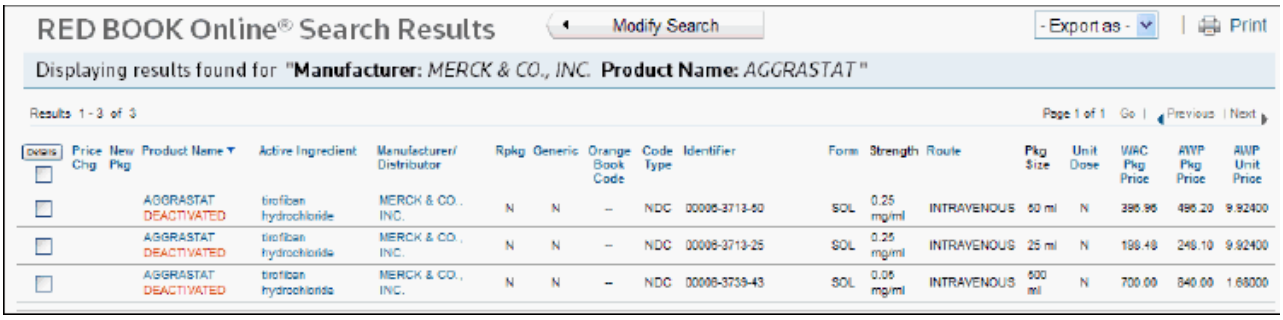
product name selected. For example, performing a manufacturer search for Merck & Co, Inc. and then clicking the hyperlink for the product name **Aggrastat** would return the following *RED BOOK Online Search Results* page.



RED BOOK Online® Search Results — Modify Search — - Export as - — Print

Displaying results found for "**Manufacturer:** *MERCK & CO., INC.* **Product Name:** *AGGRASTAT*"

Results 1 - 3 of 3 — Page 1 of 1 Go | Previous | Next

DNDRS	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
☐			AGGRASTAT DEACTIVATED	tirofiban hydrochloride	MERCK & CO., INC.	N	N	--	NDC	00006-3713-60	SOL	0.25 mg/ml	INTRAVENOUS	50 ml	N	396.96	496.20	9.92400
☐			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
☐			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 (--).

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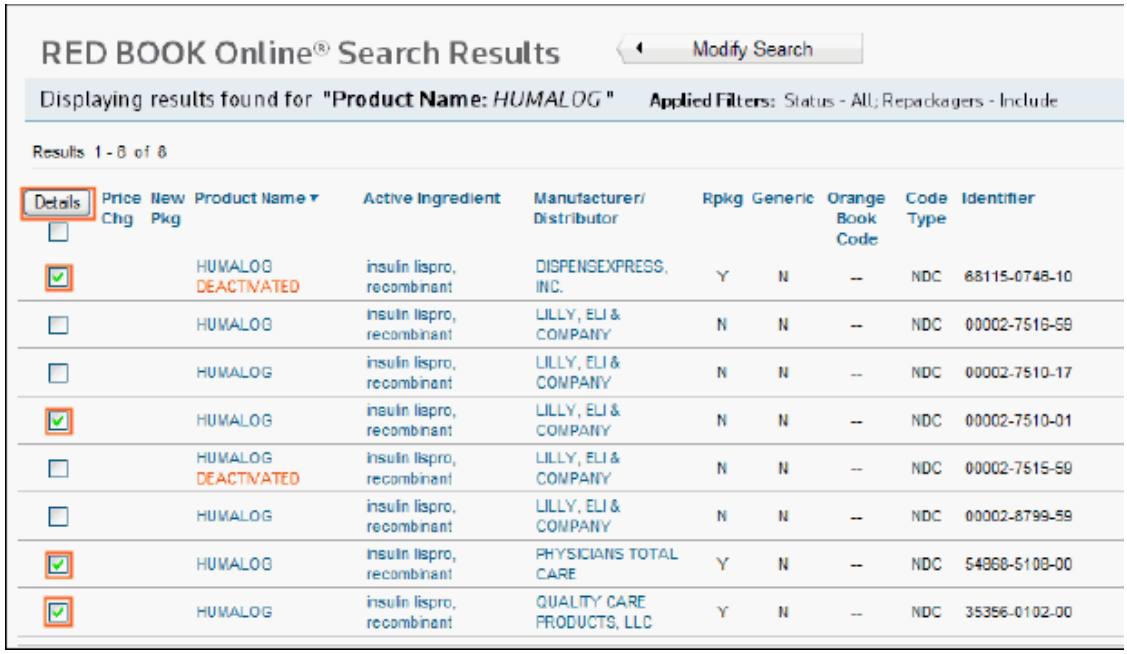
Product Details Search Results

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.



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.

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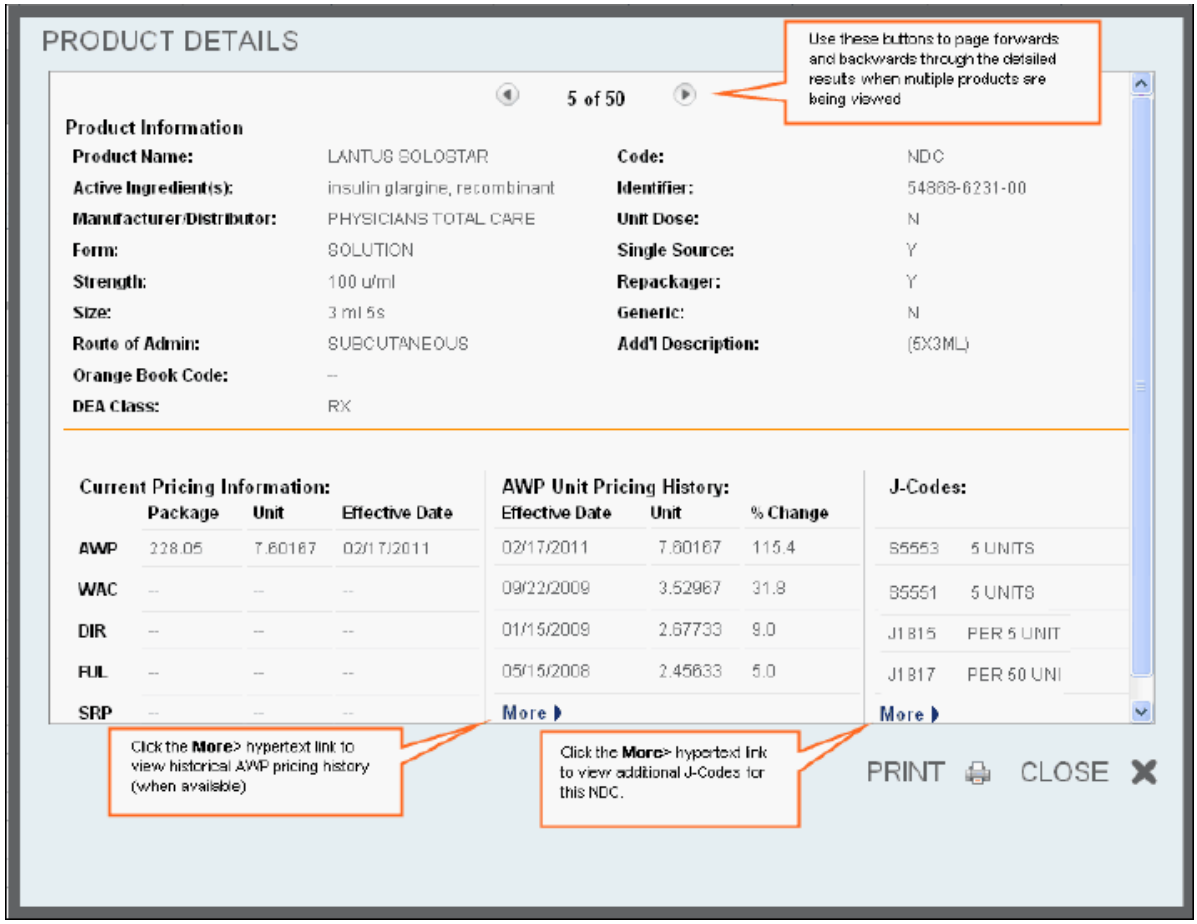
For this example, four (4) products were selected, as shown previously. After selecting the checkboxes, the **Details** button was clicked.

