25 scans for this modality (from the last 3 months)

Single leg VV (primary)
Single leg VV (secondary)
DVT arm
DVT above knee
DVT calf
Pre-op Vein mapping
Pre-op VV mark
Intra-op VV scan

1. Single DVT

REPORT E-75447362 VERIFIED Attended-10-Nov-2022 WALCT/WALCT-10-Nov-2022

Clinical History :
Clinical details: 79 M with history of rectal cancer and DDimer 3000, swelling of the right leg for doppler
Specific question to be answered: ?? right leg DVT

US Compression venography lower limb Rt VERIFIED Attended-10-Nov-2022 WALCT/WALCT-10-Nov-2022

DVT (RT)

SITE	RIGHT	
External Iliac:	NT	No thrombus
Common femoral:	NT	No thrombus
Profunda femoris:	NT	No thrombus
Femoral:	NT	No thrombus
Popliteal:	T	THROMBUS
Gastrocnemius:	NT	No thrombus
Soleal vein:	NT	No thrombus
Posterior tibial:	T	THROMBUS
Anterior tibial:	NT	No thrombus
Peroneal vein:	T	THROMBUS
Long saphenous:	NT	No thrombus
Short saphenous:	NT	No thrombus
Summary:	N	No DVT

Comments:

Comments:

RIGHT:

There is occlusive thrombus in one of the PTVs from mid calf; one of the PeroVs from distal calf and the other PeroV from mid calf. These all extend up the calf to the very distal PopV.
Proximal PopV, FV and CFV appear patent.

2. Upper limb DVT

REPORT E-75447034 VERIFIED Attended-10-Nov-2022 WALCT/WALCT-10-Nov-2022

Clinical History :
Clinical details: Breats ca - on chemo - left arm pain
Specific question to be answered: ?DVT ?IVC related

US Doppler vein map upper limb Lt VERIFIED Attended-10-Nov-2022 WALCT/WALCT-10-Nov-2022

Arm vein (LT)

SITE	LEFT	
Internal jugular vein:	NT	No thrombus
Brachiocephalic vein:	NT	No thrombus
Subclavian vein:	NT	No thrombus
Axillary vein:	NT	No thrombus
Brachial vein:	T	Thrombus
Ulnar veins:	T	Thrombus
Radial veins:	NT	No thrombus
Cephalic vein:	T	Thrombus
Basilic vein:	T	Thrombus

Comments:

Comments:
LEFT:
There is occlsuive thrombus in the medial ulnar vein from ~5cm below the brachial bifurcation in the distal forearm.
This extends through the medial brachial vein to ~5cm below armpit level (combination of occlusive and partial thrombus).

Occlusive thrombus in the basilic vein from a branch in the mid forearm, through the basilic vein to the insertion to the brachial vein in proximal upper arm. This also extends into the median cubital vein.

Occlusive thrombus in the cephalic vein and a dorsal cephalic branch from wrist to mid forearm.
Cephalic vein at proximal forearm/ACF is patent.

There is occlusive thrombus in a very small superficial vein on the dorsal distal forarm, ~10cm length which appears to originate from a ?occluded perforator vein.

3. Upper limb DVT

REPORT E-75445346 VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

Clinical History :
Clinical details: breast ca - c/o right arm pain - on chemo - PICC line in0siuty
Specific question to be answered: ?dvt

US Doppler vein map upper limb Rt VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

Arm vein (RT)

SITE	RIGHT	
Internal jugular vein:	NT	No thrombus
Brachiocephalic vein:	NT	No thrombus
Subclavian vein:	S	See comments
Axillary vein:	NT	No thrombus
Brachial vein:	NT	No thrombus
Ulnar veins:	NT	No thrombus
Radial veins:	NT	No thrombus
Cephalic vein:	NT	No thrombus
Basilic vein:	T	Thrombus

Comments:

Comments:

RIGHT:
There is thrombus adhered to the line from the mid upper arm basilic, extending to armpit level where it becomes occlusive. Limited view of the insertion to the axillary vein due to depth, unable to comment on whether this extends into the very distal axillary vein. (~5-10cm length thrombus, cannot see proximal end). Axillary vein at mid level appears patent with phasic flow.

The subclavian vein is seen with a small lumen calibre with raised velocities just proximal to the clavicle bone. Likely compression by the clavicle, however, unable to rule out small isolated thrombus at this level.

4. Bilateral DVT

REPORT E-75434854 VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

Clinical History :
Clinical details: Metastatic lung cancer, bilateral calf pain , L>Right , tender posterior calf. High risk for VTE
Specific question to be answered: ? DVT

US Compression venography lower limb B VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

DVT (BI)

SITE	RIGHT		LEFT	
External Iliac:	NT	No thrombus	NT	No thrombus
Common femoral:	NT	No thrombus	NT	No thrombus
Profunda femoris:	NT	No thrombus	NT	No thrombus
Femoral:	T	THROMBUS	T	THROMBUS
Popliteal:	T	THROMBUS	T	THROMBUS
Gastrocnemius:	N	Not done	N	Not done
Soleal vein:	N	Not done	N	Not done
Posterior tibial:	N	Not done	N	Not done
Anterior tibial:	N	Not done	N	Not done
Peroneal vein:	N	Not done	N	Not done
Long saphenous:	N	Not done	N	Not done
Short saphenous:	N	Not done	N	Not done
Summary:	P	Proximal DVT	P	Proximal DVT

Comments:
Comments:

BILATERALLY:

There is occlusive thrombus in the all of the bifid/trifid PopVs bilaterally. This extends through one of the bifid FVs bilaterally. The proximal extent is in the mid thigh on the right and the distal thigh on the left.

CFVs and proximal FVs remain patent.
calf veins not scanned due to proximal findings.

