

SUPERFICIAL MUSCLES - VENTRAL VIEW

Turn the pig to expose the ventral surface as in the accompanying photo. We shall first study the muscles of the ventral thorax and abdomen. See the closeup photo of this area, p. 27.

Thoracic Muscles

The chest area is dominated by the *pectoral* muscles. As in man, there are two of these muscles. Their relative sizes and positions are different from those in man.

Pectoralis Major (*Pectoralis Superficialis*) — This is a broad fan-shaped muscle. It originates from the upper portion of the sternum and inserts along almost the entire length of the humerus and on the fascia covering the proximal end of the forearm. It acts to draw the forelimb towards the chest (adduction). The *cephalic vein* may be seen at the distal end of this muscle extending from the shoulder over the forearm. This major vein drains the superficial musculature of the forelimb.

Pectoralis Minor (*Pectoralis Profundus*)-(Posterior Deep Pectoral)—As the names in parentheses indicate, this muscle is posterior and lies deep to the pectoralis major.

In humans, however, it is the smaller of the two. It arises from the entire length of the sternum. Its fibers extend anteriolaterally deep to those of the pectoralis major. Insertion: its posterior fibers insert on the proximal end of the humerus, its anterior fibers extend on the shoulder joint. Action: To adduct and retract the forelimb.

Latissimus Dorsi — A broad muscle with an extensive origin on the dorsal surface. It is very prominent on the lateral and ventral surfaces too. Some of its fibers originate in the lumbodorsal fascia, others from the lumbar and the last four thoracic vertebrae. The muscle is directed anteriorly, lies on the lateral surface of the thorax, becomes narrower, comes lie ventral, and inserts on the proximal end of the humerus on its medial surface. Action: Moves the forelimb dorsally and posteriorly. Because of its extensive origin and narrow insertion, it gives the forelimb great power.

Abdominal Muscles

The abdominal area is not protected by a bony structure as is the thorax. The abdominal organs are held in place by the pressure of the lateral abdominal muscles. They compress the abdominal wall and aid flexion of the trunk. The abdominal muscles include the:

External Oblique — This is a thin broad sheet of muscle covering the ventral and lateral abdominal surfaces. It is the outermost of the three lateral abdominal layers. It originates on the posterior ribs and the *lumbodorsal fascia*, an aponeurosis on the dorsal surface, and inserts on an aponeurosis along the mid-ventral surface. The *linea alba*, a white line of connective tissue along the mid-ventral surface represents the fusion of the aponeuroses of the right and left sides. The fibers of the external oblique extend caudally and ventrally in an oblique direction across the abdominal surface.

Internal Oblique — Lift the edge of the external oblique where it joins the aponeurosis as in the photo, and expose the second layer of abdominal muscles, the internal oblique. Its fibers run in a direction opposite to those of the upper layer, namely, ventrally and anteriorly.