The *Product Details* pop-up box displays:



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.

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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
Product Name	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.
Active Ingredient(s)	The active ingredient(s) for the product is/are displayed.
Manufacturer/Distributor	The manufacturer/distributor of the product is displayed.
Form	The dosage form for the product is displayed. For more information on dosage forms, See “Dosage Form Descriptions” on page 230..
Strength	The product strength, when applicable, is displayed. This field is limited to 75 characters.
Size	The package quantity, volume, or mass is displayed.
Route of Admin	The route of administration for the product is displayed.
Orange Book Code	When applicable, the corresponding Orange Book Code for the product is displayed.
DEA Class	The Drug Enforcement Agency (DEA) classification code is displayed.
Code	The **Code Type** column identifies the registry listed for the identifier, either NDC; HRI; or UPC.
Identifier	The identifying code itself (NCD, HRI, or UPC) is displayed.
Unit Dose	The **Unit Dose** 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.
Single Source	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.
Repackager	The **Repackager** 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.
Generic	The **Generic** 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.
Add'l Information	Additional information about the product, when it is available, is displayed in this field.

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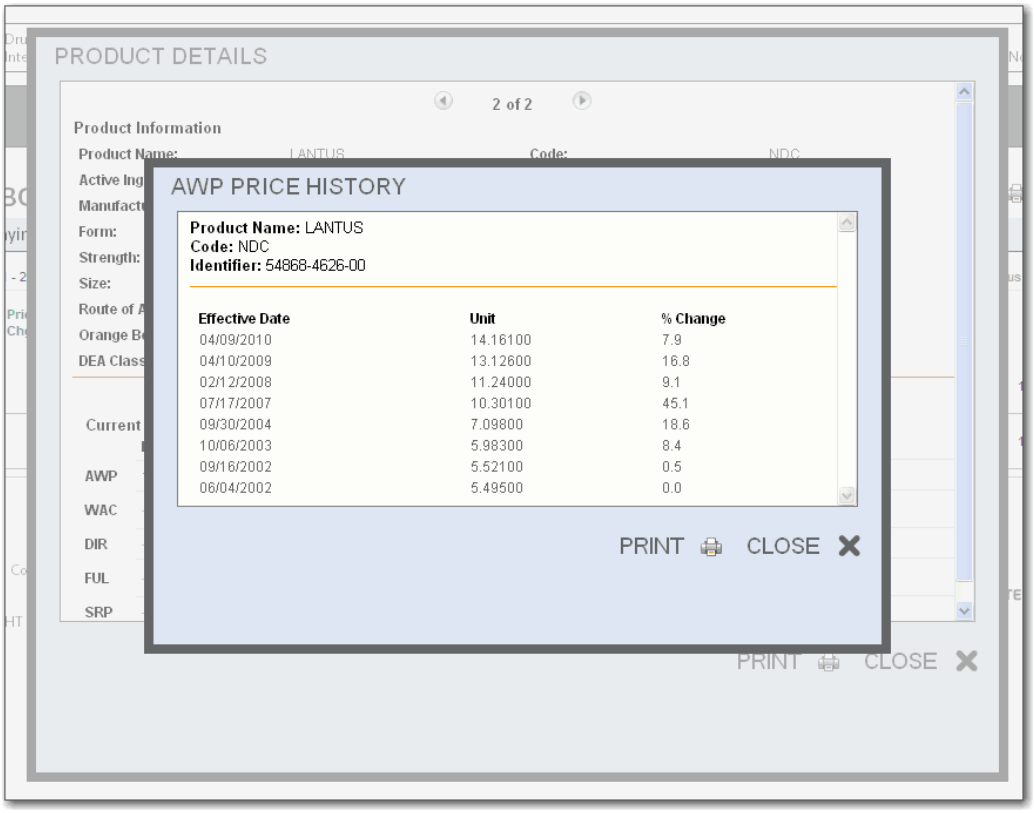
The lower section of the page displays the following information (See “RED BOOK Online Terms and Definitions” on page 235. for acronym definitions):

- **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.



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.

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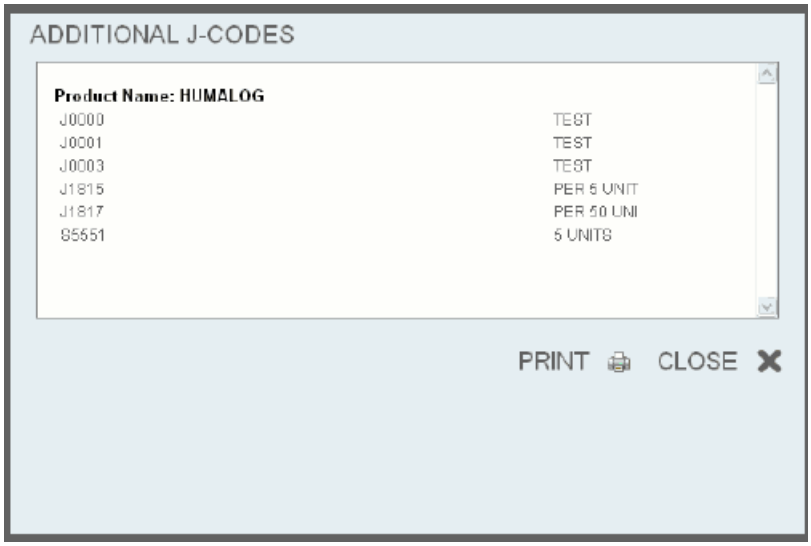
- **J-Codes** - When applicable, J-Code information for the product is displayed. Occasionally, a **More >** hypertext link is available in this section. Click the link to view additional J-Codes for the associated NDC.



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.

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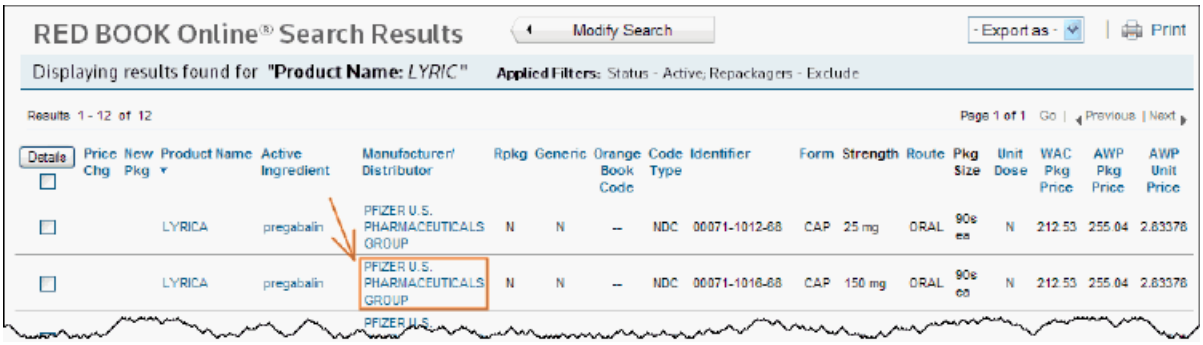
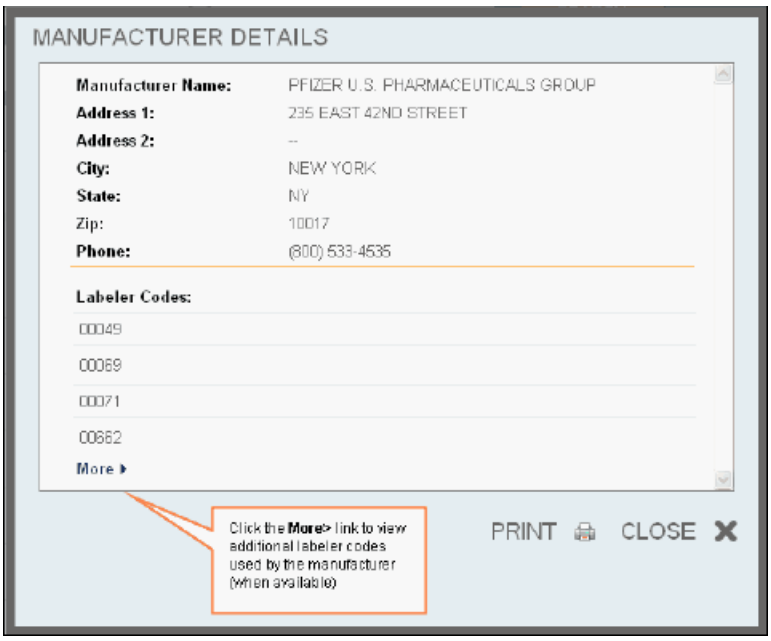
Viewing Manufacturer Contact Details

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.



