Venous Reflux Assessment Protocol

**Technique**

1. Use the mid-high frequency probe with a large sample volume for Doppler measurements. For deep vessels, consider use of the lower frequency probe.
2. Following distal squeeze, use colour and pulsed wave Doppler to assess for reflux at the following sites:
   * Common femoral vein
   * Proximal femoral vein
   * Sapheno-femoral junction
   * Great saphenous vein
   * Popliteal vein
   * Sapheno-popliteal junction
   * Small saphenous vein behind the knee and in the calf
   * Giacomini vein
   * Any other superficial varicose veins not already accounted for
3. Record pulsed wave Doppler squeeze responses from all sites using a longitudinal scan plane. For very small or tortuous veins, pulsed wave Doppler can be taken in transverse view as long as the probe is angled away from 90º.
4. Reflux is generally classified as lasting longer than 0.5 seconds, however, if the squeeze produces a small response and the reverse flow is of a similar duration and size, it may also be reflux even though it lasts <0.5s. When a small magnitude of reflux is seen in comparison to a large squeeze response but reflux measures >0.5s consider whether this is likely gross or minor reflux.
5. Scan the femoral vein throughout the thigh to assess patency and incompetence.
6. Follow any refluxing veins cephalad to locate the source of reflux if it has not been accounted for by the above methods.
7. For an incompetent GSV:

* check whether it is in the fascia throughout the thigh
* indicate areas of tortuosity that may prevent a catheter advancing.
* Measure the GSV diameter at the knee.
* Also measure the minimum diameter if the GSV in the thigh if <5mm and the minimum depth if <10mm.

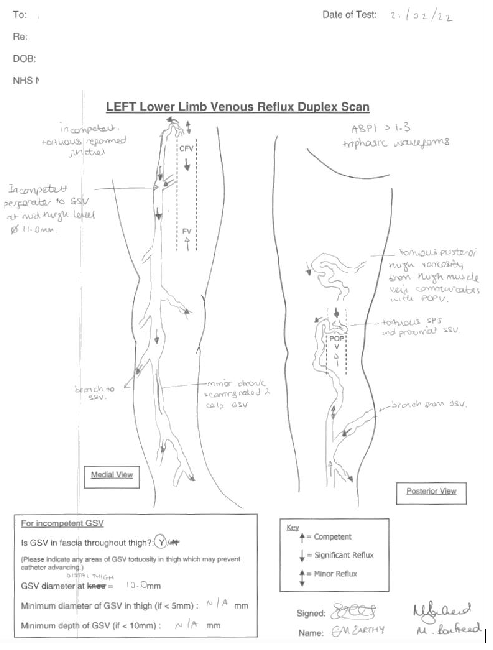
For an incompetent SSV it may be useful to comment on diameter (e.g. if vein is small but refluxing – may be difficult to find surgically)

Comment on tortuosity/areas of phlebitis.

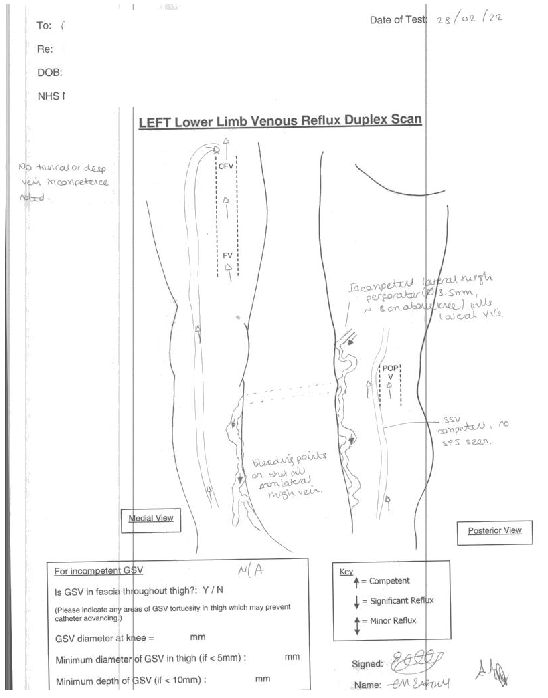
1. Check for perforators and assess for competence if clinically relevant. If incompetent, measure diameter and comment on their location.

