Terms in Pharmacology

Objectives

After studying this chapter, you will be able to:

- **Describe the sources and types of drugs**
- **List various generic and trade names for common drugs**
- **Identify the various ways drugs are administered**
- **Describe some of the ways in which drugs affect the body**
- **Identify the meaning of related abbreviations**

Drug Sources, Types, Functions and Administration

Drugs are biological or chemical agents that can be therapeutic and/or addictive.

Therapeutic Drugs

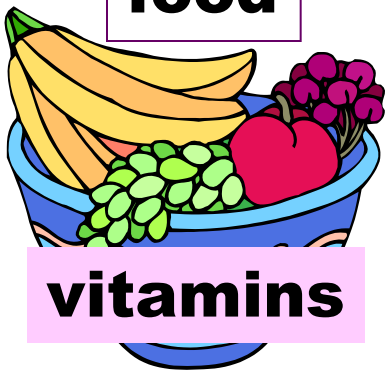
- **Used to cure, alleviate, diagnose, treat, or prevent illness**
- **Also called medicines or medication**

Addictive

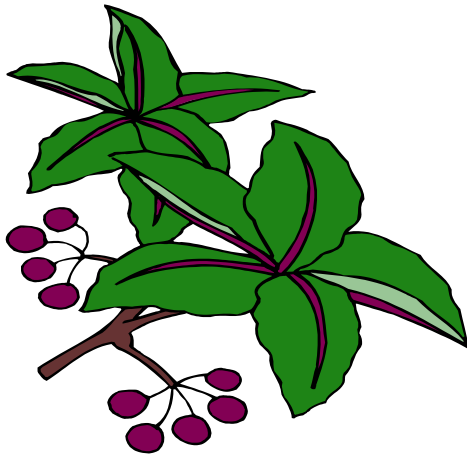
- **Unregulated use or excessive quantities taken to stimulate or depress someone's mood.**

Drug Sources, Types, Functions and Administration

food



vitamins



plants

Drug Sources

chemical synthesis

animals

Drug Sources, Types, Functions and Administration

The federal Food and Drug Administration (FDA)

- Regulates the testing, manufacturing, content, and distribution of all drugs that are not from food
- Evaluates safety or harmful effects of a drug to ensure the drug provides effective treatment

The United States Pharmacopeia (U.S.P.)

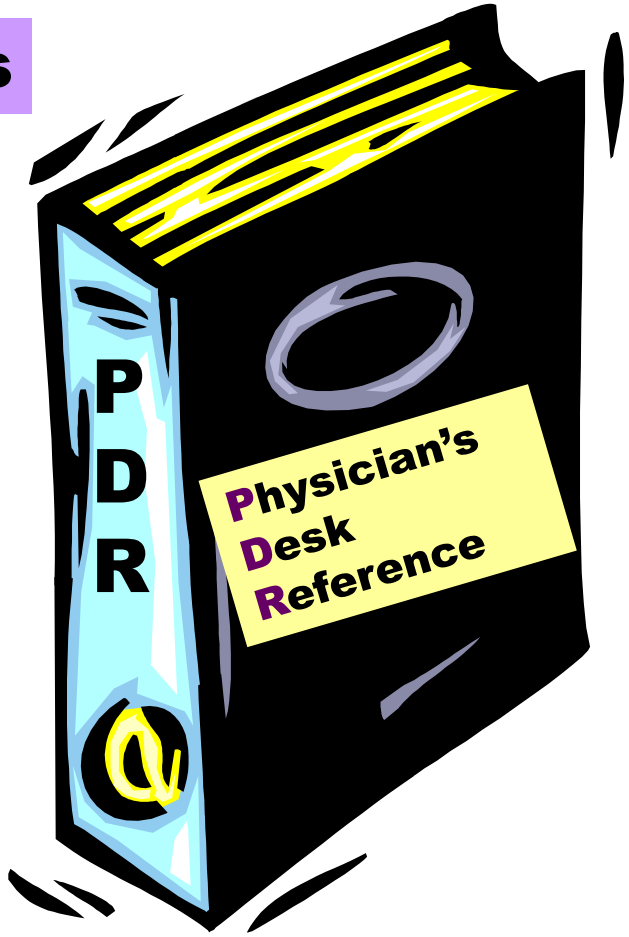
- Independent committee that sets standards for approval of drugs
- The letters (U.S.P.) on a package means the drug has met the stringent standards set by the committee

Drug Sources, Types, Functions and Administration

Commonly Used Drug References

- **Hospital Formulary**
  - lists drugs that are approved for patient care in a given facility

- **Physician's Desk Reference® (PDR)**
  - widely used reference
  - lists drugs by their drug class and includes information such as side effects, appropriate doses, etc.



