**Arterial Portfolio**

**Report 1 US Doppler l. limb arteries Rt**

RIGHT Lower Limb Arterial Duplex:

The abdominal aorta appears patent, where seen and normal in calibre measuring 1.5cm in AP diameter (inner wall to inner wall).

Where seen, the CIA appears occluded (bowel gas obscuring clear views). There is retrograde flow noted in the IIA origin. The EIA is patent with monophasic flow.

The CFA is patent with monophasic flow. Velocities would suggest a 50-75% CFA stenosis.

The PFA origin is patent with monophasic flow.

The SFA has generalised disease proximally. The SFA occludes for approx. 10cm in length in the mid-distal SFA. The popliteal artery appears patent proximally with low velocity aphasic monophasic flow noted distally.

The TPT appears patent.

The PTA appears patent, where seen (calcified proximally) with velocities suggesting a >75% proximal PTA stenosis (low velocity aphasic flow). The remainder of the PTA appears patent with low velocity aphasic flow noted at ankle level.

The ATA is patent, where seen, with velocities suggesting a 50-75% mid ATA stenosis (low velocity aphasic flow). The ATA is patent at ankle level with low velocity flow.

The peroneal artery is patent, where seen (calcified) with very low velocity, aphasic flow distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 2 US Doppler l. limb arteries Lt**

LEFT Lower Limb Arterial:

The abdominal aorta is patent with mild atheroma and appears normal in calibre measuring 1.5cm in AP diameter (inner to inner).

The CIA and IIA origin are patent with no significant stenosis and triphasic/biphasic flow.

Some poor views of the proximal EIA due to extensive bowel gas. The EIA, where seen, is patent with no significant stenosis and triphasic flow noted in the distal EIA.

There is a small calcified plaque seen in the CFA, however this is not causing a haemodynamically significant stenosis. The CFA is patient with biphasic/triphasic flow.

The PFA origin is patent.

The SFA is patent with sections of calcification throughout but no significant stenosis and triphasic flow noted in the distally.

The popliteal artery is patent with a calcified plaque seen in the distal popliteal but no significant stenosis. The distal Popliteal artery is calcified and patent, where seen, with triphasic flow.

Poor views of the TPT due to calcification, where seen, appears patent.

The peroneal artery is heavily calcified in sections (which is obscuring clear views), low resistive triphasic flow noted distally.

The ATA is patent and has generalised calcified disease throughout with velocities suggesting a 50%-75% stenosis in the mid ATA (difficult to grade stenosis due to irregular heart rate). The distal ATA appears

?occluded for approx. 4cm in length, however, the artery is heavily calcified. Flow appears to reconstitute into the very distal ATA/DPA via collaterals with damped monophasic flow noted at this level.

The PTA is calcified and patent, where seen, with pulsatile? Triphasic flow noted distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 3 U/S Doppler Left Leg Arteries**

Left lower limb:

The abdominal aorta is patent and appears normal in calibre measuring 1.1cm in AP diameter (inner to inner).

The CIA, IIA origin and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and bi/triphasic flow distally

The Popliteal appears occluded ? acute thrombus (adductor hiatus to Distal Popliteal artery).

There appears to be very low aphasic flow in the TPT, ATA, PTA and peroneal artery and appears patent, however due to this very low flow would suggest alternative imaging to determine degree of patency.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 4 U/S Doppler Left Leg Arteries**

The abdominal aorta is patent and appears normal in calibre measuring 1.6cm in AP diameter (inner to inner).

The CIA, (Poor views of the distal CIA and IIA origin due to extensive bowel gas) and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, PTA and peroneal artery are patent with triphasic flow distally.

The ATA is patent and there are raised velocities detected in the mid ATA which would suggest a 50-75% stenosis with pulsatile flow noted in the distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 5 U/S Doppler Right Leg Arteries**

RIGHT Lower Limb Arterial Duplex:

Challenging views in the calf due to superficial oedema.

The abdominal aorta is patent and appears normal in calibre measuring 1.1cm in AP diameter (inner wall to inner wall).

The CIA and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA; the IIA origin not seen.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and biphasic flow noted distally.

The popliteal artery appears occluded throughout with acute thrombus.

Poor views of the TPT ?occluded.

The ATA, where seen, appears occluded.