**Scan reports**

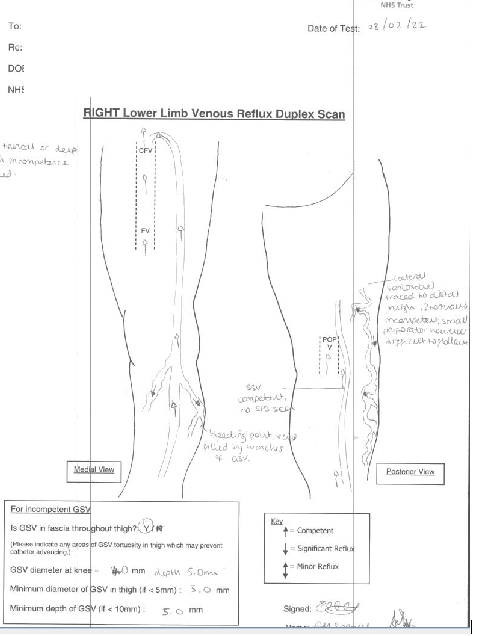
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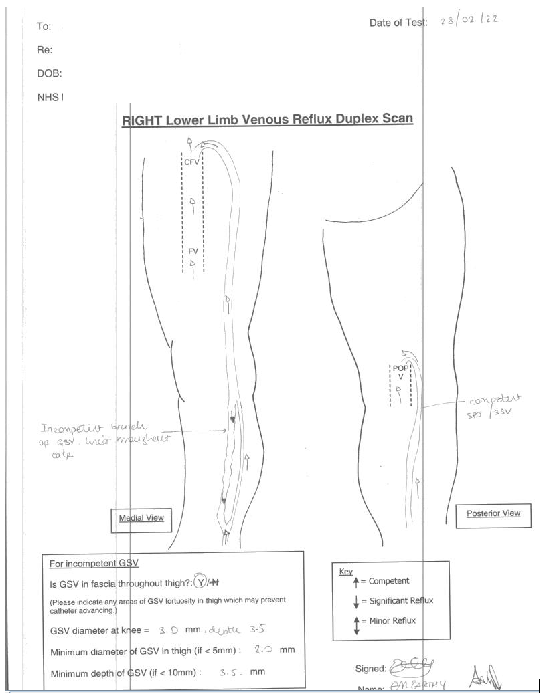
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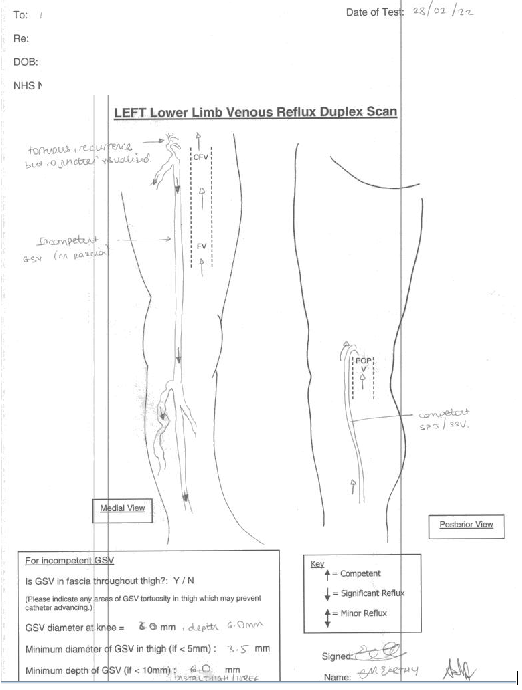
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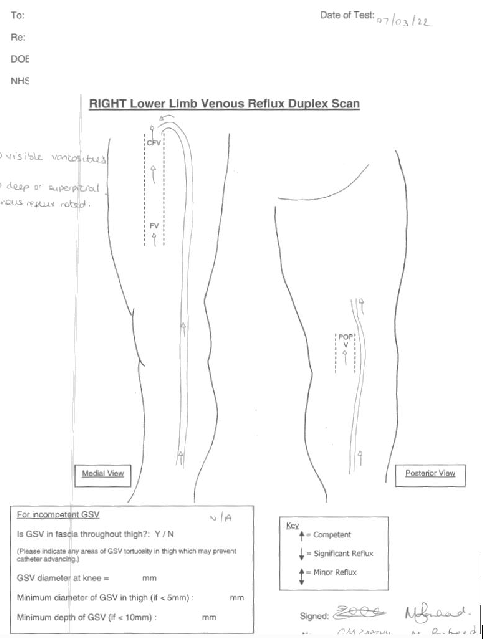