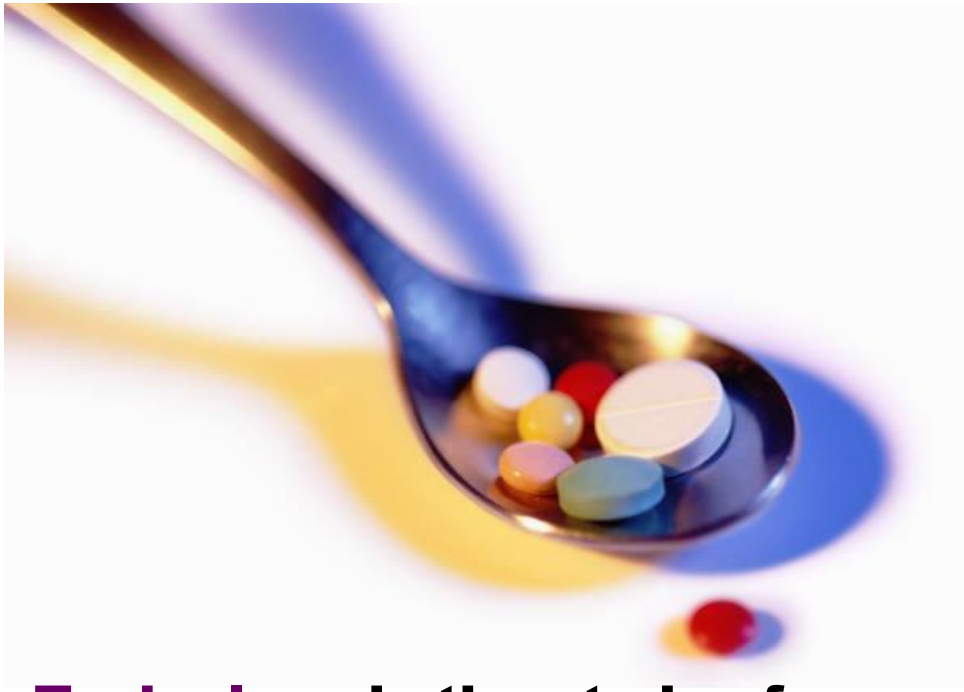
Drug Sources, Types, Functions and Administration

Pharmacology

Science that studies, develops, and tests drugs

- **Pharmacodynamics** is the study of how drugs affect the body

- **Pharmacokinetics** is the study of how drugs are absorbed, metabolized, and excreted over time



- **Toxicology** is the study of harmful effects of drugs on the body

- **Antidotes** are substances that can cancel out unwanted drug effects

Drug Sources, Types, Functions and Administration

How Drugs Are Dispensed

- **Over-the-counter** (OTC)

- **Prescription** provided by a physician which includes:
  - -dosage
  - -directions
  - -route
  - -frequency

NOTE: Prescription drugs are dispensed by a pharmacist or druggist in a pharmacy or drug store

Drug Sources, Types, Functions and Administration

Drug Names

Chemical Name

- Describes the chemical formula of the drug

Proprietary Name

- A copyrighted name given by the manufacturer of a specific drug

Generic Name

- A shortened or simpler version of the chemical name for legal purposes

Example

Chemical Name = 5,5,-phenylethylbarbituric acid

Generic Name = phenobarbital

Proprietary Name = LUMINAL®

Drug Sources, Types, Functions and Administration

Drug Dosages

Dosages for each drug vary based on:

- age
- size
- severity of symptoms
- other medications in use

Tapered Medications

Some drugs are given at a higher dose initially and then are gradually reduced.

Drug Sources, Types, Functions and Administration

Classification of Drugs

Drugs are classified according to their use in the body.

