DISPENSING AND HOSPITAL PHARMACY

PRESENTED BY

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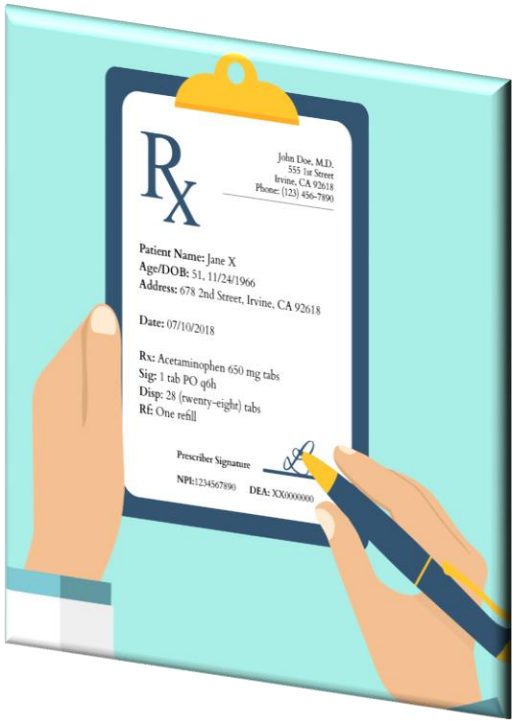
PRESCRIPTION

CONTENTS

DEFINATION

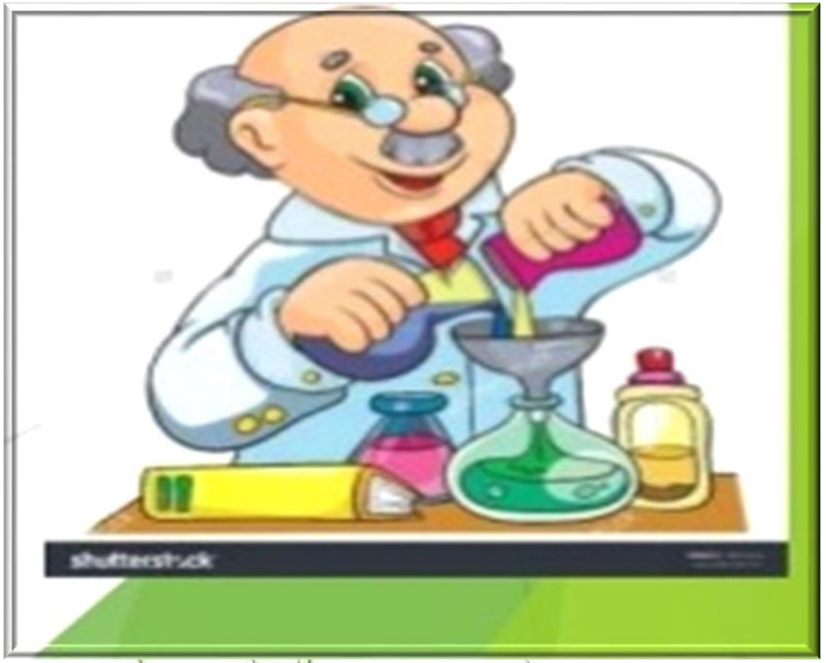
Prescription is a written order from a registered medical practitioner , or other properly licensed practitioners, such as
Dentist
Veterinarian etc, to a pharmacist to compound and dispense a specific medication for the patient



TYPES OF PRESCRIPTION

Precompounding prescription

Extemporaneous prescription



PARTS OF PRESCRIPTION

- DATE
- PATIENT INFORMATION
- SUPERSCRIPTION
- INSCRIPTION
- SUBSCRIPTION
- SIGNATURA
- RENEWAL INSTRUCTIONS
- PRACTITIONER INFORMATION

DATE

- Every prescription must bear the date on which the particular medicines are prescribed.
- This helps the pharmacist to keep day-day Patient's record in chronologic order which helps the pharmacist or a physician to refer the old case in future.
- To avoid misuse of the narcotic or other habitat forming drugs containing prescriptions by the patient a number of times for dispensing.

PATIENT INFORMATION

- Name, Age, Sex and Address of the patient:
- Name helps the pharmacist to identify the correct Patients
- Age of the patient is important in the case of the Pediatric(children) and Geriatric(old people) cases.
- Because the dose of drugs in such cases varies(due to their differences in ability to metabolize drugs).
- Hence dose of the drugs are calculated based on the age factor in such cases.
- Note: In some cases weight and height of the patients are also required
- Dose of drugs may also vary based on the sex/gender of the patient

SUPERSCRIPTION

- This part of the prescription is represented by the symbol $R_{X.}$
- In the ancient times it is considered as a prayer to Jupiter the God of healing for the fast recovery of the patient.
- Now a days it is used as a abbreviation for the Latin term “Take Thou” which means “you take”

INSCRIPTION

This is considered as the main part which contains the names and quantities of the prescribed ingredients.

- Base (active medicament of therapeutic action)
- Adjuvant (substances added to increase action of medicament/ its palatability)
- vehicle(substance used to dissolve medicament/increase volume of preparation)

SUBSCRIPTION

- This part of the prescription contains directions of the prescriber to the pharmacist regarding the type and compounding of dosage form along with number of doses to be dispensed.
- This is important because dose of drug also depends on the type of the dosage form.

SIGNATURA

- This part of the prescription contains directions to the patient regarding the administration of the drugs.
- It is generally represented as ‘Sig’ on the prescription.
- The instructions may include:
  - The quantity to be taken
  - The frequency of administration
  - The mode of administration
  - The special instructions such as dilation direction

RENEWAL INSTRUCTIONS

- Renewal instructions:
  - In this part, the prescriber whether the prescription can be renewed or not.
  - It also should include the specifications like how many times it can be renewed
  - It is of utmost importance incase of narcotic/other habitat forming drugs.

PRACTITIONER INFORMATION

- Signature, Address and Regd.no of the prescriber:
  - The signature and Regd.no of the prescriber turns the prescription into legal and authentic order to the pharmacist.
  - This helps in preventing the use of spurious drugs.
  - Regd.no is of utmost importance in prescription containing narcotic drugs.

HANDLING OF PRESCRIPTION

- Receiving
- Reading and checking
- Collecting and weighing the material
- Compounding, labeling and packing

ERRORS IN PRESCRIPTIONS

1) **Abbreviation:** Abbreviation presents a problem in understanding parts of the prescription order. Extreme care should be taken by a pharmacist in interpreting the abbreviation.

2) **Name of the Drug:** There are certain drugs whose name look or sound like those of other drugs. Some of the examples of such drugs are as under:

Examples of Drugs often Confused

Digitoxin Digoxin
Prednisone Prednisolone
Indocin Lincocin
Doridon Doxidan
Pabalate Robalate
Ananase Orinase

ERRORS IN PRESCRIPTIONS

3) **Strength of the Preparation:** The strength of the preparation should be stated by the prescriber. For example, it will be a wrong decision on the part of a pharmacist to dispense paracetamol tablet 500 mg when prescription for Paracetmol tablet is received with no specific strength.

4) **Dosage Form of the Drug Prescribed:** Many medicines are available in more than one dosage form. For example, liquid, tablet, capsule and suppository. The pharmaceutical form of the product should be written on the prescription in order to avoid ambiguity.

5) **Dose:** Unusually high or low doses should be discussed with the prescriber. For example, a prescription for sustained release formulation to be administered after every four hours should be thoroughly checked because such dosage forms are usually administered only two or three times a day.

ERRORS IN PRESCRIPTIONS

6) **Instructions for the Patient:** The quantity of the drug to be taken, the frequency and timing of administration, and route of administration should be clearly given in the prescription so as to avoid any confusion.

7) **Incompatibilities:** It is essential to check that there are no pharmaceutical or therapeutic incompatibilities in a prescribed preparation and that different medicines prescribed for the same patient do not interact with each other to produce any harm to the patient.

PHARMACEUTICAL LABELING

Raw materials

processing

Final product

I t is complete but with lost identity.....

What Is missing??

LABEL!!!


