

Vascular Laboratory Guidelines

Lower limb arterial duplex

Patient Preparation:

Check patient's identification (2 forms of i.d)

Explain test procedure

Obtain verbal consent or implied consent (if patient gets undressed / lies down for scan)

Take relevant history from patient

Ask patient to undress as appropriate

Scanner Preparation:

The probes should be cleaned with Clinell wipes (green packet) after each patient. If a patient is infectious, all staff should follow the Trust's guidelines/policy on infection control. For infectious patients the cleaning of the ultrasound room should be done as outline in the form shown in appendix A. This form should be signed and kept in the department for audit purposes. The scanners and probes must be cleaned to the manufacturer's guidelines.

Procedure:

- 1) May be requested for intermittent claudication, rest pain or graft surveillance.
- 2) Unless otherwise stated the scan should include the infra-renal aorta down to the distal crural vessels. Obtain spectral Doppler samples from each vessel.
- 3) Velocity ratio measurements should be made where stenoses are observed.
- 4) The material used for the bypass graft (PTFE or autologous vein) and the anatomical sites of its proximal and distal anastomoses (femoro-popliteal above or below the knee, femoro-distal, etc) should be outlined in the request form and noted in the report. Peak systolic velocities within a graft should be measured and reported. Low resistance blood flow may appear in bypass graft in the early postoperative period but this is normal and can persist up to 6 weeks post surgery.

Criteria:

Degree of stenosis	Velocity Ratio (<i>Hennerici</i>)
0 to 49% diameter reduction	VR <2
50% to 74% diameter reduction	VR ≥2 but <4
75% to 99% diameter reduction	VR ≥4
occluded	No flow detected

Report:

The report should contain the site of any occlusion, stenosis or aneurysm. The degree of any narrowing should be quantified (see criteria above). The size of any aneurysms should be reported. Vessels not observed e.g. due to calcification, bowel gas or dressings should be noted.

Written reports will be available on Rad Centre/PACS. Diagrams can be drawn in complex cases and where they add value to the report. These diagrams will be scanned onto electronic medical records (EMR). However General Practitioners (GP) cannot access EMR to review diagrammatical results, therefore, the scan results should be a written report on RADCentre/PACS.

An urgent report should be given to the referring consultant if indicated i.e. acute occlusion of a graft or native artery, large aneurysms, rest pain etc.

If during the scan there is an incidental finding that is serious and unexpected then at the bottom of the report the following caption should be added: [ALERT]

Recommended images to be stored on PACS:

- Longitudinal image(s) of abdominal aorta showing diameter measurement(s)
- Spectral Doppler waveform in CFA, PFA origin, SFA, popliteal artery, distal ATA, distal PTA and distal peroneal artery
- Where stenosis is detected, store spectral Doppler velocity pre- and within stenosis (either same image or multiple images)
- Where stenosis / occlusion is detected, store B-mode / colour Doppler images as necessary

For bypass grafts:

- Images of proximal and distal anastomoses where possible
- Inflow vessel spectral Doppler waveform
- Spectral Doppler waveform / velocities within graft
- Spectral Doppler waveform in the vessel distal to graft
- Where stenosis / occlusion is detected, store B-mode / colour Doppler images as necessary
- Store images of any other relevant pathology detected
- Nb. In a one-stop clinic environment where time is limited, it may be difficult to record all of the above images

Reference:

Hennerici M, Neuerburg-Heusler D 1998 Vascular Diagnosis with ultrasound. Thieme, Stuttgart, pp 179-180
Page 2 of 3

Version 1: 26/09/2017

Appendix A

TERMINAL CLEAN CHECK-LIST FOR IMAGING DEPARTMENT

Area/Room to be cleaned:	
Requesters Name:	
Date of Request:	
Time of Request:	
Reason:	MRSA/ C.DIFF

1. Put on apron and gloves, and collect: disposal mop head and handle, yellow bucket, washing up bowl, Diffe Sachet, disposable paper roll / cloths. Dilute 1Diffe Sachet per litre of Warm Water (Do not use Hot Water)	Yes	No	N/A
2. Place used linen in a soluble pink/red bag tie it and put it inside a normal white laundry bag.and seal it and put it in the dirty linen cupboard to await collection			
3. Should any disposable curtains be used in the room they should be removed and put in an orange clinical waste bag and sealed. The hooks should be cleaned with Diffe solution and when dry new disposable curtains put up.			
4. Clean hand high horizontal surfaces with Diffe Solution (include worktops, ledges, sinks, viewing boxes).			
5. Clean x-ray and ultrasound machinery/equipment.			
6. Clean x-ray table/ examination couch including hand set and leads if electric.			
7. Clean clinical equipment (include drip stands, trolleys), steps, doors and door handles using Diffe Solution.			
8. Fully wash floor and place mophead and cloths in orange clinical waste bag. Wipe mop handle and bucket and store dry.			
9. Remove rubbish in secured orange bags. Clean outside of rubbish bin.			
10. The equipment and room is not decontaminated until everything is dry so do not use until then.			

Signature of Nurse/Radiographer in charge..... Date of Completion..... Time of Completion.....	REMEMBER ISOLATION CLEANS ARE ONLY CARRIED OUT USING YELLOW EQUIPMENT
---------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------

Updated: Amanda Rhodes, Senior Sister – 5/8/16