Example: antibiotics

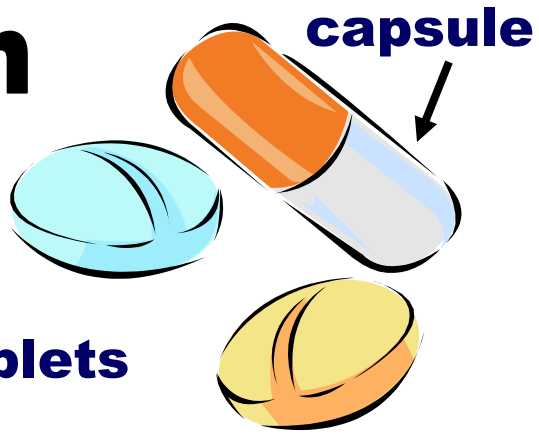
- **Also known as anti-infectives, stop or slow the growth of harmful microorganisms such as bacteria, fungi or parasites**

- **Subclassifications of this group could include:**

- antifungal

-antibacterial

Drug Sources, Types, Functions and Administration



Various Drug Forms

Pills

- Also called **tablets** may be stored in a **vial**
- May be in the form of a **capsule** which is a tablet with gelatin covering
- May be **enteric-coated** to dissolve slowly in the intestines so minimal irritation occurs
- May be in the form of **lozenges** which are meant to dissolve slowly in the mouth, not swallowed
- May be placed **sublingually** or **buccally**
- **Oral administration** is the most common method for giving pills and some liquids

Drug Sources, Types, Functions and Administration

Liquid and Semi-liquid Drugs

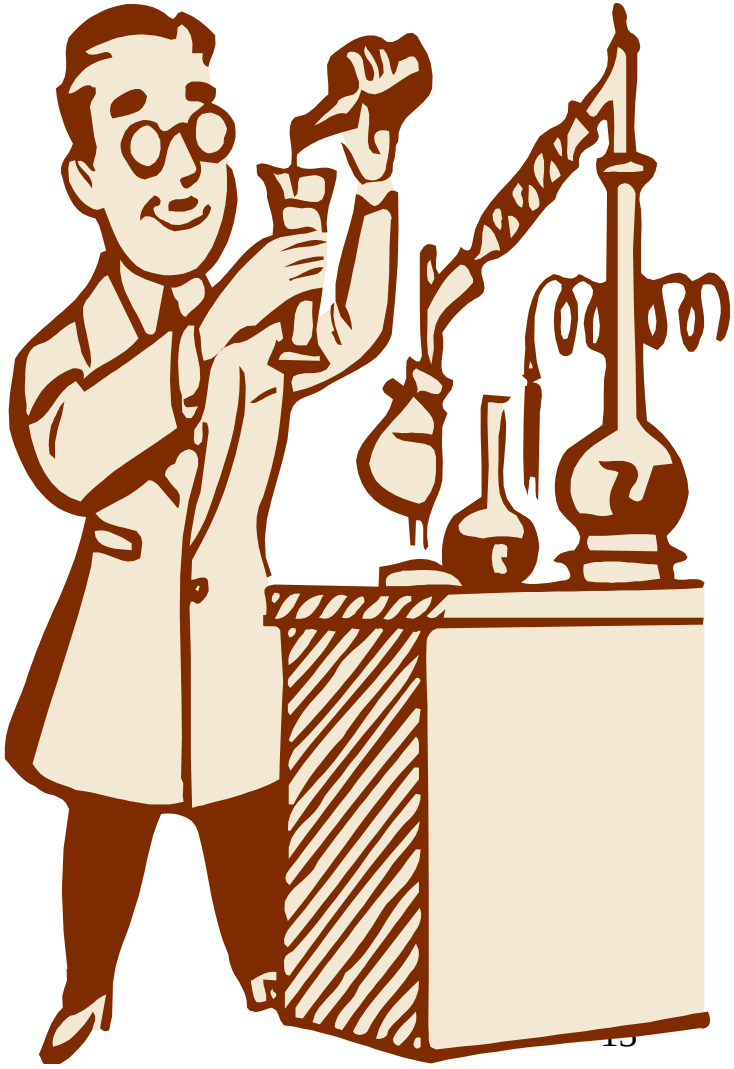
- May come in syrups which are heavy solutions of sugar, flavoring and water added to the medication

- Liquids can be swallowed

- Liquids can be sprayed as with inhalers

- Liquids can be injected

- Liquids can be released into the body from an implantable drug pump



Drug Sources, Types, Functions and Administration

Suppositories

- Drugs mixed with a semi-solid melting substance
- Inserted into the vagina, rectum, or urethra

Lotions and Creams

- Applied topically, to the surface of the skin

Powders

- May be inserted into a gelatin capsule or mixed with a liquid

Drug Sources, Types, Functions and Administration

Injections

- Referred to as parenteral administration

Types of Parenteral Injections

- intradermal
- subcutaneous
- intramuscular
- intravenous
- intracardiac
- intraarterial
- intraspinal
- intraosseus

