

Surface Landmarks of Thorax

Introduction

The thorax (chest) forms the **upper part of the trunk** and houses vital organs such as the **heart, lungs, and great vessels**. It is bounded by the **thoracic cage**, which provides protection and supports respiration. The diaphragm separates it from the abdomen.

Bony Landmarks

1. Suprasternal or Jugular Notch

- Felt **above the superior border of the manubrium**, between the sternal ends of the clavicles.
 - Lies at the level of the **lower border of the body of the 2nd thoracic vertebra (T2)**.
 - The **trachea** can be palpated here.
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2. Sternal Angle (Angle of Louis)

- Felt as a **transverse ridge about 5 cm below the suprasternal notch**.
- Corresponds to the **manubriosternal joint**.
- Lies at the level of the **2nd costal cartilage anteriorly** and the **disc between T4 and T5 vertebrae posteriorly**.

Clinical and Anatomical Importance:

- **Rib Counting:** The 2nd costal cartilage marks the start point for counting ribs.
 - **Division of Mediastinum:** Separates the **superior** and **inferior mediastinum**.
 - **Major Structures at this Level:**
 - End of **ascending aorta** and beginning of **arch of aorta**.
 - Beginning of **descending thoracic aorta**.
 - **Tracheal bifurcation** into right and left main bronchi.
 - **Azygos vein** arches over the root of the right lung to open into the **superior vena cava**.
 - **Pulmonary trunk** bifurcates into right and left pulmonary arteries.
 - **Thoracic duct** crosses from right to left side.
 - Marks the **upper border of the heart** and site of **cardiac plexuses**.
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3. Xiphisternal Joint

- Formed between the **xiphoid process** and **body of sternum**.
 - Lies opposite the **T9 vertebra**.
 - The **costal margins** (7th–10th costal cartilages) form the **subcostal angle** at this point.
 - This area overlies the **upper part of the liver**, **diaphragm**, and **inferior border of the heart**.
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Summary of Key Levels

STRUCTURE	SURFACE LEVEL
Suprasternal notch	T2 vertebra
Sternal angle	2nd costal cartilage; disc between T4–T5
Xiphisternal joint	T9 vertebra
Apex beat of heart	5th left intercostal space, 9 cm from midline
Tracheal bifurcation	At level of sternal angle (T4–T5)