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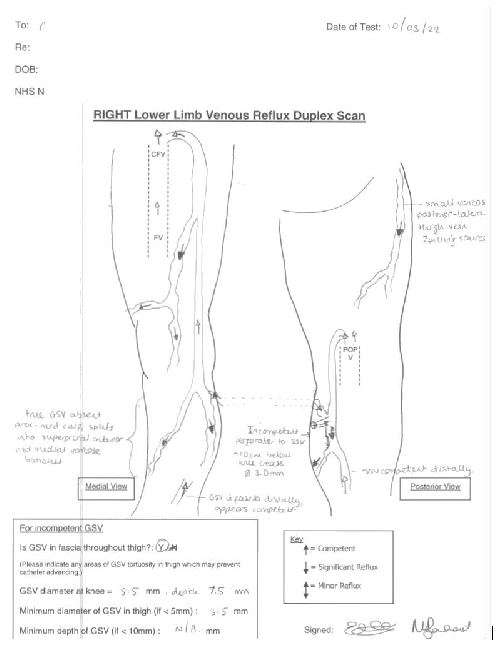
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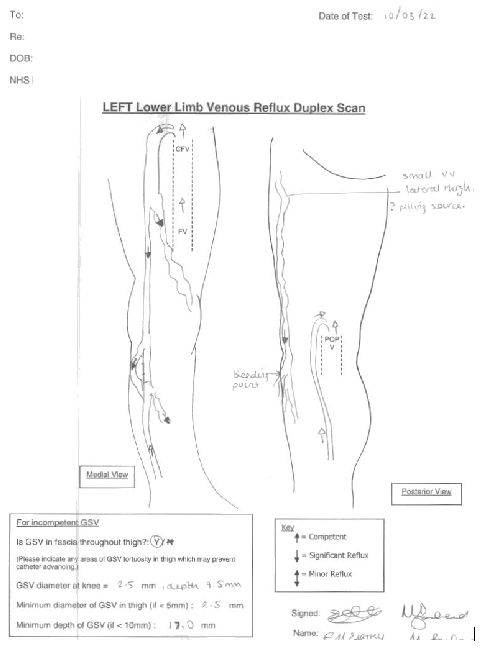
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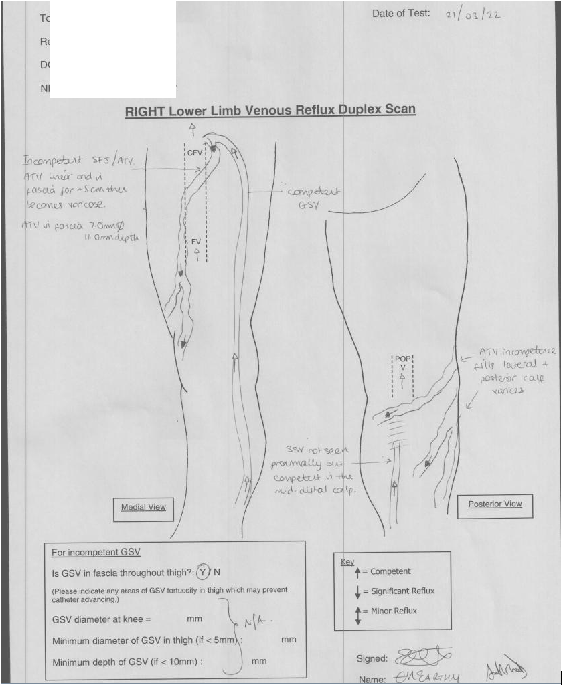
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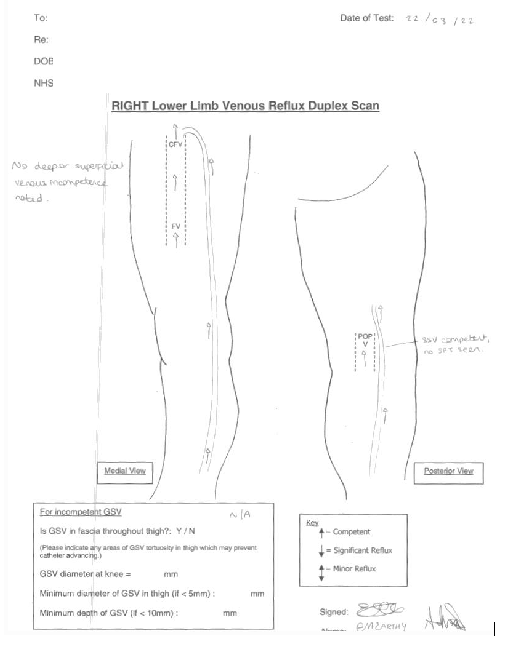
