

All vertebral levels and landmarks documented across your thoracic and respiratory anatomy sources are compiled below, organized from superior to inferior:

Summary of Vertebral Levels

<i>Vertebral Level</i>	<i>Key Structures & Landmarks</i>
C3 – C6	Larynx
C3 – C5	Phrenic nerve origin
C6	Cricoid cartilage, Trachea start
C7 (Transverse process)	Suprapleural membrane (Sibson's fascia) attachment
T1	Thoracic inlet, T1 ventral ramus (Brachial plexus)
T2	Intercostobrachial nerve
T2 / T3 Disc	Suprasternal (jugular) notch
T2 – T5 Ganglia	Pulmonary plexus (sympathetic)
T2 – T8	Typical thoracic vertebrae
T3 – T6	Typical intercostal nerves
T4	Trachea end
T4 / T5 Disc	Sternal angle (Louis), Carina (tracheal bifurcation), Aortic arch
T7 – T11	Thoracoabdominal nerves
T8	Caval hiatus (IVC, R. phrenic), Pleura (midclavicular), Lung (midaxillary)
T9 / T10 Disc	Xiphisternal joint, Diaphragm central tendon
T10	Esophageal hiatus (Esophagus, vagi), Pleura (midaxillary), Lung (posterior)
T11	Atypical vertebra (no transverse costal facet)
T12	Aortic hiatus (Aorta, thoracic duct, azygos), Thoracic outlet, Pleura (posterior)
L1 – L2	Diaphragm left crus
L1 – L3	Diaphragm right crus

1. Airway & Larynx

Vertebral Level	Keywords
C3 – C6	Larynx extent
C6	Cricoid cartilage, Trachea start
T4	Trachea end
T4 / T5 Disc	Carina (tracheal bifurcation)

2. Diaphragm Apertures & Attachments

Vertebral Level	Keywords
T8	Caval hiatus (IVC, R. phrenic nerve)
T10	Esophageal hiatus (Esophagus, vagus nerves)
T12	Aortic hiatus (Aorta, thoracic duct, azygos vein)
L1 – L2	Left crus origin
L1 – L3	Right crus origin

3. Thoracic Apertures & Sternum Boundaries

Vertebral Level	Keywords
T1	Thoracic inlet (posterior boundary)
T2 / T3 Disc	Suprasternal (jugular) notch
T4 / T5 Disc	Sternal angle of Louis
T9 / T10 Disc	Xiphisternal joint, Central tendon
T12	Thoracic outlet (posterior boundary)

4. Lower Borders of Lungs & Pleura ("Rule of 6-8-10-12")

Surface Reference Line	Lung Lower Border	Pleura Lower Border
Midclavicular line (MCL)	Rib 6	Rib 8
Midaxillary line (MAL)	Rib 8	Rib 10
Scapular / Posterior line	Rib 10 (T10)	Rib 12 (T12)

Table 1: Blood & Nerve Supply (Keywords Only)

Structure	Arterial Supply	Venous Drainage	Nerve Supply
External Nose	• Ophthalmic a. branches • Facial a. branches	<i>Accompanying veins</i>	• V1 (Infratrochlear, External nasal) • V2 (Infraorbital)
Nasal Cavity & Septum	• Sphenopalatine a. • Greater palatine a. • Ethmoidal aa. (Ant. & Post.) • Facial a. branches	<i>Accompanying veins</i>	• Smell: Olfactory n. (CN I) • General (Ant.): V1 (Ant. ethmoidal), V2 • General (Post.): V2 (Nasopalatine)
Paranasal Sinuses	• Supraorbital a. (Frontal) • Ethmoidal aa. (Ethmoidal/Sphenoidal) • Infraorbital & Sup. alveolar aa. (Maxillary)	<i>Accompanying veins</i>	• Frontal: Supraorbital n. (V1) • Ethmoidal/Sphenoidal: Ethmoidal nn. (V1) • Maxillary: Infraorbital & Sup. alveolar nn. (V2)
Larynx (Above Vocal Cords)	• Superior laryngeal a.	• Superior laryngeal v. (→ IJV)	• Sensory: Internal laryngeal n.
Larynx (Below Vocal Cords)	• Inferior laryngeal a.	• Inferior laryngeal v. (→ L. brachiocephalic)	• Sensory: Recurrent laryngeal n.
Larynx (Intrinsic Muscles)	• Laryngeal aa.	• Laryngeal vv.	• Motor: Recurrent laryngeal n. (all except Cricothyroid → External laryngeal n.)
Trachea	• Upper 2/3: Inferior thyroid a. • Lower 1/3: Bronchial aa.	• Inferior thyroid vv.	• Vagus n. & Recurrent laryngeal n.
Thoracic Wall / Intercostal Spaces	• Ant. Intercostal aa.: Internal thoracic & Musculophrenic • Post. Intercostal aa.: Supreme intercostal & Aorta	• Ant. intercostal vv. (→ Internal thoracic) • Post. intercostal vv. (→ Azygos system)	• Intercostal nn. (T1–T11) • Subcostal n. (T12)
Parietal Pleura	• Intercostal aa • Internal thoracic a. • Musculophrenic a.	• Intercostal vv. • Internal thoracic vv.	• Costal / Peripheral diaphragm: Intercostal nn. *(pain-sensitive)* • Mediastinal / Central diaphragm: Phrenic n. (pain-sensitive)