Poor views of the very proximal PTA ?occluded. There is flow detected in the proximal PTA via an inflow collateral and the remainder of the PTA is patent to ankle level with monophasic flow.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 6 US Doppler l. limb arteries rt**

RIGHT Lower Limb Arterial Duplex:

The abdominal aorta is patent and appears normal in calibre measuring 1.5cm in maximum AP diameter.

The proximal-mid CIA is obscured by bowel gas.

The distal CIA, IIA origin and EIA are patent with no significant stenosis detected and bi/triphasic flow noted in the distal EIA.

The CFA and PFA origin are patent with no significant stenosis detected.

The SFA and popliteal artery are patent with triphasic flow, no significant stenosis detected.

There velocities would suggest an approx.50% stenosis in the TPT; however suboptimal view due to depth.

The ATA, PTA and peroneal artery are patent, where seen, with bi/triphasic flow distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 7 US Doppler l. limb arteries lt**

LEFT Lower Limb Arterial Duplex:

The proximal CIA is obscured by bowel gas. The remainder of the CIA is patent, where seen (bowel gas) with no significant stenosis detected; IIA origin not seen. The EIA is patent with triphasic flow noted distally.

The CFA and PFA origin are patent with no significant stenosis and triphasic flow.

The SFA is patent with velocities suggesting a 50-75% distal SFA stenosis.

The Popliteal artery is patent with no significant stenosis detected and triphasic flow.

The PTA is patent with a >75% PTA origin/proximal PTA stenosis. There is triphasic flow noted in the distal PTA.

The peroneal artery is patent, where seen, with bi/triphasic flow noted distally.

The ATA appears patent, where seen, proximally but the ATA then occludes. The distal ATA appears patent, where seen with low velocity monophasic flow at ankle level.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 8 US Doppler l. limb arteries Rt**

Patient symptoms on the left leg not right

The abdominal aorta is patent where seen (obscuring views in the proximal and mid abdominal aorta) and appears normal in calibre measuring 1.7cm in AP diameter (inner to inner)

The CIA, IIA and majority of the EIA are obscured by extensive bowel gas. The mid and distal EIA is patent with triphasic flow.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent with triphasic flow distally

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 9 US Doppler l. limb arteries Rt**

Right Lower Limb Arterial Duplex:

The abdominal aorta (slightly tortuous proximally) is patent and appears normal in calibre measuring 2.0cm in maximum AP diameter (inner to inner)

Right Lower Limb Arterial Duplex:

The CIA and EIA are patent, where seen and appear normal in calibre (bowel gas is obscuring sections); IIA origin not seen.

The CIA, IIA origin and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA (The mid EIA are obscured by extensive bowel gas).

The CFA is patent with triphasic flow. The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA and PTA and are patent where seen with triphasic flow noted in the distally.

The Peroneal artery appears small in calibre, no flow detected within this? Occluded.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 10 US Doppler l. limb arteries Lt**

Left Lower Limb Arterial Duplex:

The CIA and EIA are patent, where seen and appear normal in calibre (bowel gas is obscuring sections); IIA origin not seen.

The CIA, IIA origin and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA .

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA and PTA and peroneal artery (where seen) are patent where seen with triphasic flow noted in the distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 11 US Doppler l. limb arteries Lt**

LEFT Lower Limb Arterial Duplex:

The abdominal aorta is patent and appears normal in calibre measuring 1.2cm in AP diameter (inner wall to inner wall).

The proximal CIA is patent with no significant stenosis and triphasic flow noted.

Unable to visualise the distal CIA , IIA origin and proximal EIA due to extensive bowel gas.

The distal EIA is patent with no significant stenosis and triphasic flow noted.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The  SFA (with stent) is patent with no significant stenosis detected and triphasic flow.

There is some atheroma noted in the proximal SFA (just before the stent), however velocities would suggest that this is causing <50% narrowing.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The ATA origin is patent.

The proximal-mid TPT appears patent; unable to clearly assess the distal TPT due to cast.

Unable to scan the ATA, PTA and peroneal artery due to cast.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 12 US Doppler l. limb arteries Lt**

LEFT Lower Limb Arterial Duplex:

The abdominal aorta is patent and appears normal in calibre measuring 1.5cm in AP diameter (inner to inner).

The proximal CIA is patent.

The distal CIA, IIA origin and proximal EIA are obscured by extensive bowel gas. The distal EIA is patent with triphasic flow.

The CFA is patent with triphasic flow.

