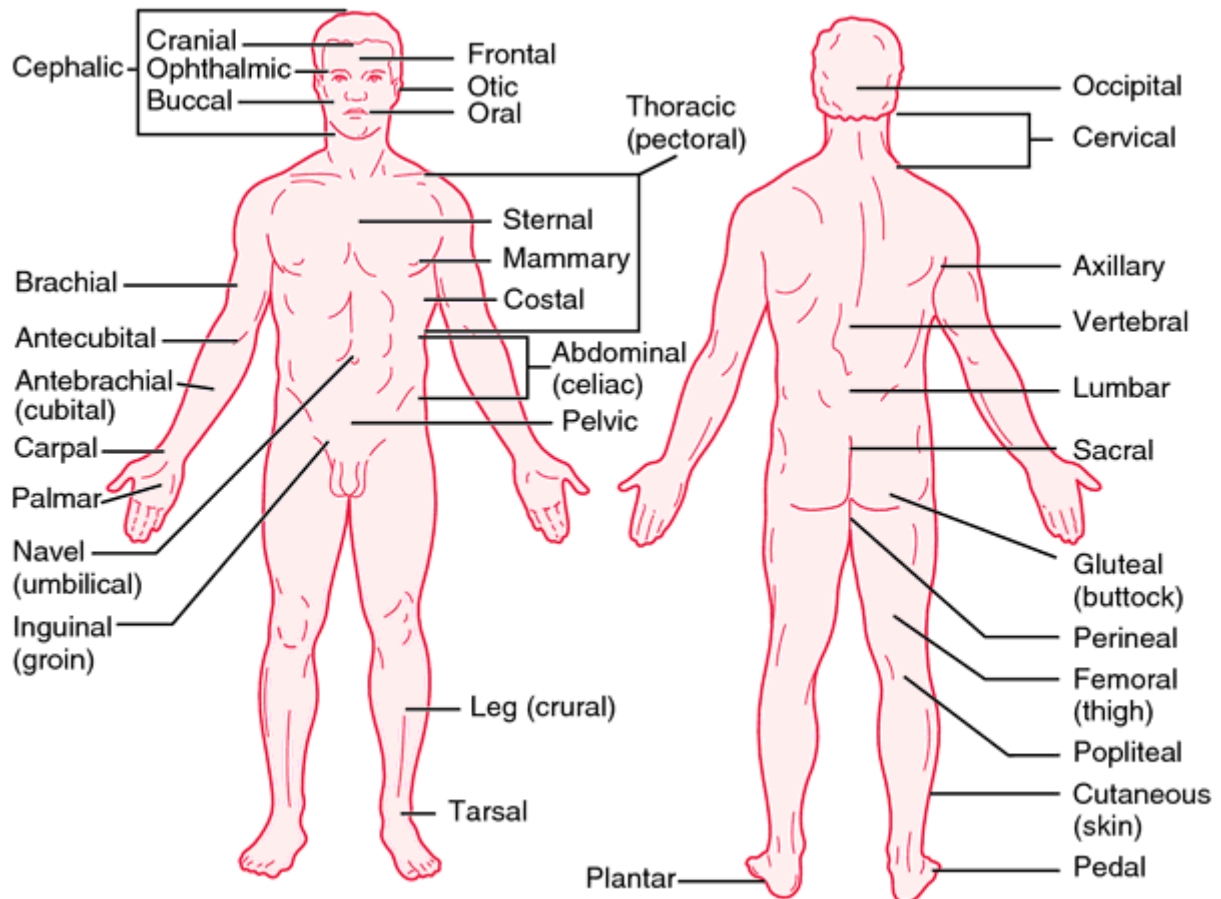


INTRODUCTION TO REGIONAL ANATOMY

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READABILITY SCORE

59 %

SUMMARY

Regional anatomy (topographical anatomy) considers the organization of the human body as major parts or segments: a main body, consisting of the head, neck, and trunk (subdivided into thorax, abdomen, back, and pelvis/perineum), and paired upper limbs and lower limbs. All the major parts may be further subdivided into areas and regions.

Cavities in the body

Diaphragm: divides body cavity into thoracic and abdominopelvic cavities.

Mediastinum: contains all structures of the thoracic cavity except the lungs

Ventral Body Cavity Membranes

- Parietal serosa lines internal body walls.
- Visceral serosa covers the internal organs.
- Serous fluid separates the serosae.

Regions in the body

Anatomists have divided the body into several regions. These regions help localize disease names, surgeries, and have other medical implications.

The head (cranial region; made by the cranium) is the superior part of the body that is attached to the trunk by the neck.

The neck (cervical region; skeleton of the neck is made up by the 7 cervical vertebrae) is the transitional area between the base of the cranium superiorly and the clavicles inferiorly.

- Upper limb – includes the hand, wrist, forearm, elbow, arm, and shoulder. Humerus is the arm bone. The forearm consists of two bones; medially ulna, and laterally radius.

The axilla is the gateway to the upper limb, providing an area of transition between the neck and the arm.

Arm (L. brachium): first segment of the free upper limb (more mobile part of the upper limb independent of the trunk) and the longest segment of the limb. It extends between and connects the shoulder and the elbow.

