



CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
CONTROVERSIES & UPDATES
IN VASCULAR SURGERY



JANUARY 23-25 2014

MARRIOTT RIVE GAUCHE & CONFERENCE CENTER PARIS, FRANCE

**ULTRASOUND GUIDANCE PUNCTURE:
AMBIGUITY OF
LONGITUDINAL OR CROSS SECTION?**

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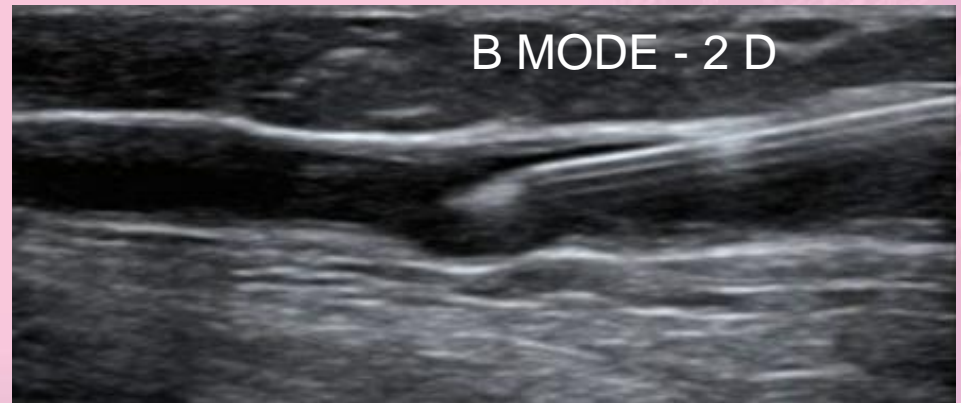
Disclosure

Speaker name: Claudine HAMEL-DESNOS

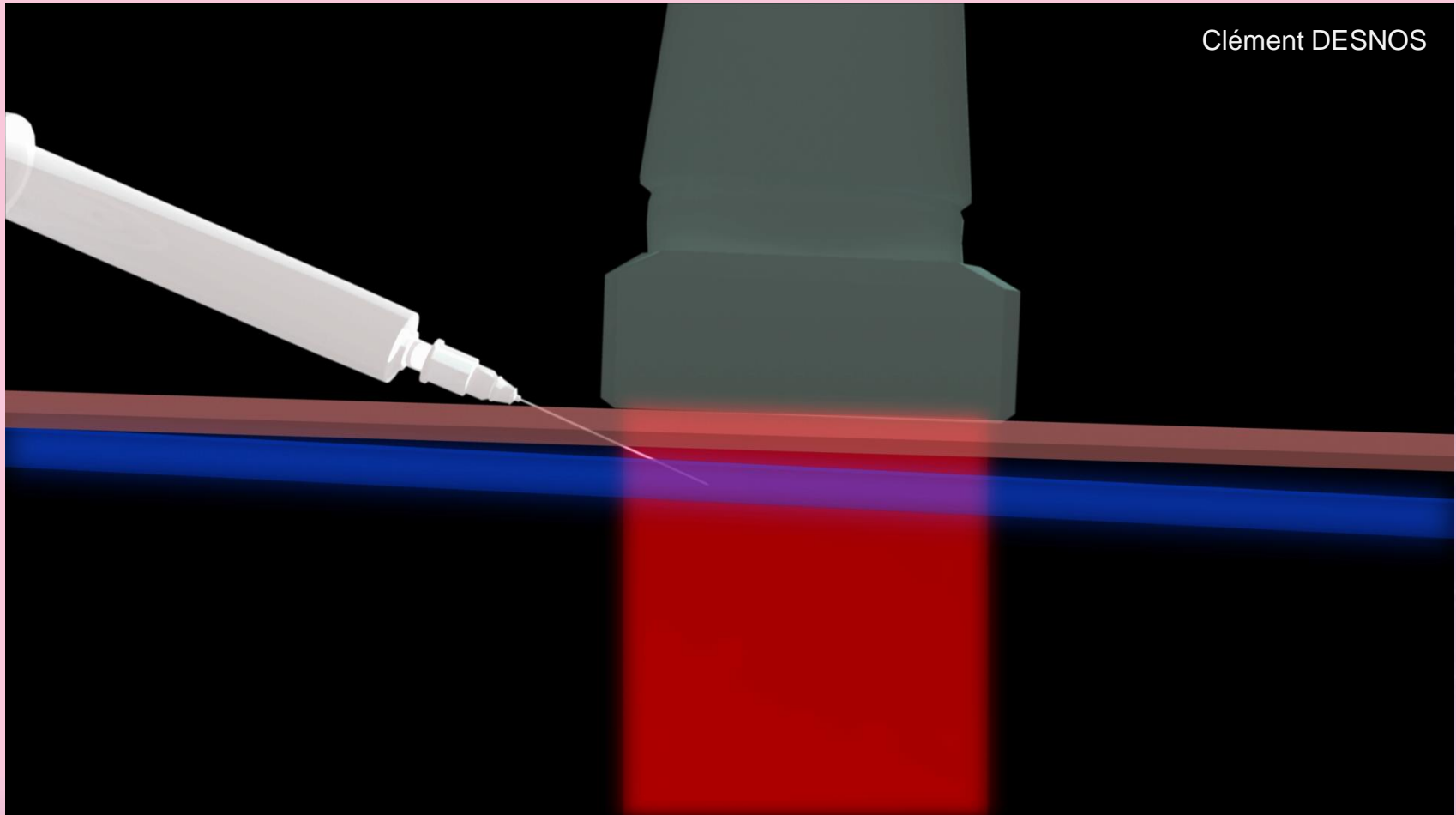
.....

- I have the following potential conflicts of interest to report:
 - Consulting
 - Employment in industry
 - Shareholder in a healthcare company
 - Owner of a healthcare company
 - Other(s)
- I do not have any potential conflict of interest**

Direct Puncture LONGITUDINAL VIEW



The probe is positioned parallel to the direction of the vein



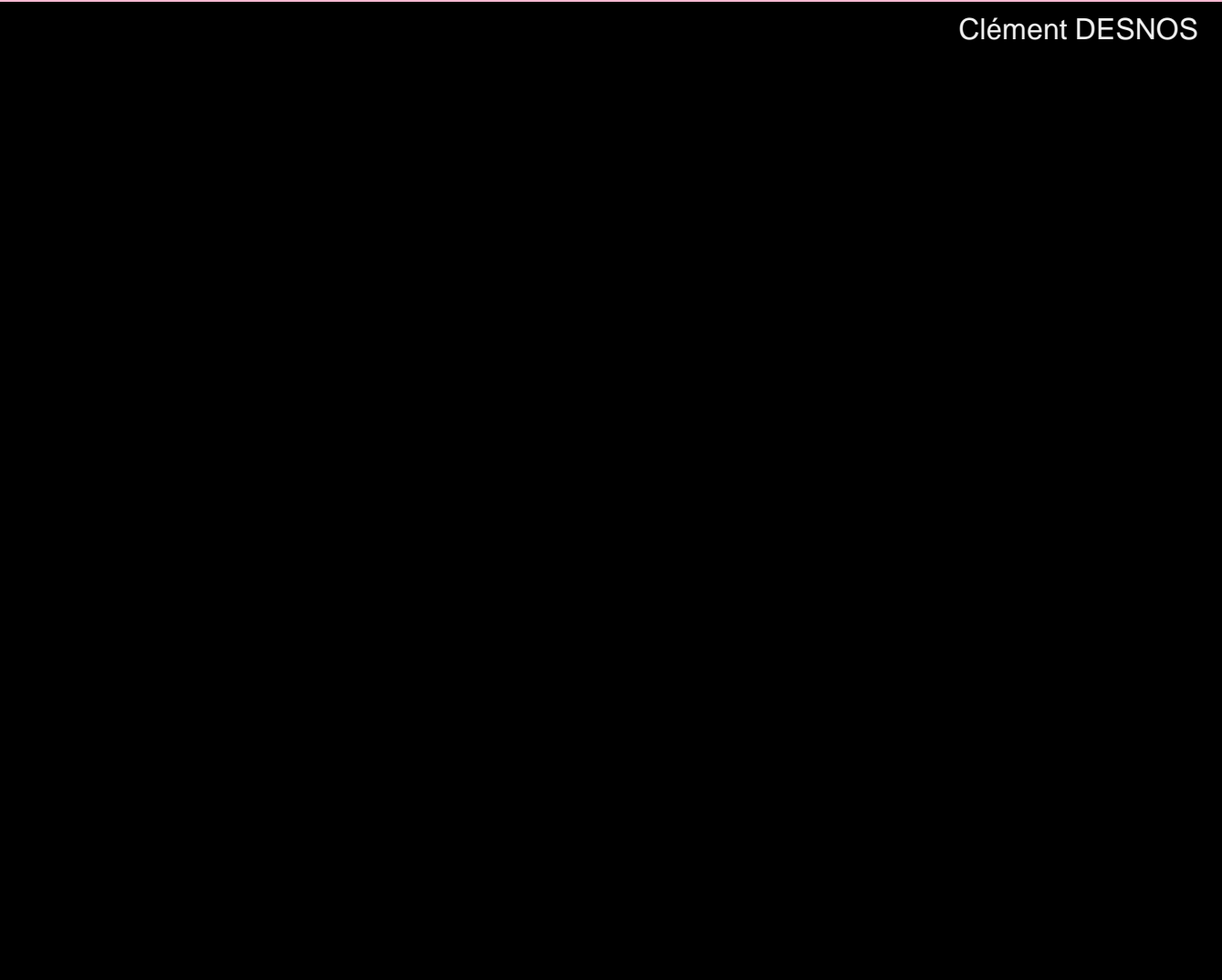
The US beam is much thinner than the probe