NDC 0074-9296-19
Synthroid®
Levothyroxine Sodium Tablets, USP
112 mcg (0.112 mg)
1000 Tablets
Rx only
Do not accept if seal over bottle opening is broken or missing.
Each tablet contains 112 mcg (0.112 mg) levothyroxine sodium.
Dispense in a tight, light-resistant container as described in USP.
See package insert for full prescribing information.
Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature]. Protect from light and moisture.
AbbVie Inc.
North Chicago, IL 60064, U.S.A.
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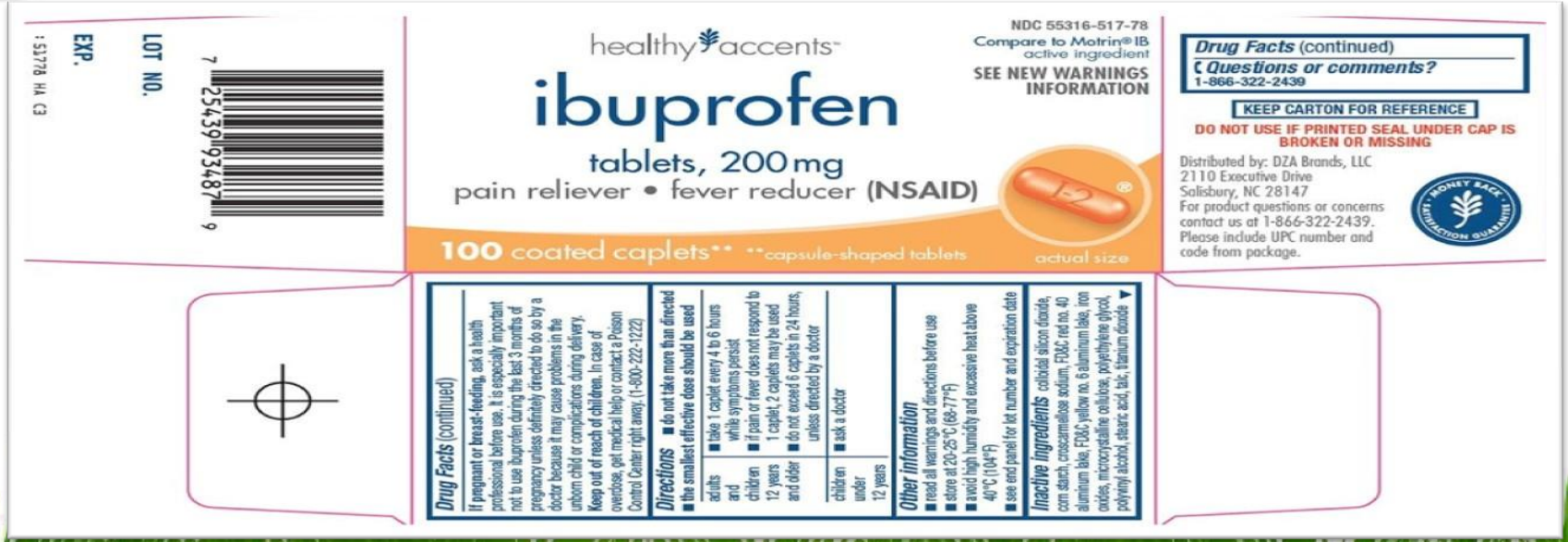
abbvie

CONTENTS

DEFINATION OF LABEL

" Label means a display of written, printed or graphic matter upon immediate container or the wrapper of a drug package"



NEED OF A DRUG LABEL

CONTENTS

MANUFACTURER LABEL

- A label which contain drug information for the use of medical practitioners, pharmacists, or nurses supplied by the manufacturer, packer, or distributor of the drug

  (FDA)

Legal requirements ofa manufacturer label

1. The name of preparation
2. Strength and dosage form.
3. Quantity.
4. Instructions for the use.
5. Precautions & warnings.
6. Registration number.
7. Batch number.
8. Manufacturing & Expiry date .
9. Price
10. The name and address of pharmaceutical industry

NAME ON THE LABEL

BRAND/INNOVATOR NAME

GENERIC NAME

NAME ON THE LABEL

Brand Name Drug

These drugs are also called as **Innovator Drugs** invented by Pharmaceutical companies to prevent them from being copied or reverse engineered by other companies.

Generic Drug

A generic drug is defined as **"A drug product that is comparable to brand/innovator drug in dosage from, strength, route of administration, quality and performance characteristics and intended use".** It should contain the same active ingredients as the original formulation.

According to the FDA, generic drugs are identical or within an acceptable bioequivalent range to the brand-name counterpart with respect to pharmacokinetics and pharmacodynamic properties.

Comparison between Generic and Brand Name Drugs

Similarities

- They must contain the same active ingredients.
- They must have the same dosage strength (example, 20mg or 40mg).
- They must be the same dosage form.
- They must have the same route of administration.
- They must deliver similar amounts of drug to the bloodstream.

Dissimilarities

- They could have different sizes, shapes, colors.
- They might have different inactive ingredients.
- The generic costs less than the brand name drug.

Why do Brand Name Drugs Cost more than Generics?

- Brand name drugs take several years, costly scientific development and many clinical studies to get Market approval.
- Manufacturers of brand name/Innovator drugs usually take on the research and development cost for new medications.
- These research and development costs, along with marketing costs, account for most of the higher prices pay for most brand name drug.
- In contrast, generic drugs have less research and development costs since the original manufacturer has already done many studies to make sure the drug is safe. These savings are passed on to the customer.

Bioavailability and Bioequivalence

A generic drug is considered to be bioequivalent to the brand name drug in case:

Similarities of three main parameters

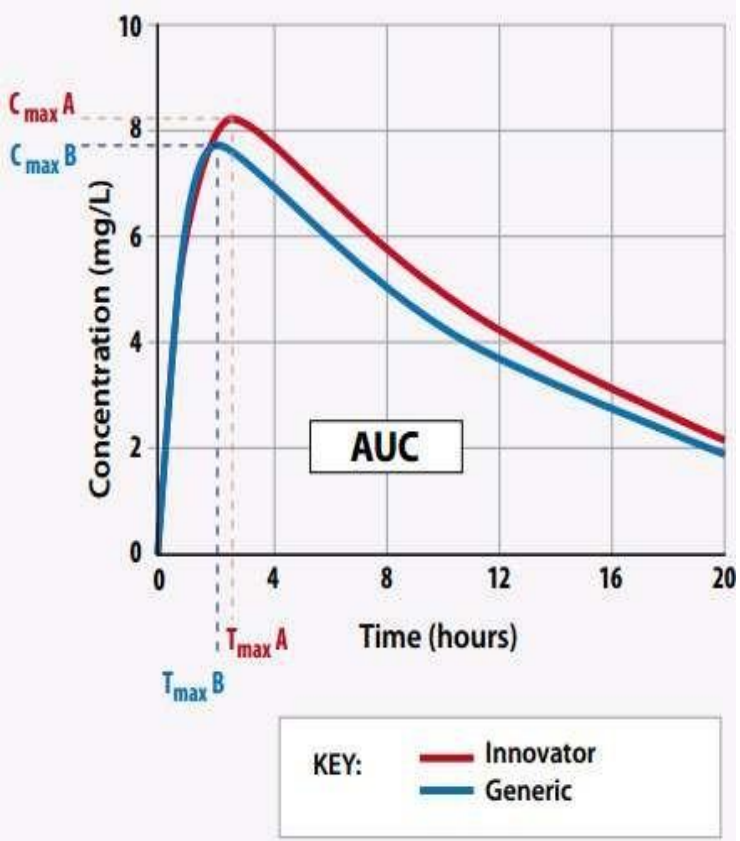
to establish bioequivalence.

AUC: Area under the concentration- time curve.

- Measure of the extent of bioavailability.

Cmax: the observed maximum concentration of degree of absorption.

tmax: the time after administration of drug at which Cmax is observed.



AUC Ratio:

The 90% confidence interval for this measure of relative bioavailability should be within a bioequivalence range of 80-125%.

Cmax ratio:

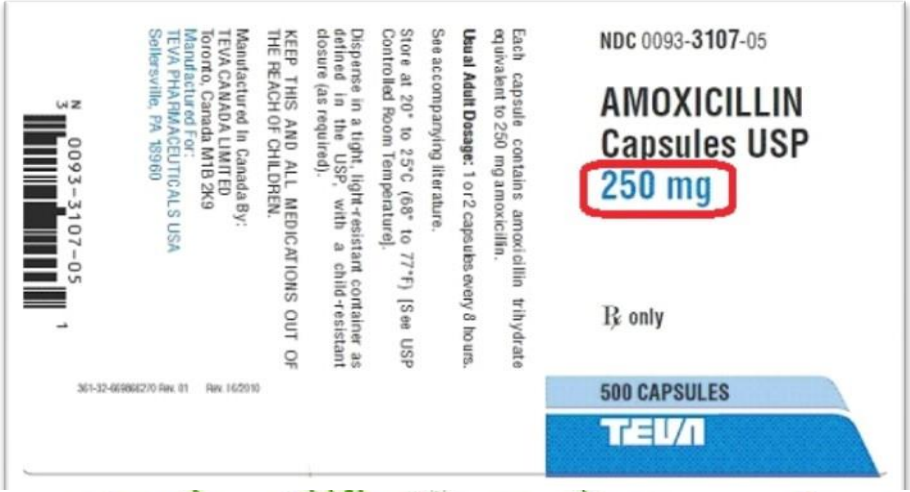
For maximal concentration data, the acceptance limit of 80-125% should be applied to the 90% confidence interval for the mean Cmax ratio.

tmax difference:

Statistical evaluation of tmax makes sense only if there is a clinically relevant claim for rigid onset of action or concerns about adverse effects.

