

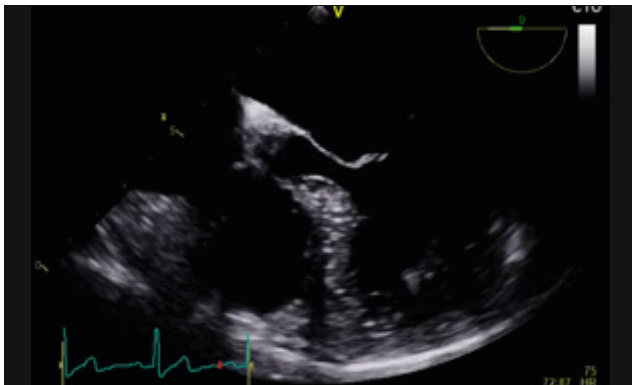
TEE ESSENTIALS

How to get the views: A step-by-step guide to probe manipulations

View

Probe manipulation

1. Mid-esophageal five-chamber view

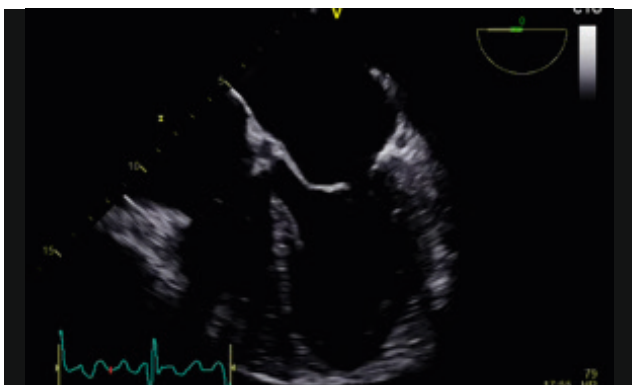


Probe location: Advance the probe to the mid-esophageal position (usually a depth of about 30 cm).

Transducer angle: 0–10°

Probe tip position: Neutral flexion.

2. Mid-esophageal four-chamber view



Probe location: Slightly advance the probe.

Transducer angle: Maintain angle of 0–10°.

Probe tip position: Retroflex.

3. Mid-esophageal mitral commissural view

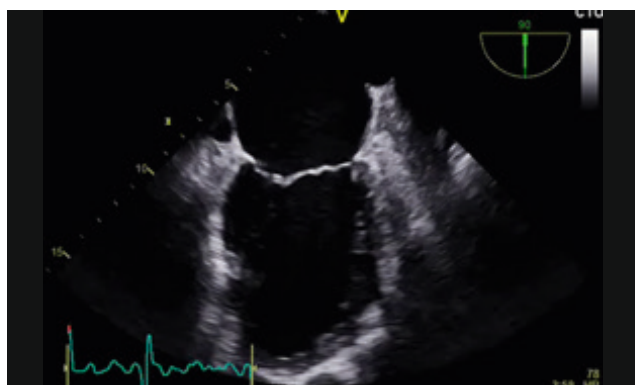


Probe location: Maintain the same probe position.

Transducer angle: Rotate forward to 50–70°.

Probe tip position: Neutral flexion.

4. Mid-esophageal two-chamber view



Probe location: Maintain the same probe position.

Transducer angle: Rotate forward to 80–100°.

Probe tip position: Neutral flexion.

5. Mid-esophageal long-axis view

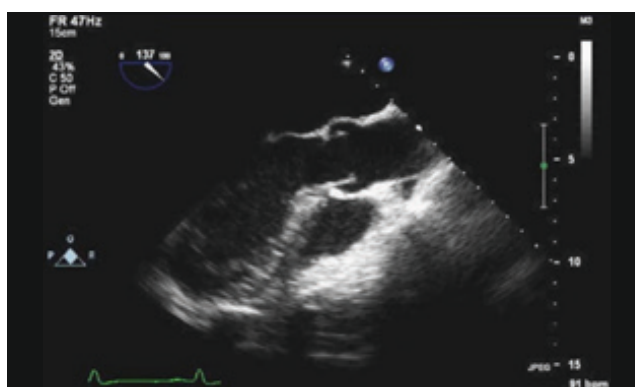


Probe location: Maintain the same probe position.