Longitudinal view

Clément DESNOS



Video



Parallax error



video

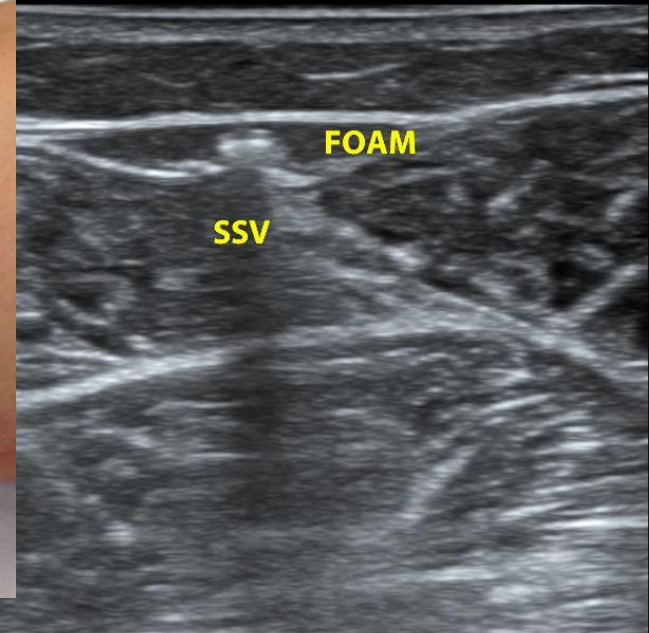
DIRECT PUNCTURE CROSS SECTION



desnos
15:27:52

20140109-152920-252D

L12-3E



252/524

The probe is positioned perpendicularly to the direction of the vein

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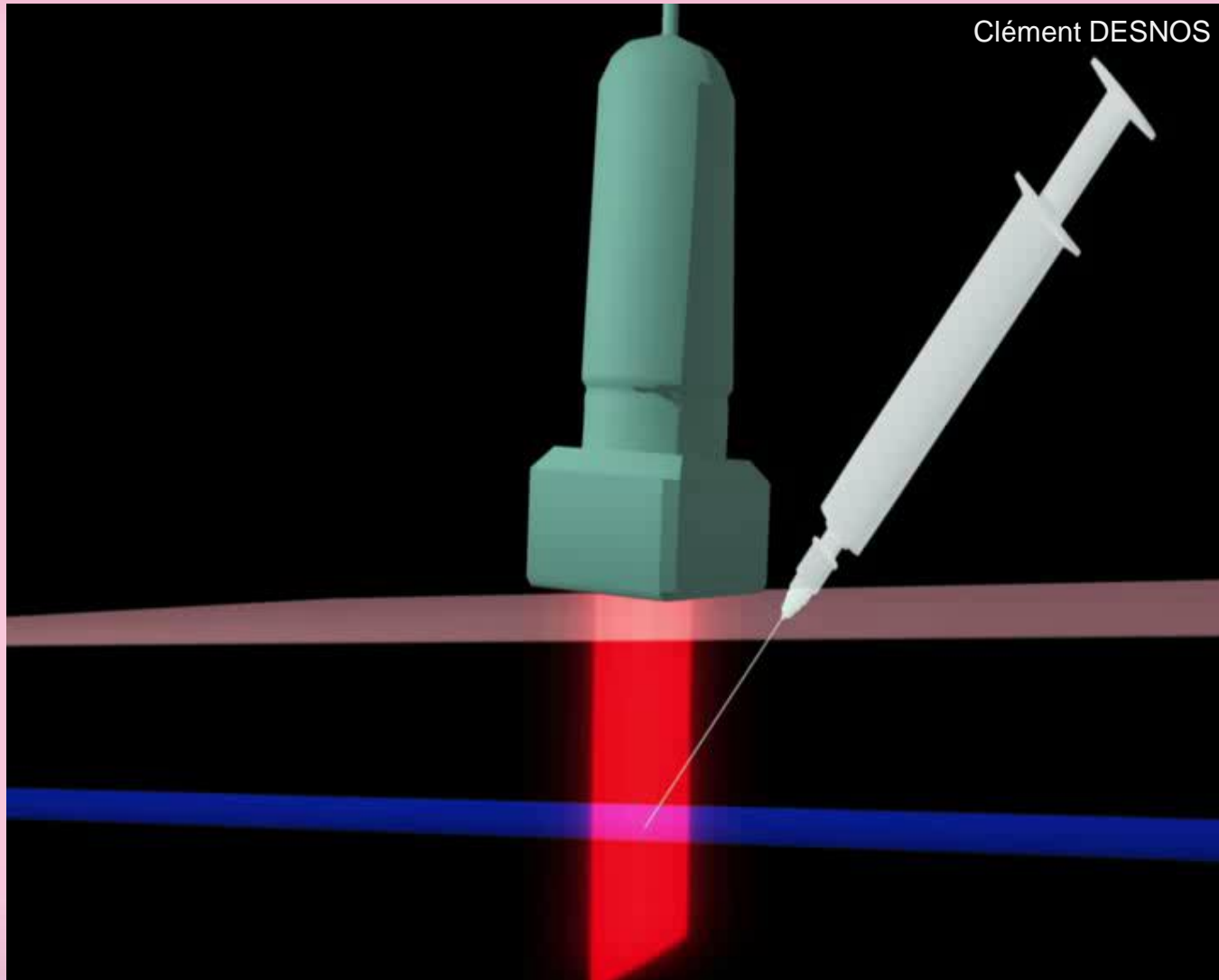
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Clément DESNOS



Cross section (transverse)

