

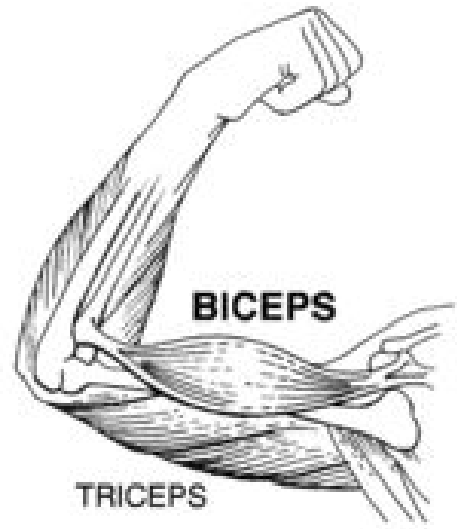
## Understanding Muscular System

Skeletal muscles help us move by tightening and pulling on our bones. These bones are connected to muscles by tendons. Tendons are strong bands of tissue that link muscles to bones, allowing us to move our joints. Muscles can only get shorter when they contract, but they are important for moving our bodies because they pull on bones.

To move in different directions, muscles work in pairs. When one muscle contracts, the other muscle in the pair stretches. This helps us bend or straighten our joints.

For example, the biceps and triceps work together to move the elbow. When we bend our elbow, the biceps (which helps us flex) contracts, and the triceps (which helps us extend) relaxes. The quadriceps and hamstrings also work together to bend and straighten the knee. Additionally, the pectoral muscles and trapezius help move our arms and shoulders.

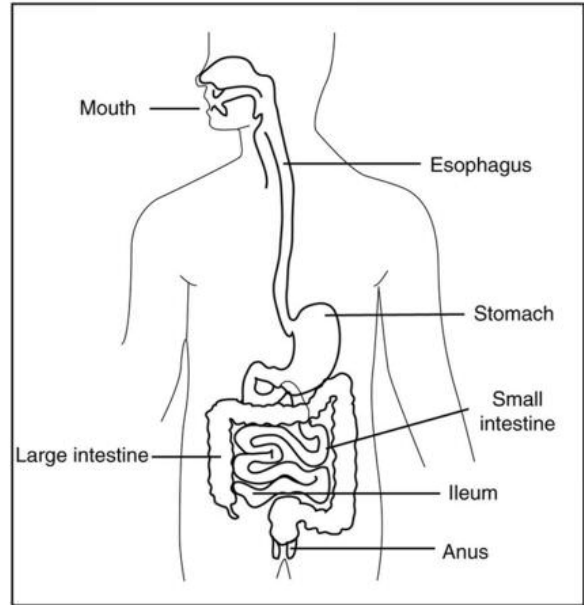
In our daily activities, we don't always use both muscles equally. For instance, we might use our biceps more than our triceps when lifting something heavy. This teamwork of muscle pairs is very important for smooth movement and doing everyday tasks effectively.



## Understanding the Digestive System

Digestion is a process that happens mostly without you even realizing it. It starts when you chew your food and continues even after you finish eating. While you know you are chewing, most of digestion happens as food moves through your stomach and small intestine. This journey can take over a day. The digestive system is very important because it breaks down food into energy molecules that your body cells need to function.