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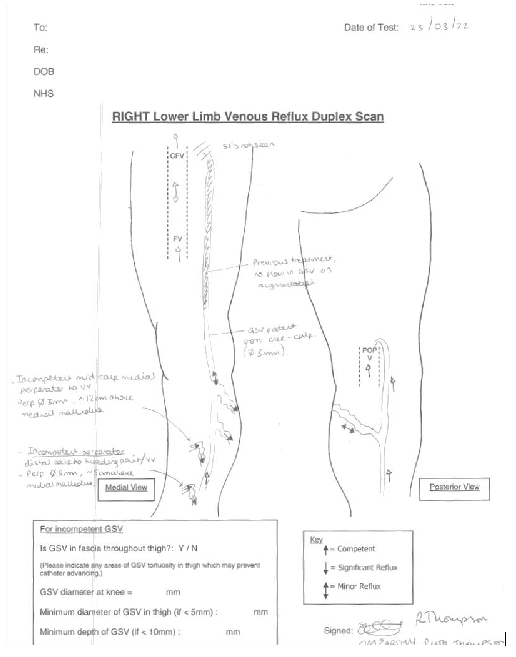
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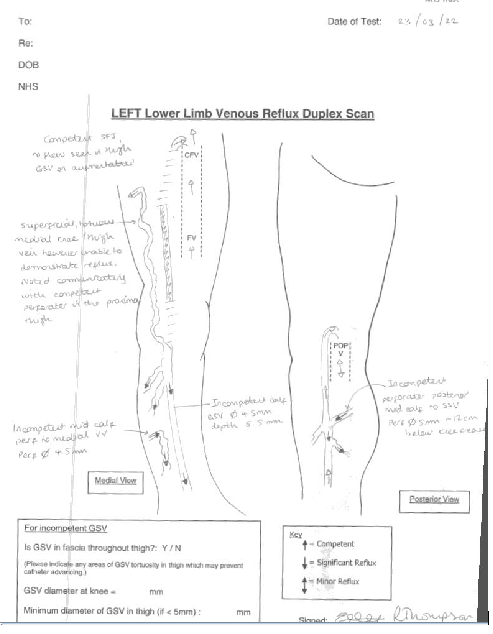
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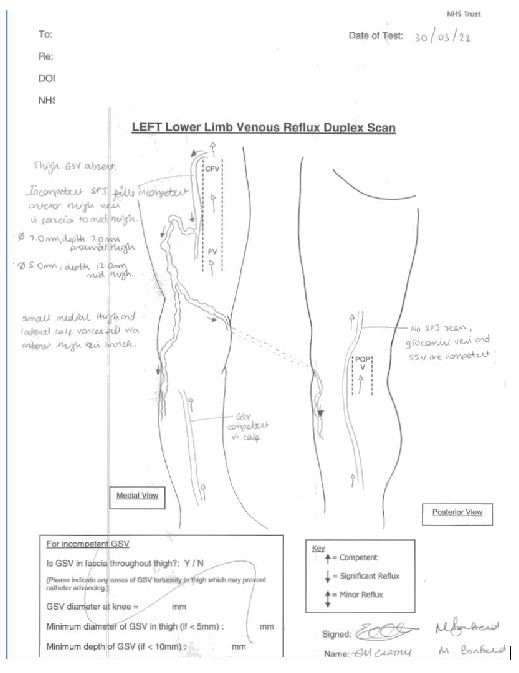