Visceral Pleura	• Bronchial aa.	• Bronchial vv.	• Pulmonary plexus (<i>autonomic, insensitive to pain</i>)
Lungs & Bronchial Tree	• Bronchial aa. *(tissue nutrition)* • Pulmonary trunk / aa. (<i>gas exchange</i>)	• Bronchial vv. • Pulmonary vv.	• Sympathetic: T2–T5 ganglia • Parasympathetic: Vagus n.
Diaphragm	• Pericardiophrenic a. • Musculophrenic a. • Superior epigastric a. • Inferior phrenic aa.	• Pericardiophrenic v. • Inferior phrenic vv.	• Motor: Phrenic n. (C3–C5) • Sensory: Phrenic n. (<i>central</i>); Lower intercostal & subcostal nn. (<i>peripheral</i>)

Table 2: Neurovascular Relations (Keywords Only)

Region / Structure	Key Neurovascular Relation
Neck of 1st Rib (Apex Posterior)	• Medial to Lateral: Sympathetic trunk (Stellate ganglion) → Superior intercostal vessels → T1 ventral ramus
Shaft of 1st Rib	• Subclavian vein (<i>anterior</i>) — Scalenus anterior — Subclavian artery & Brachial plexus (T1) (<i>posterior</i>)
Lung Apex / Cervical Pleura	• Anterior: Subclavian artery arches over summit • Posterior: Neck of 1st rib structures (Stellate ganglion, Sup. intercostal a., T1 ramus)
Intercostal Space / Costal Groove	• Top to Bottom: V – A – N (Vein, Artery, Nerve) • Plane: Between internal and innermost intercostal muscles
Internal Thoracic Vessels	• Descends behind upper 6 costal cartilages , 1 cm lateral to sternum • Accompanied by Phrenic nerve (via pericardiophrenic vessels)
Diaphragmatic Openings	• T8 (Caval): IVC + Terminal branches of Right phrenic n. • T10 (Esophageal): Esophagus + Vagal trunks (vagi) + Esophageal vessels • T12 (Aortic): Aorta + Thoracic duct + Azygos vein (<i>behind median arcuate ligament</i>)
Diaphragm Arcuate Ligaments	• Behind Medial Arcuate: Sympathetic trunk • Behind Lateral Arcuate: Subcostal nerve & vessels (T12)
Trachea Relations	• Anterior: Inferior thyroid vv., Left brachiocephalic v., Aortic arch, Great arteries • Right: Right vagus n., Arch of azygos v. • Left: Left common carotid a., Left subclavian a., Aortic arch, Left vagus n. • Posterior (Groove): Recurrent laryngeal nerves
Root of Lung / Hilum	• In front: Phrenic nerve + Pericardiophrenic vessels • Behind: Vagus nerve
Right Lung (Mediastinal Surface)	• Above hilum: Arch of azygos vein • In front of hilum: Right phrenic nerve (over SVC & IVC) • Behind hilum: Azygos vein

**Left Lung
(Mediastinal
Surface)**

- **Above hilum:** Arch of aorta (crossed by Left vagus n., Left phrenic n., Left sup. intercostal v.)
- **Behind hilum:** Descending thoracic aorta
- **In front of hilum:** Left phrenic nerve

**Thyrohyoid
Membrane**

- Pierced together by: **Internal laryngeal nerve + Superior laryngeal artery**
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