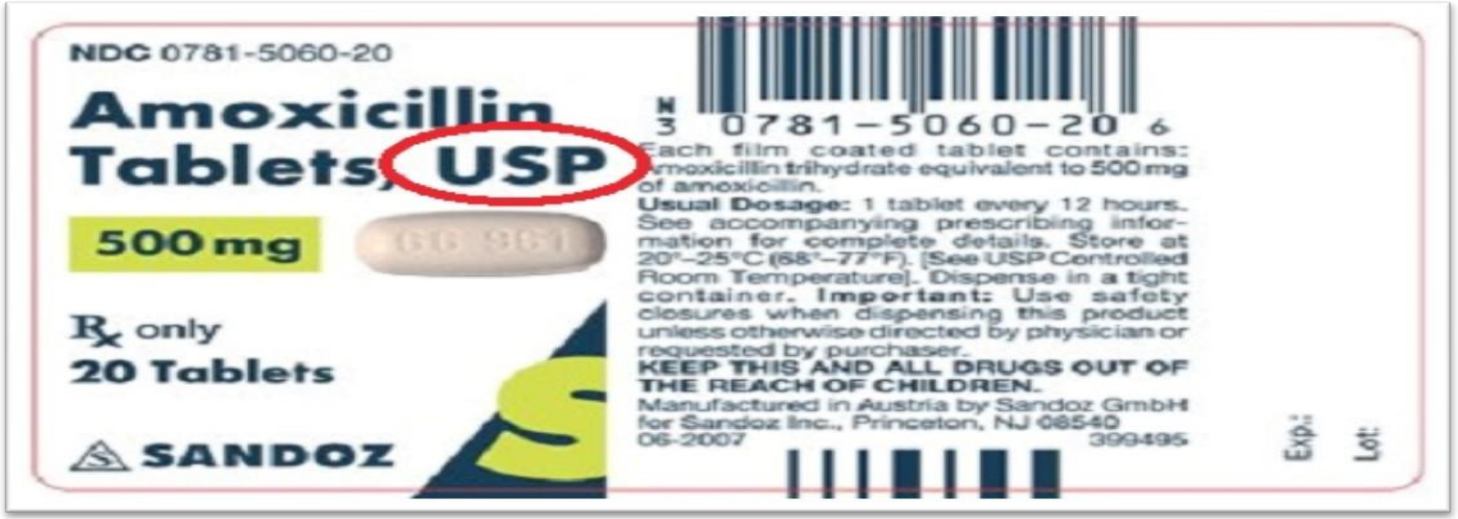
STRENGTH

- It is amount of active drug per unitdose.
- Example: amoxicillin 250mg capsules and amoxicillin 500mg capsules.



SPECIFICATION

- ✓U.S.P
- ✓B . P

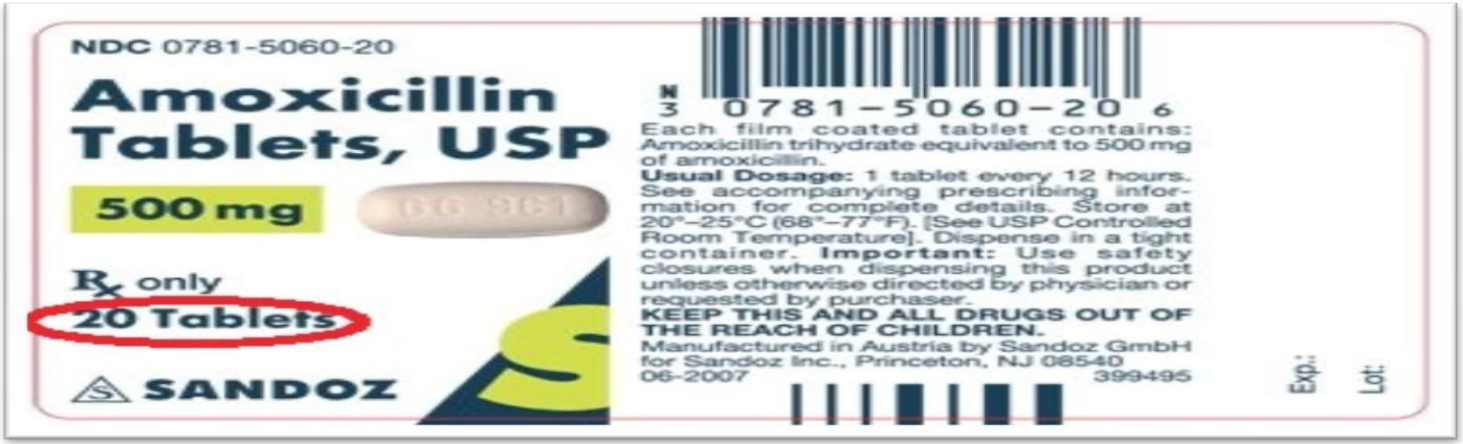


DOSAGE FORM

- Dosage form of the medicine should be mentioned on the label. e.g.,
- Different dosage forms of Amoxicillin

QUANTITY

Quantity /volume present per a packaging unit



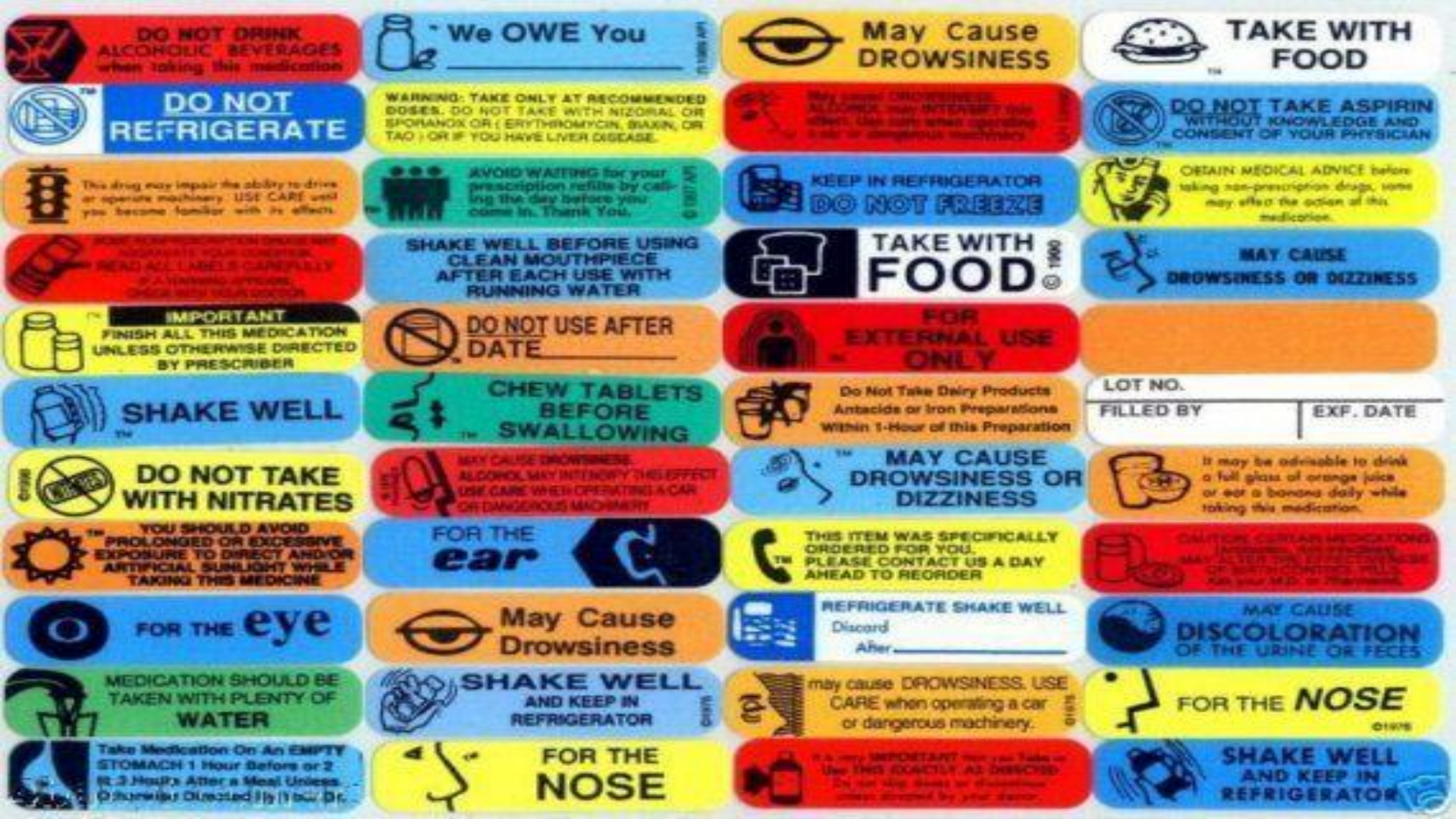
The container hold 20 tablets and each tablet has a dosage strength of 500 mg per tablet.