The *Manufacturer Details* pop-up box is displayed.



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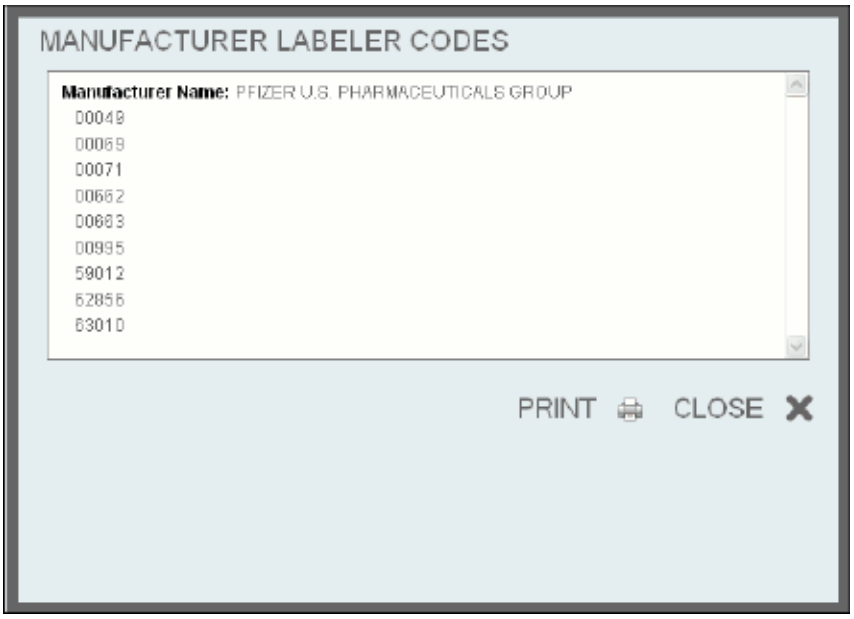
The *Manufacturer Details* pop-up box displays the following information about a manufacturer:

- 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

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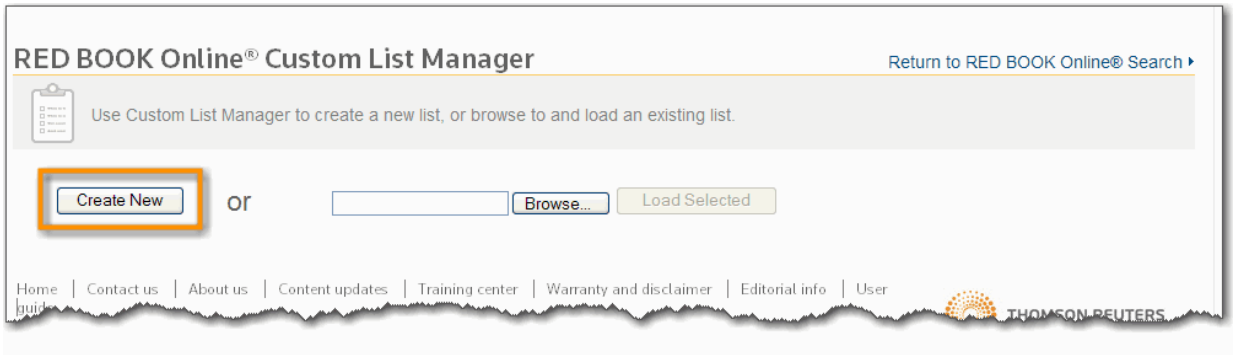
through RED BOOK Online to check for product changes. The ability to save a product list to your local system allows you to perform product searches on a set of products of interest to you without manually entering each product every time you want to check for changes to those products.

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.

The *RED BOOK Online Custom List Manager* page displays.



Click the **Create New** button.

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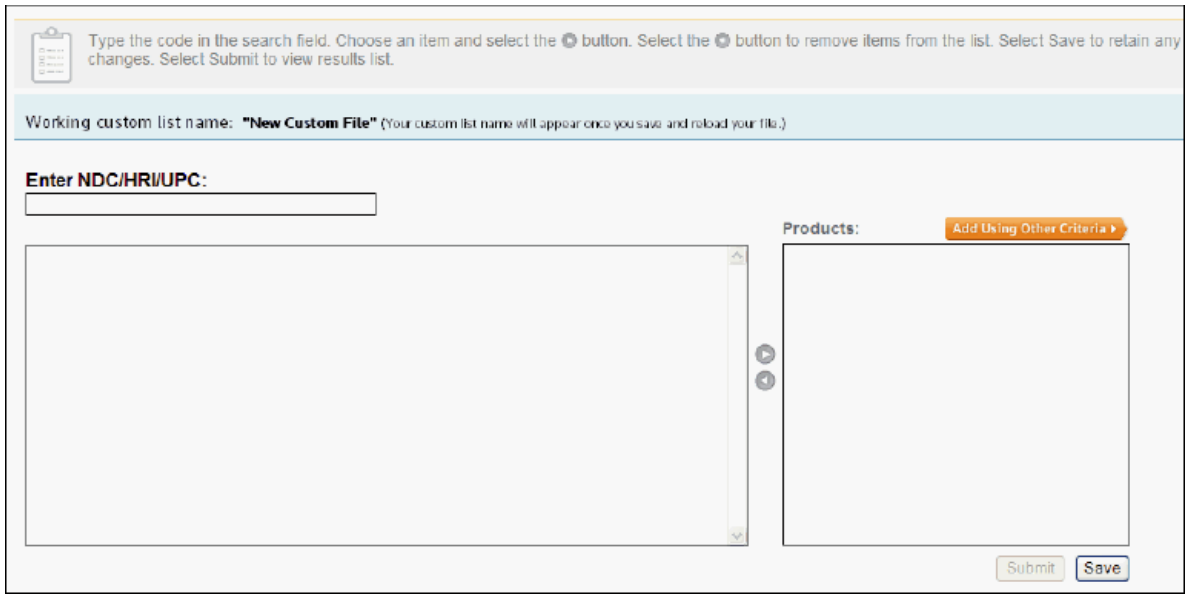
The *Custom List Edit* page displays.



Custom lists can be built using:

- A code number (NDC/HRI/UPC) (see page 193)
- Product name, active ingredient, or manufacturer's name (see page 194)

By default, the search by NDC/HRI/UPC code search page is shown.

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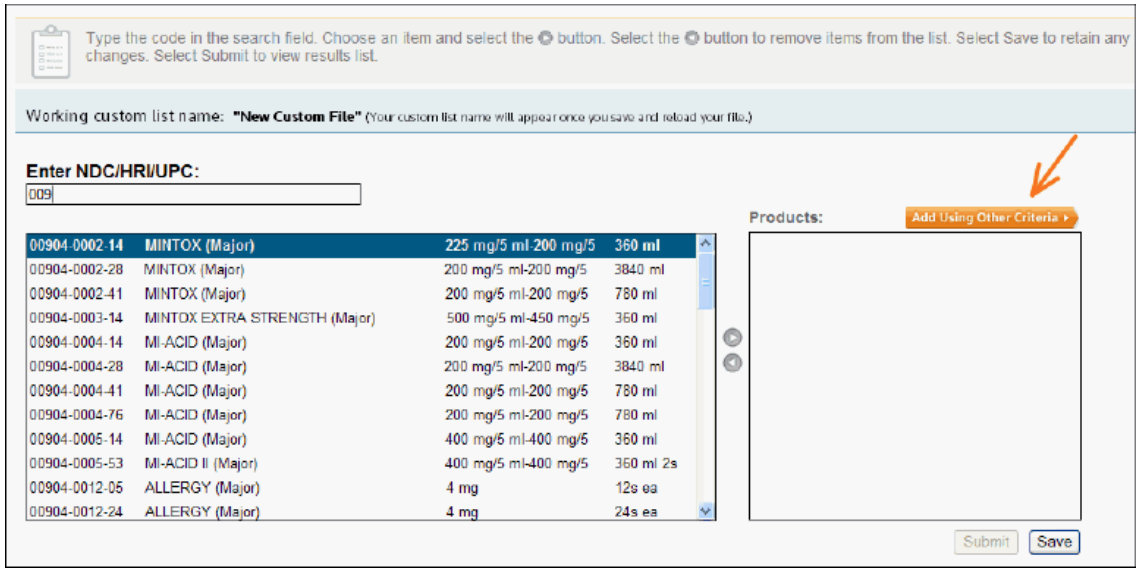
Creating a Custom List by: NDC/HRI/UPC Code

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. An example of this functionality is shown below.