5. Upper limb DVT

REPORT E-75445346 VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

Clinical History :
Clinical details: breast ca - c/o right arm pain - on chemo - PICC line in0siuty
Specific question to be answered: ?dvt

US Doppler vein map upper limb Rt VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

Arm vein (RT)

SITE	RIGHT	
Internal jugular vein:	NT	No thrombus
Brachiocephalic vein:	NT	No thrombus
Subclavian vein:	S	See comments
Axillary vein:	NT	No thrombus
Brachial vein:	NT	No thrombus
Ulnar veins:	NT	No thrombus
Radial veins:	NT	No thrombus
Cephalic vein:	NT	No thrombus
Basilic vein:	T	Thrombus

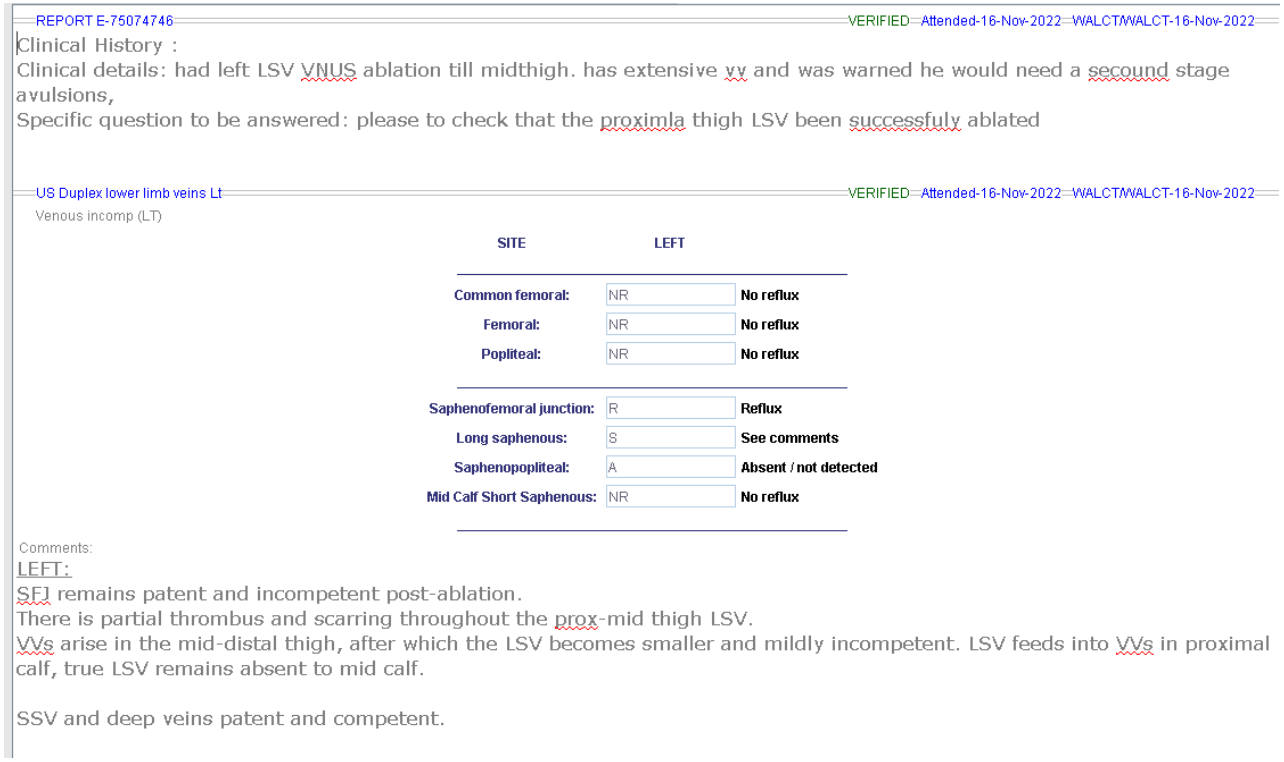
Comments:

Comments:

RIGHT:
There is thrombus adhered to the line from the mid upper arm basilic, extending to armpit level where it becomes occlusive. Limited view of the insertion to the axillary vein due to depth, unable to comment on whether this extends into the very distal axillary vein. (~5-10cm length thrombus, cannot see proximal end). Axillary vein at mid level appears patent with phasic flow.

The subclavian vein is seen with a small lumen calibre with raised velocities just proximal to the clavicle bone. Likely compression by the clavicle, however, unable to rule out small isolated thrombus at this level.

6. Secondary veins



REPORT E-75074746 VERIFIED Attended-16-Nov-2022 WALCT/WALCT-16-Nov-2022

Clinical History :
Clinical details: had left LSV VNUS ablation till midthigh. has extensive vv and was warned he would need a secound stage avulsions,
Specific question to be answered: please to check that the proximla thigh LSV been successfuly ablated

US Duplex lower limb veins Lt VERIFIED Attended-16-Nov-2022 WALCT/WALCT-16-Nov-2022

Venous incomp (LT)

SITE	LEFT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	R	Reflux
Long saphenous:	S	See comments
Saphenopopliteal:	A	Absent / not detected
Mid Calf Short Saphenous:	NR	No reflux

Comments:
LEFT:
SFJ remains patent and incompetent post-ablation.
There is partial thrombus and scarring throughout the prox-mid thigh LSV.
VVs arise in the mid-distal thigh, after which the LSV becomes smaller and mildly incompetent. LSV feeds into VVs in proximal calf, true LSV remains absent to mid calf.

SSV and deep veins patent and competent.

7. Single-leg DVT

REPORT E-75442476 VERIFIED Attended-08-Nov-2022 WALCT/WALCT-08-Nov-2022

Clinical History :
Clinical details: Increased swelling and cramping feeling to leg. Pain to knee also. On warfarin for an extensive DVT. INR in range
Specific question to be answered: ?new DVT

US Compression venography lower limb Lt VERIFIED Attended-08-Nov-2022 WALCT/WALCT-08-Nov-2022

DVT (LT)

SITE	LEFT	
External Iliac:	NT	No thrombus
Common femoral:	O	OLD THROMBUS
Profunda femoris:	O	OLD THROMBUS
Femoral:	O	OLD THROMBUS
Popliteal:	O	OLD THROMBUS
Gastrocnemius:	NT	No thrombus
Soleal vein:	NT	No thrombus
Posterior tibial:	NT	No thrombus
Anterior tibial:	NT	No thrombus
Peroneal vein:	NT	No thrombus
Long saphenous:	NT	No thrombus
Short saphenous:	O	OLD THROMBUS
Summary:	S	See comments

Comments:

LEFT:
No evidence of acute DVT.

Scarring/old thrombus throughout the CFV, FV, proximal PFV and POPV.
No thrombus in the calf veins.

Scarring noted in the proximal SSV.
The LSV feeds into extensive varicosities in the proximal calf, no evidence of phlebitis.

Comments:
Evidence of venous incompetence, suggest vascular referral.