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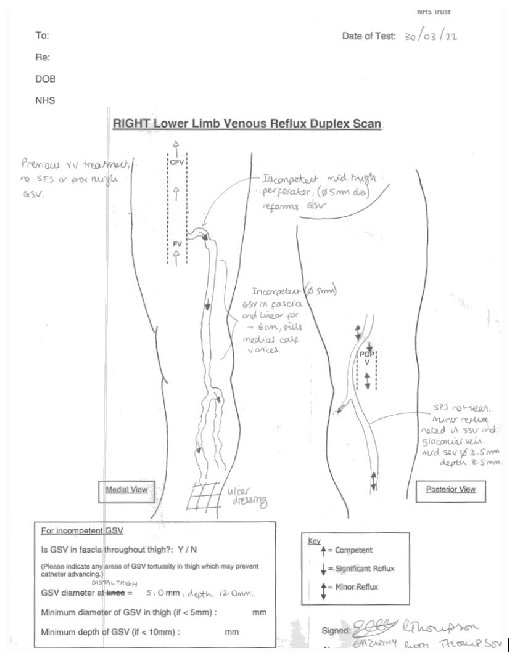
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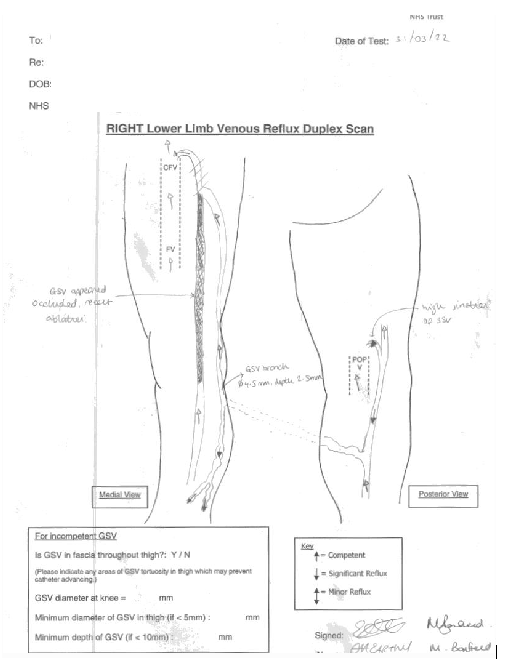
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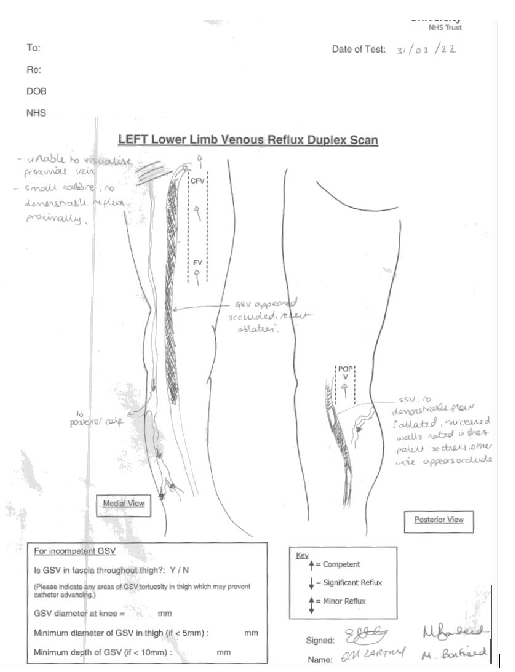
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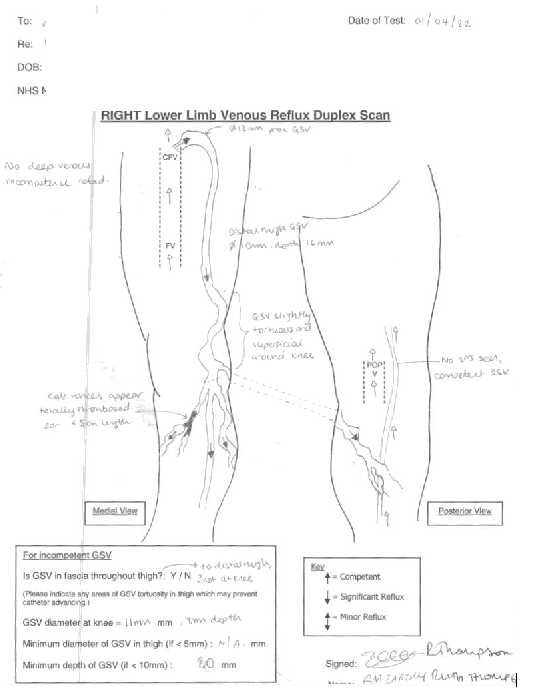