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 bottom of the page to continue building your custom list by searching by product name, active ingredient or manufacturer name.

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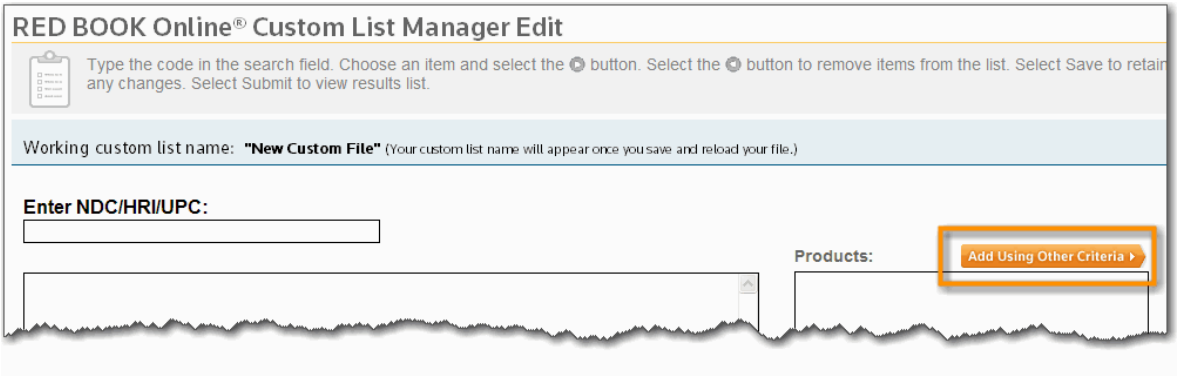
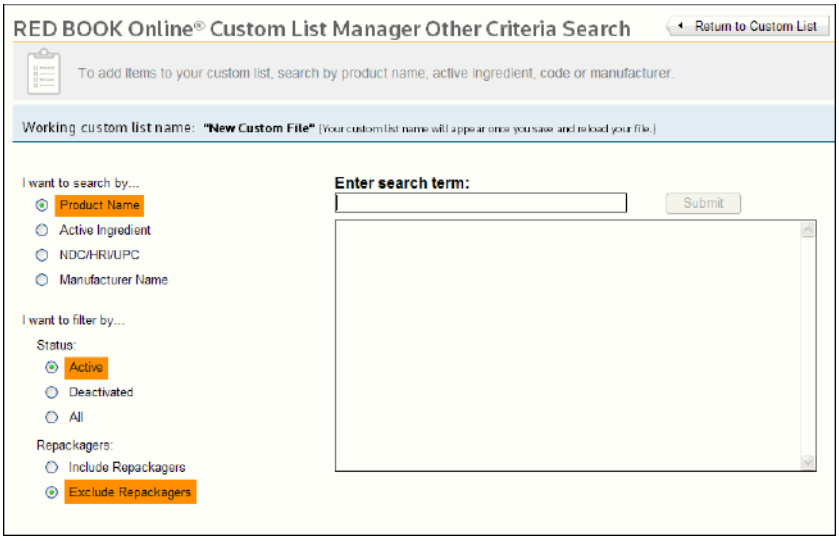
Creating a Custom List by: Name, Active Ingredient or Manufacturer



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 170. for more information.

For example, perform a search for *Lyrica* 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.

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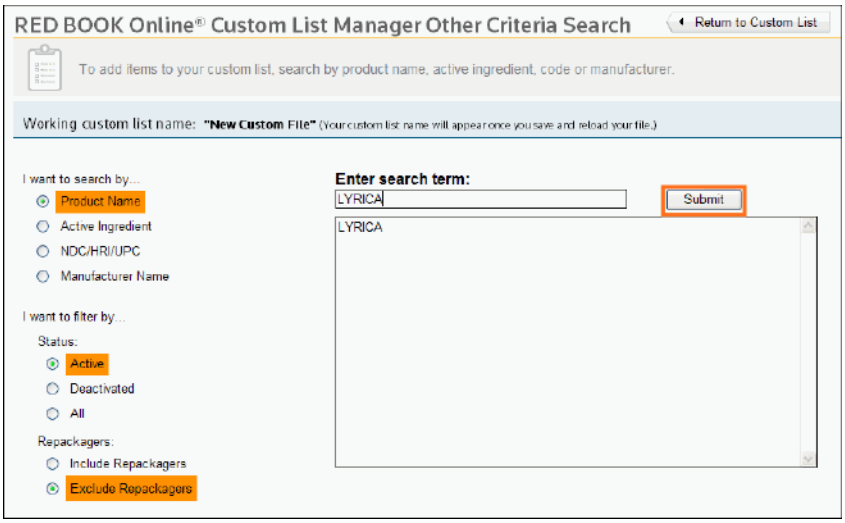
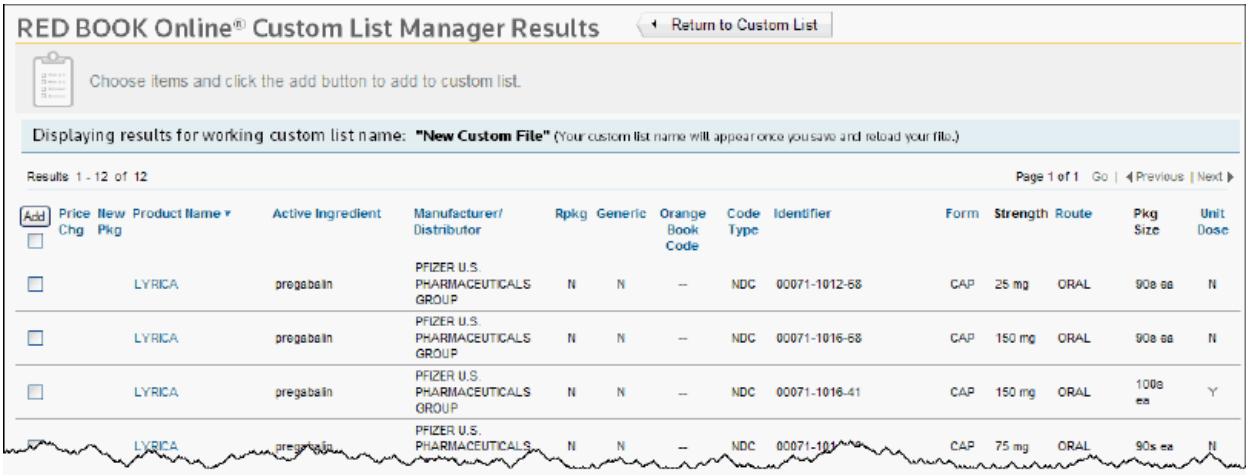


The *RED BOOK Online Custom List Manager Other Criteria Results* page displays. This page provides the product matches for the search term you used.

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.



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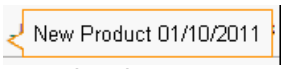
The column headings and their functions are described in the table below.

Column	Description
Add Button	The **Add** 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 **Add** button launches the *Products Added* pop-up box. The *Products Added* pop-up confirms that the products selected have been added to your custom list.
Price Chg	The **Price Chg** (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. If a price change has occurred within this time window, the dollar sign icon displays. Hovering the cursor over the icon displays the date the price change became effective.
New Pkg	The **New Pkg** 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. New entries in the database are indicated by a star icon in this column.  Hovering the cursor over the icon will display the effective date of the new entry.
Product Name	The **Product Name** 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. When the results are initially displayed in response to your search, they are sorted by this column.
Active Ingredient	The **Active Ingredient** column displays the active ingredient(s) for the product for which you searched.
Manufacturer/ Distributor	The **Manufacturer/Distributor** column displays the manufacturer/distributor of an individual product in your search results. A single product name may be associated with multiple manufacturers/distributors. See “Manufacturer Product List Search Results” on page 182. for more information.
Rpkg	The **Rpkg** 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.
Generic	The **Generic** 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.
Orange Book Code	If a product has been assigned an Orange Book Code, that code will appear in the **Orange Book Code** 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. See “Orange Book Codes” on page 234. for more information.