Video



ok

Clément DESNOS

video



Do not pass through the posterior wall of the vein

wrong

Clément DESNOS

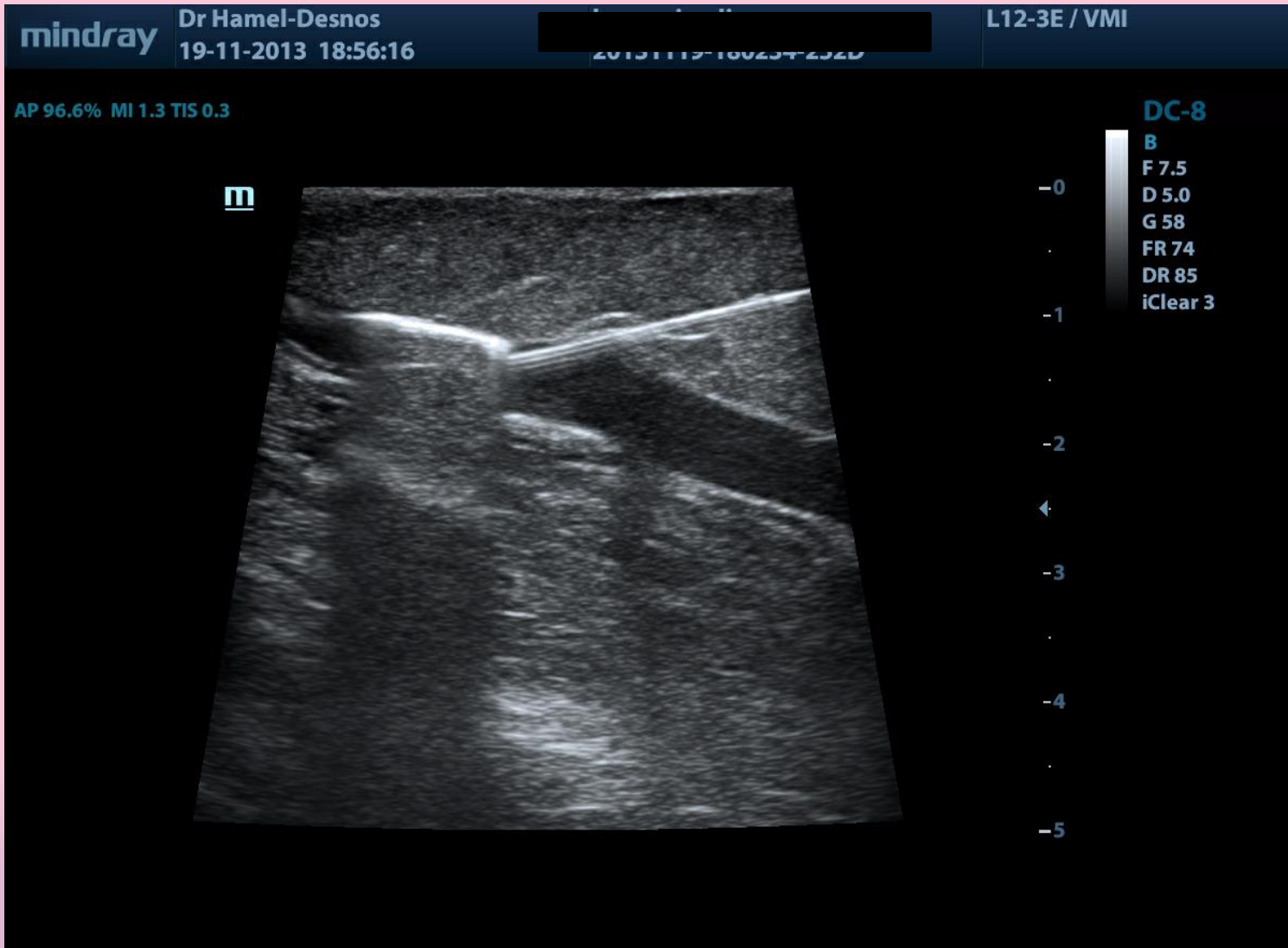
video



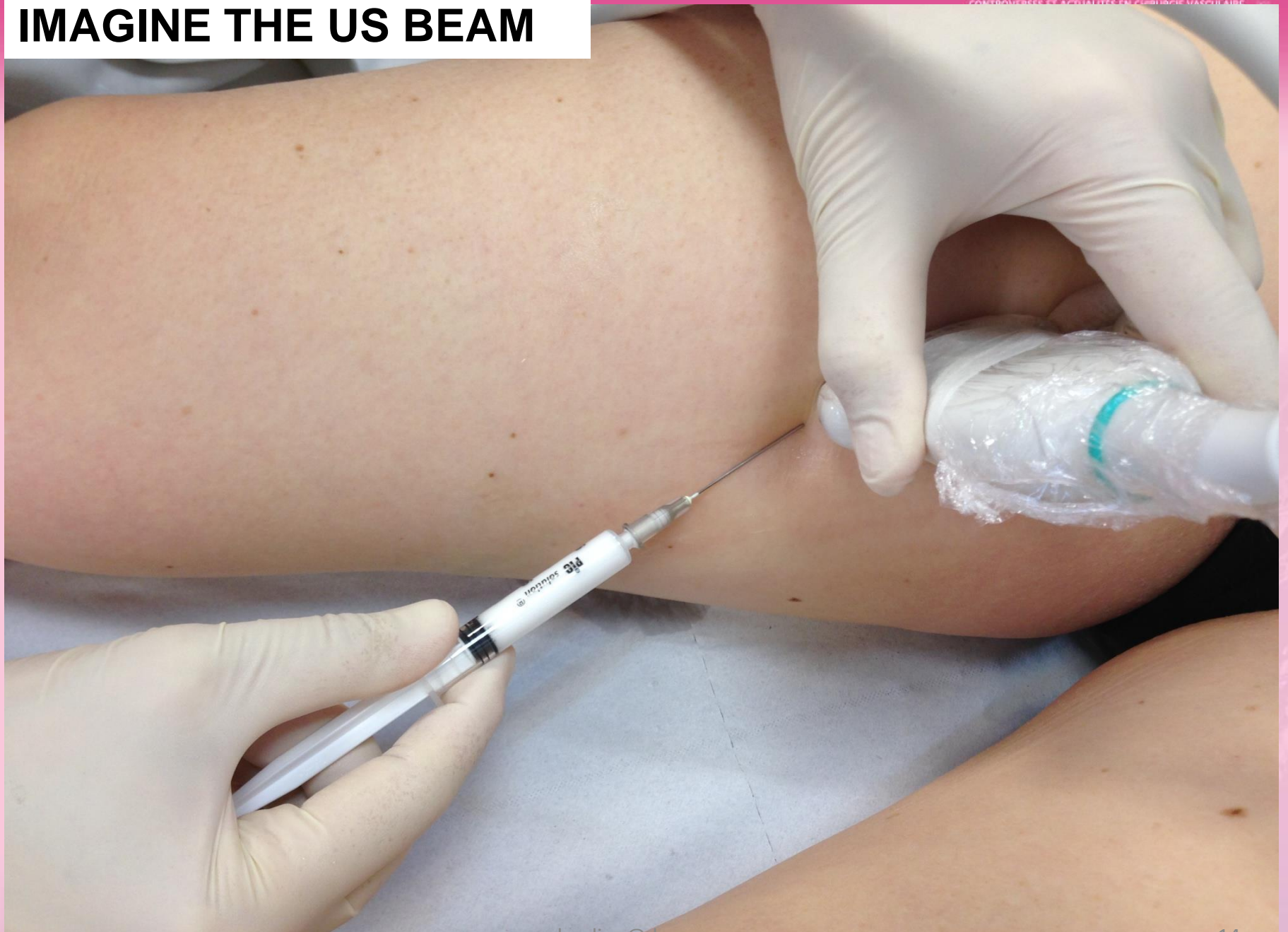
Do not pass through the posterior wall of the vein

Longitudinal section

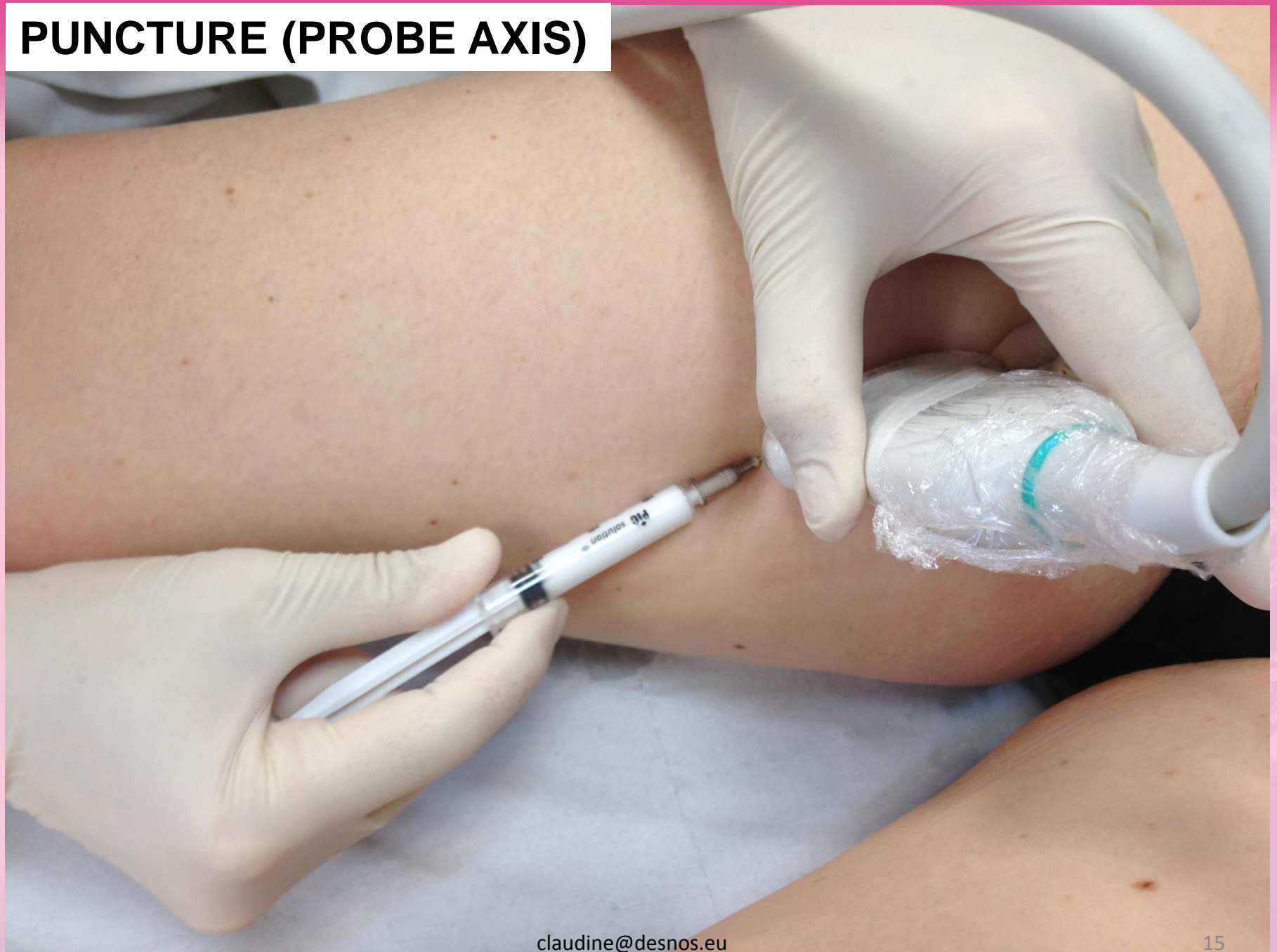
THE PROCEDURE



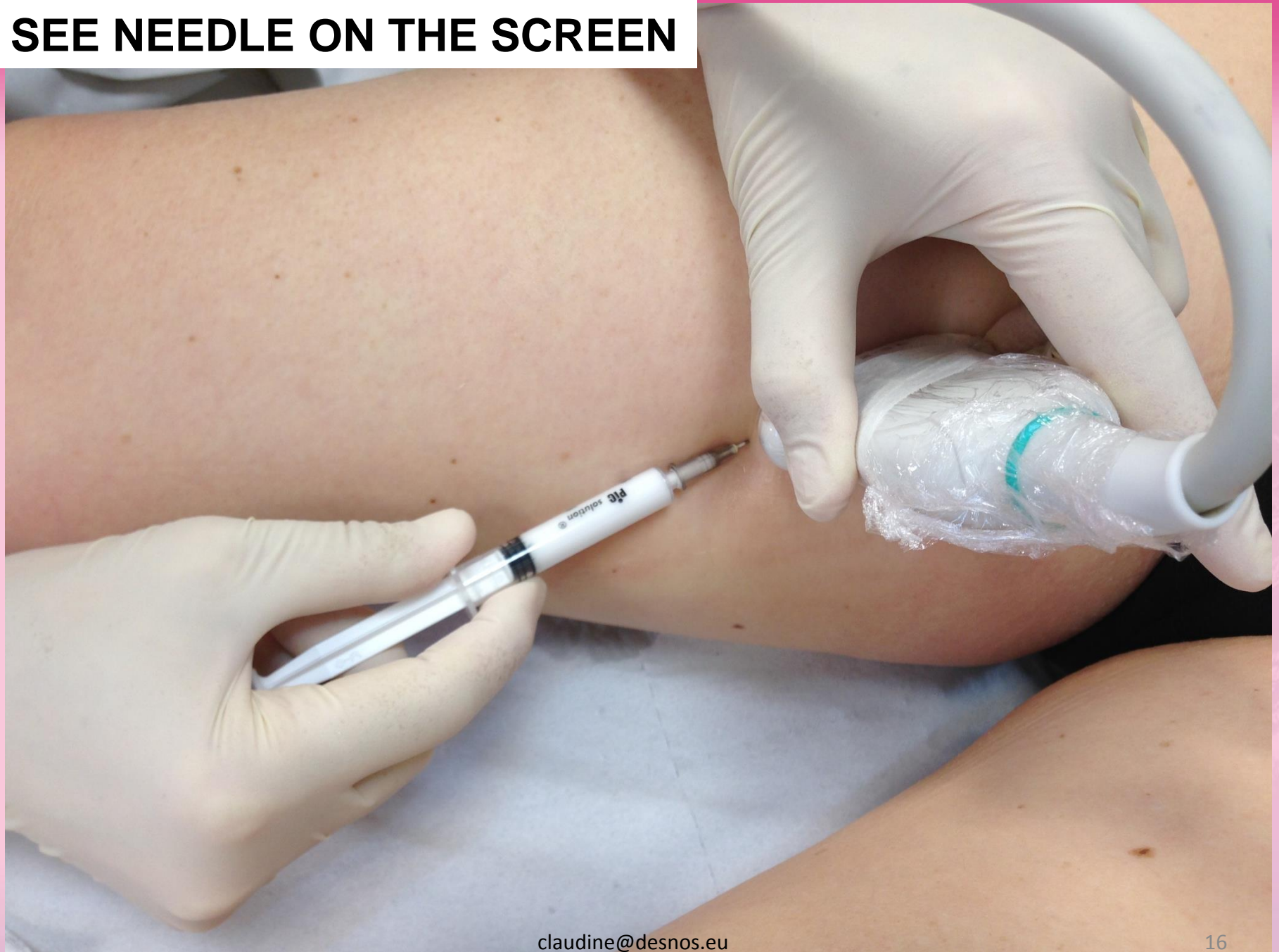
IMAGINE THE US BEAM



PUNCTURE (PROBE AXIS)