STORAGE CONDITION

Store in a cool place:

1. Not more than 0-8° C is necessary for many products

INSTRUCTIONS


DO NOT DRINK ALCOHOLIC BEVERAGES when taking this medication
We OWE You
May Cause DROWSINESS
TAKE WITH FOOD
DO NOT REFRIGERATE
WARNING: TAKE ONLY AT RECOMMENDED DOSES. DO NOT TAKE WITH NIZORAL OR SPORANOX OR (ERYTHROMYCIN, BIAXIN, OR TAO) OR IF YOU HAVE LIVER DISEASE.
DO NOT TAKE ASPIRIN WITHOUT KNOWLEDGE AND CONSENT OF YOUR PHYSICIAN
This drug may impair the ability to drive or operate machinery. USE CARE until you become familiar with its effects.
AVOID WAITING for your prescription refills by calling the day before you come in. Thank You.
KEEP IN REFRIGERATOR DO NOT FREEZE
OBTAIN MEDICAL ADVICE before taking non-prescription drugs, some may affect the action of this medication.
SHAKE WELL BEFORE USING CLEAN MOUTHPIECE AFTER EACH USE WITH RUNNING WATER
TAKE WITH FOOD
MAY CAUSE DROWSINESS OR DIZZINESS
IMPORTANT
FINISH ALL THIS MEDICATION UNLESS OTHERWISE DIRECTED BY PRESCRIBER
DO NOT USE AFTER DATE
FOR EXTERNAL USE ONLY
SHAKE WELL
CHEW TABLETS BEFORE SWALLOWING
Do Not Take Dairy Products Antacids or Iron Preparations Within 1-Hour of this Preparation
LOT NO.
FILLED BY
EXP. DATE
DO NOT TAKE WITH NITRATES
MAY CAUSE DROWSINESS. ALCOHOL MAY INTENSIFY THIS EFFECT. USE CARE WHEN OPERATING A CAR OR DANGEROUS MACHINERY
MAY CAUSE DROWSINESS OR DIZZINESS
It may be advisable to drink a full glass of orange juice or eat a banana daily while taking this medication.
YOU SHOULD AVOID PROLONGED OR EXCESSIVE EXPOSURE TO DIRECT AND/OR ARTIFICIAL SUNLIGHT WHILE TAKING THIS MEDICINE
FOR THE ear
THIS ITEM WAS SPECIFICALLY ORDERED FOR YOU. PLEASE CONTACT US A DAY AHEAD TO REORDER
FOR THE eye
May Cause Drowsiness
REFRIGERATE SHAKE WELL
Discard
After
MAY CAUSE DISCOLORATION OF THE URINE OR FECES
MEDICATION SHOULD BE TAKEN WITH PLENTY OF WATER
SHAKE WELL AND KEEP IN REFRIGERATOR
may cause DROWSINESS. USE CARE when operating a car or dangerous machinery.
FOR THE NOSE
Take Medication On An EMPTY STOMACH 1 Hour Before or 2 to 3 Hours After a Meal Unless Otherwise Directed By Your Dr.
FOR THE NOSE
SHAKE WELL AND KEEP IN REFRIGERATOR

Shake well before use

Necessary on all disperse systems:

- ✓Suspensions
- ✓Emulsions

DO NOT SHAKE THE PATIENT,

SHAKE THE BOTTLE WELL BEFORE USE.....

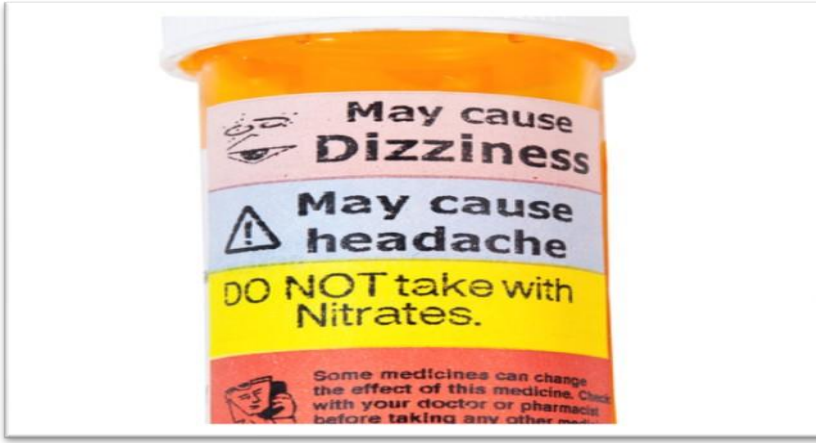
INSTRUCTIONS

Protect from light.

- Necessary for light sensitive preparations.
- Light resistive containers should be used.

Keep out of the reach of children

- All dispensed medicines should carry this information on label

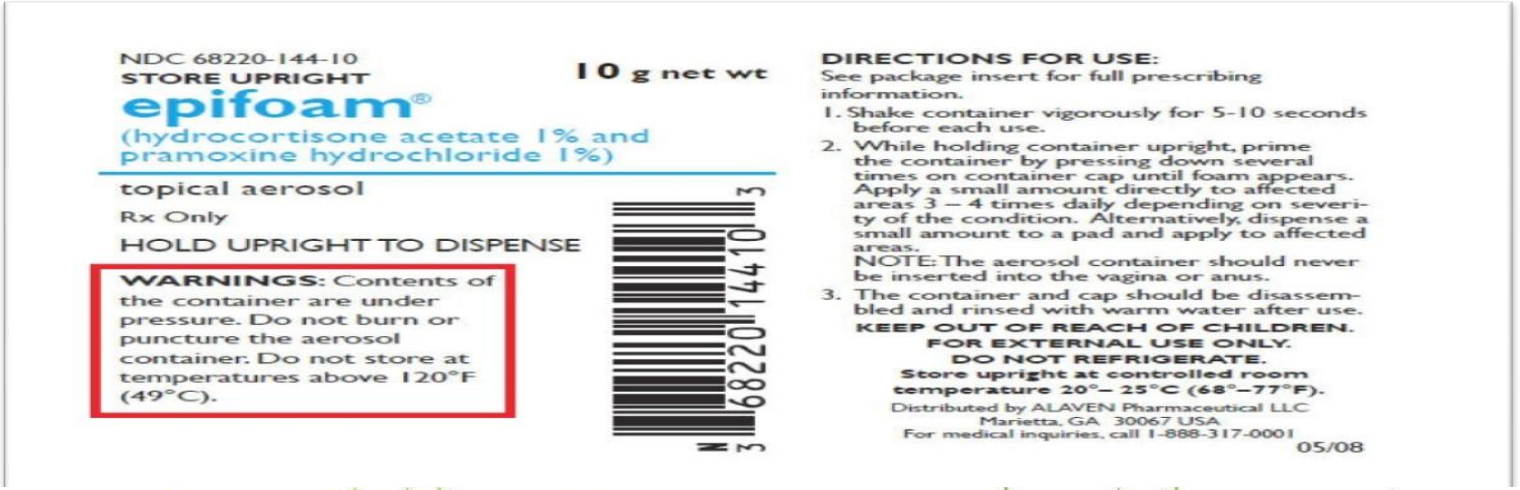

May cause
Dizziness
May cause
headache
DO NOT take with
Nitrates.
Some medicines can change
the effect of this medicine. Check
with your doctor or pharmacist

WARNINGS

FOR EXTERNAL USE ONLY

Inflammable:

If the preparation contain 50% or more alcohol or any other inflammable solvent, the label should contain word inflammable



NDC 68220-144-10
STORE UPRIGHT
epifoam®
(hydrocortisone acetate 1% and pramoxine hydrochloride 1%)
topical aerosol
Rx Only
HOLD UPRIGHT TO DISPENSE

WARNINGS: Contents of the container are under pressure. Do not burn or puncture the aerosol container. Do not store at temperatures above 120°F (49°C).