The PFA origin is patent with biphasic flow.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent with no significant stenosis detected and triphasic flow noted distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 13 US Doppler l. limb arteries B**

RIGHT Lower Limb Arterial Duplex:

The proximal abdominal aorta is obscured by bowel gas. The remainder of the abdominal aorta is calcified, patent, where seen and appears normal in calibre measuring 1.9cm in maximum AP diameter (inner wall to inner wall).The CIA origin is patent. The remainder of the CIA and IIA origin is obscured by bowel gas. The EIA is patent, where seen with triphasic flow noted in the distal EIA. The CFA is patent with bi/triphasic flow. The PFA origin is patent with biphasic flow. The SFA is calcified (obscuring views) with no significant stenosis detected, however views are obscured. The distal SFA is patent and calcified with triphasic flow.

The Popliteal artery is calcified and patent with velocities suggesting approx. 50% proximal popliteal artery stenosis. The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The ATA origin not seen. The remainder of the ATA is patent, where seen with triphasic flow distally. The peroneal artery is patent, where seen with biphasic flow distally. The PTA is patent, where seen (calcified) with triphasic flow distally.

LEFT Lower Limb Arterial Duplex:

The CIA and IIA origin are patent. The EIA is patent, where seen (bowel gas) with biphasic flow noted in the distal EIA.

The CFA is patent with triphasic flow.

The PFA origin (high origin) is patent with bi/triphasic flow.

The SFA is calcified and is patent with a >75% mid SFA stenosis. The distal SFA is patent, where seen, with bi/triphasic flow.

The popliteal artery is calcified and patent, where seen with biphasic flow noted distally.

In the region of the distal popliteal artery/proximal TPT velocities would suggest a 50-75% stenosis.

The calf arteries are calcified, which is obscuring clear views.

The TPT is heavily calcified which is obscuring views.

The peroneal artery is patent, where seen (calcified) with biphasic flow distally, no significant stenosis detected.

The PTA is patent, where seen with biphasic flow distally, no significant stenosis detected.

The ATA is patent, where seen, with biphasic flow distally, no significant stenosis detected.

Scanned and reported by Mervyn Mckenna AVS trainee

**Patient 14 U/S Doppler Right Leg Arteries**

The abdominal aorta is calcified (obscuring views in the proximal abdominal aorta) and is patent where seen and appears normal in calibre measuring 1.5cm in AP diameter (inner to inner).

The CIA and majority of the EIA are obscured by extensive bowel gas. The mid EIA is patent with monophasic flow.

 The CFA is heavily calcified, obscuring most views however there appears to be a >75% stenosis in the proximal CFA.

The PFA origin is heavily calcified. ?occluded.

The SFA is heavily calcified sections throughout ? occlusion but patent in section and damped monophasic flow distally.

The popliteal artery is calcified and patent with no significant stenosis detected and monophasic flow distally.

There are poor views of the TPT due to calcification.

The arteries in the calf calcified which is obscuring clear views.

The ATA is patent to the ankle. There are raised velocities detected in the proximal ATA which would suggest a borderline 50% stenosis with damped monophasic flow noted distally.

The proximal peroneal is patent ? occluded in the mid to distal calf.

No flow seen in the PTA ? or very low flow ? occluded.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 15 US Doppler l. limb arteries B**

Doppler LEFT lower limb arteries

The abdominal aorta is calcified (obscuring views in the distal abdominal aorta) and is patent and appears normal in calibre measuring 1.7cm in AP diameter (inner to inner).

Poor views of the CIA and IIA origin due to extensive bowel gas EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA.

The CFA is patent with bi/triphasic flow.

The PFA origin is patent

The SFA is patent with no significant stenosis detected and triphasic flow distally

The popliteal artery is patent with no significant stenosis detected and bi/triphasic flow distally

Poor views of the calf due to superficial oedema There are poor views of the TPT.

There are raised velocities detected in the proximal ATA which would suggest a 50-75% stenosis. The ATA appears to occlude for a short section distally with collaterals and biphasic flow at ankle

The peroneal artery is patent where seen with pulsatile flow noted in the distally.

There are raised velocities detected in the proximal PTA which would suggest a 50-75% stenosis and biphasic flow at ankle.

Doppler Right lower limb arteries

Poor views of the CIA due to extensive bowel gas. The IIA and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA.

The CFA is patent with bi/triphasic flow.

