

Name _____

Chapter 13 Forensic Anthropology Study Guide

At the end of this chapter, the student should be able to:

Bone

- _____ 1. Discuss the role of bones in forensic science.
- _____ 2. Briefly discuss the history behind forensic anthropology.
- _____ 3. Analyze skeletal remains and provide as much data as possible about the identity of the person.
- _____ 4. List characteristics of bone that demonstrate that bone is considered living.
- _____ 5. Explain why bones are considered to be a tissue of the body.
- _____ 6. Discuss several functions of bones.

Growth of Bone

- _____ 7. Compare the number of bones in an infant with an adult.
- _____ 8. Compare the skeleton of a newborn infant with the skeleton of an adult. Include in your answer:
 - a. The number of bones
 - b. The amount of cartilage
- _____ 9. Discuss the development of bones. Include in your answer:
 - a. Osteoblasts
 - b. Osteoclasts
 - c. Cartilage
 - d. Osteocytes
- _____ 10. Describe the process of ossification of bones.
- _____ 11. Discuss cartilaginous lines found between bones:
 - a. What causes them to appear?
 - b. When do they disappear?
 - c. What happens to the lines?
 - d. How can the identification of cartilaginous lines be of any assistance to forensic scientists?

Bone Repair

- _____ 12. Explain the role of the periosteum in maintenance of bone.
- _____ 13. Describe how bone is constantly being repaired and replaced as we grow.
- _____ 14. Discuss what happens to your bones as you age.

Osteoporosis

_____ 15. Briefly Discuss Osteoporosis.

Height

_____ 16. Given formulas for stature (height) for different sexes and ethnic groups, to be able to estimate the approximate height of the person based on the size of different bones.

_____ 17. Given the height of an individual in centimeters, to be able to convert that measurement to inches and then to feet and inches.

Age

_____ 18. Given a diagram of the suture marks on a pelvis, femur, or humerus, and the approximate age of ossification, be able to determine the estimated age of a these bones from the closing of these suture marks. This estimate will be given as a range of ages.

_____ 19. Given the presence or absence of wisdom teeth, determine if the person was at least 22 years of age, or less than 21 years of age.

Sex or Gender

_____ 20. Given a diagram of male and female pelvis, to be able to explain the differences based upon:

- Width of the pelvic opening
- Length and width of the sacrum (rump bone)
- Sub Pubic angle
- Shape of the pelvis opening: either heart or oval shaped
- Shape of the pubis (triangular or rectangular)

_____ 21. Given a diagram or actual skull, be able to distinguish between male and female based up:

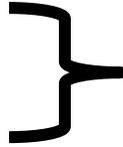
- Smoothness of the skull
- Presence or absence of the occipital protuberance (back of the head)
- Brow ridges
- Forehead shape: sloping or vertical
- Shape of the eyes: rounded or rectangular
- Jaw over 90 degrees or jaw at 90 degrees

_____ 22. Distinguish between male and female skeletal remains based on skull, jaw, brow ridge, pelvis, and femur.

Race/Ancestry

_____ 23. Given a skull, distinguish between Caucasoid, Negroid or Mongoloid races based upon

- a. Shape of the face
- b. Shape of the eye orbits
- c. Nasal index
- d. Teeth



Only Fill in the chart

Trait	Caucasoid	Mongoloid	Negroid
<i>Nasal Index</i>			
<i>Nasal Spine</i>			
<i>Nasal silling/Guttering</i>			
<i>Prognathism</i>			
<i>Shape of Orbital Openings</i>			

_____ 24. Given a femur, be able to explain how to eliminate Negroid as a racial group.

Disease

_____ 25. Describe how the following conditions are noted on skeletal remains:

- a. Arthritis –
- b. Osteoporosis
- c. Previous bone fractures
- d. Nutritional deficiencies such as a lack of Vitamin D or Calcium
- e. Metal Prostheses –

Osteobiography

_____ 26. *Osteobiography* refers to showing one's bone life history through examination of skeletal remains.

Explain how each can be determined:

- a. Male or female –
- b. Age over 30 –
- c. Age over 50 –
- d. Age under 18 –
- e. Age over 32 –
- f. Height –
- g. Was the person left or right handed?
- h. What type of sports did the person participate in?
- i. Is there any record of previously broken bones?
- j. Number of pregnancies -

- _____27. Explain what can be determined about a person based on the following bone evidence:
- a. Bones are smooth
 - b. Bones are knobby
 - c. Bones are very strong
 - d. Vertebrae have fused rings
 - e. Joints show signs of wear and tear especially around the knees and hip joints.
 - f. Notches are carved on the Pubic Bone
 - g. Molars have come through into the oral cavity.

Technology

- _____28. Discuss how facial reconstruction is done using the skeleton of a head.
- _____29. Discuss the role of technology in forensic anthropology.
- _____30. Discuss skeletal trauma analysis:
- a. Why is this done?
 - b. What are the forensic anthropologists trying to discover?
 - c. How is it possible to determine if damage to a bone was done before or after death? *Looking at*
 - d. How is it possible to identify the type of weapon used on a victim through skeletal analysis?
- _____31. Describe the difference between nuclear DNA and mitochondrial DNA.

Case Studies

- _____32. In the Leutgert case, what was found that provided circumstantial evidence of murder, which satisfied *corpus delicti*?
- _____33. In the Gacy case, what bone was broken in most of the skeletons that showed Gacy was likely the killer?