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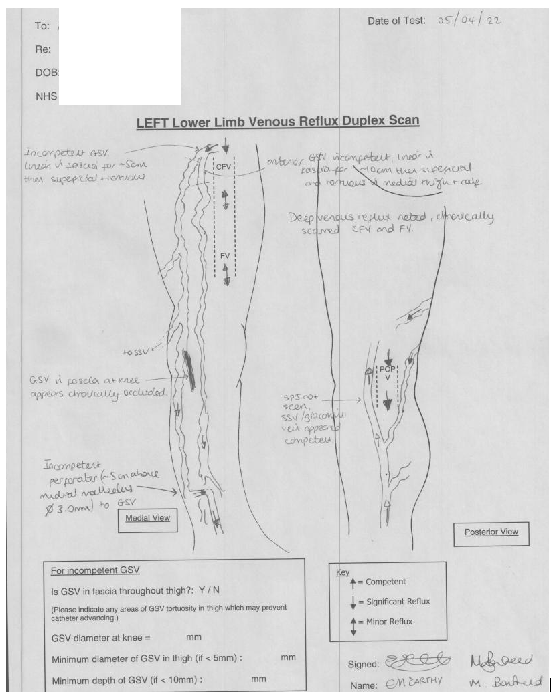
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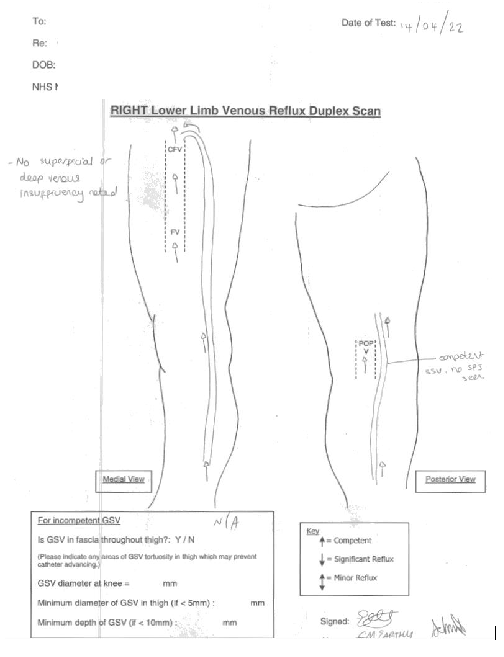
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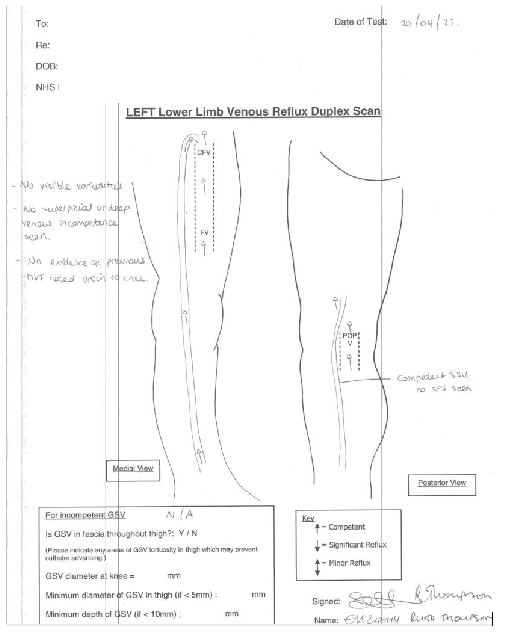
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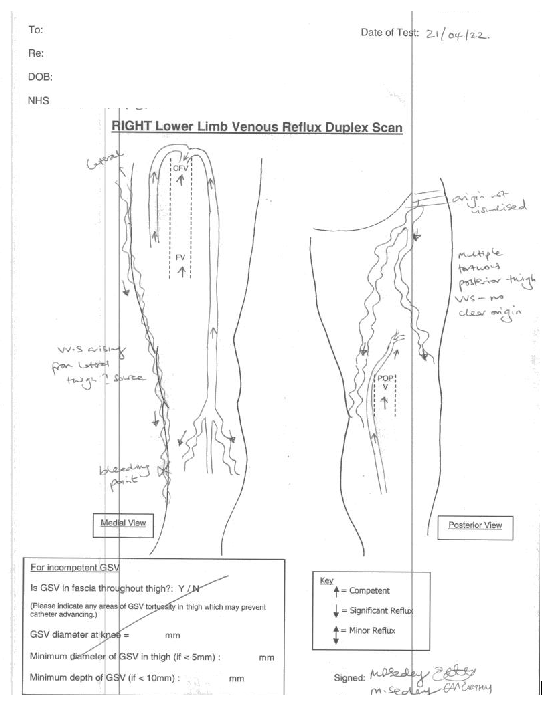