10 g net wt

3 68220 14410 3

DIRECTIONS FOR USE:
See package insert for full prescribing information.
1. Shake container vigorously for 5-10 seconds before each use.
2. While holding container upright, prime the container by pressing down several times on container cap until foam appears. Apply a small amount directly to affected areas 3 – 4 times daily depending on severity of the condition. Alternatively, dispense a small amount to a pad and apply to affected areas.
NOTE: The aerosol container should never be inserted into the vagina or anus.
3. The container and cap should be disassembled and rinsed with warm water after use.

KEEP OUT OF REACH OF CHILDREN.
FOR EXTERNAL USE ONLY.
DO NOT REFRIGERATE.
Store upright at controlled room temperature 20°– 25°C (68°–77°F).

Distributed by ALAVEN Pharmaceutical LLC
Marietta, GA 30067 USA
For medical inquiries, call 1-888-317-0001
05/08

Not to be taken

Liquid preparation that are not administered by mouth

- ✓nasal drops
- ✓enemas
- ✓nasal sprays

Unit dosage forms

- ✓pessaries
- ✓rectal suppositories

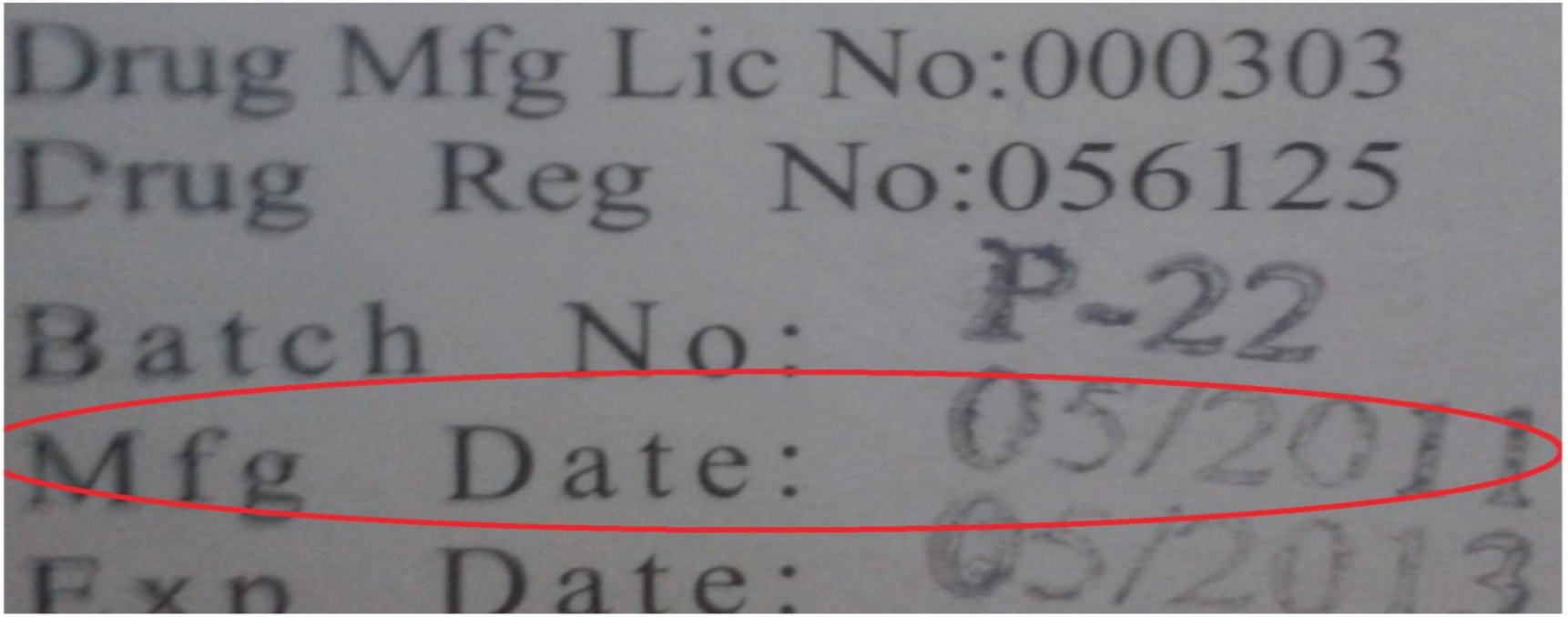
REGISTRATION NUMBER

- “A number given to a specific drug when it is registered according to specific rules by registration board set up by federal government”

INSTRUCTIONS

- Acc. to drug act 1976
- “A designation printed on label of a drug that identifies the batch and permits the production history of the batch including all stages of manufacturer and control to be traced and are viewed”

MANUFACTURING DATE

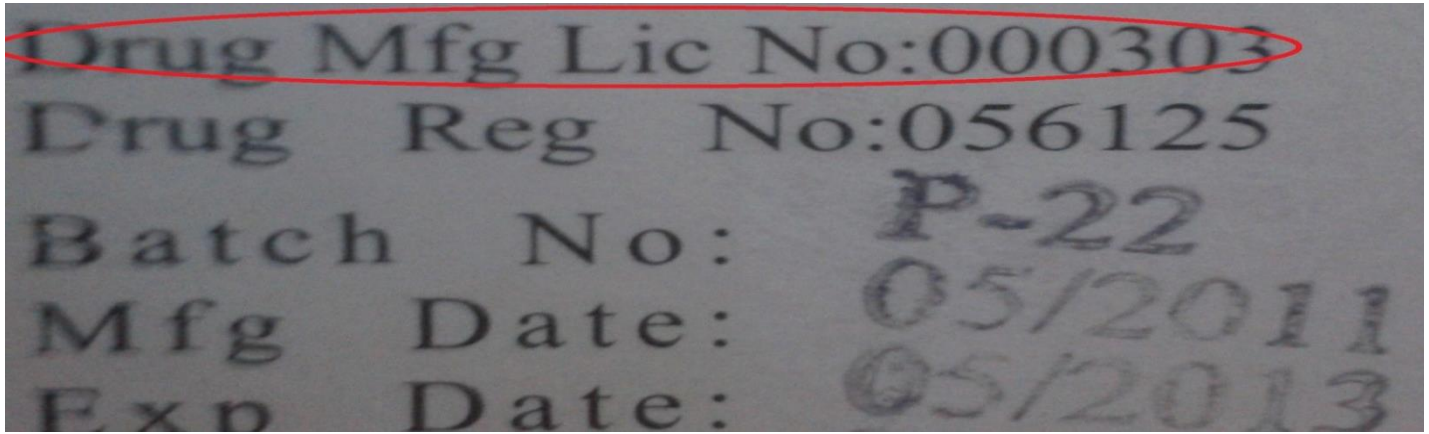


EXPIRY DATE

- Accorrding to drug act 1976 S3
- “Date stated on the label of a drug after which a drug is not expected to retain its claimed efficacy, safety, quantity, or potency or after which it is no permissible to sell the drug”

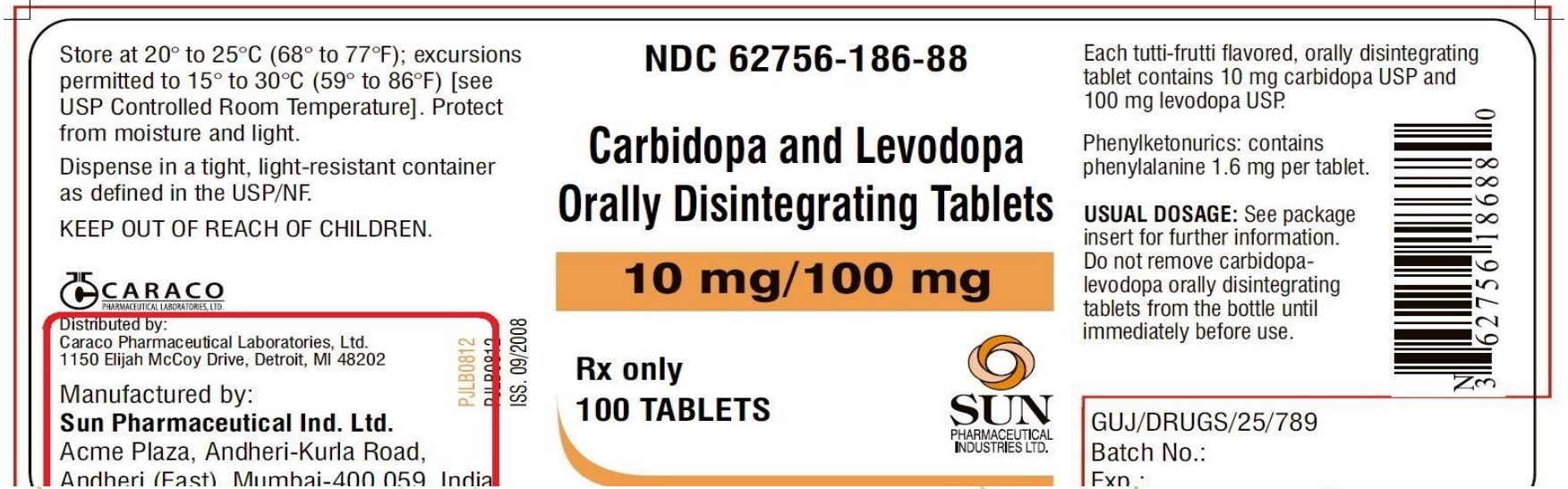
LISCENSE NUMBER

- Biological products are approved for marketing under the provisions of the Public Health Service (PHS) Act. The Act requires a firm who manufactures a biologic for sale in interstate commerce to hold a license for the product