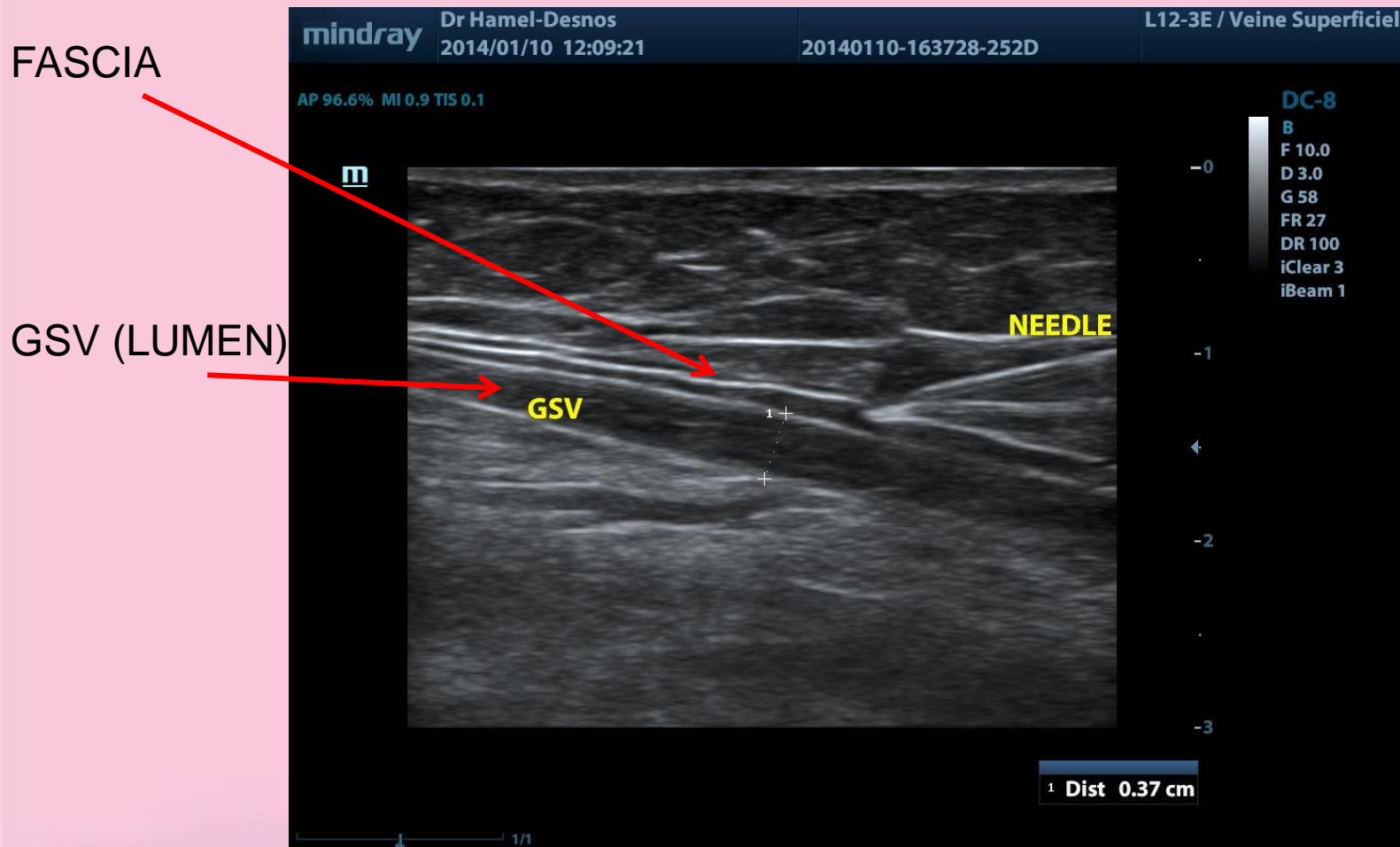


SEE NEEDLE ON THE SCREEN



GSV (Thigh Level)

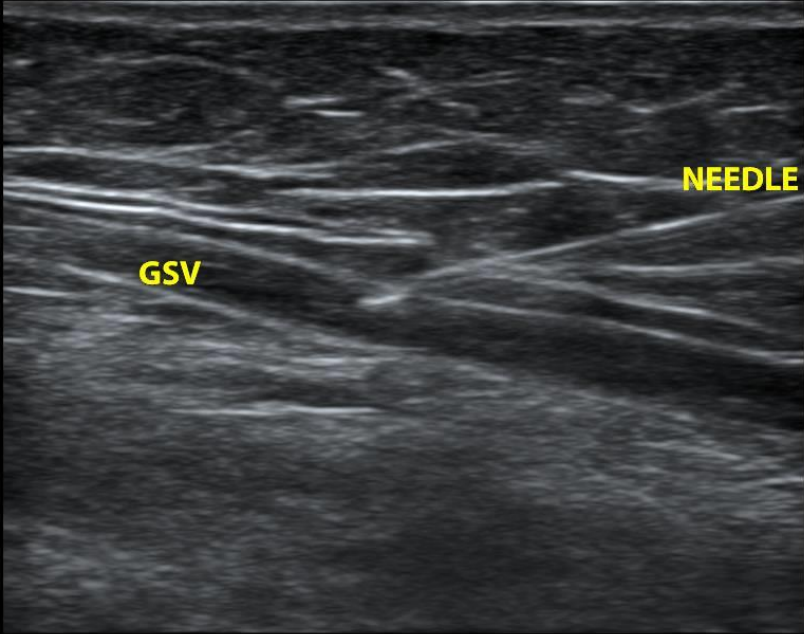
Image of lumen must be the best possible before puncturing



mindray Dr Hamel-Desnos
2014/01/10 12:09:21 20140110-163728-252D L12-3E / Veine Superficiel

AP 96.6% MI 0.9 TIS 0.1

m



DC-8
B
F 10.0
D 3.0
G 58
FR 27
DR 100
iClear 3
iBeam 1

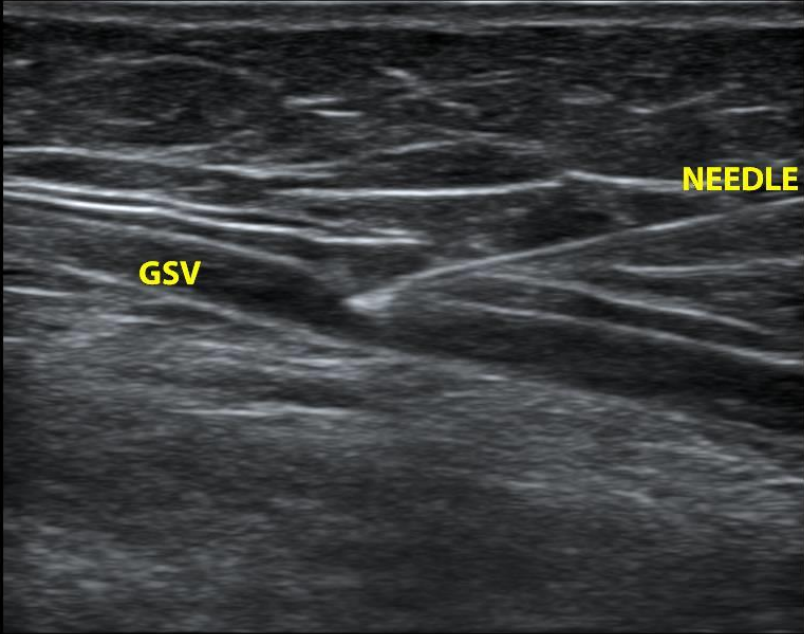
-0
-1
-2
-3

1/1

mindray Dr Hamel-Desnos
2014/01/10 12:09:21 20140110-163728-252D L12-3E / Veine Superficiel

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m



DC-8
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D 3.0
G 58
FR 27
DR 100
iClear 3
iBeam 1

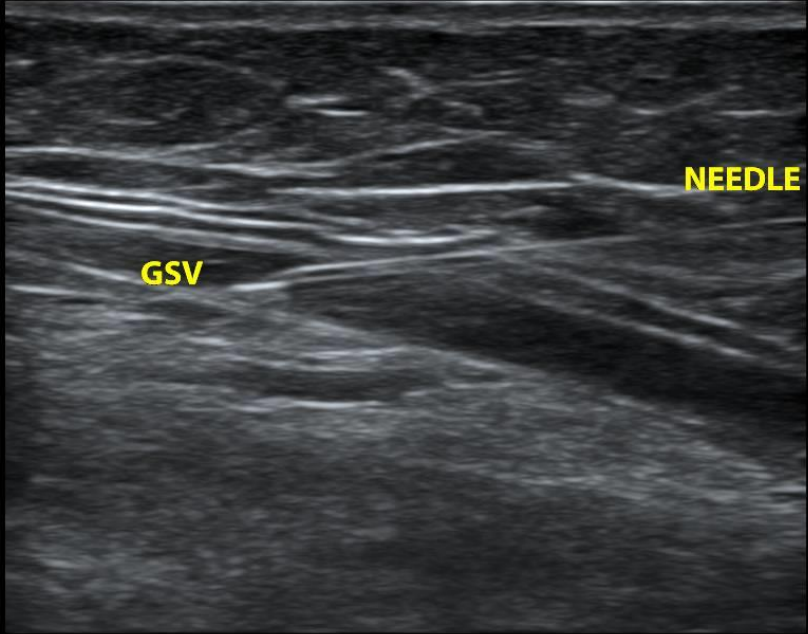
-0
-1
-2
-3

1/1

mindray Dr Hamel-Desnos
2014/01/10 12:09:21 20140110-163728-252D L12-3E / Veine Superficiel

