

Thoracic cavity compartments

Left pulmonary cavity
 Mediastinum
 Right pulmonary cavity

Sternum

Manubrium T1-T4
Body T5-T9
Xiphoid process T10

The junction of the manubriosternal joint forms the **sternal angle** of Louis, the plane of which lies between T4 and T5.
 Many important events occur at this angle:

1. Beginning and end of aortic arch
2. Tracheal bifurcation
3. Confluence of azygous vein and SVC
4. Thoracic ducts deviates left
5. Ligamentum arteriosum lies on this plane
6. Division of pulmonary trunk
7. Location of cardiac plexus

Function of Thorax

Protection

Support

Provides attachment for muscles of upper limb, abdomen, neck, back and respiration

Provides mechanics for breathing and resists negative internal pressures created by the elastic recoil of the lungs and inspiratory movements

Vertebral Features

Bilateral costal facets Articulates with heads of ribs
Costal facets on transverse processes Articulates with tubercles of ribs

Vertebral Features (cont)

Spinous processes Slope inferiorly and overlap with vertebra below and thus cover the intervals between the laminae of the adjacent vertebra which prevents sharp objects from entering the vertebral canal and injuring the spinal cord

Rib Types

True (vertebrosternal) ribs 1-7th Attach directly to sternum through their own costal cartilages (*vertebrae to sternum*)

False (vertebrochondral) ribs 8-10th Attach indirectly to sternum via cartilage of rib above them (*vertebrae to cartilage*)

Floating (vertebral) ribs 11-12th Do not connect to sternum (*vertebrae only*)

Interior of ribs is red bone marrow (hematopoietic tissue) which forms blood cells

Rib Classification

Typical ribs 3-9th Have a **head** (has 2 facets), **neck**, **tubercle** (*smooth articular surface* for articulation with transverse process of vertebra and *rough articular surface* for attachment of costotransverse ligament), **body** (with *costal groove* which gives protection to intercostal nerve and vessels).

Atypical ribs 1,2,10,11,12th Lack either one or more of the features of typical ribs

The intercostal spaces are named for the rib number forming the superior border, and the intercostal blood vessels and nerves are named for the intercostal space number in which they are found.

Space below the 12th rib: subcostal space, thus T12 is the subcostal nerve.

