Sternum and Thoracic Articulations Encyclopedia Article

Sternum and Thoracic Articulations

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Contents

Sternum and Thoracic Articulations Encyclopedia Article.....1

Contents.....2

Sternum and Thoracic Articulations.....3

Sternum and Thoracic Articulations

The sternum is a long bony plate located in the anterior (front) region of the chest. Three distinct bones can be seen. The superior or uppermost plate is the manubrium, followed by the body or gladiolus. At the end of this series is a tiny triangular shaped bone named the xiphoid. Both muscles of the chest and costal **cartilage** articulate with these bones. They help anchor the ribcage for protection of the **lungs** and upper body **organs**.

The manubrium is triangular and thicker at its top than bottom. It is somewhat convex. On the anterior side, the pectoralis and sterno portion of the sterno-cleido-mastoid muscle originate. The site of attachment can be identified by the sternal notch. On the posterior surface the heads of the sterno-hyoid and sterno-thyroid muscles find their origin.

The thickest portion of the manubrium, the superior border, the pre-sternal notch, indicates the position where the sternal end of the clavicle (collar bone) articulates. On either side of this flat bone there are facets for the costal cartilage of the first pair of ribs. These lie just under the clavicle.

The long body of the gladiolus joins the manubrium at the sternal angle. It is possible to feel this ridge with the hands, which makes it useful as a locator for **cardio-pulmonary resuscitation (CPR)**. In some people, however, this region is concave and very distinctive. Facets occur along the lateral ridges of this flat bone for articulation with costal cartilage and ribs two, three, four, and five. The inferior margin of the gladiolus supports two costal cartilage heads that then differentiate to support ribs 6-10. Ribs 11 and 12 do not articulate with the sternum.

The xiphoid process terminates the sternum. It is small and somewhat elongate. In adolescence it is cartilaginous, but ossifies in adulthood. Although tiny in size, the bone offers an attachment site for part of the seventh rib, the chondro-xiphoid ligament, and the linea alba. This bone has a highly diversified appearance from one body to another.