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DC-8
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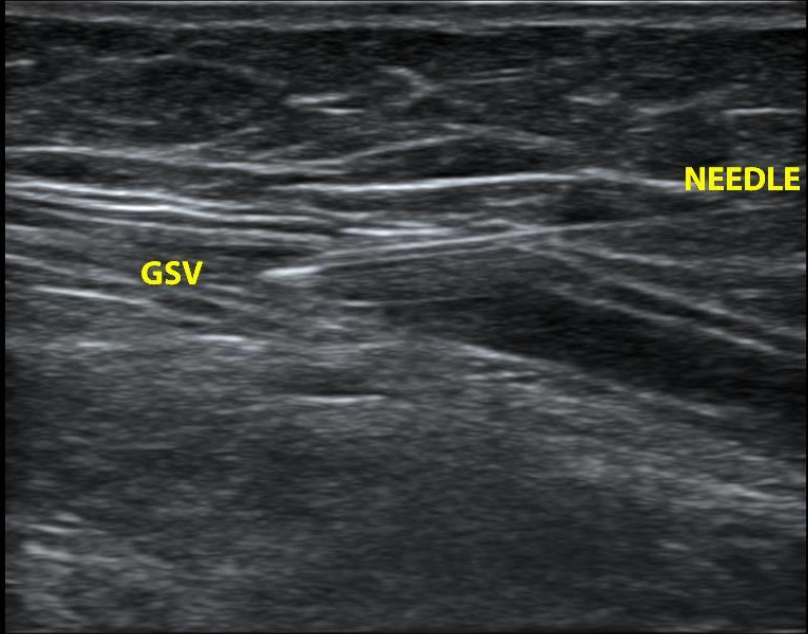
-0
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1/1

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2014/01/10 12:09:21 20140110-163728-252D L12-3E / Veine Superficiel

AP 96.6% MI 0.9 TIS 0.1

m



NEEDLE

GSV

DC-8
B
F 10.0
D 3.0
G 58
FR 27
DR 100
iClear 3
iBeam 1

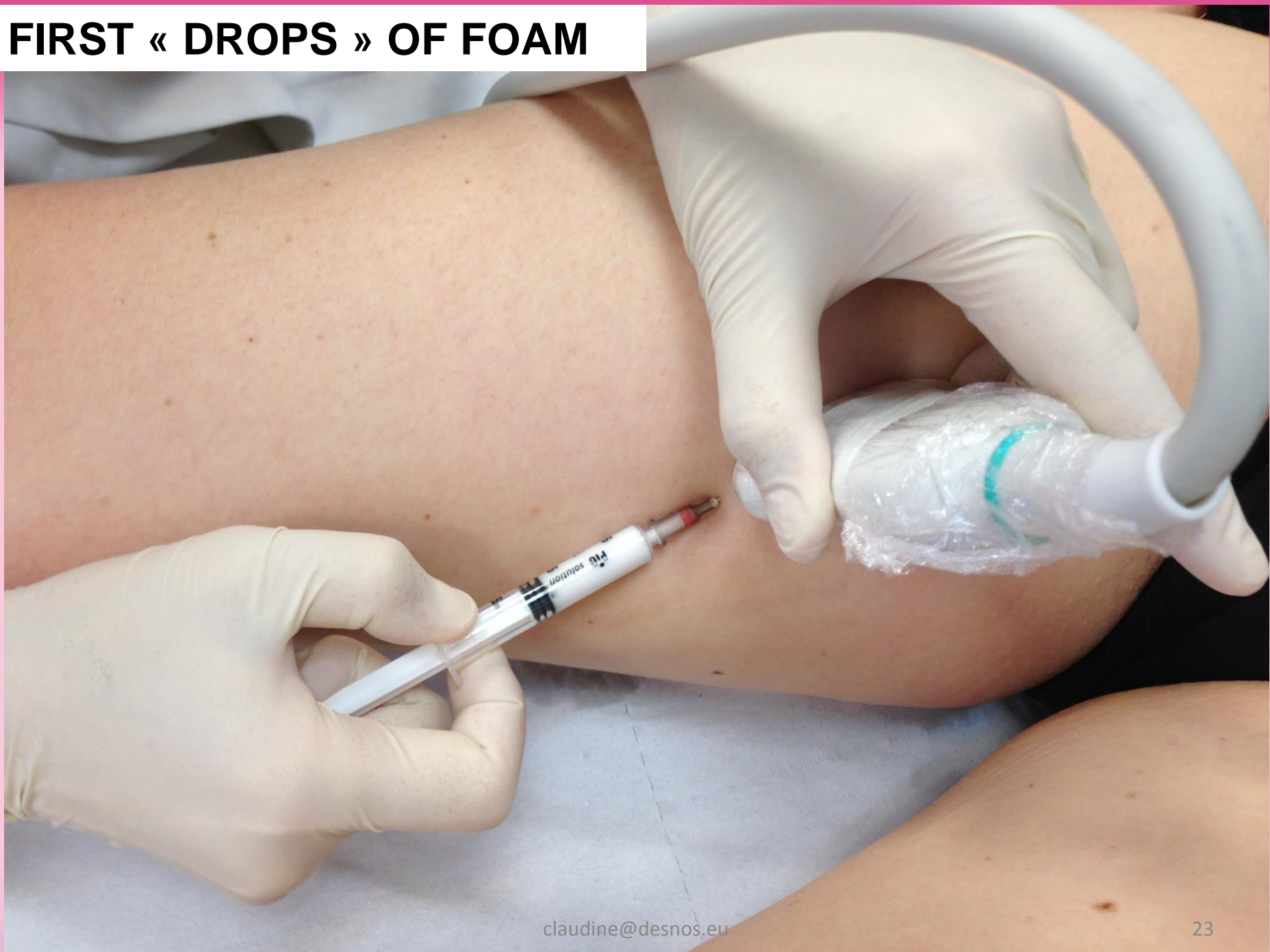
-0
-1
-2
-3

1/1

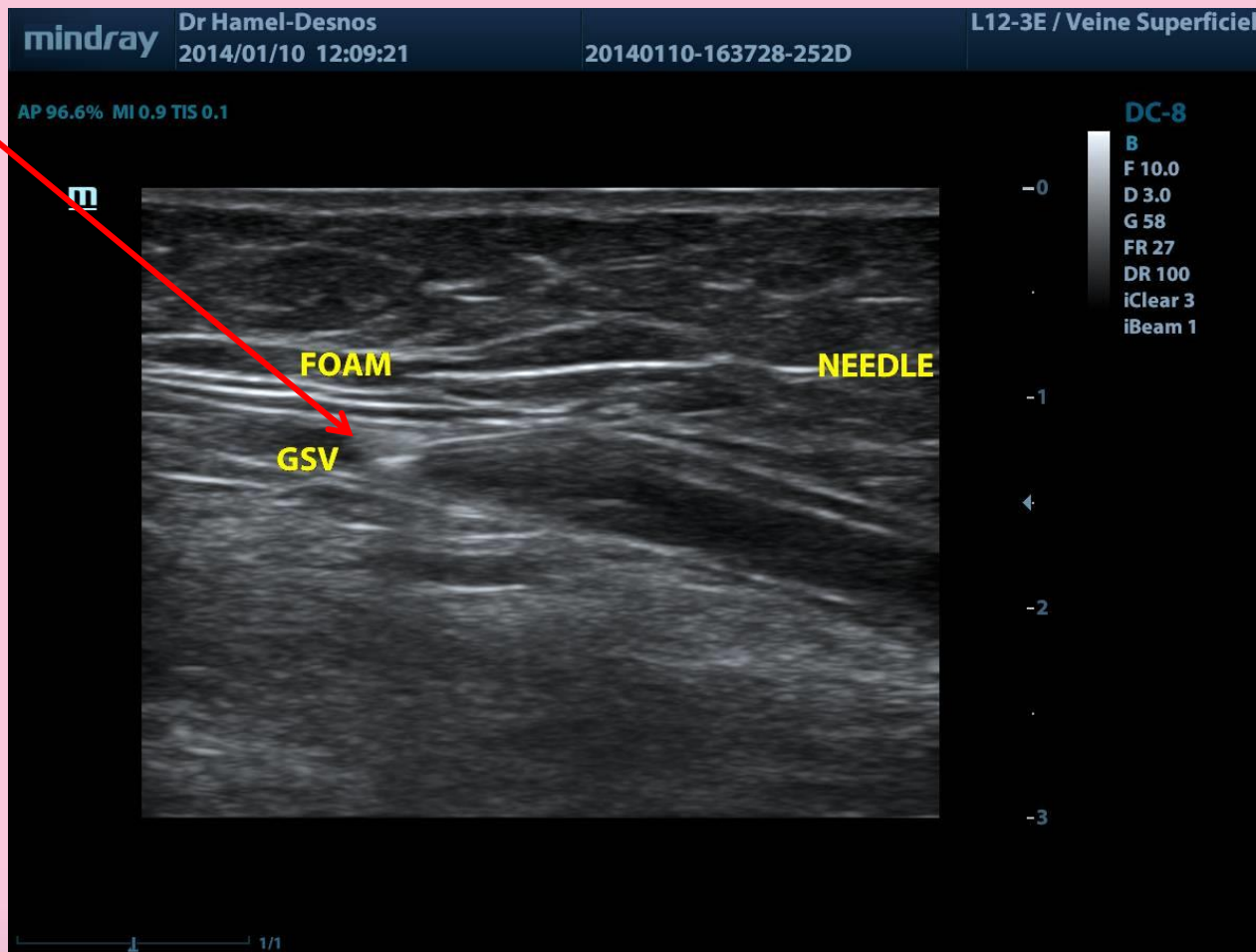
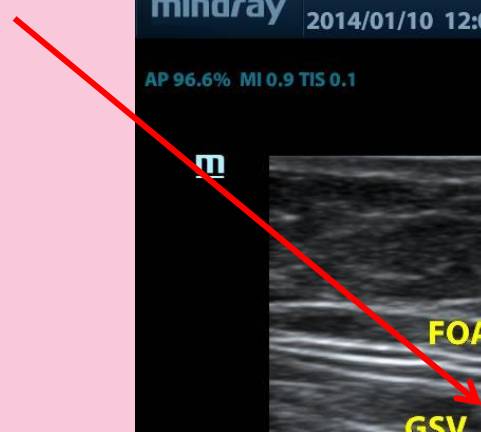
BLOOD BACK FLOW