The PFA origin is patent

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and Biphasic flow distally.

Poor views of the calf due to superficial oedema

The TPT is patent. The peroneal artery is patent where seen with pulsatile flow noted in the distally.

The PTA artery are patent where seen with pulsatile flow noted in the distally.

The ATA appears occluded with retrograde flow distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 16 US Doppler l. limb arteries lt**

LEFT Lower Limb Arterial Duplex:

The abdominal aorta is calcified (obscuring views in the proximal abdominal aorta), is patent, where seen and appears normal in calibre measuring approx. 0.75cm in AP diameter (inner wall to inner wall).

Poor views of the CIA due to bowel gas, proximal a short section of the CIA could be seen and appears patent. The IIA origin not seen due to bowel gas. The EIA is patent, where seen (bowel gas) with biphasic flow noted in the distal EIA.

The CFA is patent with bi/triphasic flow.

The PFA origin is patent with velocities suggesting a 50-76% stenosis.

The SFA has generalised calcified disease with a >75% mid SFA stenosis, on B-mode imaging this appears to be caused by a mobile dissection.  The distal SFA is patent with biphasic flow.

The popliteal artery is patent with bi/triphasic flow, no significant stenosis detected.

Unable to clearly visualise the PTA proximal-mid calf ?occluded. There is a small section of flow detected in the distal PTA, however this has the appearance of a short section of recanulised flow and does not appear continuous. The distal PTA at ankle level, is small in calibre and calcified and appears chronically occluded.

The peroneal artery appears patent, where seen (suboptimal views) with ?biphasic flow distally.

The ATA origin appears patent and then occludes for a short section. There is a small section of flow detected in the proximal ATA. The ATA then appears occluded in the mid-calf. The distal ATA is patent with monophasic flow via an inflow collateral.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 17 US Doppler l. limb arteries Lt**

The abdominal aorta is patent (obscuring views in the distal abdominal aorta) and appears normal in calibre measuring 1.6cm in AP diameter (inner to inner).

The CIA and majority of the EIA are obscured by extensive bowel gas but where seen is patent. The distal EIA is patent with triphasic flow.

The IIA is patent.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally

The popliteal artery is patent with mild atheroma but no significant stenosis detected and triphasic flow distally

The TPT, ATA, PTA and peroneal artery are patent where seen with pulsatile flow noted proximally. Unable to scan the mid to distal calf due to compression bandaging.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 18 US Doppler l. limb arteries B**

The abdominal aorta is patent and appears normal in calibre measuring 1.4cm in AP diameter (inner to inner).

Right leg

The stented CIA, IIA origin is patent with no significant stenosis

There is 50-74% stenosis seen in the stented patent EIA with triphasic flow noted in the distal EIA

The CFA and proximal PFA are patent with no significant stenosis with triphasic flow.

The SFA has generalised calcified disease throughout with velocities suggesting a 50%-74% stenosis in the mid SFA with triphasic flow noted distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT is occluded.

The peroneal artery is occluded proximally but patent at the mid-distal calf filled by collaterals.

The proximal PTA is occluded but filled by collaterals and is patent in the mid/distally with monophasic waveform.

The proximal ATA is patent then occludes segmentally and is patient at the ankle (filled by collaterals) with very low monophasic flow.

LEFT leg

The CIA, IIA origin is patent with no significant stenosis. There is borderline 50% stenosis seen in the proximal EIA (some bowel gas excluding views) with triphasic flow noted in the distal EIA.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery and tibio-peroneal trunk are patent with no significant stenosis detected and biphasic flow distally.

There are raised velocities detected at the origin of the PTA which would suggest a 50-74% stenosis with biphasic flow noted distally.

The peroneal artery is patent with biphasic flow noted distally.

The proximal/mid ATA is patent with biphasic flow noted with an occlusion of the distal calf ATA.  The DPA on the foot is filled by collaterals.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 19 US Doppler l. limb arteries B**

The abdominal aorta is patent measures 3.2 cm in AP diameter (inner to inner) along the entire length.

The Right leg

The Common Iliac artery is patent and aneurysmal and measures 2.15 cm in AP diameter (inner to inner).

There appears to be a ? chronic dissection flap or second  channel seen in the proximal  CIA with raised velocities detected in the mid CIA which would suggest >75% stenosis.