Transducer angle: Rotate forward to 120–140°.

Probe tip position: Neutral flexion.

6. Mid-esophageal aortic valve long-axis view



Probe location: Slightly withdraw the probe.

Transducer angle: Maintain angle of 120–140°.

Probe tip position: Anteflex (a turn to the right may be needed).

7. Mid-esophageal ascending aorta long-axis view



Probe location: Slightly withdraw the probe.

Transducer angle: Rotate back to 90–110°.

Probe tip position: Neutral flexion.

8. Mid-esophageal ascending aorta short-axis view



Probe location: Maintain the same probe position.

Transducer angle: Rotate back to 0–30°.

Probe tip position: Neutral flexion; turn to the right for the right pulmonary artery; turn to the left for the pulmonary artery bifurcation.

9. Mid-esophageal right pulmonary vein view

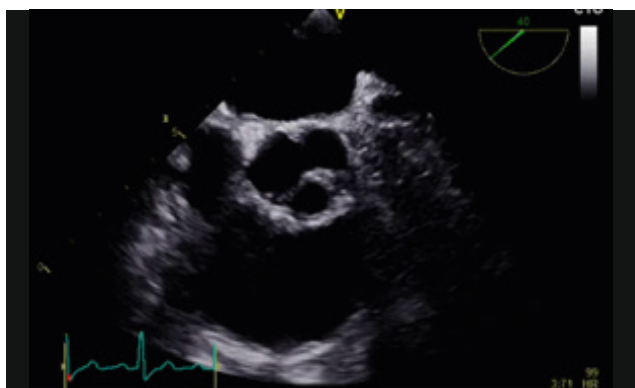


Probe location: Slightly advance the probe.

Transducer angle: Maintain angle of 0–30°.

Probe tip position: Neutral flexion; turn to the right.

10. Mid-esophageal aortic valve short-axis view



Probe location: Slightly advance the probe.

Transducer angle: Rotate forward to 25–45°.

Probe tip position: Turn to the left, *then* slightly anteflex.

11. Mid-esophageal right ventricular (RV) inflow-outflow view



Probe location: Slightly advance the probe.

Transducer angle: Rotate forward to 50–70°.

Probe tip position: Neutral flexion, *then* turn to the right.

12. Mid-esophageal modified bicaval tricuspid valve view

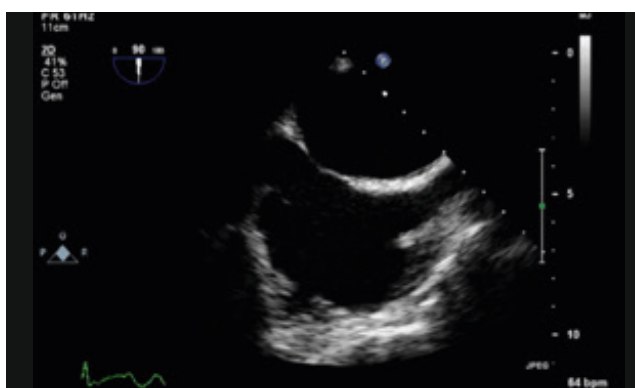


Probe location: Maintain the same probe position.

Transducer angle: Maintain angle of 50–70°.

Probe tip position: Turn to the right; neutral flexion.

