Alayen University
Anesthesia Department

Lecture Three
Surface Anatomy of Human Body

Surface Anatomy

A branch of gross anatomy that examines shapes and markings on the surface of the body as they relate to deeper structures.

Health-care personnel use surface anatomy to help diagnose medical conditions and to treat patients.

Surface Anatomy

four techniques when examining surface anatomy.

Visual inspection directly observes the structure and markings of surface features.

Palpation feeling with firm pressure or perceiving by the sense of touch) precisely locate and identify anatomic features under the skin.

Percussion taps sharply on specific body sites to detect resonating vibrations.

Auscultation listens to sounds omitted from organs.

Cranium

Cranium (cranial region or braincase) is covered by the scalp, which is composed of skin and subcutaneous tissue.

Cranium can be subdivided into three regions, each having prominent surface anatomy features.

the frontal region of the cranium is the forehead covering the frontal region is the frontalis muscle, which overlies the frontal bone the frontal region terminates at the superciliary arches

Triangles of the Neck

Neck/cervical region/cervix is a complex region that connects the head to the trunk.

Spinal cord, nerves, trachea, esophagus, and major vessels traverse this highly flexible area.

Neck contains other organs and several important glands.

Neck can be subdivided into anterior, posterior, and lateral regions.

The Anterior Region of the Neck

Has several palpable landmarks, including the larynx, trachea, and sternal notch.

The larynx. found in the middle of the neck composed of multiple cartilages thyroid cartilage "Adam's apple" Inferior to the larynx are the cricoid cartilage and trachea.

Terminates at the sternal (jugular) notch of the manubrium and the left and right clavicles.

The Nuchal Region

The posterior neck region

Houses the spinal cord, cervical vertebrae, and associated structures.

Left and Right Lateral Portions of the Neck

Contain the sternocleidomastoid muscles which partitions the neck into two clinically important triangles, an anterior triangle, and a posterior triangle.

Each triangle houses important structures that run through the neck.

Anterior triangle lies anterior to the sternocleidomastoid muscle and inferior to the mandible.

subdivided into four smaller triangles:

the submental, submandibular, carotid, and muscular triangles.

The Carotid Triangle

The strong pulsation is the common carotid artery is palpated.

Contains the internal jugular vein and some cervical lymph node.

Thorax

The superior portion of the trunk sandwiched between the neck superiorly and the abdomen inferiorly.

Consists of the chest and the "upper back."

On the anterior surface of the chest are the two dominating surface features of the thorax.

the clavicles and the sternum

The Clavicles

Paired clavicles and the sternal (jugular) notch represent the border between the thorax and the neck.

Left and right costal margins of the rib cage form the inferior boundary of the thorax.

Costal angle (costal arch) is where the costal margins join to form an inverted V at the xiphoid process.

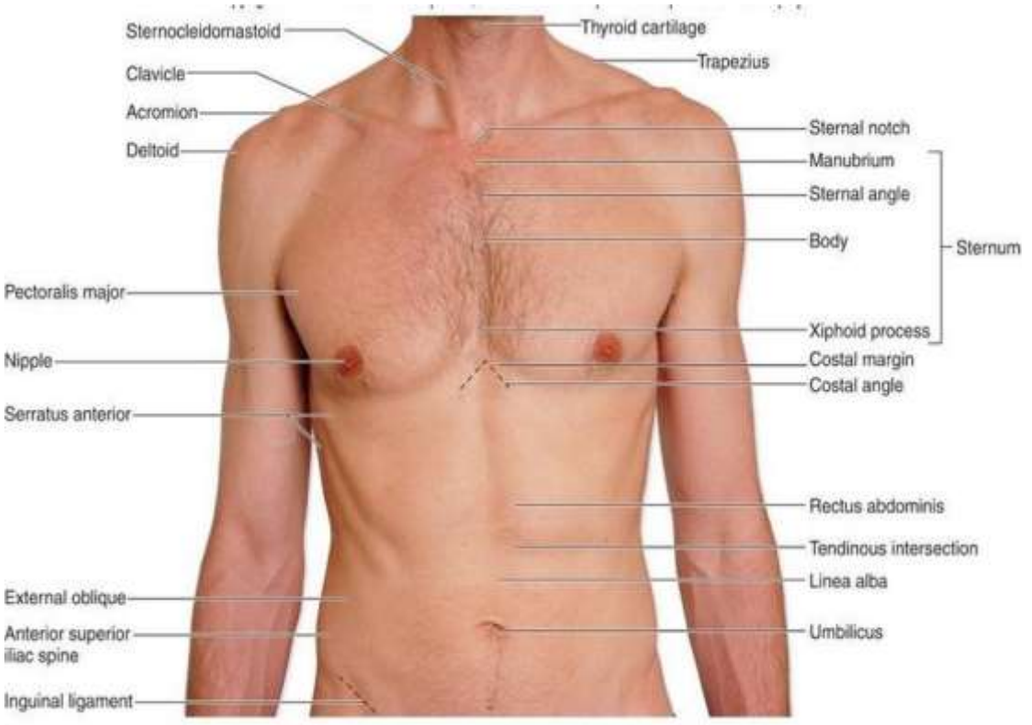
- **Most of the ribs (except for the first one) can be palpated.**

The Sternum

Palpated readily as the midline bony structure in the thorax.
The manubrium, the body, and the xiphoid process may also be palpated.
Sternal angle can be felt as an elevation between the manubrium and the body.
Sternal angle is clinically important because it is at the level of the costal cartilage of the second rib.
it is often used as a landmark for counting the ribs.

The Abdomen

On the anterior surface of the abdomen, the umbilicus (navel) is the prominent depression or projection in the midline of the abdominal wall.
In the midline of the abdominal anterior surface is the Linea alba, a tendinous structure that extends inferiorly from the xiphoid process to the pubic symphysis.
The superior aspect of the ilium (iliac crest) terminates anteriorly at the anterior superior iliac spine.
Attached to the anterior superior iliac spine is the inguinal ligament, which forms the lower boundary of the abdominal wall.



(a) Male, anterior view