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Bio 2311-OL26 Lab

Professor Haque

November 9, 2021

### Review Sheet 9

1. First, match the bone names in column B with the descriptions in column A. Then, circle the bones in column B that are cranial bones.

1. Forms the anterior cranium

2. Cheekbone      Zygomatic

3. Bridge of nose      Nasal

4. Posterior bones of the hard palate      Palatine

5. Much of the lateral and superior cranium      Parietal

6. Single, irregular, bat-shaped bone forming part of the cranial base      Sphenoid

7. Tiny bones bearing tear ducts      Lacrimals

8. Anterior part of hard palate      Maxilla

9. Superior and middle nasal conchae form from its projections      Ethmoid

10. Site of mastoid process      Temporals

11. Has condyles that articulate with the atlas

12. Small u shaped bone in neck, where many tongue muscles attach      Hyoid

13. Organ of hearing found here      Temporals

14. Two bones that form the nasal septum      Ethmoid and vomer

15. Forms the most inferior turbinate      Inferior nasal concha

## 2. Anterior view of the skull labeling:

Left side (from top to bottom):

Glabella

Nasal Bone

Sphenoid bone

Lacrimal bone

Zygomatic bone

Inferior nasal concha

Maxilla

Mandible

Right side (from top to bottom):

Frontal bone

Parietal bone

Supraorbital margin

Superior orbital fissure

Ethmoid Bone

Inferior orbital fissure

Infraorbital foramen

Vomer

Alveolar process

Mental Foramen

Mandibular symphysis

Inferior view of skull labeling:

Left side (from top to bottom):

Palatine process of maxilla

Palatine bone

Vomer

Zygomatic process of temporal bone

Temporal bone

Foramen lacerum

Styloid process

Mastoid process

Parietal bone

External occipital protuberance

Right side (from top to bottom):

Incisive fossa

Maxilla

Sphenoid bone

Foramen ovale

Mandibular fossa

Carotid canal

Jugular foramen

Styloid foramen

Occipital condyle

Foramen magnum

3. Define suture. The interlocking joint between skull bones.

4. With one exception, the skull bones are joined by sutures. Name the exception. The parietal and temporal bones.

5. What bones are connected by the lambdoid suture? The occipital and parietal bones. What bones are connected by the squamous suture? The parietal bones.

6. Name the eight bones of the cranium. (Remember to include left and right.) Frontal, left parietal, right parietal, left temporal, right temporal, occipital, ethmoid and sphenoid.

7. List the bones that have sinuses, and give two possible functions of the sinuses. The sphenoid sinus, ethmoid sinus, maxillary sinus, and frontal sinus. Two functions of the sinuses are that they lighten the skull and improve our voices.

8. What is the bony orbit? The cavity of the skull that holds the eyes. What bones contribute to the formation of the orbit? Frontal, maxilla, lacrimal, ethmoid, sphenoid, palatine and zygomatic.

9. Why can the sphenoid bone be called the keystone bone of the cranium? It can be called this because it touches all of the other cranial bones.

10. The distinguishing characteristics of the vertebrae composing the vertebral column are noted below. Correctly identify each described structure by choosing a response from the key: 1. vertebra type containing foramina in the transverse processes, through which the vertebral arteries ascend to reach the brain c. cervical vertebra-- typical

2. dens here provides a pivot for rotation of the first cervical vertebra (C1) b. axis
3. transverse processes faceted for articulation with ribs; spinous process pointing sharply downward g. thoracic vertebra
4. composite bone; articulates with the hip bone laterally f. sacrum
5. massive vertebra; weight-sustaining e. lumbar vertebra
6. "tail bone" fused vertebrae d. coccyx
7. supports the head; allows a rocking motion in conjunction with the occipital condyles a. atlas

11. Using the key, correctly identify the vertebral parts/areas described below. ( Also use the key letters to correctly identify the vertebral areas in the diagram :

1. cavity enclosing the spinal cord i. vertebral foramen
2. weight-bearing portion of the vertebra a. body
3. provide levers against which muscles pull e. spinous process g. transverse process
4. provide an articulation point for the ribs a. body g. transverse process
5. openings providing for exit of spinal nerves b. intervertebral foramina
6. structures that form an enclosure for the spinal cord a. body h. vertebral arch
7. structures that form the vertebral arch c. lamina d. pedicle i. vertebral foramen

12. Describe how a spinal nerve exits from the vertebral column. They exit through the ventral root.

13. Name two factors/structures that permit flexibility of the vertebral column.  
Curvatures and intervertebral discs.

14. What kind of tissue makes up the intervertebral discs? Fibrocartilage.

15. What is a herniated disc? A herniated disc is when a spinal disc ruptures and the fluid of the ruptured disc leaks on the nearby nerves. What problems might it cause? It can eventually lead to paralysis and cause back pains.

16. Which two spinal curvatures are obvious at birth? Thoracic and sacral curvatures. Under what conditions do the secondary curvatures develop? The cervical curvature develops when an infant begins lifting its head and the lumbar curvature develops when it sits up.

17. Labeling thoracic region of the vertebral column:

Left side (top to bottom):

Spinous processes

Transverse processes

Intervertebral foramina

Right side (top to bottom):

Intervertebral discs

Thoracic vertebrae

18. The major bony components of the thorax (excluding the vertebral column) are the sternum and the ribs.

19. Differentiate between a true rib and a false rib. A true rib directly attaches to the sternum by their own costal cartilage and a false rib attaches to the sternum indirectly

by attaching to the 7th rib's costal cartilage. Is a floating rib a true or a false rib? A floating rib is a false rib.

20. What is the general shape of the thoracic cage? It is cone shaped and cagelike.

21. Labeling the thoracic cage:

Left side (top to bottom):

True ribs

False ribs

Floating ribs

Right side (top to bottom):

Jugular notch

Clavicular notch

{Manubrium

Sternal angle

Body

Xiphisternal joint

Xiphoid process} All apart of sternum

Costal cartilage

22. Are the same skull bones seen in the adult also found in the fetal skull? Yes, the same bones are found in the adult and fetal skull.

23. How does the size of the fetal face compare to its cranium? The fetal face is shorter and the cranium is very large. The maxilla and mandible are significantly smaller. How

does this compare to the adult skull? In the adult skull, the cranium is smaller and the facial bones are larger.

24. What are the outward conical projections on some of the fetal cranial bones?

Ossification centers.

25. What is a fontanelle? The space between the bones in fetal and infant skulls that is covered by a fibrous membrane that connects them where the sutures have not yet formed. What is its fate? Areas that eventually ossify in the skull and form a suture.

What is the function of the fontanelles in the fetal skull? They allow the brain to continue developing in the fetus and during infancy and allows the skull to compress during birth.

26. + Craniosynostosis is a condition in which one or more of the fontanelles is replaced by bone prematurely. Discuss the ramifications of this early closure. This early closure can lead to issues with brain and skull growth and development.

27. + As we age, we often become shorter. Explain why this might occur. This might occur because when we age, our intervertebral discs flatten.

28. + The xiphoid process is often missing from the sternum in bone collections.

Hypothesize why it might be missing. It is likely that they were broken off.