13. Mid-esophageal bicaval view

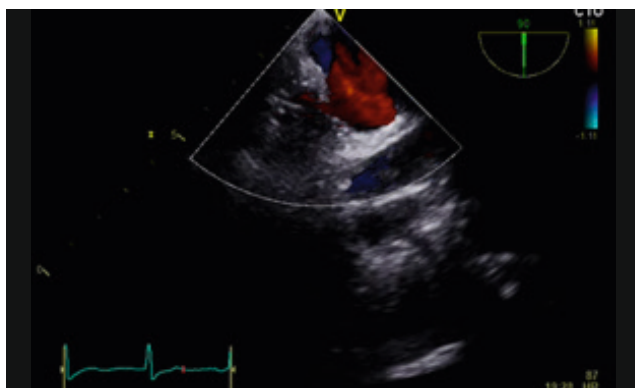


Probe location: Maintain the same probe position.

Transducer angle: Rotate forward to 90–110°.

Probe tip position: Turn to the right; neutral flexion.

14. Mid-esophageal right and left pulmonary veins view

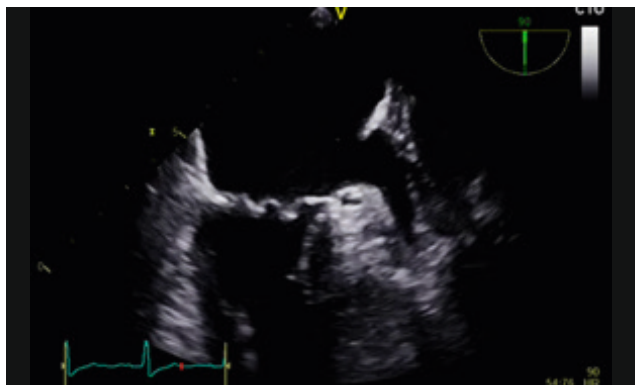


Probe location: Slightly advance/withdraw the probe as required.

Transducer angle: Maintain angle of 90–110°.

Probe tip position: Turn to the right for the right-sided pulmonary veins and then to the left for the left-sided pulmonary veins.

15. Mid-esophageal left atrial appendage view

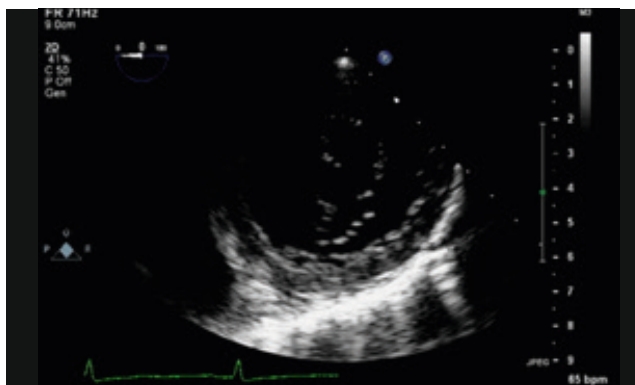


Probe location: Slightly advance the probe.

Transducer angle: Maintain angle of 90–110°.

Probe tip position: Neutral flexion (possible slight ante flexion).

16. Transgastric basal short-axis view



Probe location: Straighten the probe and advance it into the stomach (basal LV level).

Transducer angle: Rotate back to 0–20°.

Probe tip position: Anteflex.

17. Transgastric mid-papillary short-axis view

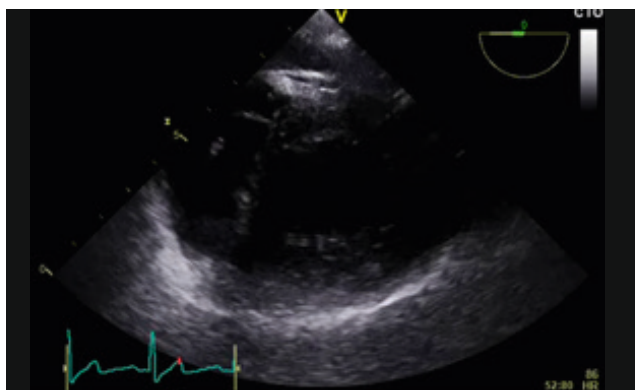


Probe location: Advance the probe further into the stomach (mid-LV level).