8. Upper limb DVT

REPORT E-75423052 VERIFIED Attended-15-Nov-2022 WALCT/WALCT-15-Nov-2022

Clinical History :
Clinical details: Persistent upper arm and proximal forearm swelling since early summer, background sarcoid
Specific question to be answered: ?evidence vascular abnormality or soft tissue inflammation contributing to swelling

US Doppler vein map upper limb Rt VERIFIED Attended-15-Nov-2022 WALCT/WALCT-15-Nov-2022

Arm vein (RT)

SITE	RIGHT	
Internal jugular vein:	NT	No thrombus
Brachiocephalic vein:	NT	No thrombus
Subclavian vein:	NT	No thrombus
Axillary vein:	NT	No thrombus
Brachial vein:	NT	No thrombus
Ulnar veins:	NT	No thrombus
Radial veins:	NT	No thrombus
Cephalic vein:	NT	No thrombus
Basilic vein:	NT	No thrombus

Comments:
Comments:
RIGHT:
No evidence of upper limb DVT.

9. Upper limb DVT

REPORT E-75432654 VERIFIED Attended-03-Nov-2022 WALCT/WALCT-03-Nov-2022

Clinical History :
Clinical details: CPE +VE in side room -swollen R forearm -ITU stepdown, art line side -Allen's positive -no evidence of infection
Specific question to be answered: ?arterial/venous thrombus

US Doppler vein map upper limb Rt VERIFIED Attended-03-Nov-2022 WALCT/WALCT-03-Nov-2022

Arm vein (RT)

SITE	RIGHT	
Internal jugular vein:	PT	Partial thrombus
Brachiocephalic vein:	NT	No thrombus
Subclavian vein:	NT	No thrombus
Axillary vein:	NT	No thrombus
Brachial vein:	NT	No thrombus
Ulnar veins:	NT	No thrombus
Radial veins:	NT	No thrombus
Cephalic vein:	T	Thrombus
Basilic vein:	NT	No thrombus

Comments:

Comments:

Right:
~5cm length of partial thrombus adhered to the wall in the proximal IJV. This does not appear to extend into brachiocephalic or subclavian veins.

Near-occlusive thrombus in the cephalic vein from ACF to distal upper arm, ~4cm length.
Mixed partial and occlusive thrombus for <1cm length surrounding the line in the cephalic vein at distal forearm.

No evidence of upper limb DVT.

10. Pre-op vein map

REPORT E-75426447 VERIFIED Attended-03-Nov-2022 WALCT/WALCT-03-Nov-2022

Clinical History :
Clinical details: 61M - work up for CABG
Specific question to be answered: Is there any evidence of carotid artery stenosis?

US Doppler vein map lower limb Lt VERIFIED Attended-03-Nov-2022 WALCT/WALCT-03-Nov-2022

LEFT:
No evidence of proximal DVT.
LSV is patent, runs straight and within the fascia. Supine calibres:
prox thigh- 2.3mm
mid thigh- 2.9mm9
distal thigh- 2.5mm
knee- 2.2mm
prox calf- 2.0mm
mid calf- 2.2mm
distal calf- 2.8mm

11. Pre-op vein map

REPORT E-75426446 VERIFIED Attended-03-Nov-2022 WALCT/WALCT-03-Nov-2022

Clinical History :
Clinical details: 61M - work up for CABG
Specific question to be answered: Is there any evidence of carotid artery stenosis?

US Doppler vein map lower limb Rt VERIFIED Attended-03-Nov-2022 WALCT/WALCT-03-Nov-2022

RIGHT:
No evidence of proximal DVT.
LSV is patent, runs straight and within the fascia. Supine calibres:
prox thigh- 2.7mm
mid thigh- 2.2mm
distal thigh- 1.6mm
knee- 2.6mm
prox calf- 2.1mm. Branched
mid calf- 1.9mm
distal calf- 2.7mm. Branched

12. Secondary veins

REPORT E-75085716 VERIFIED Attended-02-Nov-2022 WALCT/WALCT-02-Nov-2022

Clinical History :
Clinical details: lipodermatosclerosis and venous ulcer
Specific question to be answered: any superficial or deep venous insufficiency

US Duplex lower limb veins Rt VERIFIED Attended-02-Nov-2022 WALCT/WALCT-02-Nov-2022

Venous incomp (RT)

SITE	RIGHT	
Common femoral:	NR	No reflux
Femoral:	MR	Minor reflux
Popliteal:	R	Reflux
Saphenofemoral junction:	A	Absent / not detected
Long saphenous:	A	Absent / not detected
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	NR	No reflux

Comments:
RIGHT:
Minor reflux in the FV and reflux in PopV. No evidence of thrombus or scarring.

SFJ absent post treatment.
There are small varicosities seen in the groin, ?pelvic source.
5mm incompetent perforator in the distal medial calf ~10cm above medial malleolus supplies lower calf VVs.

SPJ and SSV patent and competent.

Comments:
No change since previous scan.

13. Primary veins

REPORT E-75085719 VERIFIED Attended-02-Nov-2022 WALCT/WALCT-02-Nov-2022

Clinical History :
Clinical details: lipodermatosclerosis and venous ulcer
Specific question to be answered: any superficial or deep venous insufficiency

US Duplex lower limb veins Lt VERIFIED Attended-02-Nov-2022 WALCT/WALCT-02-Nov-2022

Venous incomp (LT)

SITE	LEFT	
Common femoral:	NR	No reflux
Femoral:	R	Reflux
Popliteal:	R	Reflux
Saphenofemoral junction:	NR	No reflux
Long saphenous:	R	Reflux
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	NR	No reflux

Comments:
LEFT:
Reflux in the FV and PopV. No evidence of thrombus or scarring.

SFJ is patent and competent.
Reflux in LSV from proximal thigh to calf. Supine calibre 3-5mm. VVs arise in the distal thigh and proximal calf.

SPJ and SSV patent and competent.

14. Primary veins

REPORT E-75175323 VERIFIED Attended-04-Nov-2022 WALCT/WALCT-04-Nov-2022

Specific question to be answered: Venous insufficiency and if amenable to VNUS
Clinical details: F2F review 6/7: Several years history of bilat VVs and treatment bilaterally at KCH aged in 30s. Symptoms of leg ache and describes claudication pain. Mobilises with stick and a/w left hip replacement. O/E: sig VVs seen anteromedial thigh and calf in LSV distribution on right, plus posterior mid calf on left. Sig skin changes bilat lower calf and feet.

US Duplex lower limb veins Lt VERIFIED Attended-04-Nov-2022 WALCT/WALCT-04-Nov-2022

Venous incomp (LT)

SITE	LEFT	
Common femoral:	R	Reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	R	Reflux
Long saphenous:	R	Reflux
Saphenopopliteal:	A	Absent / not detected
Mid Calf Short Saphenous:	R	Reflux

Comments:
LEFT:
SFJ and LSV reflux.
LSV runs straight and within the fascia, supine calibres ~4-5mm thigh, 2mm calf.
VVs arise in the proximal calf and track posteriorly and medially. In the prox-mid medial calf there is a collection of VVs and a competent perforator which is feeding reflux into a cluster of large tortuous deep veins, this corresponds to the large lump in this area.