Forearm (L. antebrachium): second longest segment of the limb. It extends between and connects the elbow and the wrist (L. carpus) and includes radius and ulna.

Hand (L. manus): part of the upper limb distal to the forearm. It is composed of the wrist, palm, dorsum of hand, and digits (fingers, including an opposable thumb).

- Thorax – the region of the chest from the thoracic inlet to the thoracic diaphragm.
- Abdomen- the part of the trunk between the thorax and the pelvis. It is a flexible, dynamic container, housing most of the organs of the alimentary system and part of the urogenital system. Containment of the abdominal organs and their contents is provided by musculoaponeurotic walls anterolaterally, the diaphragm superiorly, and the muscles of the pelvis inferiorly.
- Back – consists of the posterior aspect of the body and provides the musculoskeletal axis of support for the trunk. Bony elements consist mainly of the vertebrae. The back contains the spinal cord and proximal parts of the spinal nerves, which send and receive information to and from most of the body.
- Pelvis and Perineum – the pelvis consists of everything from the pelvic inlet to the pelvic diaphragm. The perineum is the region between the sex organs and the anus.
- Lower limb – everything below the inguinal ligament, including the hip, the thigh, the knee, the leg, the ankle, and the foot.

The gluteal region (G. gloutos, buttocks) is the transitional region between the trunk and free lower limbs.

The femoral region (thigh) is the region of the free lower limb that lies between the gluteal, abdominal, and perineal regions proximally and the knee region distally. It includes most of the femur (thigh bone).

The knee region includes the prominences (condyles) of the distal femur and proximal tibia, the head of the fibula, and the patella (knee cap, which lies anterior to the distal end of the femur), as well as the joints between these bony structures. The posterior region of the knee (L. poples) is called the popliteal fossa.

The leg region is the part that lies between the knee and the narrow, distal part of the leg. It includes most of the tibia (shin bone) and fibula (calf bone). The leg (L., crus) connects the knee and foot. Often laypersons refer incorrectly to the entire lower limb as “the leg.”

The foot (L. pes) or foot region (L. regio pedis) is the distal part of the lower limb.

Regional anatomy (topographical anatomy) is about the organization of the human body as major parts or segments. The body consists of the head, neck, and trunk, and paired upper limbs and lower limbs. The trunk is subdivided into thorax, abdomen, back and pelvis/perineum. All the major parts are further subdivided into areas and regions.

Regional anatomy is the method of studying the body's structure by focusing attention on a specific part (e.g., the head), area (the face), or region (the orbital or eye region). It observes the arrangement and relationships of the various systemic structures (muscles, nerves, arteries, etc.) within it. Close regions are usually studied in an ordered sequence.

1. CAVITIES IN THE BODY

Diaphragm: divides body cavity into thoracic and abdominopelvic cavities.

Mediastinum: contains all structures of the thoracic cavity except the lungs.

Ventral Body Cavity Membranes

- Parietal serosa lines internal body walls.
- Visceral serosa covers the internal organs.
- Cavity between two membranes filled with lubricating serous fluid. This fluid is produced by the membranes.

Serous Membranes: Named for Their Specific Cavities and Organs

- Pericardium covers the heart.
- Pleura covers the lungs and thoracic cavity.
- Peritoneum covers the abdominopelvic cavity.

Other Body Cavities

- Oral and digestive – mouth and cavities of the digestive organs.
- Nasal – located within and posterior to the nose.
- Orbital – house the eyes.
- Middle ear – contains the ear bones (ossicles). These bones transmit sound vibrations.
- Synovial – joint cavities.

2. REGIONS IN THE BODY

Anatomists have divided the body into several regions. These regions help localize disease names, surgeries, and have other medical implications.

HEAD & NECK

The head is the superior part of the body. It is attached to the trunk by the neck. The head consists of the brain and its protective coverings, the ears, and the face. The cranium (skull) is the skeleton of the head. A series of bones form its two parts, the neurocranium and the skeleton of the face.

The **neck (cervical region)** is the transitional area between the base of the cranium superiorly. The clavicles lie inferiorly. The skeleton of the neck is made up by the 7 cervical vertebrae. The neck joins the head to the trunk and limbs. It is a major conduit for structures passing through. In addition, several important organs with unique functions are located here. The larynx and the thyroid and parathyroid glands, are examples.

UPPER LIMB

The upper limb includes the shoulder, arm, elbow, forearm, wrist, and hand. The shoulder is the area of upper limb attachment to the trunk. The arm is the part of the upper limb between the shoulder and the elbow joint. The forearm is between the elbow joint and the wrist joint. The hand is distal to the wrist.

Shoulder: is the proximal segment of the limb. It overlaps parts of the trunk (thorax and back) and lower lateral neck. The bone framework of the shoulder is made by two bones and a part of a bone. The clavicle and scapula and the proximal end of the humerus form the skeletal part of the shoulder.

The shoulder overlies half of the pectoral girdle. The pectoral (shoulder) girdle is a bony ring. It is incomplete posteriorly. It is formed by the scapula and clavicles. It is completed anteriorly by the upper part of the sternum.