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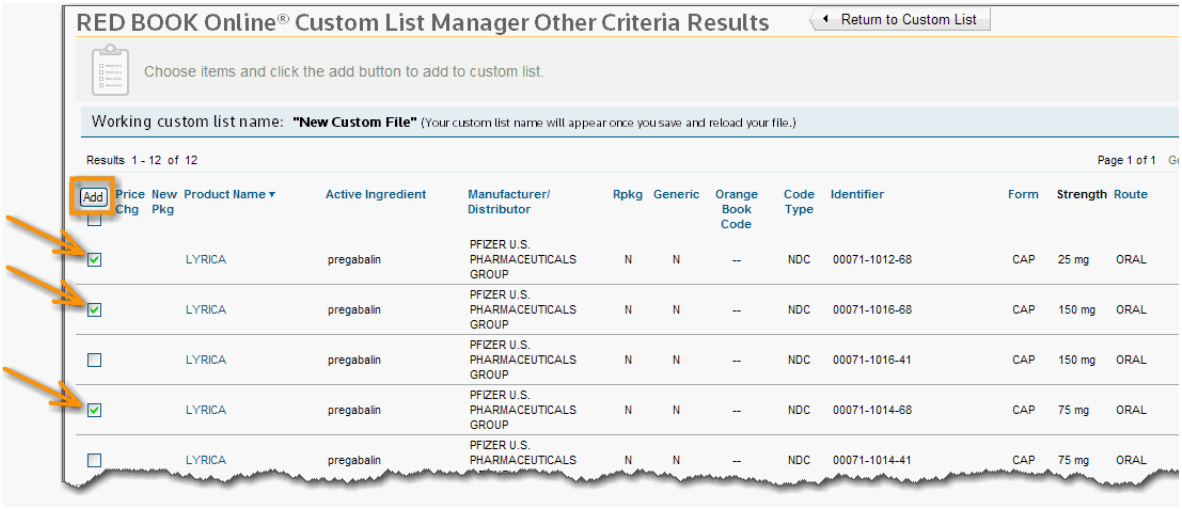
Code Type	The **Code Type** column identifies the registry listed for the identifier, either NDC; HRI; or UPC. This code type is related to the value that appears in the **Identifier** column.
Identifier	The **Identifier** column displays the NDC, HRI, or UPC code that is associated with each individual line item retrieved in your search.
Form	The **Form** column displays the dosage form (tablet, solution, syrup, etc.) of a product. See "Dosage Form Descriptions" on page 230. for more information on dosage forms.
Strength	The **Strength** column displays the active ingredient strength for the product for which you searched. **NOTE**: The **Strength** column is limited to 24 characters. Entries in this field that exceed 24 characters are truncated. A longer description can be viewed on the *Product Details* page. See "Product Details Search Results" on page 184..
Route	The **Route** column displays the route of administration for the product.See "Route Listing" on page 233. for more information.
Pkg Size	The **Pkg** (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).
Unit Dose	The **Unit Dose** 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 (--).



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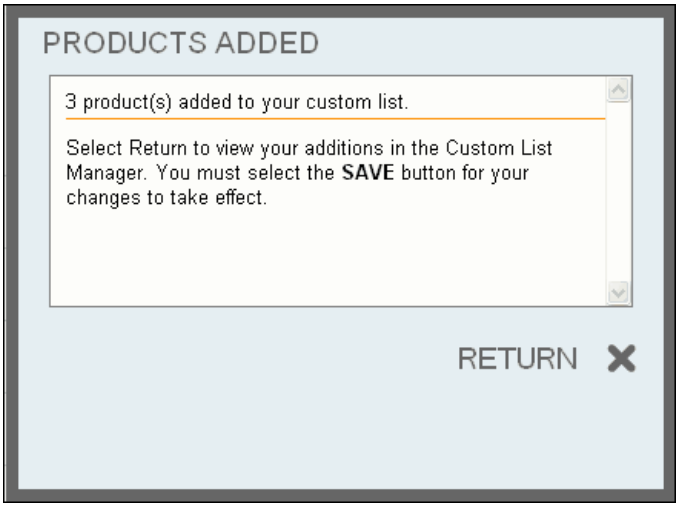
Locate the product(s) that you want to add to the custom list you are building. Click the checkbox(es) adjacent to the line item(s) you want to include. To add the selected items to your custom list, click the **Add** button located at the top of the page.

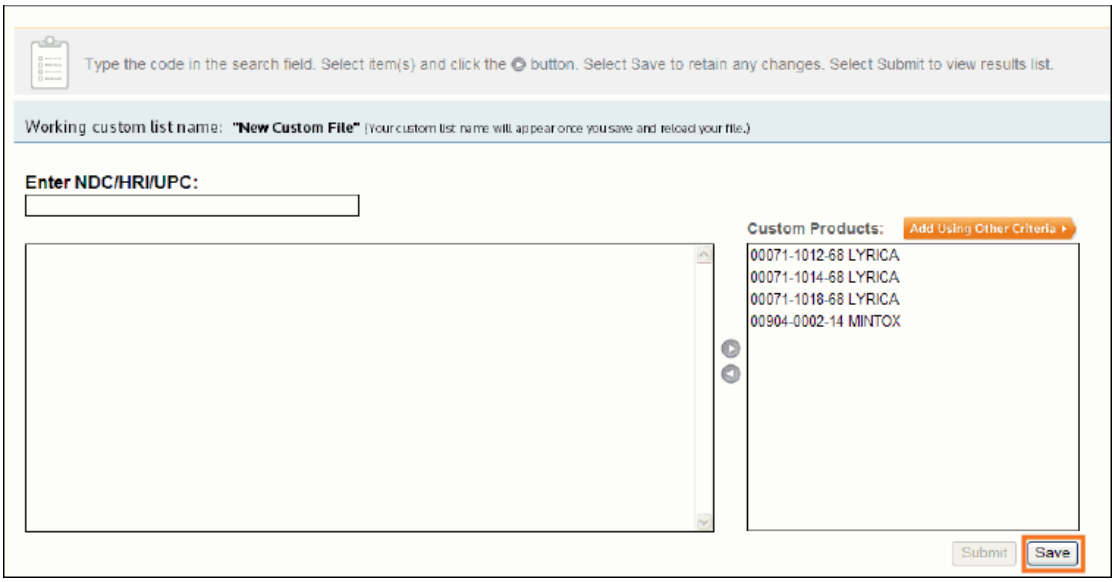
The *Products Added* pop-up appears.



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.



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.

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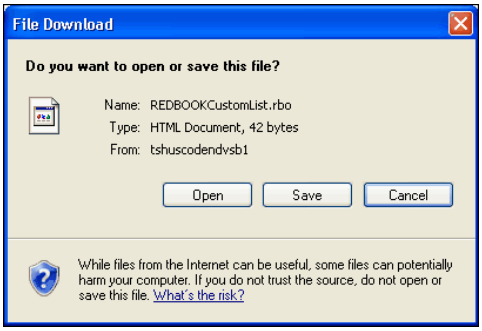
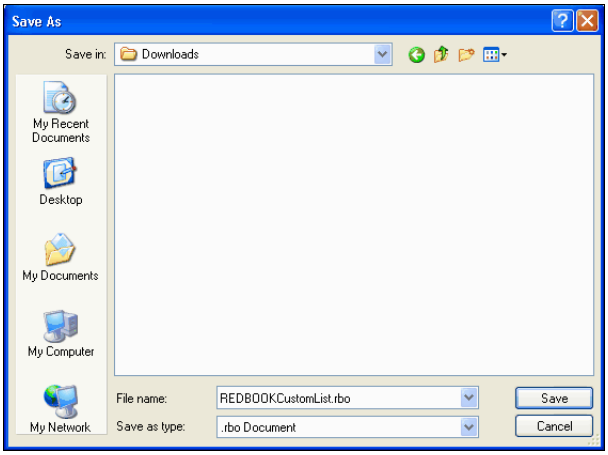
Saving Your Custom List

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.