Combining Forms and Abbreviations

Combining Form	Meaning
chem(o)	chemical
pyret (o)	fever
tox (o)	poison

Combining Forms and Abbreviations

Abbreviation	Meaning
aa	of each
a.c.	before meals
ad	up to
a.d.	right ear
ad lib	freely, as often as desired
AM	morning
a.s.	left ear
a.u.	each ear

Combining Forms and Abbreviations

Abbreviation	Meaning
b.i.d.	twice a day
$\underline{c}$	with
cap	capsule
cc	cubic centimeter
comp.	compound
cx	contraindicated
DAW	dispense as written
dil	dilute

Combining Forms and Abbreviations

Abbreviation	Meaning
dc	discontinue
disp.	dispense
div.	divide
DW	distilled water
D5W	dextrose 5% in water
dx	diagnosis
elix	elixir
e.m.p.	as directed

Combining Forms and Abbreviations

Abbreviation	Meaning
ex aq.	in water
ext.	extract
FDA	Food and Drug Administration
fld. ext.	fluid extract
FUO	fever of unknown origin
g	gram
gr	grain, gram
gtt	drop

Combining Forms and Abbreviations

Abbreviation	Meaning
H	hypodermic
h.	every hour
h.s.	hour of sleep
IM	intramuscular
inj	injection
IV	intravenous
mcg	microgram
mEq	milliequivalent

Combining Forms and Abbreviations

Abbreviation	Meaning
mg	milligram
mL	milliliter
n.	night
non rep.	do not repeat
NPO	nothing by mouth
NPO p MN	nothing by mouth after midnight
NS	normal saline
NSAID	nonsteroidal anti-inflammatory drug

Combining Forms and Abbreviations

Abbreviation	Meaning
N&V	nausea and vomiting
o.d.	right eye
oint., ung.	ointment, unguent
o.l.	left eye
o.s.	left eye
OTC	over the counter
o.u.	both eyes
oz.	ounce

Combining Forms and Abbreviations

Abbreviation	Meaning
p	post, after
p.c.	after meals
PDR	Physician's Desk Reference
PM	afternoon
p.o.	by mouth
PRN	repeat as needed
pulv., pwdr	powder
qam	every morning

Combining Forms and Abbreviations

Abbreviation	Meaning
q.d.	every day
q.h.	every hour
q.i.d.	four times a day
QNS	quantity not sufficient
q.o.d.	every other day
q.s.	sufficient quantity
R	rectal
Rx	prescription

Combining Forms and Abbreviations

Abbreviation	Meaning
$\overline{s}$	without
Sig.	patient directions such as route and timing of medication
SL	sublingual
sol.	solution
s.o.s.	if there is need
sp.	spirit
$\overline{ss}$	one-half

Combining Forms and Abbreviations

Abbreviation	Meaning
stat	immediately
s.c.	subcutaneous
supp.	suppository
susp.	suspension
Sx	symptom
syr.	syrup
tab	tablet
tbsp	tablespoon

Combining Forms and Abbreviations

Abbreviation	Meaning
t.i.d.	three times a day
tinct.	tincture
TPN	total parenteral nutrition
TPR	temperature, pulse, respirations
tsp.	teaspoonful
U	unit
u.d.	as directed
U.S.P.	United States Pharmacopeia

Apply Your Knowledge

Charlie's physician has instructed him to increase his total daily vitamin amount. Which of the following would be a good source?

A. food

B. chemical synthesis

C. plants

Answer: A. food

Apply Your Knowledge

Cheryl has consumed a harmful level of Tylenol. The physician will more than likely give her an:

A. antibiotic

B. antacid

C. antidote

Answer: C. antidote

Apply Your Knowledge

Marvin has been taking a steroidal medication. He was prescribed 15 mg for the first two days then 10 mg for the third day and 5 mg for the fourth day. This type schedule is an example of which of the following?

A. experimental

B. tapering

C. curative

Answer: B. tapering

Apply Your Knowledge

Mr. Price has been taking an aspirin a day for the past three years. He informs his physician that every time he takes the aspirin, he gets stomach pains. Which of the following might his physician prescribe?

A. enteric-coated aspirin

B. discontinuation of all aspirin

C. liquid aspirin

Answer: A. enteric-coated aspirin