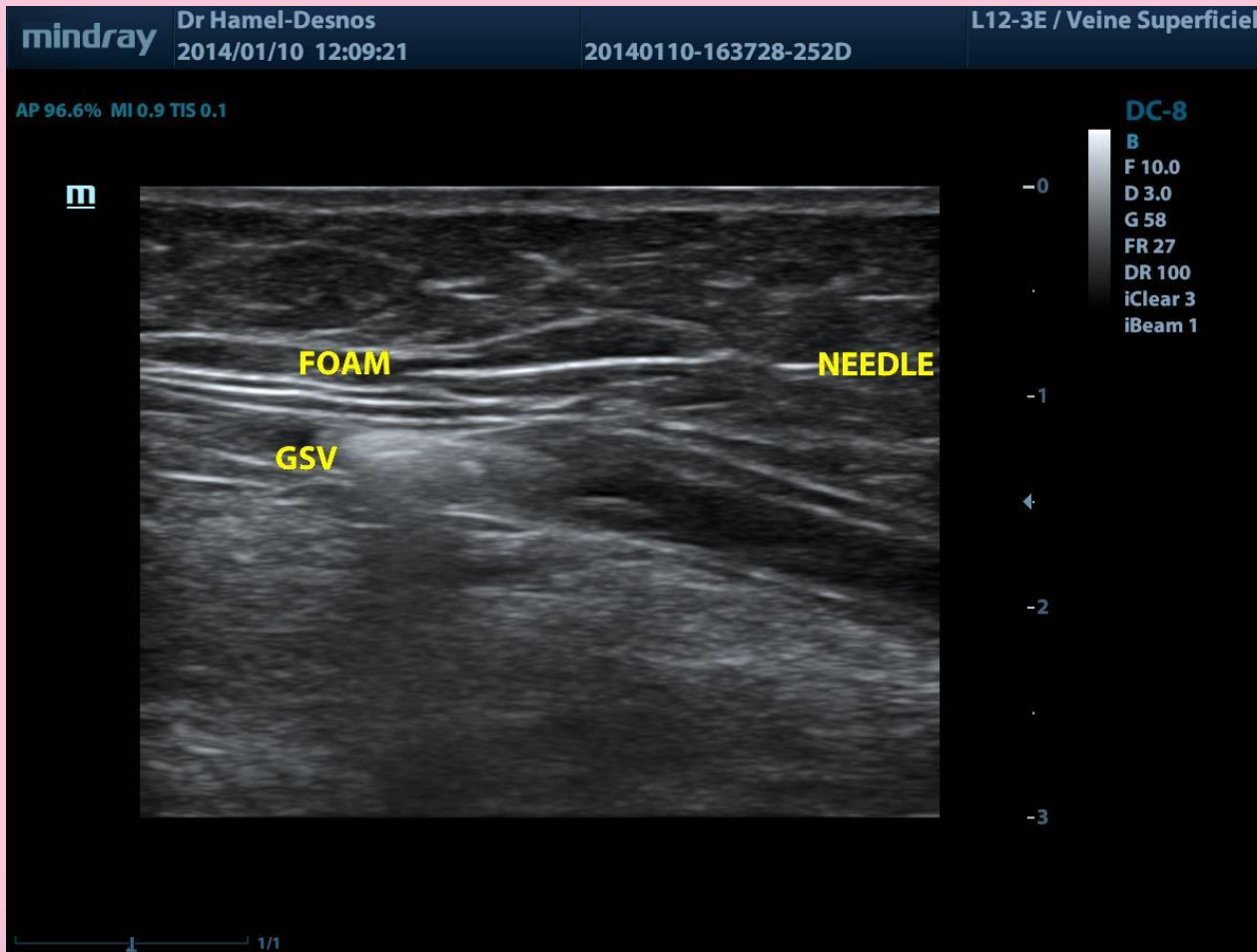
FIRST « DROPS » OF FOAM

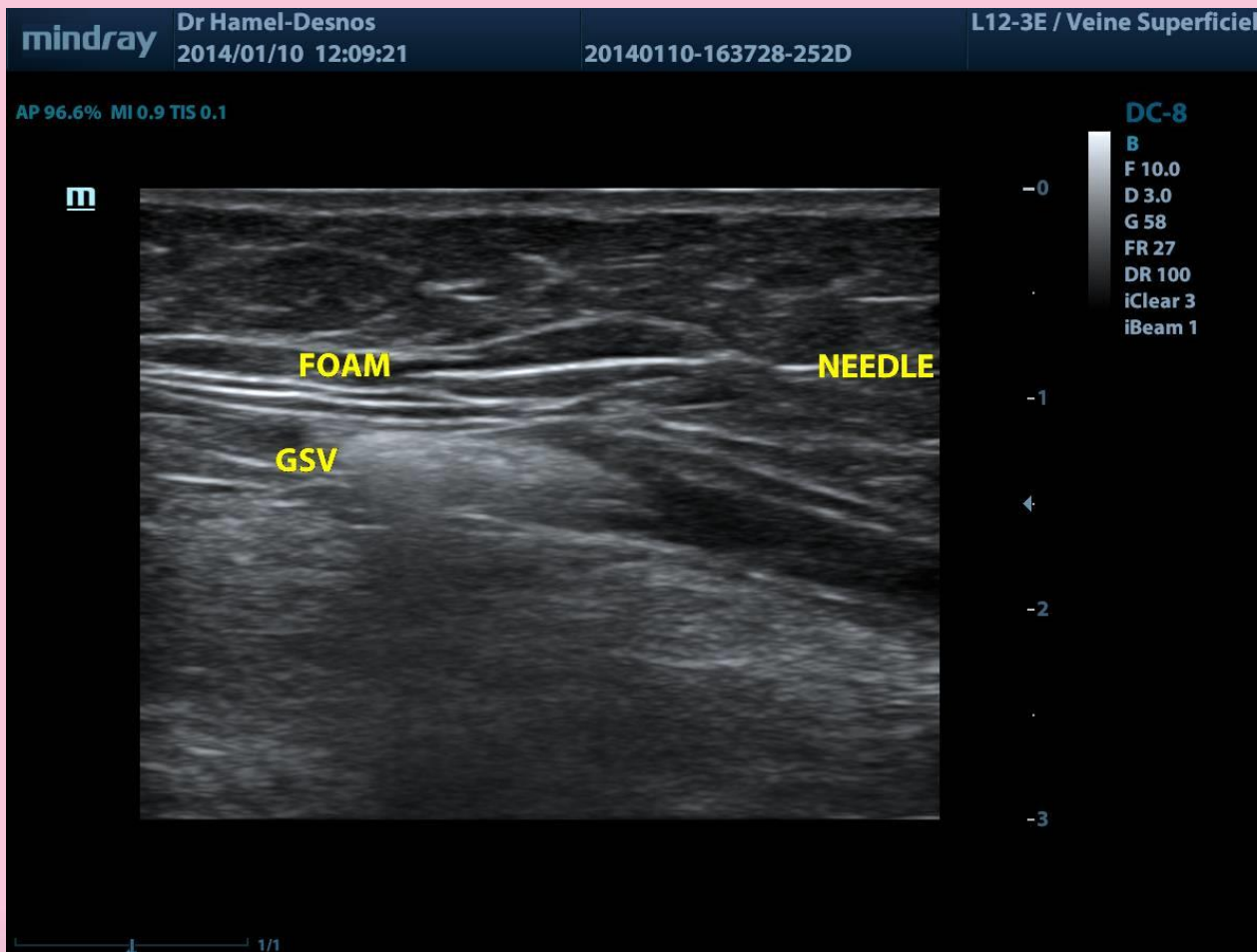


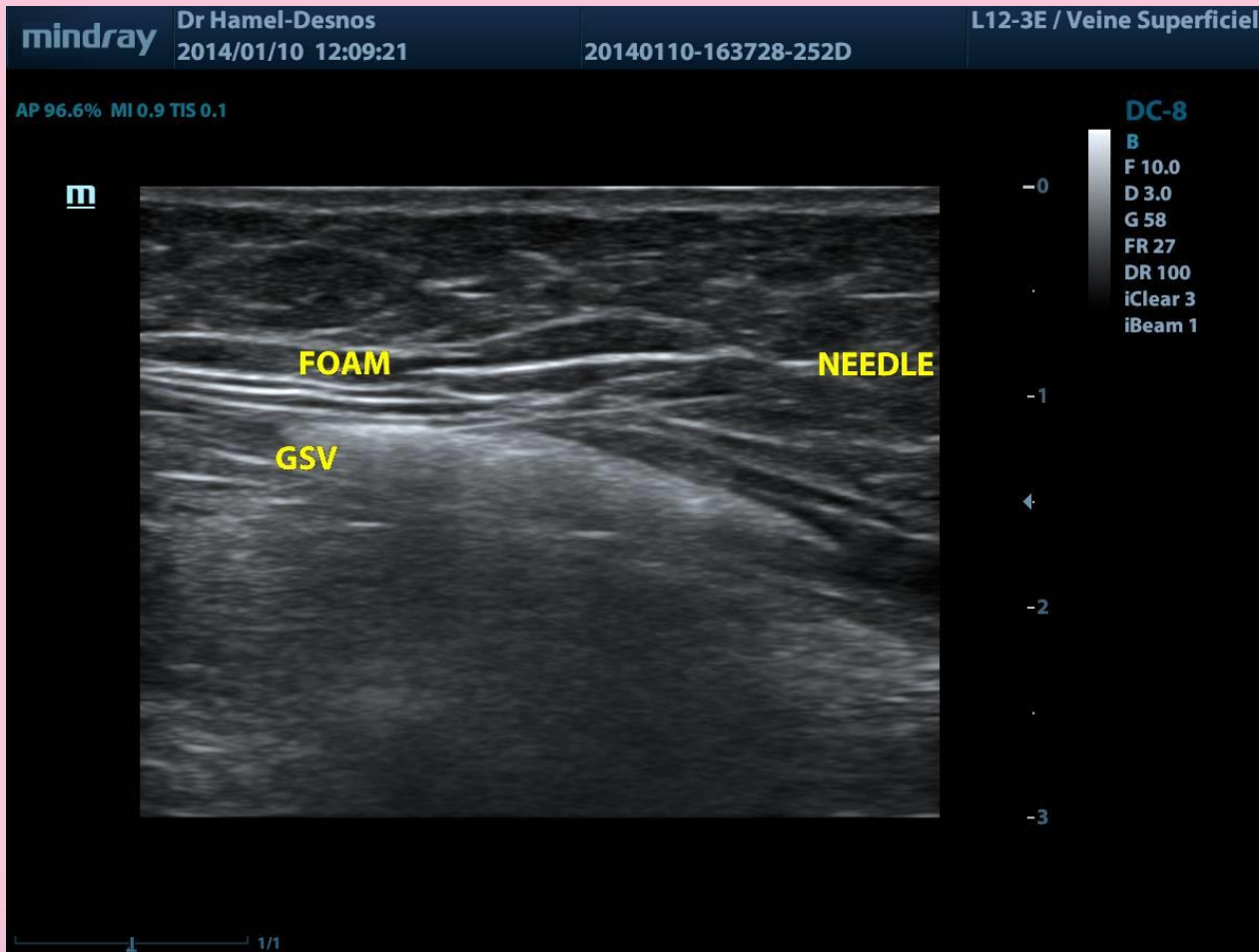
FOAM



CHECK THE FOAM IN THE LUMEN



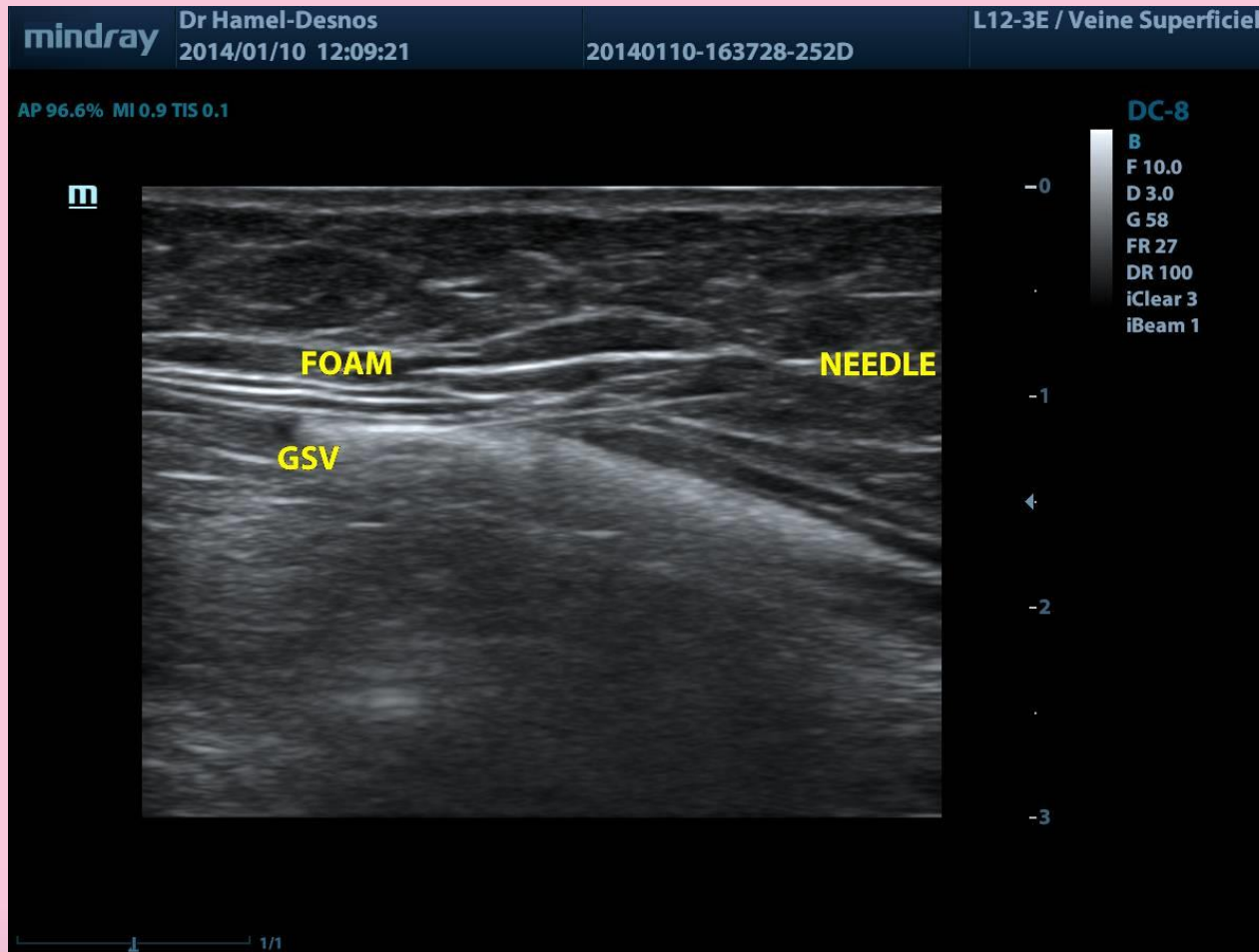


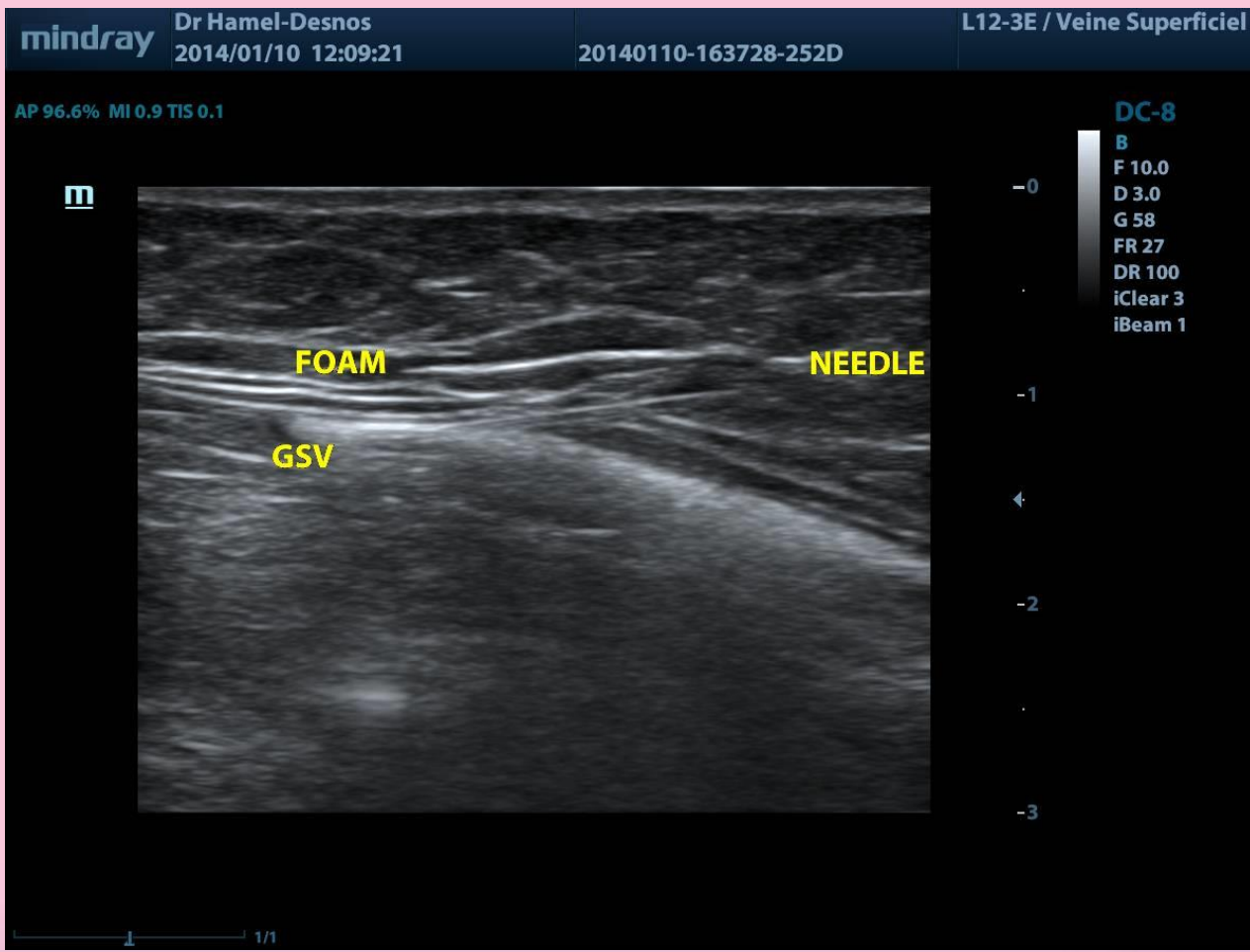