Humerus is the arm bone. The forearm consists of two bones. Ulna lies medially ulna. The bone on the lateral side is radius.

The axilla ([axillary region](#); armpit, koltuk) is the gateway to the upper limb. It provides an area of transition between the neck and the arm. The axilla is formed by the clavicle, scapula, upper thoracic wall, humerus, and related muscles. It is an irregularly shaped pyramidal space.

Arm (L. brachium): is the first segment of the free upper limb. It is the more mobile part of the upper limb independent of the trunk. The arm is the longest segment of the limb. It extends between and connects the shoulder and the elbow. It consists of anterior and posterior regions of the arm. These regions are centered around the humerus.

Forearm (L. antebrachium): is the second longest segment of the limb. It extends between and connects the elbow and the wrist (L. carpus). It includes anterior and posterior regions of the forearm overlying the radius and ulna.

Hand (L. manus): is the part of the upper limb distal to the forearm. It is composed of the wrist, palm, dorsum of hand, and digits (fingers). It is richly supplied with sensory endings for touch, pain, and temperature. The hand has 27 bones on each limb. They are grouped in three. 1. Carpal bones, 2. Metacarpal bones, 3. Phalanges. The phalanges are 14 in number. They are the bones of the fingers.

THORAX

Thorax is the part of the body between the neck and abdomen. Commonly the term chest is used as a synonym for thorax. The chest, however, is much more extensive than the thoracic wall and cavity contained within it. The term chest also includes some parts of the upper limb. The [thoracic skeleton](#) forms the osteocartilaginous thoracic cage. It is also called the thoracic skeleton. It protects the thoracic viscera (hollow organs) and some abdominal organs.

The thoracic skeleton includes 12 pairs of ribs and associated costal cartilages, 12 thoracic vertebrae and the intervertebral discs between them, and the sternum. The ribs and costal cartilages form the largest part of the thoracic cage. Both are identified numerically. The numbering starts superiorly. The most inferior rib is the 12th rib or costal cartilage.

ABDOMEN

The abdomen is the part of the trunk between the thorax and the pelvis. It is a flexible, dynamic container. It houses most of the organs of the alimentary system and part of the urogenital system. Containment of the abdominal organs and their contents is provided by musculoaponeurotic walls anterolaterally, the diaphragm superiorly, and the muscles of the pelvis inferiorly.

BACK

The back consists of the posterior aspect of the body. It provides the muscular and skeletal axis of support for the trunk. Bony elements consist mainly of the vertebrae. The proximal parts of the ribs, superior aspects of the pelvic bones are also parts of the skeletal part of the back. The posterior basal regions of the skull also contribute to the back's skeletal framework.

The back contains the spinal cord and proximal parts of the spinal nerves. These nerves send and receive information to and from most of the body.

PELVIS & PERINEUM

The pelvis consists of everything from the pelvic inlet to the pelvic diaphragm. The perineum is the region between the sex organs and the anus.

In common usage, the [pelvis](#) (L. basin) is the part of the trunk inferoposterior to the abdomen and is the area of transition between the trunk and the lower limbs. The pelvic cavity is the inferiormost part of the abdominopelvic cavity. Anatomically, the pelvis is the part of the body surrounded by the **pelvic girdle** (bony pelvis), part of the appendicular skeleton of the lower limb. The pelvic girdle is strong and rigid, especially compared to the pectoral (shoulder) girdle.

In the mature individual, the pelvic girdle is formed by three bones. Right and left hip bones are also called as coxal bones or pelvic bones. They are large, irregularly shaped bones. Each of them develops from the fusion of three bones. These three bones are ilium, ischium, and pubis.

Sacrum: is formed by the fusion of five sacral vertebrae. These vertebrae are originally separate. They are fused later in life.

The pelvic girdle connects the vertebral column to the two femora (plural for femur).

LOWER LIMB

The lower limb includes the gluteal region, thigh, knee, leg, ankle, and foot.

The **gluteal region** (G. gloutos, buttocks) is the transitional region between the trunk and free lower limbs.

The **femoral region** (thigh) is the first region of the free lower limb. It lies between the gluteal, abdominal, and perineal regions proximally. The knee region lies distally. It includes most of the femur (thigh bone).

The **knee region** includes the distal femur and proximal tibia, the head of the fibula, and the patella (knee cap). It also includes the joints between these bony structures. The posterior region of the knee (L. poples) is called popliteal fossa. It is a well-defined, fat-filled hollow. This region transmits neurovascular structures between the thigh and the leg.

The **leg region** is the part of the lower limb between the knee joint and ankle joint. It includes most of the tibia (shin bone) and fibula (calf bone). The leg (L., crus) connects the knee and the foot. Often laypersons refer incorrectly to the entire lower limb as "the leg."

The **ankle region** (L. tarsus) is also called the talocrural region (L. regio talocruralis).

The **foot** (L. pes) or foot region (L. regio pedis) is the distal part of the lower limb.

The foot has 26 bones on each limb. They are grouped in three. 1. Tarsal bones, 2. Metatarsal bones, 3. Phalanges. The phalanges are 14 in number. They are the bones of the toes.