SSV is incompetent from the mid calf due to communication with posterior VVs. The SSV above this is competent and drains into a competent perforator. Proximal SSV is absent.

Reflux in the CFV, likely secondary to incompetent SFJ. Remaining deep veins are patent and competent.

15. Secondary veins

REPORT E-75175323 VERIFIED Attended-04-Nov-2022 WALCT/WALCT-04-Nov-2022

Specific question to be answered: Venous insufficiency and if amenable to VNUS
Clinical details: F2F review 6/7: Several years history of bilat VVs and treatment bilaterally at KCH aged in 30s. Symptoms of leg ache and describes claudication pain. Mobilises with stick and a/w left hip replacement. O/E: sig VVs seen anteromedial thigh and calf in LSV distribution on right, plus posterior mid calf on left. Sig skin changes bilat lower calf and feet.

US Duplex lower limb veins Rt VERIFIED Attended-04-Nov-2022 WALCT/WALCT-04-Nov-2022

Venous incomp (RT)

SITE	RIGHT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	R	Reflux
Long saphenous:	A	Absent / not detected
Saphenopopliteal:	A	Absent / not detected
Mid Calf Short Saphenous:	R	Reflux

Comments:
RIGHT:
It appears that both a recurrent SFJ and ?incompetent pelvic veins are the source of the anterior-medial thigh VVs. The VVs track also to the medial calf and feed reflux into mid SSV posteriorly. Prox SSV absent.

LSV remains absent post treatment.

Deep veins patent and competent.

16. Primary veins

REPORT E-75064877 VERIFIED Attended-27-Oct-2022 WALCT/WALCT-27-Oct-2022

Clinical History :
Clinical details: Suspected right leg KT syndrome. Previous LSV clots.
Specific question to be answered: ?level/degree reflux in leg

US Duplex lower limb veins Rt VERIFIED Attended-27-Oct-2022 WALCT/WALCT-27-Oct-2022

Venous incomp (RT)

SITE	RIGHT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	NR	No reflux
Long saphenous:	S	See comments
Saphenopopliteal:	-	----------
Mid Calf Short Saphenous:	NR	No reflux

Comments:
RIGHT:
SFJ, ATV and proximal thigh LSV patent and competent.
?pelvic source feeding a VV from the groin, communicating with the LSV in the mid thigh.
Distal thigh and proximal calf LSV previously seen incompetent, however, unable to demonstrate significant reflux at this level today. Reflux in distal calf LSV. Standing LSV calibre 5.5mm.

Further VVs seen in the medial prox to distal calf and anterior mid calf.
There is thrombophlebitis seen in various locations:
- mid medial calf VVs, ~4cm length
- mid anterior calf VVs, <2cm length
- Mid dorsal foot VVs, <2cm length

17. Primary veins

REPORT E-73520261 VERIFIED Attended-24-Oct-2022 WALCT/WALCT-24-Oct-2022

Clinical History :
Clinical details: Bilateral varicose vein
Specific question to be answered: To assess the reflux

US Duplex lower limb veins Lt VERIFIED Attended-24-Oct-2022 WALCT/WALCT-24-Oct-2022

Venous incomp (LT)

SITE	LEFT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	NR	No reflux
Long saphenous:	S	See comments
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	NR	No reflux

Comments:

LEFT:
Proximal deep veins are patent and competent.

Unable to generate significant reflux in the SFJ or LSV ; however, VVs arise from the competent LSV at knee level and track down medial calf. Minor reflux seen in the distal calf LSV.

SSV patent and competent.

18. Primary veins

REPORT E-73520258 VERIFIED Attended-24-Oct-2022 WALCT/WALCT-24-Oct-2022

Clinical History :
Clinical details: Bilateral varicose vein
Specific question to be answered: To assess the reflux

US Duplex lower limb veins Rt VERIFIED Attended-24-Oct-2022 WALCT/WALCT-24-Oct-2022

Venous incomp (RT)

SITE	RIGHT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	NR	No reflux
Long saphenous:	NR	No reflux
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	NR	No reflux

Comments:
RIGHT:
Proximal deep veins are patent and competent.

Unable to generate significant reflux in the SFJ, LSV or ATV; however, VVs arise from the competent ATV and LSV at mid thigh level and track to medial knee and calf.

Calf LSV absent.
SSV patent and competent.

19. Secondary veins

REPORT E-75059748 VERIFIED Attended-24-Oct-2022 WALCT/WALCT-24-Oct-2022

Clinical History :
Clinical details: Post right SFJ ligation January 2022 - persistant pain in the whole leg (groin to ankle)
Specific question to be answered: ?Recurrent ?thrombosis

US Duplex lower limb veins Rt VERIFIED Attended-24-Oct-2022 WALCT/WALCT-24-Oct-2022

Venous incomp (RT)

SITE	RIGHT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	R	Reflux
Long saphenous:	NR	No reflux
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	NR	No reflux

Comments:
RIGHT:
The SFJ remains patent and incompetent post-ligation.
Residual minor ATV relux. ATV runs straight for ~13cm before feeding VVs in distal medial thigh and calf; supine ATV calibre 4.5-6mm. Previous thrombus in the ATV appears resolved, scarring seen proximally.

LSV, SSV and deep veins patent and competent.

20. Pre-op vein map

REPORT E-75395869 VERIFIED Attended-18-Oct-2022 WALCT/WALCT-18-Oct-2022

Clinical History :
Clinical details: CLTI right leg with ischemic toe ulcer waiting CFA to TPT bypass tomorrow with vein
Specific question to be answered: suitable vein

US Doppler vein map lower limb Rt VERIFIED Attended-18-Oct-2022 WALCT/WALCT-18-Oct-2022

RIGHT:
No evidence of proximal DVT.
LSV is patent runs straight and within the fascia and is branched in the mid thigh and mid calf.
LSV is incompetent in the calf.
Calibres:
3.9mm prox thigh
3.8mm mid thigh
3.2mm distal thigh
3.6mm knee
3.9mm prox calf
3.1mm mid calf
4.4mm distal calf

21. Single-leg DVT

REPORT E-75439436 VERIFIED Attended-07-Nov-2022 WALCT/WALCT-07-Nov-2022

Clinical History :
Clinical details: R Calf pain on exertion & tender to calf squeeze. FH of DVTs around 50 years of age and long term smoker.
Specific question to be answered: ?DVT

US Compression venography lower limb Rt VERIFIED Attended-07-Nov-2022 WALCT/WALCT-07-Nov-2022

DVT (RT)

SITE	RIGHT	
External Iliac:	NT	No thrombus
Common femoral:	NT	No thrombus
Profunda femoris:	NT	No thrombus
Femoral:	NT	No thrombus
Popliteal:	NT	No thrombus
Gastrocnemius:	NT	No thrombus
Soleal vein:	NT	No thrombus
Posterior tibial:	NT	No thrombus
Anterior tibial:	NT	No thrombus
Peroneal vein:	NT	No thrombus
Long saphenous:	NT	No thrombus
Short saphenous:	NT	No thrombus
Summary:	N	No DVT

Comments:
Comments:

RIGHT:
No evidence of lower limb DVT.