Poor views of the IIA origin and proximal to Mid EIA due to extensive bowel gas. The distal EIA is patent with triphasic flow.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent where seen with triphasic flow distally.

The Left Leg

The Common Iliac artery is patent and normal in calibre.

Poor views of the IIA origin and proximal to Mid EIA due to extensive bowel gas.

The External Iliac artery is patent and aneurysmal and measures 2.88 cm in AP diameter (inner to inner). The distal EIA is patent with triphasic flow.

The CFA is patent with triphasic flow.

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent where seen with triphasic flow distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 20 US Doppler l. limb arteries B**

RIGHT Lower Limb Arterial Duplex:

Very poor views in the abdomen due to body habitus.

Unable to visualise the abdominal aorta and the majority of the common iliac artery. The EIA is patent with triphasic flow.

The CFA and PFA origin are patent with triphasic flow.

The SFA (with mild calcification distally), popliteal artery and the tibio-peroneal trunk are patent with no significant stenosis and triphasic flow.

The PTA and Peroneal artery are patent, calcified resistive triphasic flow noted distally. Unable to image the very distal PTA/onto the foot due to dressing.

The proximal ATA is and the mid/distal calf ATA is occluded with flow reconstituting in the foot (damped biphasic waveforms).

LEFT Lower Limb Arterial Duplex:

Unable to visualise the majority of the iliac arteries. The EIA is patent with no obvious focal significant stenosis but diffuse raised velocities suggest the presence of moderate (<50%) disease - not well imaged.

The CFA and PFA origin are patent with triphasic flow.

There is soft plaque at the origin of superficial femoral artery (SFA) which causes a 50-74% stenosis.

Distal to this the mid/distal SFA has mild generalised calcification with no significant stenosis with triphasic waveforms.

The popliteal artery is patent with a low end 50-74% stenosis noted distally.  The tibio-peroneal trunk is patent with no significant stenosis with triphasic waveforms.

The PTA and Peroneal artery are patent, calcified with triphasic flow noted distally.

The proximal ATA appears patent before occluding in the mid-distal calf. The DPA in the foot is patent

and is filled by collaterals.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 21** U/S Doppler Left Leg Arteries

There is a mixed echogenic area seen in the groin consistent with the appears of a lymph node.

The abdominal aorta is patent and appears normal in calibre measuring 1.7cm in AP diameter (inner to inner).

The Proximal CIA is patent with no significant stenosis with triphasic flow. The Mid CIA to Distal EIA Stent is patent with no significant stenosis and triphasic flow noted in the distal EIA.

The CFA and the origin of the PFA are patent with no significant stenosis with triphasic waveforms.

The SFA is patent with no significant stenosis detected and triphasic flow distally

The popliteal artery and the TPT are patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent where seen with triphasic flow distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 22** U/S Doppler Right Leg Arteries

Portable scan but very clear views

The abdominal aorta is patent and appears normal in calibre measuring 1.2cm in AP diameter (inner to inner).

The proximal CIA is patent with triphasic waveforms, however some poor views of the mid and distal CIA and IIA origin due to extensive bowel gas but where seen are patent.

The EIA is patent with no significant stenosis and triphasic flow noted in the distal EIA.

The CFA is patent with no significant stenosis and triphasic flow noted in the distally

The PFA origin is patent.

The SFA is patent with no significant stenosis detected and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent with no significant stenosis and triphasic flow noted in the distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 23** US Doppler l. limb arteries Lt

The distal abdominal aorta is patent thrombus laden (patent lumen measures 2.7cm) and aneurysmal in calibre measuring 4.1cm in AP diameter (inner to inner).

The CIA is calcified and ectatic with no significant stenosis. Poor views of the IIA origin. The EIA is patent with no significant stenosis and bi/triphasic flow noted in the distal EIA

There is a small calcified plaque seen in the CFA however this is not causing a haemodynamically significant stenosis. The CFA is patient with triphasic flow.

The PFA origin is patent.

The SFA has generalised calcified disease throughout however this is not causing a haemodynamically significant stenosis. The SFA is patient with bi/triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and bi/triphasic flow distally

The TPT is patent with a distal 50-75% stenosis.

The ATA is patent where seen with bi/triphasic flow distally.

There is >75% stenosis seen in the proximal PTA. The PTA is in the mid-calf then occluded in the mid to distal calf with collaterals. The PTA is patent in the distal calf with retrograde flow.

