

Bone Tissue
Chapter Seven Study Guide

1. What is another name for bone?
2. What is the difference between compact bone and spongy bone? Which bone type is harder? Which bone type is lighter? Why have two bone type?
3. What is the anatomy of a long bone (lecture and lab objective)? Fig 7.1
4. Define the structure and function for the following terms: articular cartilage, red bone marrow, yellow bone marrow, periosteum, nutrient foramen, endosteum, epiphyseal line, epiphyseal plate, diaphysis, epiphysis, perforating fibers, .
5. What is an osteon (lecture and lab objective)? Fig 7.4
6. Define the following terms: concentric lamellae, circumferential lamellae, lacuna, canaliculi, central canal, perforating canal, osteoblast, osteoclast, osteocyte.
7. What is in the lacuna?
8. What is located in the central canal? How is the central canal connected to nutrient sources outside of the bone?
9. In fetal development, where is red bone marrow located?
10. In adult development, where is red bone marrow located?
11. When does intramembranous ossification occur? Type of structures?
12. When does endochondral ossification occur? Type of structures?
13. Where does interstitial growth occur? When? When does it stop?
14. Where does appositional growth occur? When? When does it stop?
15. How do the features (e.g. the lines, trochanters, ridges, ect.) on a bone differ between a fetus and an adult? Explain the difference using Wolf's Law of the Bone.
16. What is calcitriol? Common name?
17. What is the significance of calcitonin and parathyroid hormone? Type of regulatory relationship?
18. What occurs during hypo-calcemia? Clinical danger?
19. What occurs during hyper-calcemia? Clinical danger?
20. What are the four steps in the healing of a bone fracture? Fig 7.18
21. What occurs to bone when estrogen secretions stop? Why? When? Disease state? How may you protect yourself from outcome?
22. What is osteoporosis? Cause?
23. How does vitamin A effect bone?
24. How does vitamin C effect bone?