22. Single-leg DVT

REPORT E-75442376 VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

Clinical History :
Clinical details: R leg swollen, pitting oedema to mid calf, red discolouration
Specific question to be answered: ?DVT

US Compression venography lower limb Rt VERIFIED Attended-09-Nov-2022 WALCT/WALCT-09-Nov-2022

DVT (RT)

SITE	RIGHT	
External Iliac:	NT	No thrombus
Common femoral:	NT	No thrombus
Profunda femoris:	NT	No thrombus
Femoral:	NT	No thrombus
Popliteal:	NT	No thrombus
Gastrocnemius:	NT	No thrombus
Soleal vein:	NT	No thrombus
Posterior tibial:	NT	No thrombus
Anterior tibial:	NT	No thrombus
Peroneal vein:	NT	No thrombus
Long saphenous:	NT	No thrombus
Short saphenous:	NT	No thrombus
Summary:	N	No DVT

Comments:

Comments:

RIGHT:
No evidence of lower limb DVT.

23. Single-leg DVT

REPORT E-75463500 VERIFIED Attended-17-Nov-2022 WALCT/WALCT-17-Nov-2022

Clinical History :
Clinical details: right leg swelling with pitting oedema.
Specific question to be answered: rule out DVT

US Compression venography lower limb Rt VERIFIED Attended-17-Nov-2022 WALCT/WALCT-17-Nov-2022

DVT (RT)

SITE	RIGHT	
External Iliac:	NT	No thrombus
Common femoral:	NT	No thrombus
Profunda femoris:	NT	No thrombus
Femoral:	NT	No thrombus
Popliteal:	NT	No thrombus
Gastrocnemius:	NT	No thrombus
Soleal vein:	NT	No thrombus
Posterior tibial:	NT	No thrombus
Anterior tibial:	NT	No thrombus
Peroneal vein:	NT	No thrombus
Long saphenous:	NT	No thrombus
Short saphenous:	NT	No thrombus
Summary:	N	No DVT

Comments:

Comments:

RIGHT:
No evidence of lower limb DVT.

24. Primary veins

REPORT E-75191459 VERIFIED Attended-18-Nov-2022 WALCT/WALCT-18-Nov-2022

Clinical History :
Clinical details: had attack of thrombophlebitis in sep 21. along LSV + gio now improved but still has extensive vv left >> right
Specific question to be answered: please bilaetral venous incometece scan + state of deep veins

US Duplex lower limb veins Rt VERIFIED Attended-18-Nov-2022 WALCT/WALCT-18-Nov-2022

Venous incomp (RT)

SITE	RIGHT	
Common femoral:	NR	No reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	R	Reflux
Long saphenous:	R	Reflux
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	NR	No reflux

Comments:
RIGHT:
SFJ and LSV reflux. Supine proximal thigh LSV 3.8mm calibre.
LSV runs straight within the fascia and feeds VVs in the mid thigh, ~15cm below the groin, which track across the anterior thigh, laterally around the knee and then back medially to join the LSV in the proximal calf.
The distal thigh/knee LSV is competent (2.2mm calibre).
There is segmental reflux in the mid calf LSV (3.5-5.2mm calibre) from the VVs which drains into a 5.2mm competent perforator vein.
Distal calf LSV 2.6mm calibre.

SSV is competent.
Deep veins are patent proximally and distally and competent.
No evidence of thrombophlebitis or scarring in the superficial veins/VVs.

25. Primary veins

REPORT E-75191460 VERIFIED Attended-18-Nov-2022 WALCT/WALCT-18-Nov-2022

Clinical History :
Clinical details: had attack of thrombophlebitis in sep 21. along LSV + gio now improved but still has extensive vv left >> right
Specific question to be answered: please bilaetral venous incometece scan + state of deep veins

US Duplex lower limb veins Lt VERIFIED Attended-18-Nov-2022 WALCT/WALCT-18-Nov-2022

Venous incomp (LT)

SITE	LEFT	
Common femoral:	R	Reflux
Femoral:	NR	No reflux
Popliteal:	NR	No reflux
Saphenofemoral junction:	R	Reflux
Long saphenous:	R	Reflux
Saphenopopliteal:	NR	No reflux
Mid Calf Short Saphenous:	R	Reflux

Comments:
LEFT:
SFJ and LSV reflux.
There is scarring seen throughout the thigh LSV.
LSV runs straight within the fascia and feeds VVs in the mid thigh, ~15cm below the groin, and further VVs in the distal thigh.
There is old partial thrombus remaining in some of the VVs in the distal medial thigh/knee.
LSV is absent in the proximal calf and is fed by VVs in the mid-distal calf. Distal calf LSV 1.6mm calibre. Lowest access point at the knee, 2.8mm. 3.4-4.6mm supine calibre in the thigh.
2.8mm incompetent perforator vein contributes to VVs in the mid medial calf.

SSV is competent proximally. 2.6mm incompetent perforator vein feeds reflux into the mid SSV for <2cm length before feeding into VVs which track to the medial posterior ankle.

Deep veins are patent proximally and distally. Scarring seen in a proximal calf medial gastrocnemius vein.
Minor reflux in the CFV, likely secondary to the incompetent SFJ.

LOWER LIMB VENOUS PROTOCOL

Introduction and scope:

Venous incompetence may occur in the deep, superficial or both venous systems of the leg. The object of the examination is to locate the sites of incompetence notably at the saphenofemoral and saphenopopliteal junctions and at the sites of perforating veins. Ultrasound can also be used to assess the suitability of any incompetent veins for endovenous treatment.

Responsibilities:

Test staff: scientific or technical staff trained in vascular duplex scanning.

