OTHER USES OF TTE

Identifying abnormal vessels

The aorta
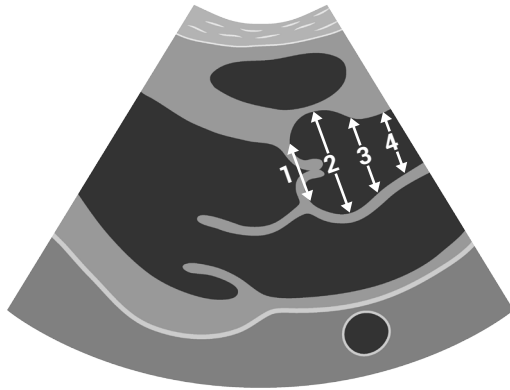
1 Annulus
2 Sinus of valsalva
**3** Sinotubular junction
4 Ascending aorta
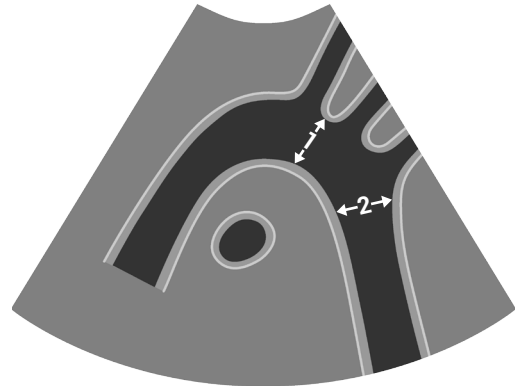
1 Arch
2 Descending aorta

Aortic diameters are related to body habitus, gender, and age, so use the normal ranges recommended by your department, making the corrections they advise (e.g., body surface area or height). There are phone apps and websites that can calculate the expected normal range for your patient based on their height, weight, and age.

As a really rough guide, if you measure a diameter of around 4 cm in the root, ascending aorta, or arch, there is likely to be some degree of dilation so make a thorough assessment of the aorta at all levels and refer to normal ranges. If it's >5.5 cm, intervention may be indicated, but if the patient has Marfan syndrome or a similar connective tissue disorder be more cautious because a diameter of 5.0 cm or even 4.5 cm may trigger an intervention to pre-empt a dissection.

Aortic dissections can be classified using this terminology:

Type A

Type B

Proximal

Distal
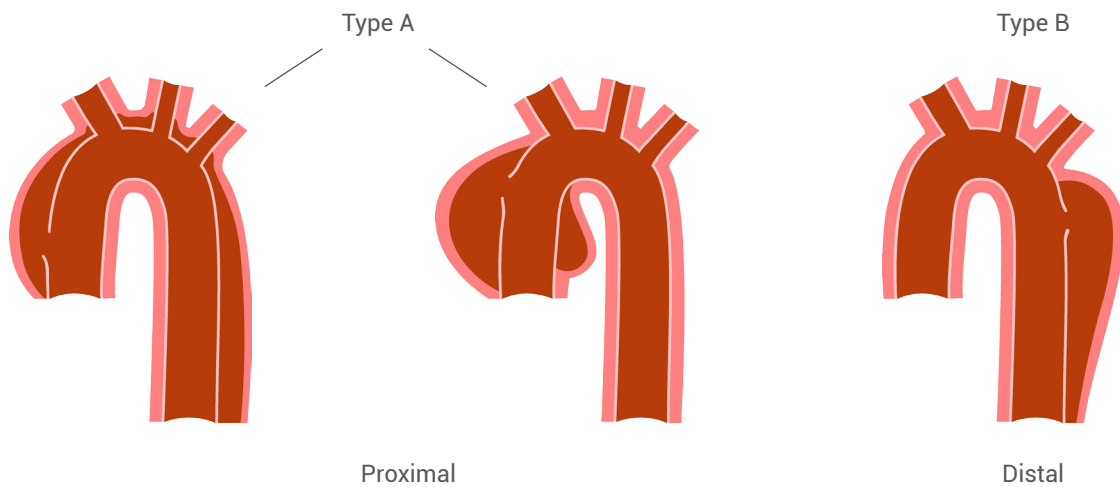
On echo assess the dissection flap, the site of the entry tear, any hematoma, and involvement of other vessels. Measure the aortic diameters and check for pericardial fluid. For type A/proximal dissections make sure that the aortic valve is functioning normally.

IVC

The IVC is normally <2 cm in diameter and collapses fully with a sniff. Its size and reactivity can be used to evaluate filling status and right heart pressures. However, if a patient is ventilated these assumptions cannot be made. The abdominal aorta is sometimes mistaken for the IVC but its motion is very different—it pulses with each cardiac cycle, unlike the IVC which reduces in diameter with inspiration.