Fat Soluble Vitamins

1. Vitamin, what is it? (Page 242)
    - Body can not make it, must be consumed
    - Occurs in food naturally
    - Disease occurs if denied the substance
    - Heath returns when substance is given
    - No Energy
2. Naming of Vitamins

3. Classification of Vitamins (Page 243)
    A. Fat Soluble Vitamins
        i. A D E K
    B. Water Soluble Vitamins
        i. B vitamins, C and others.

4. Select Issues that involve Vitamins
    A. Antioxidant Properties of Some (Page 244)
    B. Enhancement of Vitamin Content
        i. Enrichment
        ii. Fortification
    C. Deficiency (Page 247)
    D. Toxicity
5. Fat Soluble Vitamins

6. Vitamin A
    A. Dietary Forms
        i. Retinol
        ii. Carotenoids
            a. Beta Carotene
    B. Functions
        i. Vision (Page 252)
            a. Night Blindness

ii. Lining Tissues (Page 251)

a. Eyes

b. Trachea

c. Skin

d. Teeth

iii. Growth

iv. Antioxidant (Page 244)

C. Food Sources (Page 253)

D. Requirements (Page 253 - 254)

Retinol Activity Equivalents

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1 µg retinol
12 µg beta-carotene
24 µg alpha-carotene

E. Hypervitaminosis (Page 255)

i. Vitamin A

ii. β-carotene

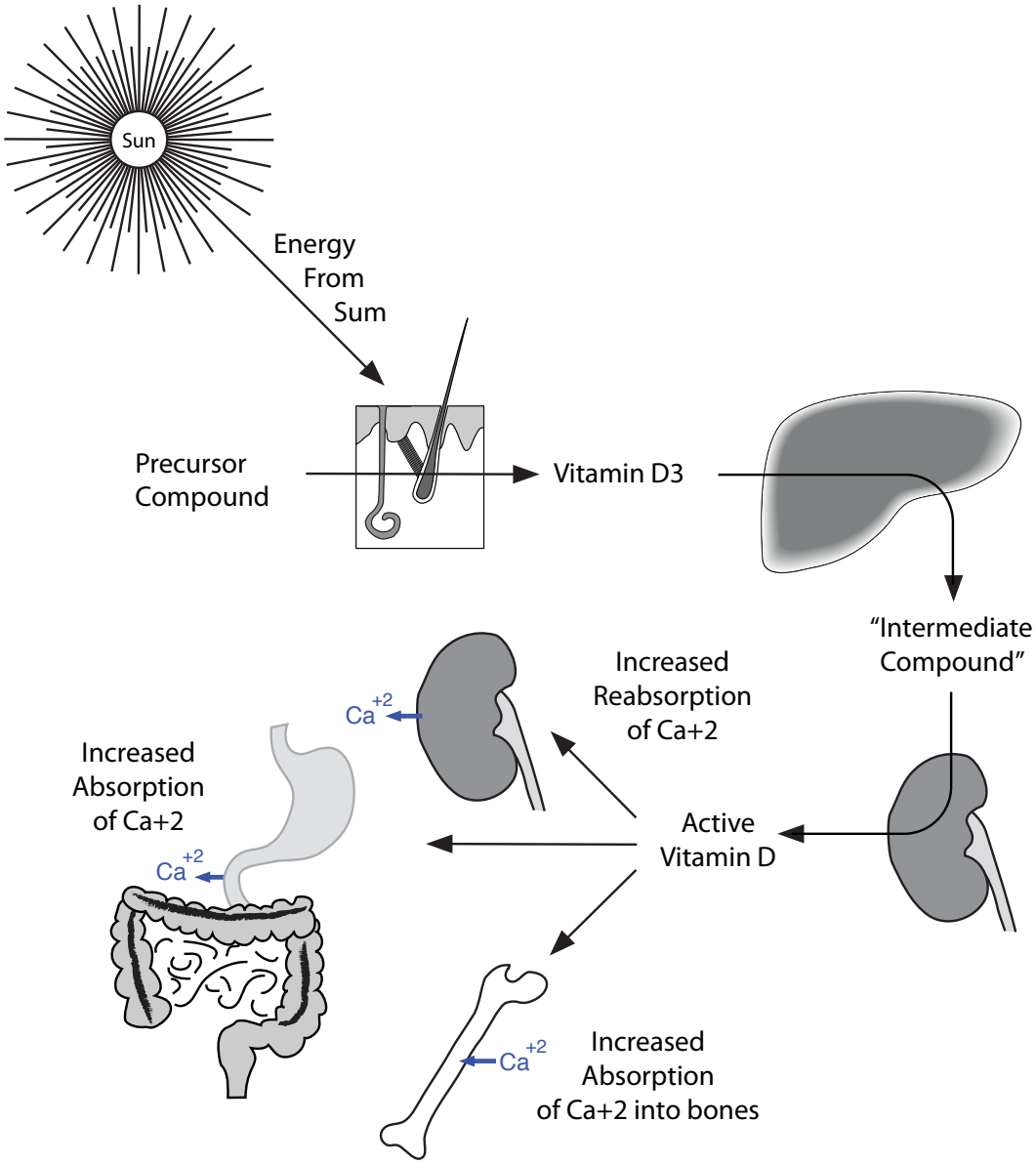
7. Vitamin D (Pages 256 - 260)

A. Nutritional Forms (both are provitamins)

i. Vitamin D_2

ii. Vitamin D_3

B. Synthesis



C. Function

i. Kidney

ii. Bone

iii. Intestines

D. Requirements – 15 mcg/day

E. Nutritional Supplementation

F. Deficiency Diseases (page 259 - 260)

i. Rickets

ii. Osteomalacia

G. Hypervitamintosis (Page 260)

i. Upper Limit = 100 μg / day

8. Vitamin E (Pages 260 - 262)

   A. Alpha-tocopherol

   B. Antioxidant

   C. Clinical Benefits

      i. Atherosclerosis

      ii. Premature Babies

      iii. Anti-aging ??

   D. Sources

   E. RDA is 15 mg / day

   G. Hypervitamintosis (Page 262)

      ii. Upper Limit is 1000 mg /day

9. Vitamin K

   A. Forms

      i. Vitamin K_1

      ii. Vitamin K_2

   B. Function

      i. Clotting

      ii. Vulnerabilities

         a. New Born Children

         b. Cholescytectomy

      i. Prolonged Antibiotic Therapy

      ii. Fat Malabsorption

   D. Requirements

      i. Adequate Intake (AI)

         a. Women - 90 μg / day

         b. Men - 120 μg / day

   E. Sources