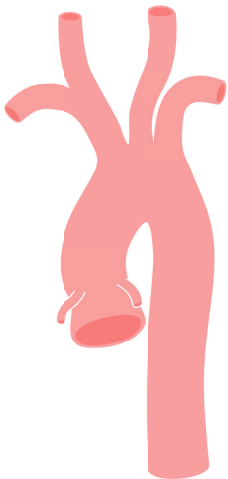


TEE ESSENTIALS

Assessment of the aorta: Anatomy of the aorta

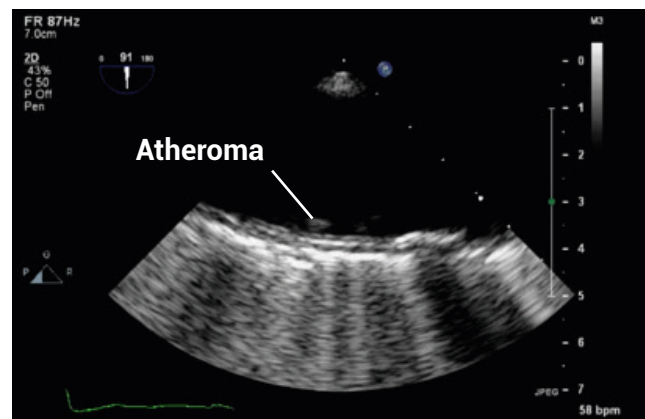
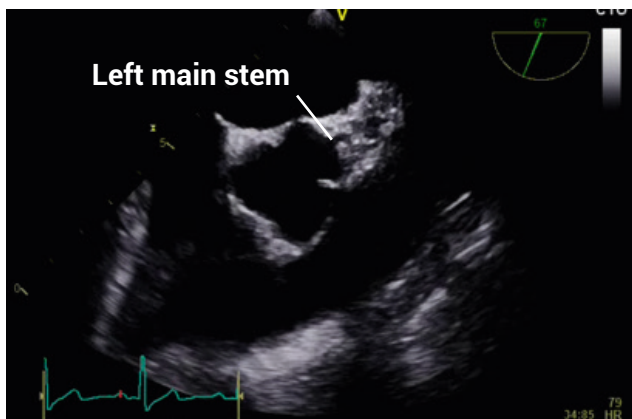
TEE provides good views of much—but not all—of the thoracic aorta. The air-filled trachea can preclude views of the distal ascending aorta and proximal aortic arch. The regions of the aorta that can be visualized should be assessed for its diameter, the location of branch vessels, the presence of atheromatous plaques, and any structural abnormalities such as dissection or coarctation.



When obtaining aortic arch views in the upper esophageal probe position, try to obtain images of the branch vessels. The left subclavian artery and left common carotid artery can often be visualized, but the right brachiocephalic artery is sometimes difficult to image because the trachea often obscures the view.

Measure the aorta at the following levels:

- Aortic annulus (normal range 2.0–3.1 cm)
- Sinuses of Valsalva (normal range 2.4–4.0 cm)
- Sinotubular junction (normal range 2.2–3.6 cm)
- Tubular ascending aorta (normal range 2.2–3.6 cm)
- Aortic arch (normal range 2.2–3.6 cm)
- Descending aorta (normal range 2.0–3.0 cm)



Coronary arteries

During imaging of the aortic root, the ostia of the left coronary artery (left main stem) and right coronary artery can often be visualized. The left main stem arises adjacent to the left coronary cusp, and the right coronary artery adjacent to the right coronary cusp. The non-coronary cusp (which lies adjacent to the interatrial septum) has no associated coronary artery.

Aortic atheroma

The wall of the aorta consists of an outer layer (adventitia), a middle layer (media), and an inner layer (intima). Aortic atheroma is a common finding during TEE imaging. If atheroma is present, describe its location, its severity (mild, moderate, or severe), and whether it is mobile or immobile.

Further reading

Goldstein SA, Evangelista A, Abbara S, et al. 2015. Multimodality imaging of diseases of the thoracic aorta in adults: from the American Society of Echocardiography and the European Association of Cardiovascular Imaging. *J Am Soc Echocardiogr.* **28**: 119–82.