



THE SOCIETY FOR  
VASCULAR TECHNOLOGY OF  
GREAT BRITAIN AND IRELAND

**Heather Holmes** has completed this personal reflection on **02/11/2017**

**Paper:** Autumn 2017 CPD Questions

### **Personal Reflection:**

#### Description of learning:

Review of a pair of papers comparing the use of 2D and 3D colour duplex ultrasound (CDUS) with the use of CTA for surveillance and detection of endoleak following EVAR.

#### Discussion:

CT has been considered the gold standard for surveillance following EVAR, but these papers both highlight that 2D and 3D CDUS offer an excellent alternative. CDUS was at least as good as CTA at detecting endoleaks, and in the case of 3D CTA, better at detecting the source of the endoleak. Correlation was good between CTA and CDUS for measurement of residual sac diameter.

These papers add weight to the suggestion that CDUS could be used as a primary postoperative surveillance tool, with only certain findings such as increase in sac size or high velocity flow suggestive of endoleak necessitating the need to proceed to CT. This could dramatically reduce the numbers of CTs required for surveillance. This in turn reduces cost, reduces radiation exposure and potential nephrotoxicity from the contrast. CDUS is also often more readily available and is non-invasive. Reduction in use of the CT machine will free up valuable time to see other patients.

The main limitation of CDUS is its reduced ability to detect structural abnormalities within the graft but this can be overcome with the addition of plain X-Ray.

#### Analysis:

Currently, the protocol in our department requires a CT scan to be performed at 6 weeks and one year. If endoleaks are found on CDUS in between times, then the patient can go for contrast enhanced ultrasound and/or CT. Contrast enhanced ultrasound is particularly useful for those patients with poor kidney function.

The CT at 6 weeks provides an important base line immediately post op, but if all is well with the repair then these papers provide evidence that a CT at one year is of no benefit to the patient and in fact follow up with CDUS is preferential. Our protocols are coming up for review and this will be important information to present and discuss, with a view to changing the protocol.

#### Action plan:

Discuss the finding from these papers at a team meeting level, then at a consultant level to agree changes to the protocol.