Equipment:

Colour duplex scanner with a high frequency linear transducer.
Height adjustable couch
Height adjustable chair or low stool

Method:

<u>Test protocol:</u>

The examination of the thigh segment is ideally performed with the patient standing, weight bearing more on the contralateral leg. However, the examiner must assess the patient's mobility and ability to stand for the period of the test. If the patient is unable to stand the patient could alternatively be assessed in a seated position on the edge of the examination couch. When examining the vessels in the calf the patient can be seated.

The examination is primarily performed in a transverse view. The main sites of interest are the CFV, FV, SFJ, GSV, PopV, SPJ, SSV and any incompetent perforators.
Distal and proximal augmentation is used to check for reflux. Anatomy is identified with B-mode ultrasound, and incompetence is investigated and quantified with colour, and spectral Doppler. On identification of reflux an image should be taken in longitudinal section with spectral Doppler used to record the duration of reflux.

Begin the examination in the groin at the level of the CFV. Image the CFV and SFJ in longitudinal section and assess for reflux with distal augmentation (calf or distal thigh). If reflux is observed image this with spectral Doppler and record site and duration of reflux. Assess the FV and popliteal vein in transverse view moving down and periodically checking for sites of reflux. Assess for any sites of thrombus or scarring.

GSV

Commencing at the SFJ, move down the GSV in transverse periodically checking for any reflux or incompetent branches.

If the LSV is incompetent its diameter should be measured with a view to establishing suitability for endovenous treatment, the vein should also be measured with the patient supine where appropriate. Measure the diameter in the proximal thigh and at knee level or at a suitable level for access for endovenous treatment. Also note whether the LSV is straight, whether it is situated within the fascia and whether it runs particularly superficially.

SSV

Check the popliteal vein and SPJ in a longitudinal plane and look for reflux at the SPJ. If the SPJ is incompetent, report its distance from the knee crease and site of insertion (i.e. medial, lateral, deep, superficial). Assess the SSV for reflux and as with the *GSV*, if incompetent, assess for suitability for endovenous treatment.

Perforators

Test for reflux in perforating veins and record diameter and position in cms above the ground for calf perforators, or distance above level of knee crease or below level of groin crease for thigh perforators (NB thigh perforators will need to be marked before surgery). Take PACS images for only positive reflux findings.

Thigh:

Examine the course of the GSV and FV in transverse plane to locate any perforating veins. If found, check for reflux.

Calf:

Examine all aspects of the calf for perforators which are often, but not always, found to join the PTV to the anterior and posterior arch tributaries of the LSV.

Recurrent varicose veins

In cases of recurrence perform the standard examination. In addition, check for recurrent reflux at the operative site(s) and the presence of reportedly stripped veins. Pre-operatively the SPJ or perforators may be located and marked on the leg if necessary.

Alternative sources

Any alternative sources of reflux (e.g. anterior thigh vein, pelvic veins) and any anatomical variations should also be identified.

Reporting:

Reports should include areas of reflux, source of varicose veins, any limitations of the scan, any anatomical variation and sites not adequately examined. Findings reported on CRIS.

If thrombus is identified a description should be reported, such as extent and whether it is acute or chronic. (In the case of identifying untreated acute DVT or high-risk superficial thrombophlebitis, the Vascular team must be contacted)

Where it aids clarity and understanding, the written report should be augmented with a diagram completed on the lower limb venous template (VAS-FRM-17); diagrams are scanned into the PACS system, and this noted in the written report.

Reflux criteria

< 0.5sec - no reflux
0.5 to 1sec - minor reflux
1 to 2secs - significant reflux
>2secs - gross reflux

Images:

- Longitudinal section of the SFJ with PW on augmentation
- Long section of GSV with PW on augmentation
- Typical diameter(s) of GSV if incompetent, including a range if appropriate. Diameter at knee if describing for endovenous treatment
- Long section of SSV with PW on augmentation
- Diameter(s) of SSV where incompetent
- PW image of femoral and popliteal vein on augmentation
- Images of other pathology described in report

When a patient feels faint:
Although not a regular occurrence, patients can feel faint during a lower limb venous incompetence scan. If a patient feels faint:

- Lie them down flat
- Offer them water
- Let at least one other staff member know the situation.
- Do not leave the patient unattended.

Inspection criteria:

Complete CRIS database patient tested/DNA/rebooked.

References:

SVT Professional performance guidelines, Lower Limb Venous Duplex Ultrasound Examination for the Assessment of Venous Insufficiency/Incompetence: http://www.svtgbi.org.uk/assets/Uploads/Professional-Issues/LowerLimbVenousforIncomptenceProtocolPSCFinalJan20131.pdf

NICE Guideline CG168 (July 2013) Varicose veins in the legs: The diagnosis and management of varicose veins

Reviewed:
02/09/2014 HD
02/02/2016 HD
27/03/2020 CED

LOWER LIMB DVT PROTOCOL

Introduction and scope

Ultrasound is established in the investigation of deep venous thrombosis (DVT) and of superficial vein thrombus in the lower limb. Compression ultrasound (CUS) is part of the NICE guidelines pathway for the investigation of patients with suspected DVT and is also used for some patients with suspected pulmonary embolus (PE). Ultrasound is used to ascertain the presence, location and extent of thrombus in the leg veins.

Indications and referral details

Examinations are undertaken for symptomatic patients (swollen leg or legs, painful leg, tenderness) and for high-risk asymptomatic individuals. Follow-up examinations are also conducted to assess progression or regression of thrombus. In the case of inadequate or poor views, patients may be re-referred for a repeat scan after a week however this will be decided by the referring clinician.

The referral should state the reason for the scan including the level of symptoms (whole leg, calf), relevant medical history and which or both legs to be scanned. Contact details of the referring clinician are required.

Equipment

Colour duplex scanner with lower frequency (approx. 3-9MHz) linear array and low frequency (approx. 1-5 MHz) curvilinear array. In very young children and neonates, a high frequency linear array may be used.

Method

Compression ultrasound:

The major veins of the leg are compressed in transverse to confirm the absence of thrombus. Full compression requires complete closure of the visible lumen with the vein walls touching, (see appendix for sample image).

Where possible, the patient should be supine to examine the proximal veins. To rule out proximal DVT, full compression of the common femoral vein (CFV), femoral vein (FV), proximal profunda femoral vein (PFV) and popliteal vein (popV) must be made. Compression should be undertaken at 2-3cm intervals along the femoral vein. Note that it is common for the femoral vein to have a bifid section. In these cases, compression of both lumens must be confirmed. The test is usually done with the linear array but in cases of large thighs, a curvilinear array may provide better clarity.

Compression of the long saphenous (greater saphenous) vein is undertaken.

