Lab 1: Anatomical Regions & Cavities

Reading
An Overview of Anatomy: Body Regional Terms & Cavities
READ Pages 31-37 & 43-44, 47, & 51

Objectives
1. To define anatomical position, and to use directional terms to locate the position of one body part relative to another
2. To use the regional terms to locate specific body areas
3. To use divide the abdominal cavity into regional sections.

Introduction
Terminology can be tricky in Anatomy and Physiology. It is important for people in different fields and geographical regions to be able to keep terminology straight. Once students have many of the terms straight they found that it is much easier to keep track of future anatomical terms. For instance the word ‘frontal’ refers to the forehead. The bone is the frontal bone, the muscle is the frontalis, and the lobe of the brain is called the frontal. Similar examples can be used for occipital. The bone is the occipital bone, the muscle is occipitalis, and the lobe of the brain in the occipital. The brachial nerves and vessels run through the upper arm. All of the muscles that cross the upper arm have the term “brachial” in them. The only way to learn these terms is pure memorization. Flashcards are a great way to learn them.

Anatomical Position
Study the figures. The individual in this figure is in anatomical position. Note the position of the hands (palms forward with thumbs outward) and the feet (toes pointed straight ahead); the subject is upright and facing directly forward.

Anatomical position is the standard position that we use as a reference point for all anatomical descriptions, locations, and directions. All directional terms assume that the body is in anatomical position when they are used, regardless of the position the body is actually in. If we stand on our heads, our skull is still considered to be superior to our torso, not inferior to it, even though in actuality we are “upside down.”

Materials
- Camera
- Paint program or other labeling software
Procedure A

Using your digital camera take several pictures of a family member or friend or pose for the pictures yourself. **The subject must be in anatomical position for ALL photos.** Take pictures from the **front** and the **back** and take a close up of the **head, arm** and **leg** (barefoot) and one from the **side**. You also want to take a close up of the **abdomen**. Take a couple of pictures of each body section. You will be labeling these pictures as part of your assignment. Unlike most of the anatomical graphics your subject does not need to be naked, in fact we would prefer they not be. You will be asked throughout this lab to label these photos using the Paint program with directional and regional terms. (See Lab Instructions) You will turn in these photos along with the lab write-up for a grade. You will turn in a total of **7 photos** for this lab. You can reuse the same one if you save each labeled graphic in a separate file. (i.e. You take one anterior frontal image, label it for photo 1 and save it as photo 1, than reuse the unlabeled photo for use in photos 6 and 7). **Use the same blank photos for LAB 2.**

Example:
Procedure B: Regional Terminology

You should be able to identify the *anatomic regional terms*. Make certain you understand how the different terms relate to one another. After identifying these surface landmarks on the textbook pictures, you should be able to locate them on your own body without looking at the textbook. Anatomical regional terms should be used and not common terms.
**PHOTO 1:** Take one of your anterior full body view photos and mark it using the Paint program with the following regional terms.

- Cephalic
- Cervical
- Acromial
- Thoracic
- Sternal
- Abdominal
- Umbilical
- Pelvic
- Femoral
- Patellar
- Crural

**PHOTO 2:** Take one of your posterior full body view photos and mark it using the Paint program with the following regional terms.

- Occipital
- Cervical
- Acromial
- Scapular
- Cubital
- Dorsum
- Vertebral
- Lumbar
- Femoral
- Popliteal
- Sural
- Calcaneal

**PHOTO 3:** Take one of your close-ups of the head and mark it using the Paint program with the following regional terms

- Cephalic
- Frontal
- Nasal
- Orbital
- Buccal
- Otic
- Oral
PHOTO 4: Take one of your close-up view photos of the anterior arm and mark it using the Paint program with the following regional terms.

- Axillary
- Acromial
- Brachial
- Antebrachial
- Antecubital
- Carpal
- Palmar
- Pollex
- Digital

PHOTO 5: Take one of your close-up view photos of the leg and mark it using the Paint program with the following regional terms.

- Coxal
- Femoral
- Patellar
- Crural
- Pedal
- Plantar
- Tarsal
- Hallux
- Digital

Procedure C: Abdominal Regions

The abdominopelvic cavity is very large. In order to be able to make a specific diagnosis the abdominopelvic cavity can be divided into regions and quadrants. Identify these divisions and their contents using the textbook. Regional terms are more specific and are frequently used by anatomists and surgeons. However, when a patient comes in complaining about abdominal pain it is difficult to be as specific. Diagnostic medicine uses quadrants. In fact those are the terms that you hear on medical shows.
PHOTO 6: Take one of your anterior close-up of the abdomen and divide the abdomen into a 9 square board and mark it using the Paint program with the following abdominal regional terms. These are abdominal regions that means the thoracic region should not be included in the blocks.

- umbilical region
- right lumbar region
- left lumbar region
- epigastric region
- right hypochondriac region
- left hypochondriac region
- hypogastric (pubic) region
- right iliac (inguinal) region
- left iliac (inguinal) regions

PHOTO 7: Take one of your anterior close-up views of the abdomen view photos divide the abdomen into a 4 square board and mark it using the Paint program with the following abdominal quadrants. These are abdominal divisions, that means the thoracic region should not be included in the blocks.

- right upper quadrant
- left upper quadrant
- right lower quadrant
- left lower quadrant