

Lab #2 Spine and Bones

Imaging the Body, Fall 05

Objectives

The objectives of this lab exercise are to:

- Observe the differences between cervical, thoracic, and lumbar vertebrae;
- Understand the link between form and function of vertebrae;
- Examine the surface features of the bone on the surface of the ribs and on the end of the ribs;
- Record your visual observations through drawings.

The spinal column serves a number of functions—support, protection, movement, and conduit. All of these functions are facilitated by particular aspects of the individual vertebrae and the joints between them. You will be carefully observing and drawing individual vertebrae and the articulations between them.

These are real human bones! At one time, they supported a living person and were a dynamic part of their skeleton. Now they are dried out and somewhat fragile. **Please handle them carefully and with respect.** Although these bones have been cleaned and prepared, be sure to wash your hands carefully following lab.

Exercise

Record all your observations and drawings in your lab/sketching notebook. All your sketches should have a title that includes magnification and any discernible structures should be clearly labeled.

1. Draw three vertebrae, one each from the three regions of the spine. For each vertebrae, you need to make drawings from three views—superior, lateral and posterior—for a total of nine drawings. Label all the parts of the vertebrae on your sketches.
2. Draw a joint between two adjacent vertebrae from a lateral perspective. Clearly indicate the anterior and posterior aspects of the vertebrae and indicate how the articulation permits movement in some directions and limits it in others.
3. Using a dissecting microscope, observe and sketch the bone surfaces of a rib in two places—on the surface midway along the length of the rib and at the end of the rib where it formed a joint with the spine. In addition to recording your observations through drawings, describe the surface of the bone using words. Compare and contrast what your observations at these two different locations on a rib. Explain any connections you see between form and function.