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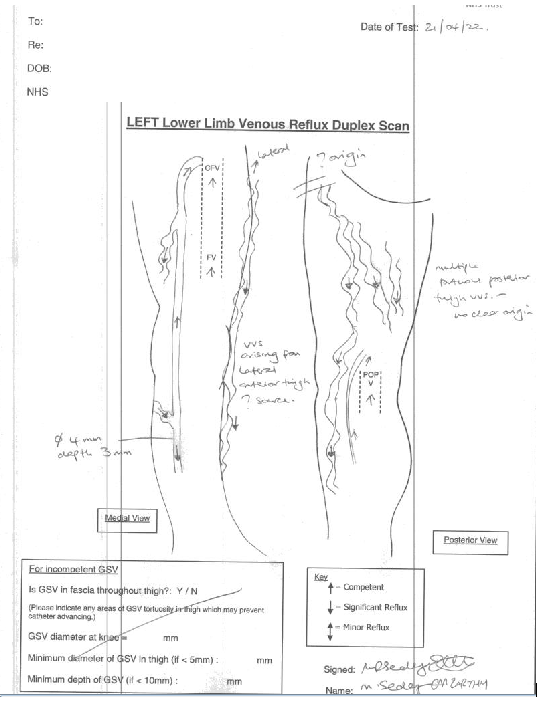
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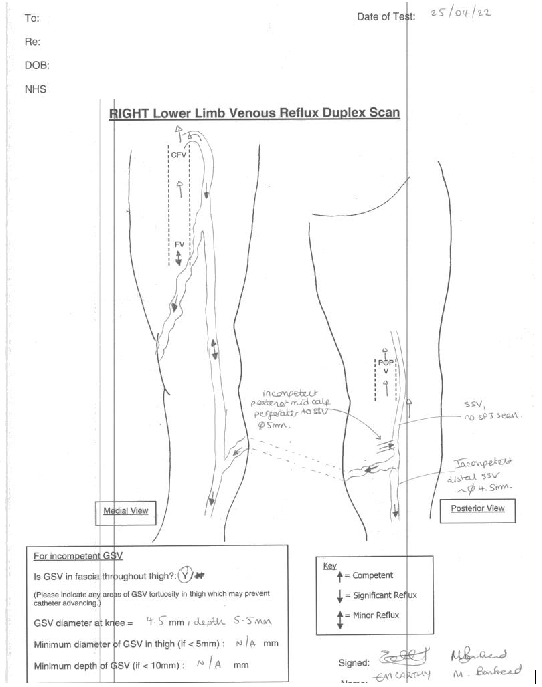
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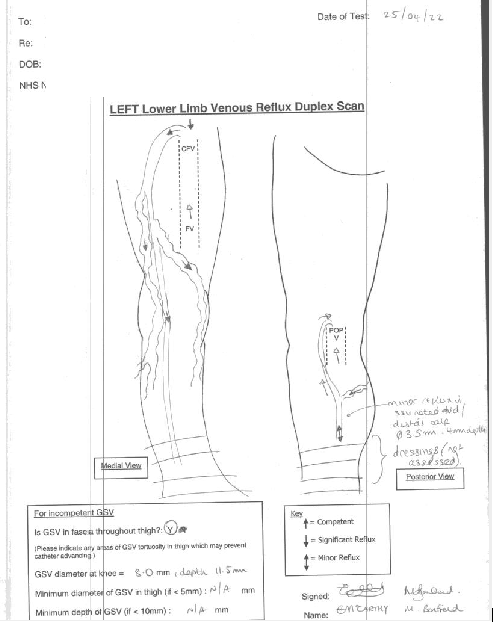
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