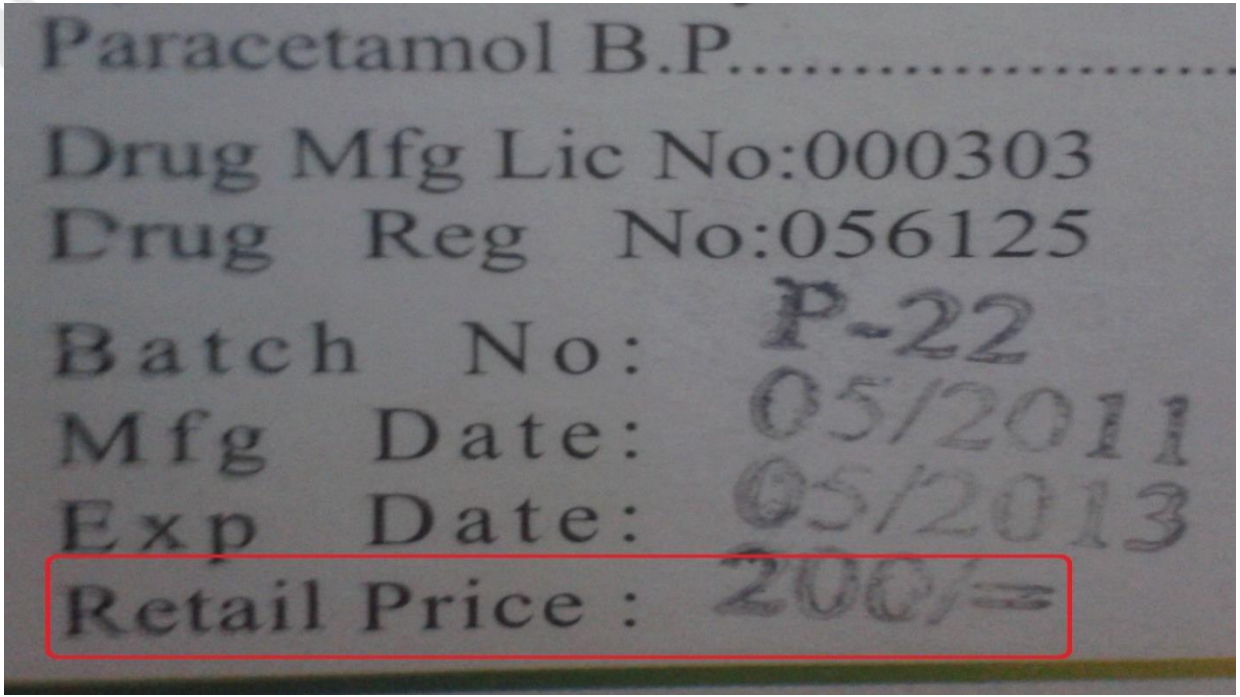


Manufacturer information

- Name
- Address

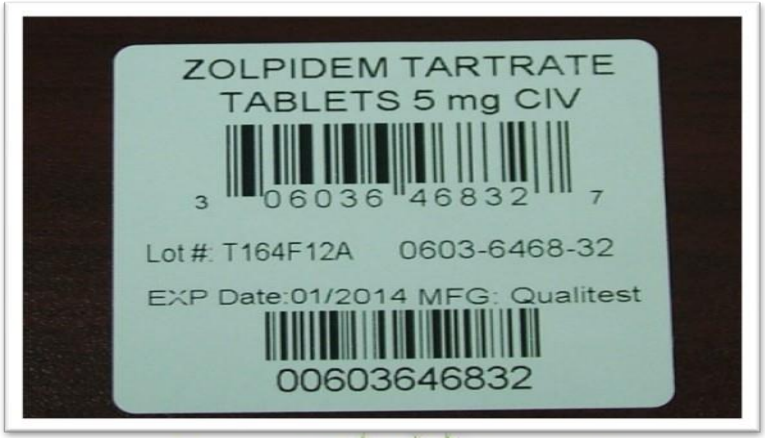


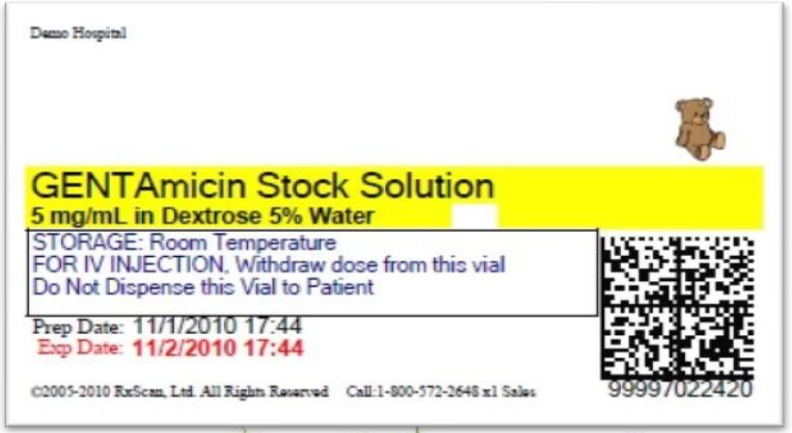
PRICE


Paracetamol B.P.....
Drug Mfg Lic No:000303
Drug Reg No:056125
Batch No: P-22
Mfg Date: 05/2011
Exp Date: 05/2013
Retail Price : 200/=

BARCODES

- "It is an optical machine readable representation of data, which shows data about the object to which it attaches"

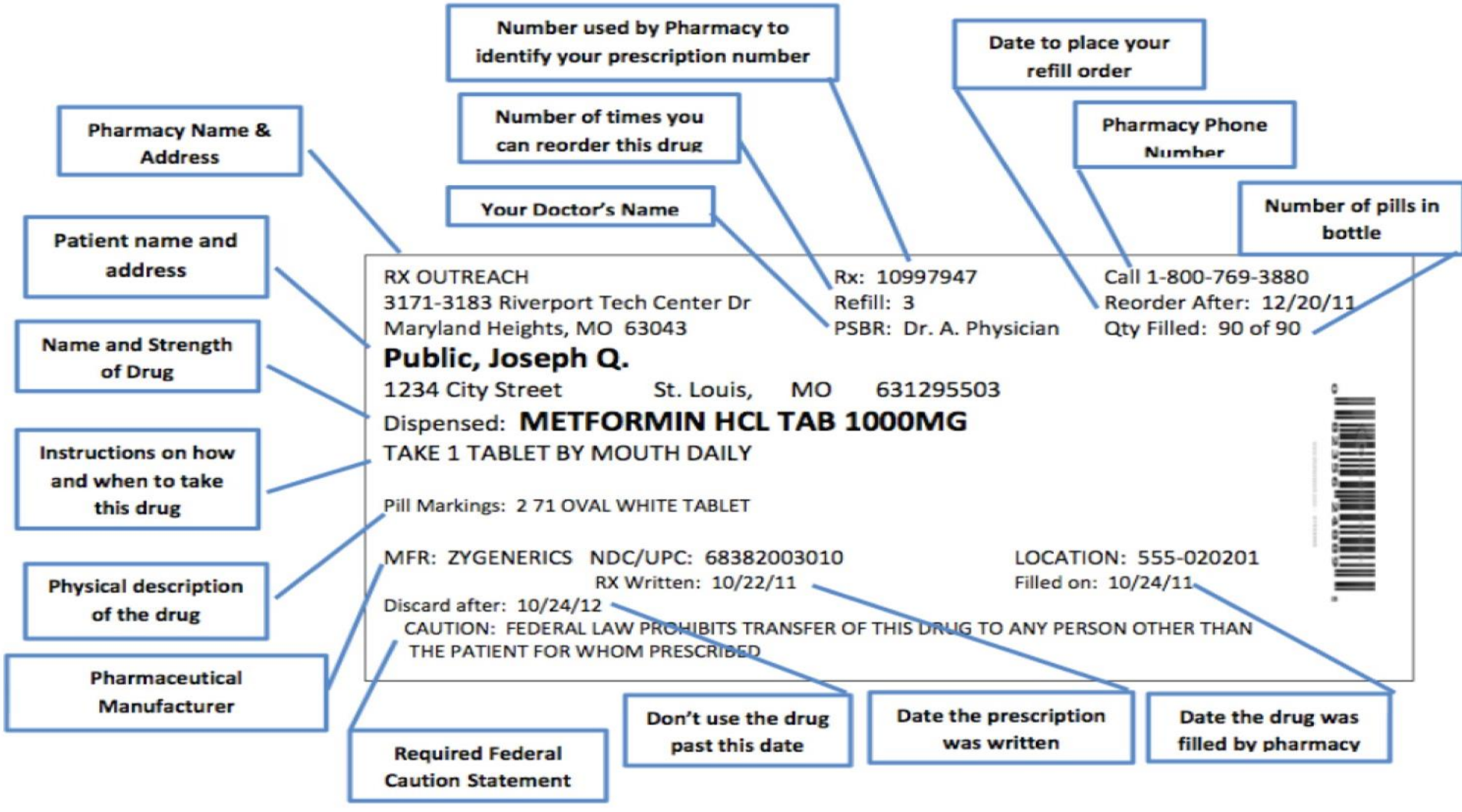




Dispensing label

It includes:

- Drug name and quantity
- Patient name
- Prescription number
- Phone number
- Instruction for use
- Pharmacy name and address

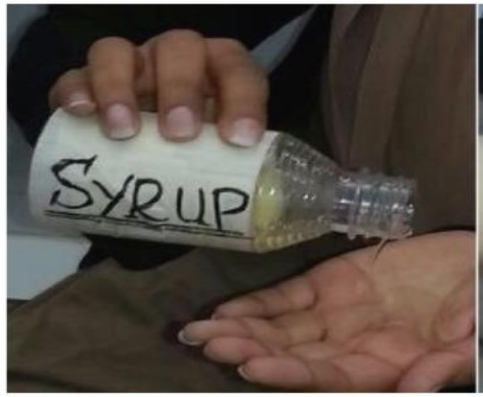

Number used by Pharmacy to identify your prescription number
Date to place your refill order
Pharmacy Name & Address
Number of times you can reorder this drug
Pharmacy Phone Number
Your Doctor's Name
Number of pills in bottle
Patient name and address
RX OUTREACH
3171-3183 Riverport Tech Center Dr
Maryland Heights, MO 63043
Rx: 10997947
Refill: 3
PSBR: Dr. A. Physician
Call 1-800-769-3880
Reorder After: 12/20/11
Qty Filled: 90 of 90
Public, Joseph Q.
1234 City Street St. Louis, MO 631295503
Name and Strength of Drug
Dispensed: METFORMIN HCL TAB 1000MG
Instructions on how and when to take this drug
TAKE 1 TABLET BY MOUTH DAILY
Pill Markings: 2 71 OVAL WHITE TABLET
Physical description of the drug
MFR: ZYGENERICS NDC/UPC: 68382003010
LOCATION: 555-020201
RX Written: 10/22/11
Filled on: 10/24/11
Discard after: 10/24/12
CAUTION: FEDERAL LAW PROHIBITS TRANSFER OF THIS DRUG TO ANY PERSON OTHER THAN THE PATIENT FOR WHOM PRESCRIBED
Pharmaceutical Manufacturer
Required Federal Caution Statement
Don't use the drug past this date
Date the prescription was written
Date the drug was filled by pharmacy

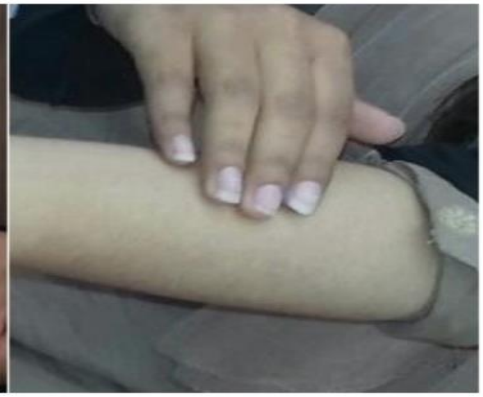
SPECIAL INSTRUCTIONS

Includes the information about:

1. Directions for use:

- How to take a medicine





EAR DROPS

- For external use only

AEROSOLS INHALATIONS

- Pressurized containers keep away from heat source
- Shake before use
- Do not exceed the prescribed dose

CREAMS

- For external use only
- Store in cool place

INTERACTIONS

- Certain drugs may have serious reactions if eat with particular food or drugs,e.g:

a) Amine containing foods (tyrosine) with monoamine oxidase inhibitors.(hypertension crises)

b) Tetracycline with milk

THANK YOU

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INCOMPATIBILITY

DEFINATION

- It is the result of prescribing or mixing two or more substances which are antagonist in nature and an undesirable product is formed which may affect the safety, purpose or appearance of the preparation.

CLASSIFICATION OF INCOMPATABILITY

1) Physical incompatibility
2) Chemical incompatibility
3) Therapeutic incompatibility

PHYSICAL INCOMPATIBILITY

Interaction between two or more substances which lead to change in color, odor, taste, viscosity and morphology.

- A visible physical change takes place
- An unacceptable, non-uniform, unpalatable product is formed.
- Difficult to measure an accurate dose.
- Can be corrected by applying pharmaceutical skill.

Physical incompatibility may be minimized by

1. Change in the order of mixing of ingredients of the prescription
2. Emulsification
3. Addition of suspending agent
4. Change in the form of ingredients
5. By addition, substitution or omission of therapeutically inactive substance to help in compounding of the prescription

MANIFESTATIONS OF PHYSICAL INCOMPATIBILITY:

- Insolubility of prescribed agent in vehicle
- Immiscibility of two or more liquids
- Liquification of solids mixed in a dry state

INSOLUBILITY

The following factors affect the solubility of prescribed agent in vehicle and may render it less soluble:

1. ***Change in pH***
2. ***Chemical reaction***
3. ***Complex formation***

Example 1:

Rx

Benzalkonium chloride

Sodium lauryl sulfate

They are not mixed together because benzalkonium chloride is positive charged while sodium lauryl sulfate has negative charge. By mixing together a precipitate is formed.

2. Immiscibility of two or more liquids:

- Incomplete mixing

Example: Flavoring agent such as orange oil, lemon oil or their alcoholic solution are added in aquous preparation they may not mix well and droplets of the oils may b float on the water surface. They make the solution turbid, having a hazy appearance.

3. LIQUIFICATION OF SOLIDS MIXED IN A DRY STATE:

It means that when two solid substances are mixed together, conversion to a liquid state take place.

Example: Certain low melting points solids when mixed together liquefy due to formation of eutectic mixtures, they form a soft mass when mixed together thus the physical integrity of the preparation may be lost. Ex- menthol, thymol, aspirin form eutectic mixture when two of them are mixed together.

CHEMICAL INCOMPATIBILITY

Chemical Incompatibility:

Reaction between two or more substances which lead to change in chemical properties of pharmaceutical dosage form.

- ***Types of chemical changes:***

1. *Oxidation*
2. *Hydrolysis*
3. *Polymerization*
4. *Isomerization*
5. *Decarboxylation*
6. *Absorption of Carbon-di-oxide*
7. *Combination*
8. *Formation of insoluble complexes*

CONSEQUENCES OF PHYSICO-CHEMICAL INCOMPATIBILITY

- We can detect these by our naked eyes.

a) Turbidity

b) Precipitation

c) Crystallization/crystal growth

d) Aggregation

e) Solidification

f) Discoloration

g) Thickening

THERAPEUTIC INCOMPATIBILITY:

Therapeutic incompatibilities are unintentional pharmacodynamic or pharmacokinetic interactions that take place in vivo after administration of medicinal products.

Example: Amine containing drugs are incompatible with mono amino-oxidase inhibitors.

CAUSES:

It may be due to the administration of :

- Overdose or improper dose of a single drug.
- Improper Dosage form.