The calf veins are examined with the patient seated with their leg dependent over the

side of the couch. Compression is undertaken of the tibioperoneal trunk, posterior tibial veins, peroneal veins, gastrocnemius veins and soleal veins. Calf veins are compressed at intervals of 2-3cm. Compression of the short saphenous vein (lesser saphenous vein) is undertaken.

Doppler examination:

Doppler spectral tracings of flow in the common femoral or distal external iliac vein are made. This may be obtained in either transverse or long section. The spectral flow trace normally shows fluctuation in response to breathing or R heart pressure changes (see appendix). Where respiratory changes are unclear, a Valsalva or cough response can be used. Absence of fluctuation in flow is suggestive of proximal obstruction. In this case, it is useful to compare the trace with that from the contralateral side. Leg swelling can be cause by compression of the iliac veins. In this case, the Doppler sonogram will show constant or near-constant velocity or very low velocities. Direct imaging of the iliac veins can be helpful in determining whether this is due to compression or DVT.

Colour flow imaging (CFI) can also be useful in helping to identify the location of calf veins and their corresponding artery. They can also identify flow channels around thrombus as a result of recanalization of thrombus.

Other findings:

Alternative causes of leg swelling include cellulitis, lymphoedema and haematoma. Swelling behind the knee can result from a Baker's cyst or popliteal artery aneurysm. The concluding report should include comments on the ultrasound appearance of any abnormal features. In the case of previously unknown arterial aneurysm, the referring clinician should be notified and the vascular surgery team informed.

Reporting

The report should identify all veins examined and whether there is thrombus or not, and whether images were adequate for a conclusive assessment at that level. Thrombus is reported as occlusive or partial. The location and extent of thrombus is reported. In the case of external iliac vein thrombus (EIV), if the proximal extent cannot be visualised, the contralateral EIV is examined. Bilateral occlusion may indicate occlusion of the IVC which may be confirmed by direct imaging. In cases of superficial vein thrombus, the distance from the proximal extent to superficial/deep vein confluence (for example saphenofemoral junction) should be recorded.

Where it is possible, a description of the thrombus appearance should be made. Any other relevant observations and findings are reported (see above).

Limitations of the examination including segments of vein not imaged should be reported.

Images stored:

For each leg the following images should be stored and annotated:

- Common femoral/distal external iliac vein Doppler spectral trace
- Colour image of proximal PFV
- Dual screen or video of successful compression of common femoral vein, femoral vein at proximal, mid and distal thigh and popliteal vein.
- Transverse or longitudinal image of thrombus.

Inspection criteria:

Complete CRIS system patient tested / DNA / rebooked

References:

Nice Guideline 158: Venous thromboembolic diseases: the management of venous thromboembolic diseases and the role of thrombophilia testing (March 2020)

Thrush A, Hartshorne T: Vascular Ultrasound, How, why and when. Ch 14 Duplex assessment of deep venous thrombosis and upper-limb disorders.

SVT professional performance guidelines:
https://www.svtgbi.org.uk/media/resources/DVT_final.pdf

Appendix

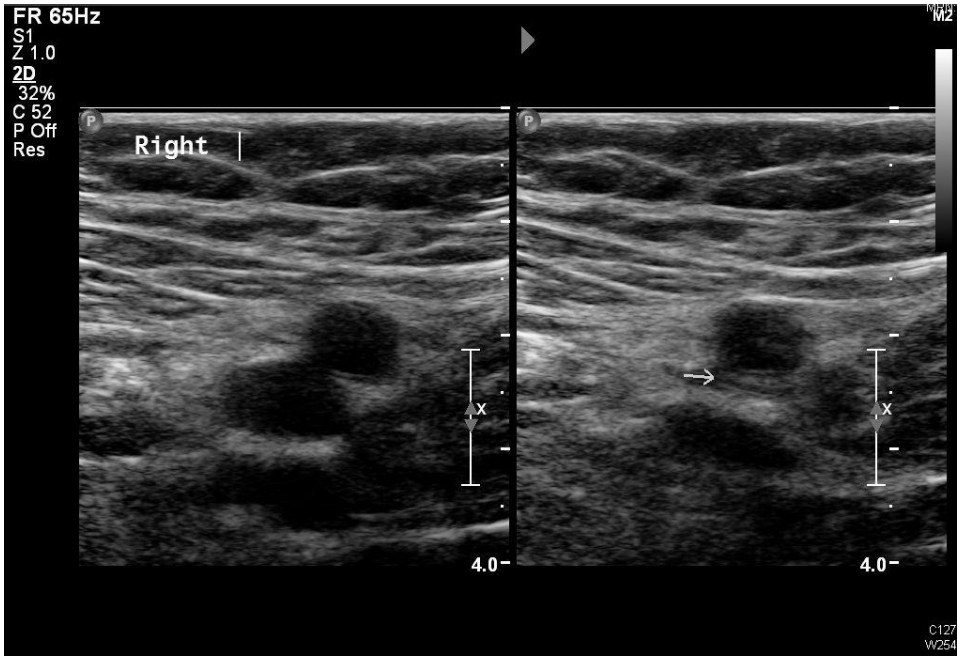


Image 1 Compression of femoral vein. In the R image, the femoral vein walls touch (arrow) indicating no thrombus.

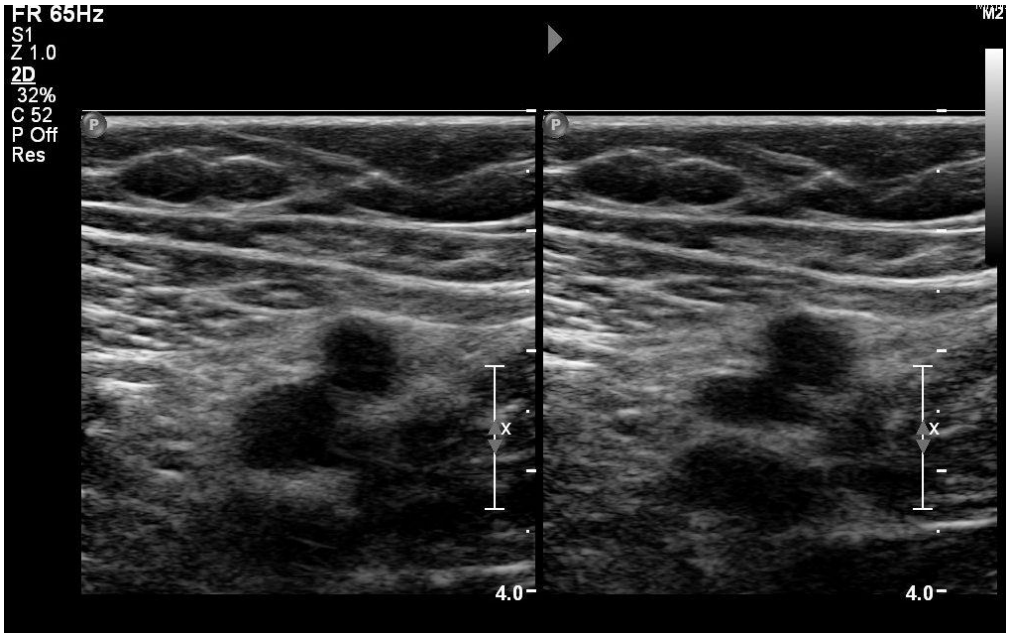


Image 2 inadequate compression of femoral vein (R) which does not confirm the absence of thrombus.

