Chapter 19:
Medicine and Drugs
People use medicines to help restore their health when they are ill

* **Medicines** – are drugs that are used to treat or prevent disease or other conditions

* **Drugs** – are substance other than food that change the structure or function of the body or mind.
4 Categories

* Medicines that help prevent disease
* Medicines that fight pathogens
* Medicines that relieve pain and other symptoms
* Medicines that manage chronic conditions, help maintain or restore health, and regulate body’s systems
Vaccines

- Contain weakened or dead pathogens that cause the disease
- When injected into the body, the vaccine produces antibodies that fight those pathogens.
- The protection from some vaccines fade over time

Antitoxins

- Also neutralize the effects of toxins.
- Produced by injecting animals with safe amounts of a specific toxin. This stimulates the animals immune system to produce antibodies. These antibodies are then used to make an antitoxin.
Fighting Pathogens

* **Antibiotics**
  * A class of drug that destroy disease-causing microorganisms called **bacteria**
  * Work by killing harmful bacteria or preventing backing from reproducing

* **Antivirals and Antifungals**
  * Antiviral do **not** cure illnesses caused by viruses, but treat viral illness
  * Antifungal can suppress or kill fungus cells
Analgesics

- Also known as pain relievers
- Effects include upset stomach, dizziness, and ringing in ears
- Acetaminophen is the recommended analgesic for children

Pain Reliever Dependence

- Certain types of medicines that relieve pain can be addictive
- These medicines, usually called narcotics, require a doctor’s prescription.
- Can become physically or psychologically dependent on them.
Managing Chronic Conditions

* Allergy Medicines
* Body-Regulating Medicines
  * Example: Insulin, Inhaler during asthma, cardiovascular medicines
* Antidepressant and Antipsychotic Medicine
  * Medicines can help regulate brain chemistry or stabilize moods, used in treatment of mood disorders, depression, and schizophrenia.
* Cancer Treatment Medicine
Taking Medications

- Oral – taken by mouth
- Topical – applied to the skin
- Inhaled – delivered in a fine mist or powder
- Injected – delivered through a shot, directly into the blood stream.

However you take medicine, it is always important to follow the directions on the medicine label.
Side Effects are reactions to medicine other than the one intended

- Some side effects may be mild, such as drowsiness, but other may be more severe, and can even cause death.
Medicine Interactions

* **Additive Interaction**
  * When medicines work together in a positive way

* **Synergistic Effect**
  * The interaction of two or more medicines that result in a greater effect than when each is taken alone

* **Antagonistic Interaction**
  * The effects of one medicine is canceled or reduced when taken with another medicine.
**Tolerance**

- The body becomes used to the effects of a medicine.
- The body requires increasing larger doses to produce the same effect.
- Sometimes a person will experience “reverse tolerance”. In this condition, the body requires less medicine.

**Withdrawal**

- When a person stops using a medicine on which he/she has become physiologically dependent.
- Symptoms can include:
  - Nervousness
  - Insomnia
  - Severe Headaches
  - Vomiting
  - Chills
  - Cramps

*Gradually ease in time*
Prescription vs. OTC

Medicines that are dispensed only with the written approval of a licensed physician or nurse-practitioner.

A licensed pharmacist dispenses these medicines.

Only given specific amount of medicine, if more is needed you need to speak with health care provider to approve a refill.

- OTC (Over the Counter) are medicines you can buy without a prescription.

- Distribution of some OTC medicines is controlled, such as cold medicines that contain pseudoephedrine are kept behind the pharmacy counter.
Medicine Label

- Active Ingredients
- Inactive Ingredients
- Uses
- Warnings
- Expiration Date
- Purpose
- Other Information and Directions

FOR DESCRIPTIONS SEE PAGE 532
**Active ingredient**
(In each 15 ml Tablespoon)
Bismuth subsalicylate 525 mg

**Uses**
- heartburn
- indigestion
- upset stomach
- nausea

**Warnings**
Reye's syndrome: Children and teenagers who have or are recovering from chicken pox or flu-like symptoms should not use this product. When using this product, if changes in behavior with nausea and vomiting occur, consult a doctor because these symptoms could be an early sign of Reye’s syndrome, a rare but serious illness.

Allergy alert: Contains salicylate. Do not take if you are
- allergic to salicylates (including aspirin)
- taking other salicylate products

Do not use if you have
- an ulcer
- a bleeding problem
- bloody or black stool

Ask a doctor before use if you have
- fever
- mucus in the stool

Ask a doctor or pharmacist before use if you are taking any drug for
- anticoagulation (thinning the blood)
- diabetes
- gout
- arthritis

When using this product a temporary, but harmless, darkening of the stool and/or tongue may occur

Stop use and ask a doctor if
- symptoms get worse
- ringing in the ears or loss of hearing occurs
- diarrhea lasts more than 2 days
Medicine Abuse

- Failing to follow the instructions
- Giving prescription to medicine to someone who it was not prescribed
- Taking too much or too little
- Taking a medicine longer or shorter than prescribed
- Discontinuing medicine without informing your health care provider
- Mixing medicines without knowledge or approval of your health care provider.
Medicine Abuse is intentionally taking medications for nonmedical reasons

- 96% of teens using medications correctly
- Some think that prescriptions or OTC medicines are safer than illegal drugs, abusing any medicine is dangerous and illegal.

Drug Overdose is a strong, sometimes fatal reaction to taking a large amount of a drug.

Misusing medicines can also lead to addiction. Never use a medicine other than how it was prescribed or intended.