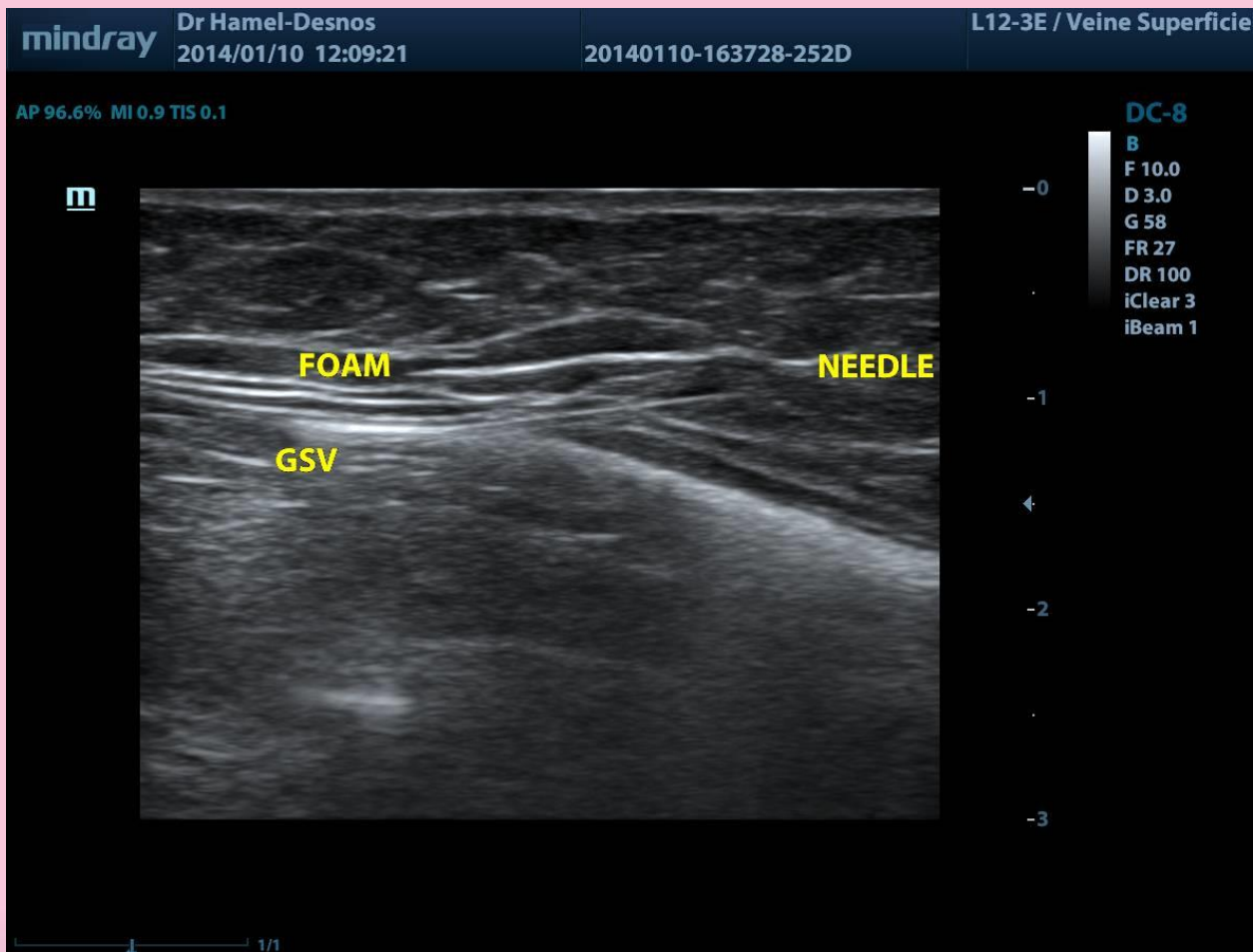
LOOK AT THE SCREEN, DO NOT LOOK AT YOUR HANDS



CHECK THE DISTRIBUTION OF THE FOAM IN THE LUMEN DURING INJECTION



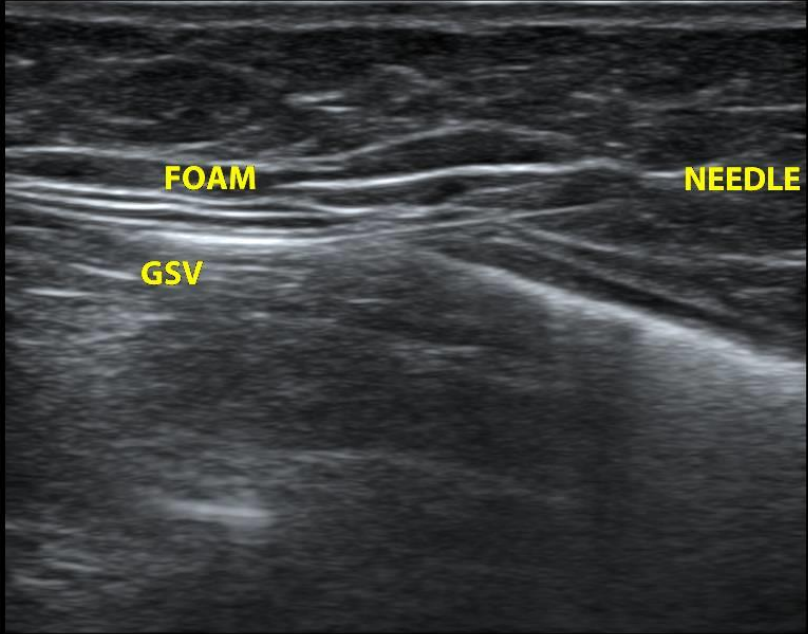