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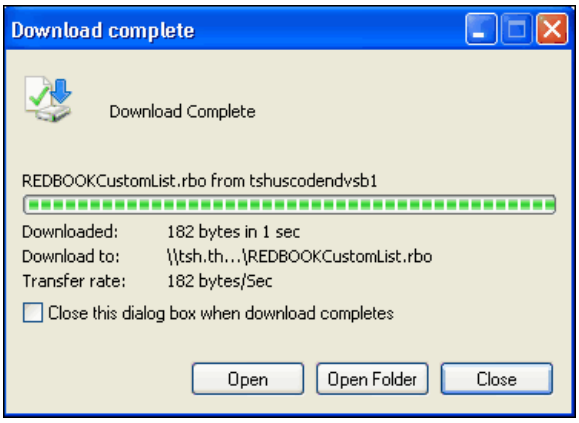

Click the **Close** button. The file is now saved. You can use this file to perform a search on this list of products, as necessary.

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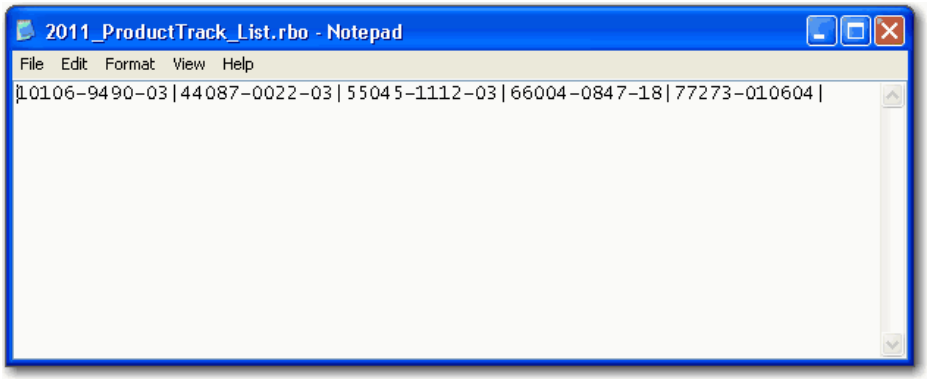
Creating a Custom List Manually

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).



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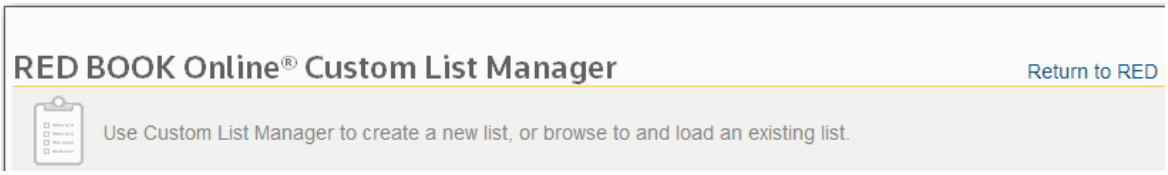
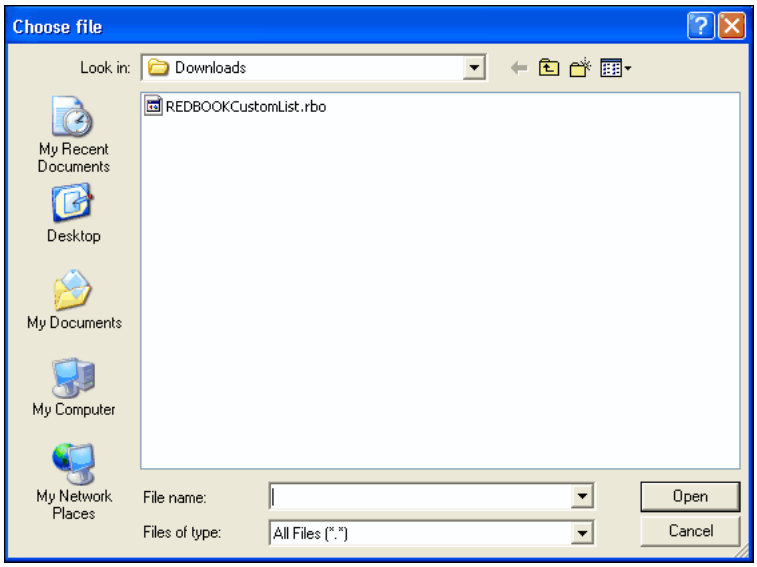
Searching RED BOOK Using a Saved Custom List

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.

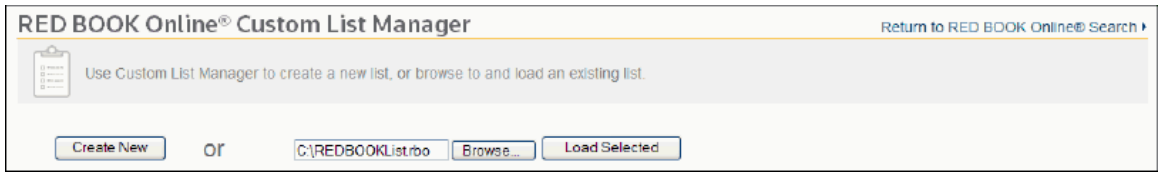


2. Click the **Browse...** button. The *Choose file* dialog displays.



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.



   The location path of the file now appears in the field to the left of the **Browse...** 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.

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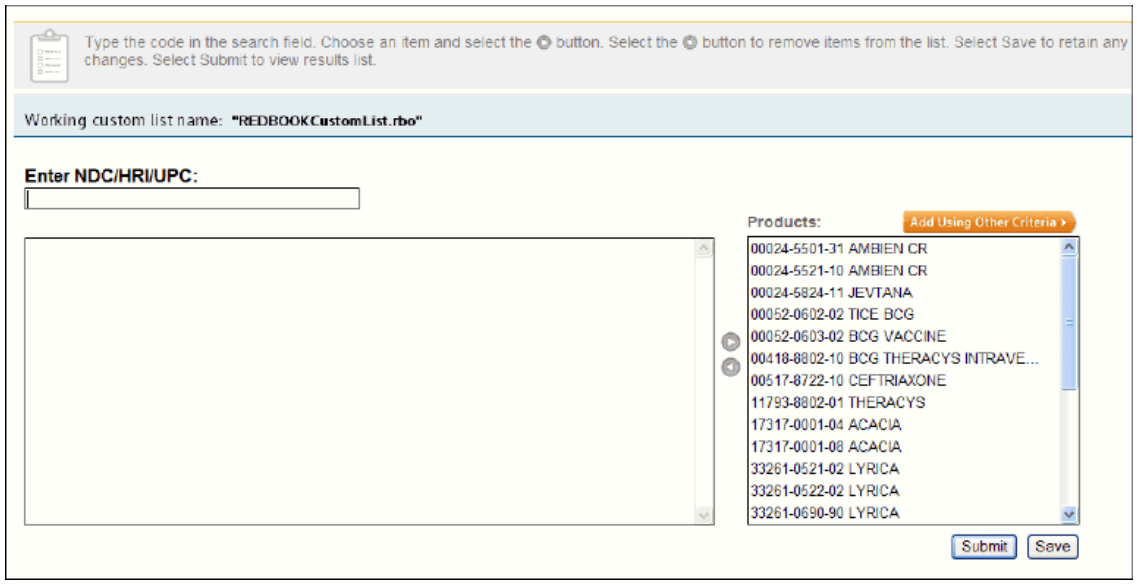
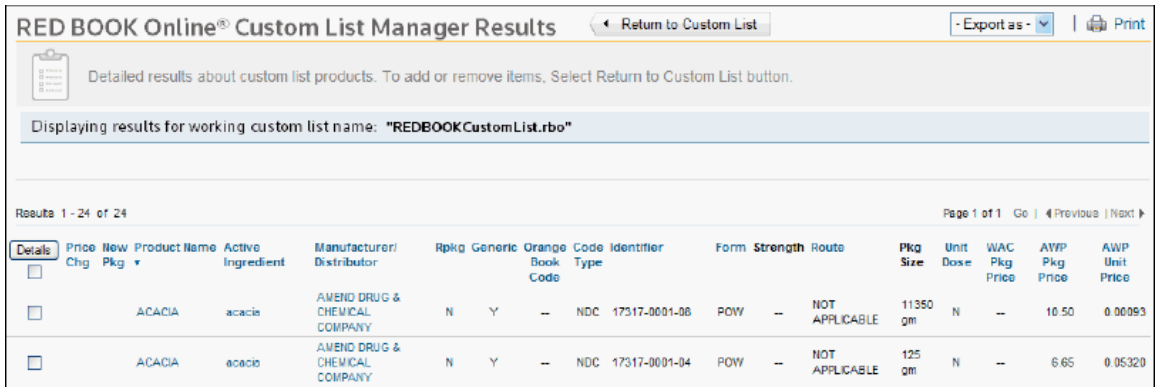


With the list selected and loaded, you can now:

- Edit your custom list by adding additional products - *or* -
- Perform a search on your custom list by clicking the **Submit** button



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 173. for information on RED BOOK Online search results.