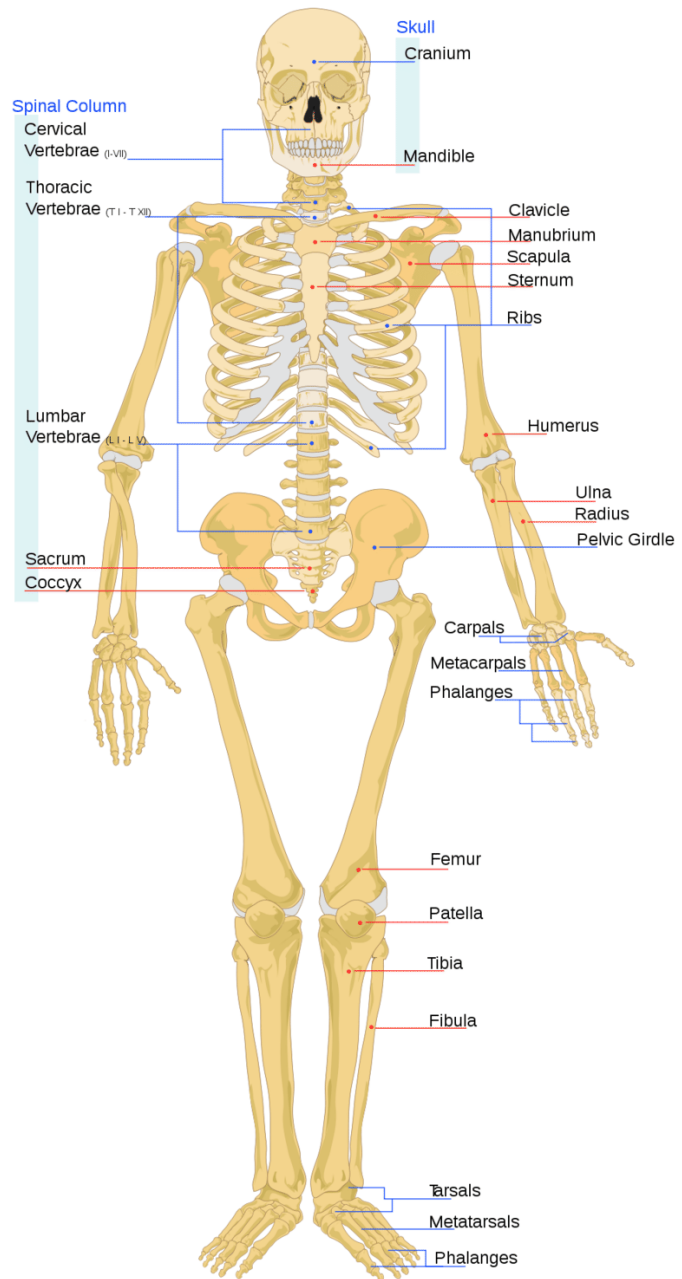
The digestion process uses both mechanical and chemical methods. Mechanical digestion begins in your mouth when you chew your food, and it continues in your stomach as food mixes with digestive juices. Chemical digestion happens when saliva and stomach enzymes break down larger food particles into smaller nutrient molecules. After digestion, these nutrients enter the bloodstream, mostly in the small intestine, so they can reach your body cells. Any parts of the food that your body cannot digest are removed as solid waste, which completes the digestive process.



# Understanding the Skeletal System

Bones might seem like just dead, empty structures, but they are actually living tissues filled with cells, blood, and nerves. The human skeleton has 206 bones, and it plays an important role in our body. Bones are made of living tissue and also have cartilage, which is a tough, flexible tissue that helps bones move smoothly against each other, like the bones in our knees. Ligaments are strong bands made of protein that connect bones together, and they work with bones and cartilage to form the skeletal system.

The skeletal system is very important for many reasons. It gives support to our bodies, helping us stand up straight against gravity so we don't fall over. It also protects our vital organs; for example, our skull protects our brain, and our rib cage keeps our heart and lungs safe. Additionally, bones help us move by working with our muscles, allowing us to do all kinds of physical activities.



## Understanding the Nervous System

The nervous system is a group of nerves that connects the brain and spinal cord to the rest of the body, including parts like the fingers, toes, arms, legs, and internal organs. The nervous system is very important because it helps send information from the senses to the brain and sends commands from the brain to the muscles.

The nervous system has two main parts: the sensory division and the motor division. The sensory division carries messages from our sense organs, like our eyes and ears, to the central nervous system (which includes the brain and spinal cord). The motor division sends commands from the central nervous system to the muscles and organs.

The sensory division helps us understand our surroundings by processing information from our senses: sight, hearing, touch, taste, and smell. Special cells called sensory neurons in each sense organ pick up signals and send that information to specific parts of the brain. For example, when light enters our eyes, our brain processes it so we can see images.

On the other hand, the motor division is divided into two parts: the somatic nervous system and the autonomic nervous system. The somatic nervous system controls movements we can choose to make, like moving our arms or legs. The autonomic nervous system manages functions we do not control, like breathing and heart rate. Together, these parts help our body react properly to what happens around us and inside us.