DIFFERENT KINDS OF DRUG INTERACTION

Mainly two types of drug interaction:

1) Pharmacodynamic interaction
2) Pharmacokinetic interaction

Other interactions:

- ✓ ***Drug - Drug interaction***
- ✓ ***Drug - Excipient interaction***
- ✓ ***Excipient - Excipient interaction***
- ✓ ***Drug - Food interaction***
- ✓ ***Excipient - Packaging interaction***

Pharmacodynamic Interaction:

Pharmacodynamic interactions are those in which drugs having similar or antagonistic pharmacological effects or side effects are administered concurrently and situation in one drug is altered by another. These are of two types-

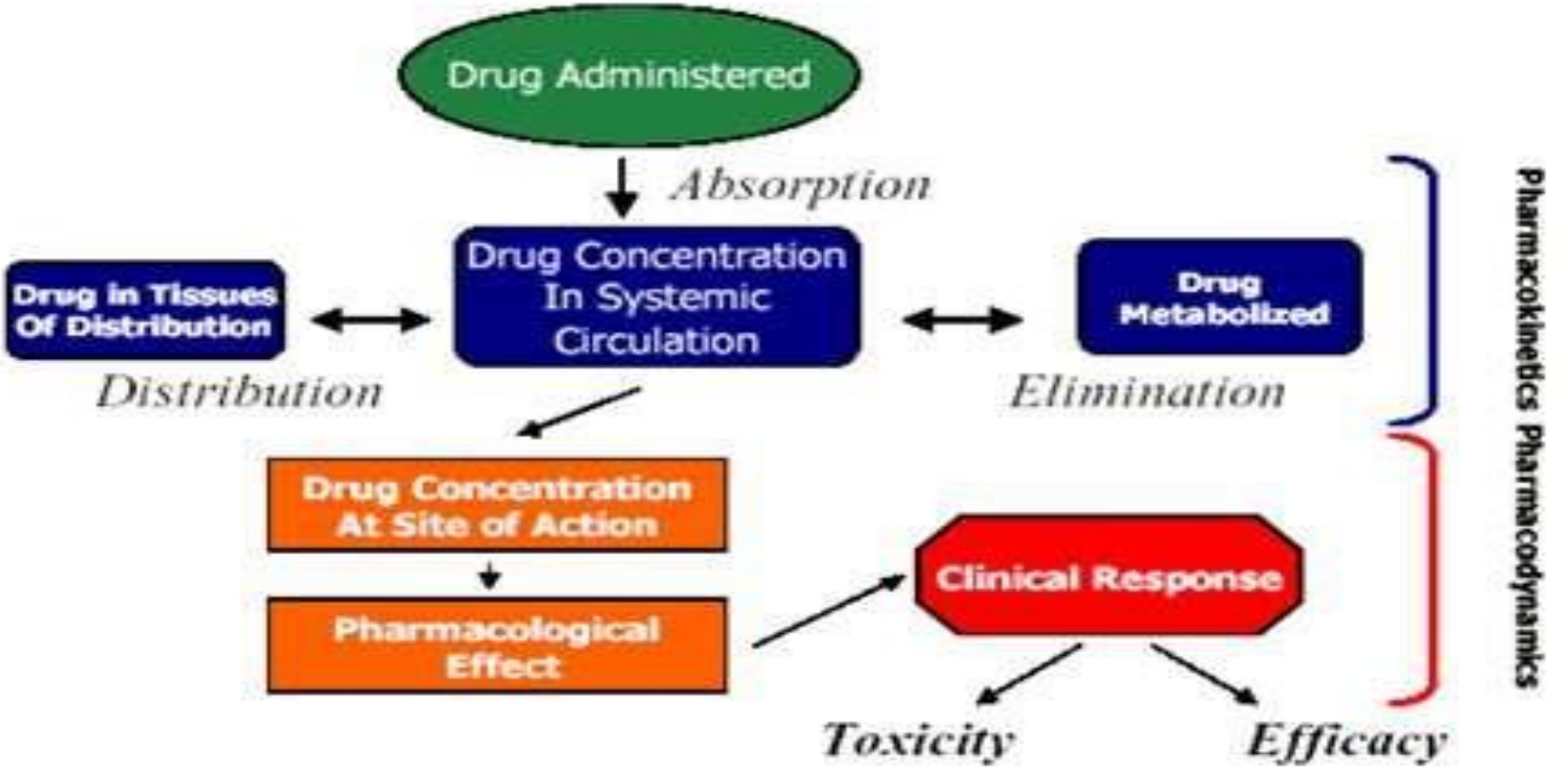
1. Direct pharmacodynamic interactions.

2. Indirect pharmacodynamic interactions.

Pharmacokinetic Interaction:

Pharmacokinetic interactions are those in which one agent alters the adsorption,distribution,metabolism and excretion of a second drug with a resultant change in the plasma concentration of the later agent.

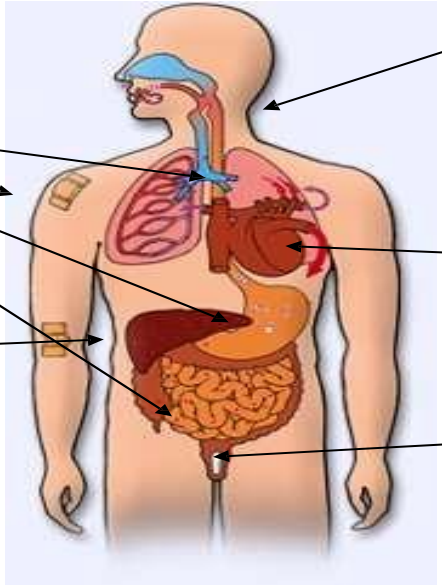
Pharmacodynamic vs. Pharmacokinetic



Pharmacokinetic interactions are classified as:

1. *Absorption interactions*
2. *Distribution interactions*
3. *Metabolism interactions*
4. *Excretion interactions.*

Drug absorption



Transport of the drug inside the body

Drug displacement (protein-binding)

Drug metabolism (biotransformation)

Drug excretion

DRUG-DRUG INTERACTION

- Drug-drug interactions occur when a drug interacts, or interferes, with another drug. This can alter the way of one or both of the drugs act in the body, or cause unexpected side effects.
- This action can be **synergistic** (when the drug's effect is increased) or **antagonistic** (when the drug's effect is decreased) or a new effect can be produced.
- Examples of this include the use of **codeine** with **paracetamol** to increase its analgesic effect. Or the combination of **clavulanic acid** with **amoxicillin** in order to

Table

IMPORTANT DRUG–DRUG INTERACTIONS	
Drug–Drug Interaction	**Potential Risk**
Amiodarone and haloperidol	This PK and PD interaction may cause arrhythmias
Bepridil and clarithromycin	PK and PD interaction may cause arrhythmias
Colchicine and clarithromycin	Colchicine toxicity
Conivaptan and ergot alkaloids	Ergot toxicity
Cyclosporine and ketoconazole	Cyclosporine toxicity
Cyclosporine and rifampin	Loss of immunosuppressive effect
Ramelteon and fluvoxamine	Ramelteon AUC increase over 100-fold
Simvastatin and ketoconazole	Statin toxicity
Sirolimus and clarithromycin	Marked increase in sirolimus levels with nephrotoxicity

AUC = area under the concentration curve; PD = pharmacodynamic; PK = pharmacokinetic.

More drug = More interactions

DRUG-EXCIPIENT INTERACTION

- Drug-excipient interaction occurs between the API and excipient materials.

Example: Certain amine drugs (paracetamol) react with lactose (diluent) in the presence of Magnesium stearate to form brown color compound. This may cause darkening of the tablets and the integrity of the tablet maybe loss

EXCIPIENT-EXCIPIENT INTERACTION

- This type of interaction occurs between two or more excipients in a drug molecule. **Example:** In proper addition of electrolyte such as- Ca++ or Mg++ ion in suspension containing sodium carboxymethyl cellulose (Na CMC) which will cause formation of Calcium/Magnesium CMC. The suspending agent will be

DRUG-FOOD INTERACTION

- A drug-food interaction happens when the food we eat affects the ingredients in a medicine we are taking so the medicine cannot work the way it should. Example-

1.Consumers taking **digoxin** for heart failure or ACE inhibitors for high blood pressure should be careful with salt substitutes, which most often replace sodium with potassium.

2.Blood-thinning drugs such as **Coumadin®** (warfarin) interfere with vitamin K-dependent clotting factors. Eating too much green leafy vegetables, which are high in vitamin K, can decrease the ability of blood-thinners to prevent

Please share to your friends

Foods that may Affects Medication You Taking

Dairy Products

Coffee

Grapefruit Juice

Cokes

Alcohols

Tea

Charcoal-Broiled foods

Green Leafy Vegetables

Licorice

Ginseng

EXCIPIENT-PACKAGING MATERIAL INTERACTION

- In some pharmaceutical formulation excipient and packaging material may interact with each other and thus can cause ex-packaging interaction.

Example:

Many commercial glass products such as containers are made of soda-lime glass, and therefore have a substantial percentage of sodium ions in their internal structure. Since sodium is an alkali element, its selective removal from

How TO Prevent Drug Interactions?

- We should tell our doctor about everything we are taking, including prescription drugs, OTC medications, vitamins and herbal supplements.
- We should read the consumer information sheet with our prescriptions and read it carefully.
- We should read the labels on OTC medications, paying special attention to the “Warnings”section.
- Before buying a new OTC medication, vitamin or herbal supplement, we should ask our pharmacist if there are

THANK YOU

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