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CHAPTER 15: MICROMEDEX® 2.0 FOR MOBILE DEVICES

Much more than quick drug look-ups, *mobile*Micromedex powers your mobile device with a wealth of clinical knowledge from Micromedex, the industry's leading provider of evidence-based clinical information.

Web-based access to the Micromedex 2.0 site

Micromedex® 2.0 is now available for your mobile browser on your iPhone®, iPad™, Windows® 8, Blackberry®, or Android™ device. This version is available on your mobile device via your data plan or a WiFi connection.

Expect More.

*mobile*Micromedex 2.0 gives you exclusive access to the same clinical evidence content you get on your desktop, at no additional charge, including:

- drugs
- interactions
- drug identification
- disease conditions
- laboratory test information
- alternative medicines
- toxicology
- convenient calculators

Find out more at www.micromedex.com/products/mobile2

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Follow these easy steps to access *mobile*Micromedex 2.0 on your mobile device today!

Step 1: Open your mobile browser

Step 2: Go to http://www.micromedexsolutions.com/micromedex2/librarian

Step 3: Enter your authentication information:

Note: If you do NOT access Micromedex 2.0 from your desktop with a user name and password, go to the mobileMicromedex link available on any page of Micromedex 2.0 for your user name and password.

The user name and password accessed in this manner will be active for the current calendar quarter on your device. At the end of the quarter, return to the mobileMicromedex page and obtain the new user name and password.

System Requirements

BlackBerry®

The following system settings have been tested with and are recommended for use with the BlackBerry 8900 series.

- For optimal performance, set your **Opera Mini Browser** with the following settings:
- **Load Images:** Selected
- **Image Quality:** High
- **Font Size:** Medium
- **Mobile View:** Not Selected
- **Auto-complete Address Input:** Not Selected

iPhone®

The following system settings have been tested with and are recommended for use with the iPhone, iPad™, or iPod touch®.

- Safari Mobile Browser with the following settings:
- **JavaScript:** On
- **Accept Cookies:** On
- **Plug-ins:** On

The iPhone, iPad, and iPod touch devices have some unique navigation methods. Some of the more common are listed here:

- Zoom in on part of a Web page - double-tap the part of the page you want to zoom in on. Double-tap again to zoom out.
- Zoom in or out manually - pinch to zoom in or out.
- Scroll around the page - drag up, down, or sideways. When scrolling, you can touch and drag anywhere on the page without activating any links. If you tap a link, you follow the link, but if you drag a link, the page scrolls.

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- Scroll within a frame on a web page - use two fingers to scroll within a frame on a web page. Use one finger to scroll the entire webpage.
- Jump to the top of a Web page - tap the status bar at the top of the iPhone page.
- Resize any column to fit the page - double-tap the column. The column expands, so you can read it more easily.

More information can be found in the applicable user guide. The iPhone guide can be found at: http://manuals.info.apple.com/en/iphone_user_guide.pdf.

Android™ OS Droid phones

*mobile*Micromedex 2.0 is designed to work on Android OS 1.5 - 2.2 devices, in conjunction with the Google Chrome™ browser.

Accessing *mobile*Micromedex 2.0 via BlackBerry or iPhone

1. Navigate to http://www.micromedexsolutions.com/micromedex2/librarian/ on your mobile device browser (Opera Mini for BlackBerry devices and Safari for the iPhone).
2. Enter your authentication information. If you do not know your authentication information (UserName and password), navigate to http://www.micromedex.com/mobile2/ on a computer connected to your organization's network. A UserName and Password are displayed for your use. These login credentials expire on a quarterly basis. Return to the mobileMicromedex page each quarter to obtain new login credentials.
3. Begin using *mobile*Micromedex 2.0.

If you need further assistance, contact support by visiting http://www.micromedex.com/support/contacts

Navigating *mobile*Micromedex 2.0

While the goal when creating *mobile*Micromedex 2.0 for the iPhone and BlackBerry was to keep the offering as much like the desktop product as possible, there are a few differences required to accommodate the devices:

- Clicking an item from the outline on the left of each document page launches the document in a new web page. In the desktop product, the document launches in the same initial web page.
- Help topics are only available for the iPhone. For help on other devices, see the full help system within the desktop application.
- Only the Drug Identification and Drug Interactions tools and Calculators are currently available.
- Additional modules, such as CareNotes®, are not compatible with the iPhone or BlackBerry.

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APPS ON APPLE®, ANDROID™ AND WINDOWS® 8: AVAILABLE FOR DOWNLOAD

Apps available for FREE DOWNLOAD to Micromedex® Clinical Knowledge customers from the iTunes App Store, Google play, and the Windows Store

NOW AVAILABLE!

The new **Micromedex® Drug Information** app for iPhone/iTouch/iPad, Android, and Windows 8[1] is **NOW AVAILABLE for FREE** individual access through the iTunes® App Store, Google play, and the Windows Store. The Drug Information app contains concise information on 4,500+ search terms, covering generic names, common trade names, dosages, indications, contraindications, adverse effects, and more.

The new **Micromedex® Drug Interactions** app for iPhone/iTouch, iPad and Android is **NOW AVAILABLE** for individual access through the iTunes® App Store and Google play. With the Drug Interactions app, clinicians can check a patient's entire list of medications for potentially harmful interactions. Warnings include severity, onset, evidence, adverse effects, and more.

Micromedex customers with a current subscription to DRUG-REAX (Drug Interactions) can activate the app for FREE using the password included with the instructions found on the ***mobile*Micromedex®** page of Micromedex 2.0. For users who are not current DRUG-REAX customers, the app is available for a fee.

The new **Micromedex® IV Compatibility** app for iPhone/iTouch, iPad and Android is **NOW AVAILABLE** for individual access through the iTunes® App Store and Google play. With the IV Compatibility app, clinicians can view Y-Site, Admixture, and Solutions results from the Trissel's 2 database.

Micromedex customers with a current subscription to IV INDEX (Trissel's 2 IV Compatibility) can activate the app using the password included with the instructions found on the ***mobile*Micromedex®** page of Micromedex 2.0. For users who are not current IV INDEX customers, the app is available for a fee.

1. Available for tablets/PCs/laptops running Windows 8 and Windows RT and PRO tablets

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APPENDIX A: DATABASE DESCRIPTIONS

Truven Health Analytics publishes clinical decision support databases and tools. Micromedex® 2.0 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® 2.0 DATABASES

AltCareDex®
AltMedDex® System:
- AltMedDex Consults
- AltMedDex Evaluations
- AltMedDex Points®
- AltMedDex Protocols
- AltMed-REAX™ for the Patient

Clinical Checklist™
ClinicalPoints® System
Detailed Drug Information for the Consumer™
DISEASEDEX® System:
- General Medicine
- Emergency Medicine
- Emergency Medical Abstracts
- Clinical Reviews
- Studies & Alerts

DRUGDEX® System
DrugPoints® System
DRUG-REAX® System
Herbal Medicines: A Guide for the Health-Care Professional
IDENTIDEX® System
Index Nominum
Italian Drug Database - Dialogo sui Farmaci
IV INDEX® System - IV Compatibility with Trissel's 2™
Lab Advisor™
Martindale: The Complete Drug Reference
Material Safety Data Sheets (MSDS)
P&T QUIK® Reports
Physicians' Desk Reference® (PDR)
POISINDEX® 2.0
REPRORISK® System:
- REPROTEXT®
- REPROTOX®
- Shepard's
- TERIS

TOMES System
- HAZARDTEXT®
- INFOTEXT®
- MEDITEXT®

ToxPoints® System
United Kingdom Drug Information - eMC SmPC

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AltCareDex® System

Patient Education for Complementary and Alternative Medicine

As part of the Complementary and Alternative Medicine (CAM) Series, AltCareDex® 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 AltCareDex?

