

Unit 7 — Anatomy

Reading: Anatomy



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Excerpt from a lecture:

Hello and welcome to today's anatomy lecture. Whereas in the previous lesson of our course we focused on the central nervous system, the cardiovascular system and the digestive system, their co-dependence and the major organs that perform important bodily functions, today we will discuss the skeletal system and the muscular system.

The skeletal system is a system of bones, which serve many vital roles, such as support, movement and calcium storage. An adult human being's skeleton, which is the everyday term for the skeletal system, consists of 206 bones. Interestingly, infants are born with many more bones, between 300 and 350, which merge as the body develops.

Let's now look at the main bones and the roles they play. At the top of our body, in the head, there is cranium, which is the bone structure protecting the brain. Below it there's the mandible, which is the bone of the lower jaw. It moves vertically when we eat or speak.

There are many important bones in our upper body below the head, of which the most significant one is the backbone, as it supports the whole body. It consists of 24 vertebrae, which are small bone segments. These are very sensitive and any damage to them may result in a serious disorder, disability or even death.

Other crucial bones of the upper body are the structures which are related to our upper limbs. At the top there are the clavicle and the scapula, the bones that our shoulders contain. Extending down from the shoulder is the humerus, the bone in the upper part of our arm, followed by two bones forming a forearm: the radius and the ulna.

In the middle of the upper body there is the rib cage, which is an enclosure protecting crucial organs such as the heart and lungs. Below the rib cage and the abdomen is the pelvis – two large circular bones to which bones of the legs are connected.

As has just been said, the bones of the legs extend down from the pelvis. The bone of the thigh is called the femur. Below the femur and knee joint there are two bones running down to the foot. One is called the tibia, a wider bone located at the inner side of the lower leg, and the other the fibula, which is the narrower outer bone.

Although one of the functions of the skeletal system is movement, humans would not be able to move were it not for the muscles, which are connected to the bones

by tendons. Most experts claim that the human body is comprised of around 639 muscles. We'll now look at the main constituents of the muscular system in the same manner as we did with the skeletal system, that is, from the top of the body down.

At the upper and back parts of the neck, shoulders and back, there is the trapezius, which we use in order to raise, rotate or draw back shoulders and move our heads. If we want to raise our arms, we use deltoids, and when we bend our forearms, we use biceps.

When we want to get up and move from a lying to upright position, we use the abdominals, which are the muscles located around the stomach. Then, when we stand up and move around, we use the glutes, the muscles of the buttocks, and the quadriceps, which are large muscles located in front of the thighs. Finally, when we want to stand on the toes, we use the calf muscles, namely the gastrocnemius and the soleus, the former being larger than the latter.

We have just gone over the major constituents of both the skeletal system and the muscular system. I hope you enjoyed the lecture and will find the included information valuable.

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Thank you for your interest!

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Discussion Questions

What are the main functions of the skeletal and muscular system?

How many bones and how many muscles are there in the human body?

Name 5 main bones and 5 main muscles and describe their functions.