Aorta Ultrasound
More Information: AAA - Sonographic Findings

A recent study showed that ultrasound is accurate compared to intra-operative measurements in determining aneurysmal length and width, but was found to be inaccurate in determining measurements of the proximal neck and the iliac arteries.[1] In the same study, it was found that helical CT was accurate in measuring the proximal neck of the aorta, the maximal width and length of the aneurysm, and the iliac arteries. The authors concluded that ultrasound is accurate in diagnosing AAAs and in follow-up studies of these patients, but not in planning for endovascular surgery. Helical CT was found to be useful for diagnosing and following AAAs, as well as in planning for endovascular surgery.

The problem that arises with using ultrasound to measure AAAs is that the sonologist has the ability to hold the transducer at any angle to the aneurysm. On transverse views it is difficult to always be certain that the transducer is at a perpendicular axis to the aneurysm. Failure to be at a perpendicular angle may result in overestimation of aneurysm measurements. For this reason, many prefer to obtain transverse diameters from a coronal window.

Transducer A is perpendicular and correct where B shows how an inaccurate measurement can occur by improper probe placement.

References:

1. Chagas De Azevedo F, Zerati AE, Blasbalg R, et al. Comparison of ultrasonography, computed tomography and magnetic resonance imaging with intraoperative measurements in the evaluation of abdominal aortic aneurysms. *Clinics* 2005:60;21-28.