Transducer angle: Maintain angle of 0–20°.

Probe tip position: Anteflex.

18. Transgastric apical short-axis view



Probe location: Advance the probe further into the stomach (apical LV level).

Transducer angle: Maintain angle of 0–20°.

Probe tip position: Anteflex.

19. Transgastric right ventricular basal view

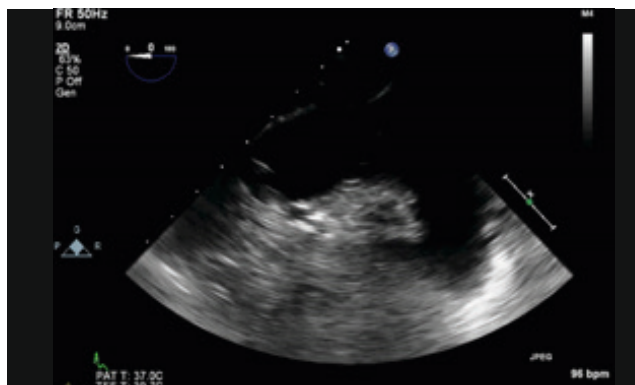


Probe location: Withdraw the probe to the transgastric basal short-axis view.

Transducer angle: Maintain angle of 0–20°.

Probe tip position: Anteflex; turn to the right.

20. Transgastric right ventricular (RV) inflow-outflow view



Probe location: Maintain the same probe position.

Transducer angle: Maintain angle of 0–20°.

Probe tip position: Maximal right-flexion.

21. Deep transgastric five-chamber view

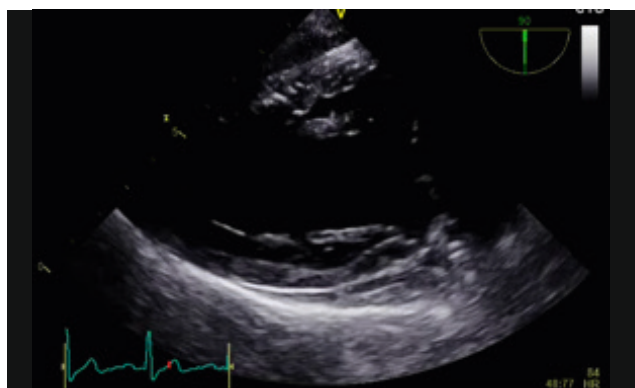


Probe location: Advance the probe to the deep transgastric position.

Transducer angle: Maintain angle of 0–20°.

Probe tip position: Anteflex (left-flexion may be needed).

22. Transgastric two-chamber view



Probe location: Withdraw the probe to the transgastric mid-papillary short-axis view.

Transducer angle: Rotate forward to 90–110°.

Probe tip position: Neutral flexion.

23. Transgastric right ventricular inflow view

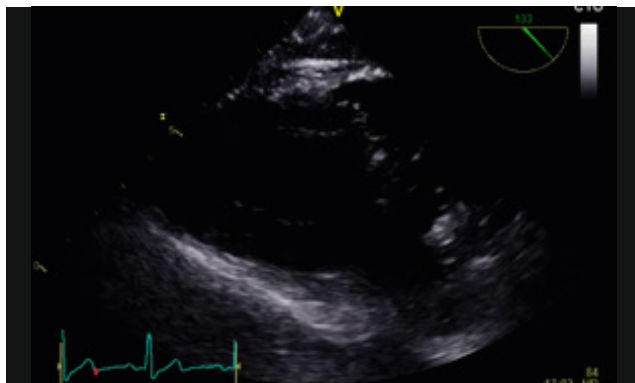


Probe location: Maintain the same probe position.

Transducer angle: Maintain angle of 90–110°.

Probe tip position: Turn to the right; neutral flexion.