The peroneal artery is patent where seen with bi/triphasic flow distally.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 24** US Doppler l. limb arteries B

The abdominal aorta is calcified with raised velocities (200cm/s) along the length of the abdominal aorta but not causing a haemodynamically significant stenosis. The abdominal aorta is patent and appears normal in calibre measuring 1.2cm in AP diameter (inner to inner).

Right Lower Limb

The CIA and EIA are patent with no significant stenosis and triphasic flow noted in the distal EIA. There are some poor views of the IIA origin and proximal EIA due to extensive bowel gas however there are triphasic waveforms noted in the distal EIA.

The CFA and the origin of the PFA are patent with no significant stenosis with triphasic waveforms.

The SFA is patent with raised velocities in the mid/distal SFA suggesting a 50%-75% stenosis.

The popliteal artery and the TPT are patent with no significant stenosis detected and triphasic flow distally.

The peroneal artery is patent with triphasic flow noted in the distally.

There are raised velocities detected in the origin/proximal PTA which would suggest a 50-75% stenosis with biphasic flow noted distally.

The proximal ATA is patent. There are poor views of the mid ATA due to? oedema/tissue density. The mid ATA may be occluded as there is retrograde flow in the mid and distal ATA. The Distal ATA is patent.

Left Lower Limb

The CIA is patent with raised velocities in the mid CIA suggesting a high-end 50%-75% stenosis caused by heterogeneous/soft plaque. The IIA is patent.

There are some poor views of the proximal EIA due to extensive bowel gas however the mid to distal EIA is patent with triphasic noted in the distal EIA.

The CFA and the origin of the PFA are patent with no significant stenosis with triphasic waveforms.

The SFA is patent with raised velocities in the Mid SFA suggesting a <50% stenosis.

The popliteal artery and tibio-peroneal trunk are patent with no significant stenosis detected and triphasic flow distally.

The PTA and peroneal artery are patent with biphasic flow noted in the distally.

The proximal ATA is patent. There are poor views of the mid ATA due to ?odeama. The mid ATA may be occluded. The distal ATA is patient with biphasic signals at the ankle.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 25** U/S Doppler Left Leg Arteries

The abdominal aorta is patent and appears normal in calibre measuring 1.1cm in AP diameter (inner to inner).

The CIA, IIA origin are patent with no significant stenosis with biphasic waveforms.

The EIA is patent with no significant stenosis and mono/biphasic flow noted in the distal EIA filling into collaterals

The distal CFA is occluded

The PFA origin is occluded

The entire SFA is occluded

The entire popliteal artery is occluded

The TPT, ATA, PTA and peroneal artery are calcified and appear occluded to the ankle.

Scanned and reported by Mervyn Mckenna AVS trainee

**Report 26** U/S Doppler Both Leg Arteries

Challenging scan due to patient mobility and compliance

The entire abdominal aorta is obscured by bowel gas

Right Lower Limb Arterial Duplex:

Poor views of the CIA and IIA origin and proximal EIA due to extensive bowel gas. The distal EIA is patent with tri/biphasic flow.

There is a small calcified plaque seen in the CFA, however this is not causing a haemodynamically significant stenosis. The CFA is patient with triphasic flow.

The PFA origin is patent.

The SFA is patent with small calcified plaques seen in the SFA however this is not causing a haemodynamically significant stenosis and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and bi/triphasic flow distally.

The TPT, ATA, PTA and peroneal artery are patent with bi/triphasic flow distally.

Left Lower Limb Arterial Duplex:

Poor views of the CIA and IIA origin and proximal EIA due to extensive bowel gas. The distal EIA is patent with tri/biphasic flow.

There is a small calcified plaque seen in the CFA, however this is not causing a haemodynamically significant stenosis. The CFA is patient with triphasic flow.

The PFA origin is patent.

The SFA is patent with small calcified plaques seen in the mid SFA however this is not causing a haemodynamically significant stenosis and triphasic flow distally.

The popliteal artery is patent with no significant stenosis detected and bi/triphasic flow distally

The TPT, ATA and peroneal artery are patent with biphasic flow distally.

The proximal to mid PTA is patent. The distal PTA is occluded (5cm long) with collaterals and retrograde filling at the ankle. The PTA into the foot is patent.

Scanned and reported by Mervyn Mckenna AVS trainee

## Description: foundationlogocol

## 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 infections, 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** *(Hennerici)* |
| 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