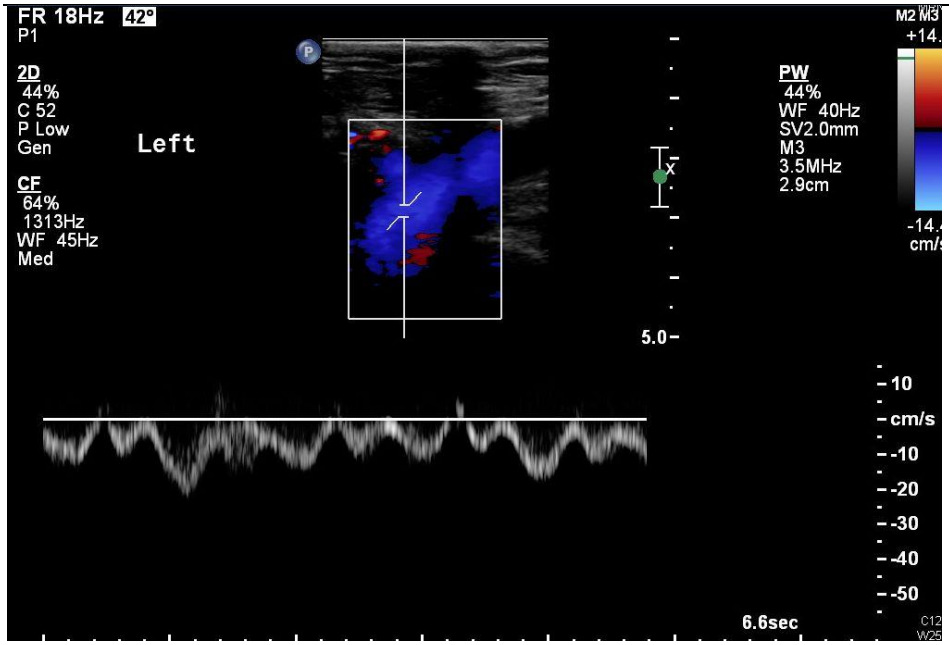


Image 3: Normal Doppler spectral trace of the distal external iliac vein showing flow changes due to proximal respiration and R heart pressure changes.

UPPER LIMB VENOUS PROTOCOL

Introduction and Scope:

The veins of the neck and upper arm are evaluated for stenosis and thrombosis. This can be for pre vascular access evaluation or in the case of suspected venous occlusion.

Responsibilities:

Test Staff: scientific or technical staff trained in vascular duplex ultrasound.

Equipment:

Duplex scanner with 7 and 5 MHZ linear arrays, and 4MHz phased array transducers.

Method:

The internal jugular vein is examined for evidence of thrombus. The axillary, subclavian and distal innominate veins are examined with colour flow imaging to check for narrowing and thrombus. Flow waveforms are investigated and should show spontaneous phasicity with the right heart. The upper limb central veins are best observed with the patient lying flat.

The brachial, cephalic and basilic veins should be examined with compressions at short distance intervals to check for the presence of intraluminal thrombus. The upper arm (non central veins) are best observed with the patient sitting upright.

If relevant, the radial and ulnar veins can also be examined with compression study.

Images:

- IJV, innominate, subclavian and axillary veins with colour and spectral Doppler showing phasicity.
- Compression of brachial vein.
- Images of any thrombus identified.

Reporting:

Appropriate images should be stored on PACS during the examination.

A report is recorded on the CRIS system, detailing the patency of veins and any narrowings or thrombus found. Sections of veins not examined should be recorded.

References:

Zweibel WJ: Introduction to Vascular Ultrasonography. 3rd Edition. WBSaunders Philadelphia 1992

PRE-BYPASS VEIN MAPPING PROTOCOL

Introduction and scope:

A map of the long saphenous vein or other veins where appropriate marked directly onto the skin allows more precise planning of arterial bypass operations and allows the use of the optimal vein. Referral criteria: an insitu or reversed vein bypass graft is planned.

Responsibilities:

Test staff: scientific or technical staff trained in vascular duplex scanning.

Equipment:

Duplex scanner, high frequency linear transducer.

Method:

Examination protocol

The superficial veins should first be scanned to determine the best quality. Patient is scanned supine and the long saphenous vein is identified. Representative calf and thigh diameters are measured. The optimal vein course is identified. This vein should be of good diameter (>2mm) but not aneurysmal or varicose and the wall should not be thickened.

The site of suitable calibre vein should be marked on the skin with surgical marker pen after coupling gel has been removed. The veins major tributaries may be identified and marked on the leg.

When a leg vein is marked, it is prudent to test and document that the ipsilateral deep veins are patent and competent.

(Once the test is completed the surgical marker should be disposed of.)

Images:

Representative images to be taken to record the diameter of the veins examined at intervals along the limb.

Reporting:

The leg marked, the optimal vein course and the vein diameters are recorded on the CRIS system.

Inspection criteria:

Complete CRIS database patient tested/DNA/rebooked.

References:

Outcome of infra-inguinal bypass grafts using vein conduit with less than 3mm diameter in critical leg ischaemia, Slim H, Tiwari A, Ritter JC, Rashid H: Journal of Vascular

Surgery Volume 53, Issue 2 pg 421-425

Kupinski AM er al. Preoperative mapping of the saphenous vein in Vascular Diagnosis 4th edition Ed. Bernstein EF (1993) Ch 110:897-901.

Preoperative saphenous and cephalic vein mapping as an adjunct to reconstructive arterial surgery J M Seeger, J H Schmidt, and T C Flynn; Ann Surg. Jun 1987; 205(6): 733–739

Reviewed:
12/04/2011AQ
19/08/2014 HD