- 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.

AltMedDex® System

Herbal and Dietary Information

Part of the Complementary and Alternative Medicine (CAM) Series, AltMedDex 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 AltMedDex?

- Evaluations
- Consults
- Protocols

Alternative Medicine Evaluations

Alternative Medicine Evaluations 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

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- Mechanism of Action
- Therapeutic Uses
- Comparative Efficacy

Alternative Medicine Consults

Alternative Medicine 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.

Alternative Medicine 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. AltMedDex® 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 Summary Information: AltMedDex Points® System

The AltMedDex Points System 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 AltMedDex Points System delivers answers quickly and efficiently. The System links directly to more in-depth information in AltMedDex® evaluations (available only with a current AltMedDex subscription).

AltMed-REAX™ for the Patient

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. AltMed-REAX for the Patient 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.

Clinical Checklist™

The Clinical Checklist™ System is available to all subscribers of DISEASEDEX and 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 2.0. 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.

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ClinicalPoints® System

The ClinicalPoints System provides brief highlights of treatment, diagnosis, and key point information. The ClinicalPoints System delivers answers quickly and efficiently. The System also links directly to the more in-depth DISEASEDEX® Emergency Medicine - Clinical Review documents (available only with a current DISEASEDEX® Emergency Medicine subscription).

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.

DISEASEDEX® Emergency Medicine

Comprehensive source of urgent and acute care information

DISEASEDEX® Emergency Medicine (previously named EMERGINDEX®), 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.

DISEASEDEX Emergency Medicine includes:

Emergency and Acute Care Summaries (see **ClinicalPoints®**) and detailed information - on emergency conditions and treatments covering:

- Treatment
- Diagnosis
- Key Points

Clinical Reviews - data pertinent to diagnostic and therapeutic purposes covering:

- Summary information
- Presentation by body system
- Complications
- Associated conditions
- Laboratory/Radiologic data
- Diagnostic aids and differential diagnosis
- Treatment recommendations
- Disposition
- References

Emergency Medical Abstracts from Rick Bukata, MD and Jerry Hoffman, MD - a definitive source of literature review covering a broad scope of topics compiled by Rick Bukata, MD and Jerry Hoffman, MD.

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Studies & Alerts - Updated regularly with with brief reports on new disease information.

DISEASEDEX® General Medicine

Evidence-based, current disease information

DISEASEDEX® 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
- Background
- Diagnosis
- Treatment
- Complications
- Special Circumstances
- When to Consult or Refer
- Prognosis
- Advising the Patient
- Follow-up
- Prevention and Screening
- Key References
- Literature Cited
- Tables and Images

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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

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

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

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Product documents offer comprehensive search results listing trade names, manufacturers, and dosage forms for investigational, international, FDA-approved, and over-the-counter preparations.

DrugPoints® System

The DrugPoints® System provides brief highlights of dosing, drug interactions, adverse effects, pregnancy warnings, indications, cautions, therapeutic class, and brand information. The DrugPoints System delivers answers quickly and efficiently. The System also links directly to more in-depth DRUGDEX® Drug Evaluations (available only with a current DRUGDEX subscription).

DRUG-REAX® System

Drug Interactions

The DRUG-REAX System allows clinicians to check for interacting drug ingredients, their effects, and their clinical significance. It provides drug-drug, food-drug, drug-disease, drug-alternative medicine, drug-ethanol, drug-laboratory, drug-tobacco, drug-pregnancy, and drug-lactation interactions. Please note that not all additive adverse effects or therapeutic antagonist effects are included in the Drug-REAX System.

DRUG-REAX System information is drug-specific rather than class-specific, which helps to more accurately interpret interaction data. The System program contains a dictionary of more than 8,000 unique drug terms, and distinguishes between trade names and equivalent generic names, eliminating possible duplication of interaction data on the page. Up to 128 concurrent clinical conflicts can be reviewed. In addition, the response speed of this database demonstrates no detectable degradation in data retrieval as the number of drugs being screened increases.

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 2.0, 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?

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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 Analytics version of Index Nominum in Micromedex 2.0, 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

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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

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IV INDEX® - IV Compatibility - Trissel's™ 2 Clinical Pharmaceutics 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

Lab Advisor™

Lab Advisor™ 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 Advisor 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

Additionally, administrators will soon have the ability to customize Lab Advisor by adding facility-specific notes directly to the content. Administrators will be able to attach notes to either the main title level, or to a specific section within an individual lab document. Notes will allow the hospital to communicate specific instructions and lab protocols directly within the content, helping to increase compliance with the hospital's policies and procedures.

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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. System enhancements allow 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

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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

Reports for Pharmacy & Therapeutics Committees

- Assists when reviewing or presenting new drugs under consideration for inclusion in hospital formularies
- Presents information on newly approved drugs to help increase the clinical- and cost-effectiveness of a facility's formulary
- Provides timesaving, concise reports describing formulary recommendations, approved indications, efficacy, pharmacokinetics, adverse effects, and more.

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. This integrated system includes current FDA-approved prescription drugs, commonly used over-the-counter drugs, and specialized ophthalmic pharmaceuticals. Its global searching capability allows instant access to 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. What's in the Physicians' Desk Reference?

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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
- Author 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)

Toxicological Managements:

Toxicological Managements offers over 850 detailed courses of treatment for someone exposed to a substance.

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REPRORISK® System

Reproductive Risk Information

The REPRORISK System 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 REPRORISK?

The REPRORISK System 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. The REPRORISK System suggests treatment plans to minimize risks during pregnancy.

REPRORISK 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

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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

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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:

HAZARDTEXT® Hazard Managements

The hazard information found in HAZARDTEXT 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, HAZARDTEXT also helps 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.

MEDITEXT® Medical Managements

The medical information can help you evaluate issues associated with exposure. Answers the question, “Was the exposure: Swallowed? Skin contact? Breathe fumes? In the eyes?”

ToxPoints® System

The ToxPoints System provides brief highlights of clinical effect, treatment, and range of toxicity information. The ToxPoints System delivers answers quickly and efficiently. The System also links directly to the more in-depth POISINDEX® System Toxicological Managements (available only with a current POISINDEX subscription).

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

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- 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

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APPENDIX B: RED BOOK ONLINE - AWP POLICY

Revised: February 17, 2004

AWP Policy

The Average Wholesale Price (AWP) as published by Truven Health Analytics is in most cases the manufacturer's[1] suggested AWP and does not necessarily reflect the actual AWP charged by a wholesaler. Truven Health Analytics 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.

When the manufacturer does not provide an AWP or markup formula from which AWP can be calculated, the AWP will be calculated 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.

Please note that Truven Health Analytics does not perform any independent analysis to determine or calculate the actual AWP paid by providers[2] to wholesalers. Truven Health Analytics also does not independently investigate the actual WAC paid by wholesalers to manufacturers or DIRP paid by providers to manufacturers. Truven Health Analytics relies on the manufacturers to report the values for these categories as described above.

Truven Health Analytics 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 Analytics Technical Support at http://micromedex.com/support/request/

Please refer to this AWP Policy as you review the pricing information contained in the Truven Health Analytics products.

[1]The term "manufacturer" includes manufacturers, 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.

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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	
1cc =	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		

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The following formulas are used to calculate unit prices.

Formula 1 (for products sold by the item)

Unit Price = Price per package / Package Quantity

e.g.

$15.00 / 100 tablets = $0.15 each

Formula 2 (for products sold by weight or volume)

Unit Price = Price per package or lot / Product-weight/volume

e.g.

$15.00 / 30 gm = $0.50/gm

Formula 3 (for packages of multiple containers of the product)

Unit Price = Price per package / Product-weight/volume x Package Quantity

e.g.

$15.00 / 5 ml 20s = $0.15/ml

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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

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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

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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
TEF	Tablet, effervescent
TER	Tablet, extended release
TES	Test
TIN	Tincture
TSN	Tablet for solution
WAF	Wafer
WAX	Wax

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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
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

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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 bio-equivalence 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
ZZ	FDA Standard with no orange book code

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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

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