24. Transgastric long-axis view

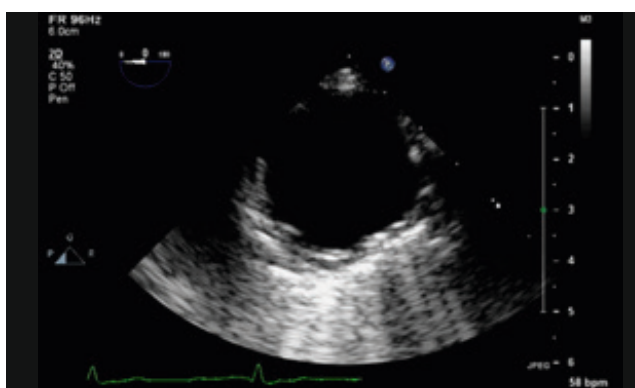


Probe location: Maintain the same probe position.

Transducer angle: Rotate forward to 120–140°.

Probe tip position: Turn to the left; neutral flexion.

25. Mid-esophageal descending aorta short-axis view



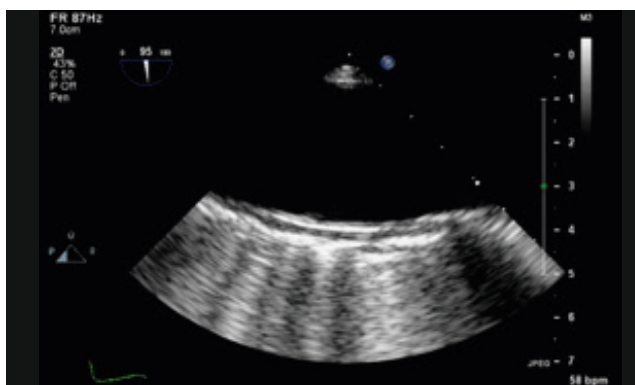
Probe location: Withdraw the probe to just above the diaphragm.

Transducer angle: Rotate back to 0–10°.

Probe tip position: Neutral flexion

Withdraw/advance the probe as necessary to inspect the extent of the descending aorta in the short-axis view.

26. Mid-esophageal descending aorta long-axis view



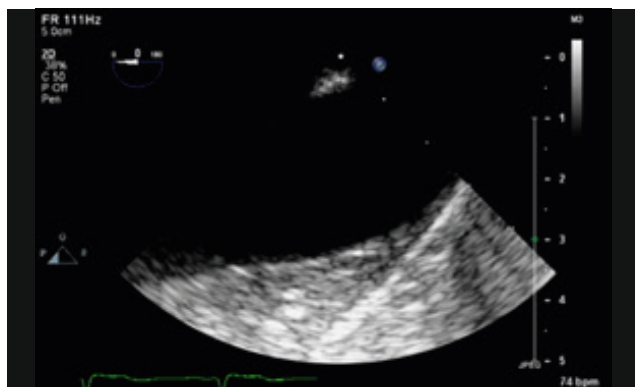
Probe location: Maintain the same probe position.

Transducer angle: Rotate forward to 90–100°.

Probe tip position: Neutral flexion.

Withdraw/advance the probe as necessary to inspect the extent of the descending aorta in the long-axis view.

27. Upper-esophageal aortic arch long-axis view



Probe location: Withdraw the probe to the upper esophageal position.

Transducer angle: Rotate back to 0–10°.

Probe tip position: Neutral flexion.

Now turn the probe to the right to bring the aortic arch (long-axis) into view.

28. Upper-esophageal aortic arch short-axis view



Probe location: Maintain the probe in the upper esophageal position.

Transducer angle: Rotate forward to 70–90°.

Probe tip position: Neutral flexion.

Further reading

Hahn RT, Abraham T, Adams MS, et al. 2013. Guidelines for performing a comprehensive transesophageal echocardiographic examination: Recommendations from the American Society of Echocardiography and the Society of Cardiovascular Anesthesiologists. *J Am Soc Echocardiogr.* **26**: 921–964.