

Vascular Laboratory Guidelines

Lower Limb DVT 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 scanners and probes must be cleaned to the manufacturer's guidelines.

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.

Procedure:

- 1) The patient is asked to remove their clothing to expose the lower limb from groin to ankle.
The patient is examined in the supine position with the leg externally rotated and the knee slightly flexed. The head and shoulders should be raised to encourage distension of the leg veins and in pregnancy.

- 2) Start the examination in the groin at the common femoral vein (CFV). The CFV should be examined to assess for: spontaneous flow, respiratory and cardiac modulation, augmentation, compressibility, colour filling and examine the B-Mode image to assess for the presence of echoes within the vein. If abnormal flow is detected in the CFV the iliac veins and inferior vena cava need to be examined.
- 3) Examine the deep lower limb veins distally examining the length of the femoral veins (CFV and SFV), the proximal profunda femoris vein (PFV), the popliteal vein (ensuring the whole length is visualised including the adductor region). Make sure that you look for and assess any bifid veins.
- 4) The calf veins (gastrocnemius veins, soleal veins, posterior tibial veins (PTVs), anterior tibial veins (ATVs) and peroneal veins) should be assessed ideally with the patient sitting up with their legs dependant off the scanning couch.
- 5) Check the saphenofemoral junction (SFJ), Long Saphenous Vein (LSV), saphenopopliteal junction (SPJ) and short saphenous vein (SSV) for thrombus or thrombophlebitis, if present measure the distance from the SFJ to the deeps veins and also the length of thrombus/thrombophlebitis in the LSV or SSV. See below comments from the anticoagulation team:

“If within 3cm of sfj/spj we treat as if DVT with course of Rivaroxaban

If > 3cm from sfj/spj but longer than 5cm in length then treat as superficial thrombophlebitis with Fondaparinux 2.5mg od s/c for 42 days then stop.

If > 3cm from sfj/spj but less than 5cm in length then no treatment with anticoagulants”

Criteria:

If thrombus is identified the extent of the thrombus should be quantified making reference to the anatomical position of the thrombus and it's upper and lower extent; whether it is occlusive, non-occlusive or free-floating. B-mode can be used to evaluate if thrombus is acute or chronic, from its echogenicity, attachment and vein dilation.

Report:

- The presence/absence of phasic flow in the CFV.
- Which veins have been assessed & record the presence/absence of thrombus
- Where thrombus is identified, the location, length/extent, degree of patency and whether the thrombus is acute or chronic should be documented
- Any limitations encountered during the examination

Written reports will be available on Rad Centre/PACS.

For all positive DVT results put [Positive for DVT] at the bottom for report.

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:

- Spectral Doppler images of the CFV flow.
- B-mode pre and post compression and colour flow imaging of the CFV, PFV origin, SFV and popliteal vein, ATV, peroneal veins, PTV, SFJ and SPJ, LSV and SSV
- Store images of any other relevant pathology detected

What happens after the scan:

Depending on the result (positive or negative of a DVT) and where the patient has been referred from, will determine on what happens to the patient afterwards. Please refer to the DVT Care Pathway document (Appendix B) for the appropriate course of action.

References:

SVT Professional Standards Committee October 2012, "Vascular Technology Professional Performance Guidelines Lower Limb Venous Duplex Ultrasound Examination for the Assessment of Deep Vein Thrombosis (DVT)" Located

[https://www.svtgbi.org.uk/media/resources/Lower-Limb-Venous-DVT-Protocol-PSC-Final-Draft-July-2015edit_bfWmkV6.pdf]

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

DVT Aftercare Pathway

Positive DVT:

Weekdays 9 – 5 pm: The Anticoagulation dept will see ALL positive DVT results from whatever source or directorate (e.g. OPD, A&E, SAU, Orthopaedic clinic, Oncology clinic, GP – everything except for the AMU Ambulatory Care Unit who review their own patients). The ACNP's would especially like to see any patient with cancer and DVT (because these patients may have a slightly more tailored anticoagulation regime).

Evenings & Weekends Positive for DVT: Any non-inpatient referral with positive DVT or equivocal results will now be seen by A&E when the anticoagulation department is closed.

Normal & Equivocal Results:

♦ *NB: This section applies to "equivocal" as a below the knee query. All equivocal results involving unseen above knee veins – send to the ACNP's regardless of source. These will have continued Clexane until after the rescan. Below knee equivocal cases will have no treatment between the first and second scan.*

♦ ACNP originated:

(Marked with the GP's name but signed or stamped by an ACNP surnames e.g. Lee, Bishop, Blackwell, Seckleman marked with "NP")

Equivocal: Send back to ACNP's (weekdays 9 – 5pm) or A&E evenings/weekends.

Normal: Can send to ACNP's on weekdays 9 – 5 pm or cessate the therapeutic dose Clexane and fax the report to the GP (weekdays and weekends), allowing the patient to return home and see the GP asap for follow up.

♦ Direct GP referrals:

(Written & signed by the GP, haven't been referred to see the ACNP's before the scan)

Send back to the GP with patient, or by post or fax.

The ACNP's would like to educate and encourage the GP's to use the nurse led DVT service and so please send all normal or equivocal direct GP requests back to the GP for them to arrange their own follow up care or repeat scan.

♦ A&E scanned on a different day from referral:

Normal: Cessate the therapeutic dose Clexane and fax report to GP (or send to ACNP's weekdays).

Equivocal: send to ACNP's (weekdays) or A&E for review (weekends/evenings).

♦ AMU Ambulatory Day Care Unit & A&E scanned on same day as referral:

Send back to referee whatever the result.

♦ SAU, Orthopaedic, Surgical Directorate origin:

Send to SAU (no need to 'phone first, just send the patient with their report)

♦ All other referral source with normal or equivocal results (e.g. In-patients):

Send report back to the referee.

A. Lear/R. Lee June 2013 (updated October 2014)