

Chapter 6 – Bones and Skeletal Tissues

I. Skeletal Cartilages

A. Basic Structure, Types, and Locations

1. Perichondrium

B. Types of cartilage

1. Hyaline cartilage

a. Structure

b. Function

c. Types of hyaline cartilage

i. Articular cartilage

ii. Costal cartilage

iii. Respiratory cartilage

iv. Nasal cartilage

2. Elastic cartilage

a. Structure

b. Function

c. Locations

3. Fibrocartilage

a. Structure

b. Function

c. Locations

II. Bone

A. Groups of Bones

1. Axial skeleton

- a. Bones**
- b. Functions**

2. Appendicular skeleton

- a. Bones**
- b. Functions**

B. Classification of bones

1. Long bones

- a. Description**
- b. Examples**

2. Short bones

- a. Description**
- b. Examples**

3. Flat bones

- a. Description**
- b. Examples**

4. Irregular bones

- a. Description**
- b. Examples**

C. Functions of bone

1. Support

2. Protection

3. Movement

4. Mineral storage

5. Production of blood cells

D. Bone structure

1. Bones as organs

2. Gross anatomy of bones

a. Bone markings

i. Projections

A. Projections that attach to muscles

1. Tuberosity

2. Tubercle

3. Crest

4. Line

5. Epicondyle

6. Trochanter

7. Spine

8. Process

B. Projections that form joints

1. Head

2. Condyle

3. Ramus

4. Facet

ii. Depressions

A. Fossa

B. Groove

iii. Openings

A. Meatus

B. Fissure

C. Foramen

D. Notch

E. Sinus

b. Compact and spongy bone

i. Compact bone

ii. Spongy bone

A. Trabeculae

c. Long bone structure

i. Diaphysis

A. Medullary cavity

ii. Epiphyses

A. Hematopoietic tissue

B. Epiphyseal line

iii. Membranes

A. Periosteum

1. Fibrous layer

2. Osteogenic layer

3. Perforating fibers

4. Nutrient foramen

B. Endosteum

d. Short, flat, and irregular bone structure

i. Diploë

3. Microscopic anatomy of bones

a. Compact bone

i. Osteon

A. Lamellae

B. Central canal

C. Perforating canals

D. Lacunae

E. Canaliculi

ii. Interstitial lamellae

iii. Circumferential lamellae

b. Spongy bone

4. Chemical composition of bones

a. Organic components

b. Inorganic components