WASHINGTON STATE UNIVERSITY
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READING GUIDE

MICRONUTRIENTS: MINERALS

Objective

1. Identify the minerals that are physiologically important

Read Chapter 28. These are the things you should know and be able to explain after completing this part of the course.

MINERAL CLASSIFICATIONS

- What are the different classifications of minerals (Fig. 29.1)
- Are these required?

MACROMINERALS

- Why is calcium important? Where does the majority of calcium reside?
- What is the function of calcium in metabolism?
- What is phosphorus used for in the body? What is the major form? Where is it found?
- How are serum levels of calcium and inorganic phosphate controlled? (Fig. 29.2 and 29.3)
- What is calcitriol, and why is it important?
- Why is parathyroid hormone important in serum calcium?
- Where is the majority of magnesium located?
- What is the function of magnesium?
- What is the function of sodium and chloride? How do they relate to hypertension?
- What is potassium used for in the cell?

MICROMINERALS

- What is the function of copper? (Fig. 29.5)

- Where is it acquired in the diet?
- What can occur if there is a deficiency in copper?
- What is Menkes Syndrome? (Fig. 29.6) What enzyme is affected? How is it treated?
- What is Wilson disease? (Fig. 29.6) What enzyme is affected? How is it treated?
- Why is iron important? Where is it located?
- How is iron obtained in the diet?
- How is iron taken up in the intestine? (Fig. 29.8) What does vitamin C do regarding iron uptake?
- How is iron stored and transported?
- What is ferritin? What is the transferrin receptor?
- Can you have iron overload?
- What is manganese and where is it required (Fig. 29.10)
- What is the function of zinc?
- What is the importance of chromium and fluorine?

ULTRA TRACE MINERALS

- What is the function of iodine? How is it utilized? (Fig. 29.13 and 19.14)
- What hypothyroidism?
- What is hyperthyroidism?
- What is a goiter? How does it occur?
- What is the function of selenium?
- What is the function of molybdenum? (Fig. 29.17)