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AP 96.6% MI 0.9 TIS 0.1

m



FOAM **NEEDLE**

GSV

DC-8
B
F 10.0
D 3.0
G 58
FR 27
DR 100
iClear 3
iBeam 1

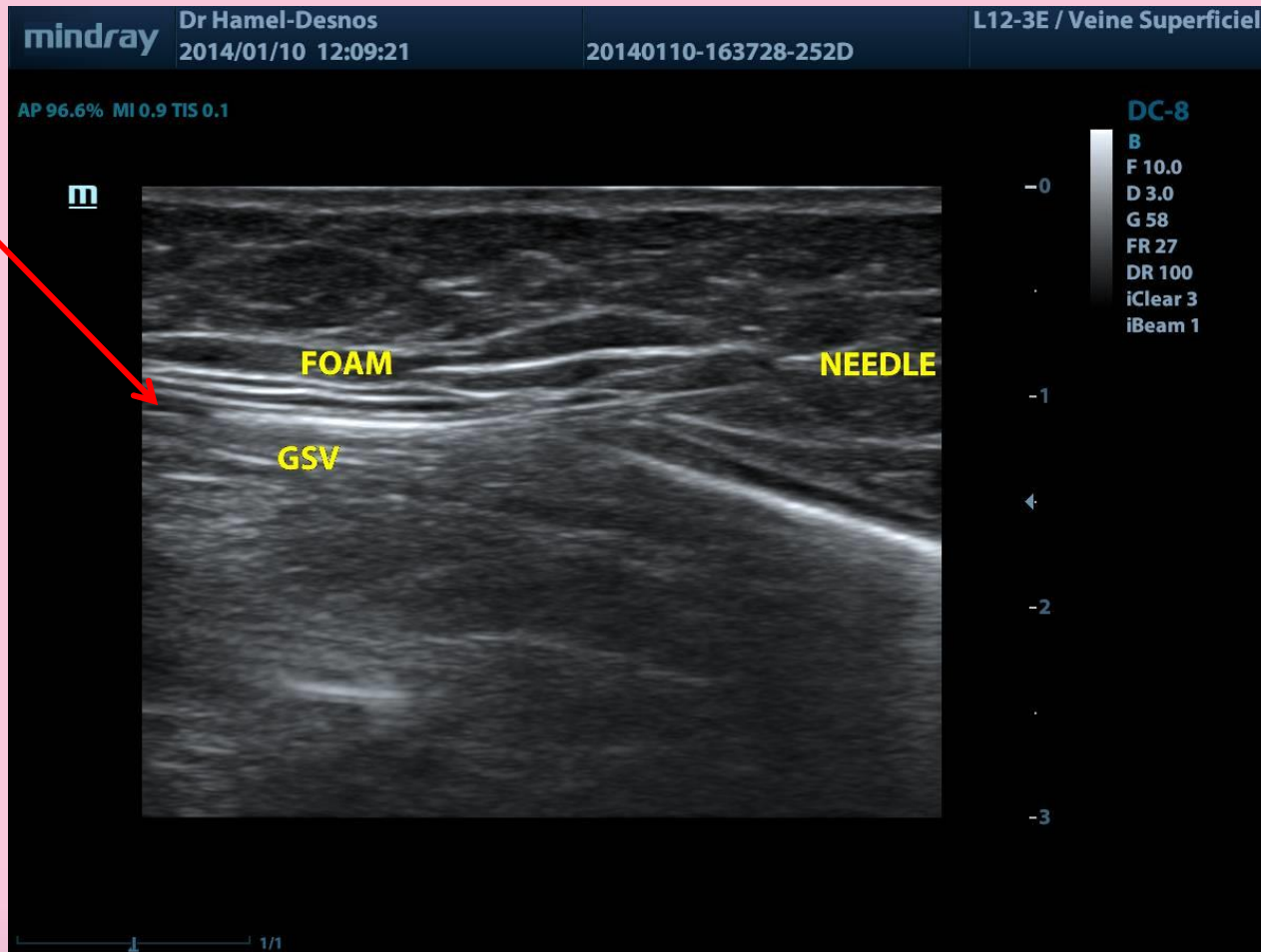
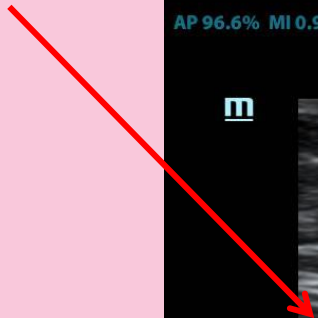
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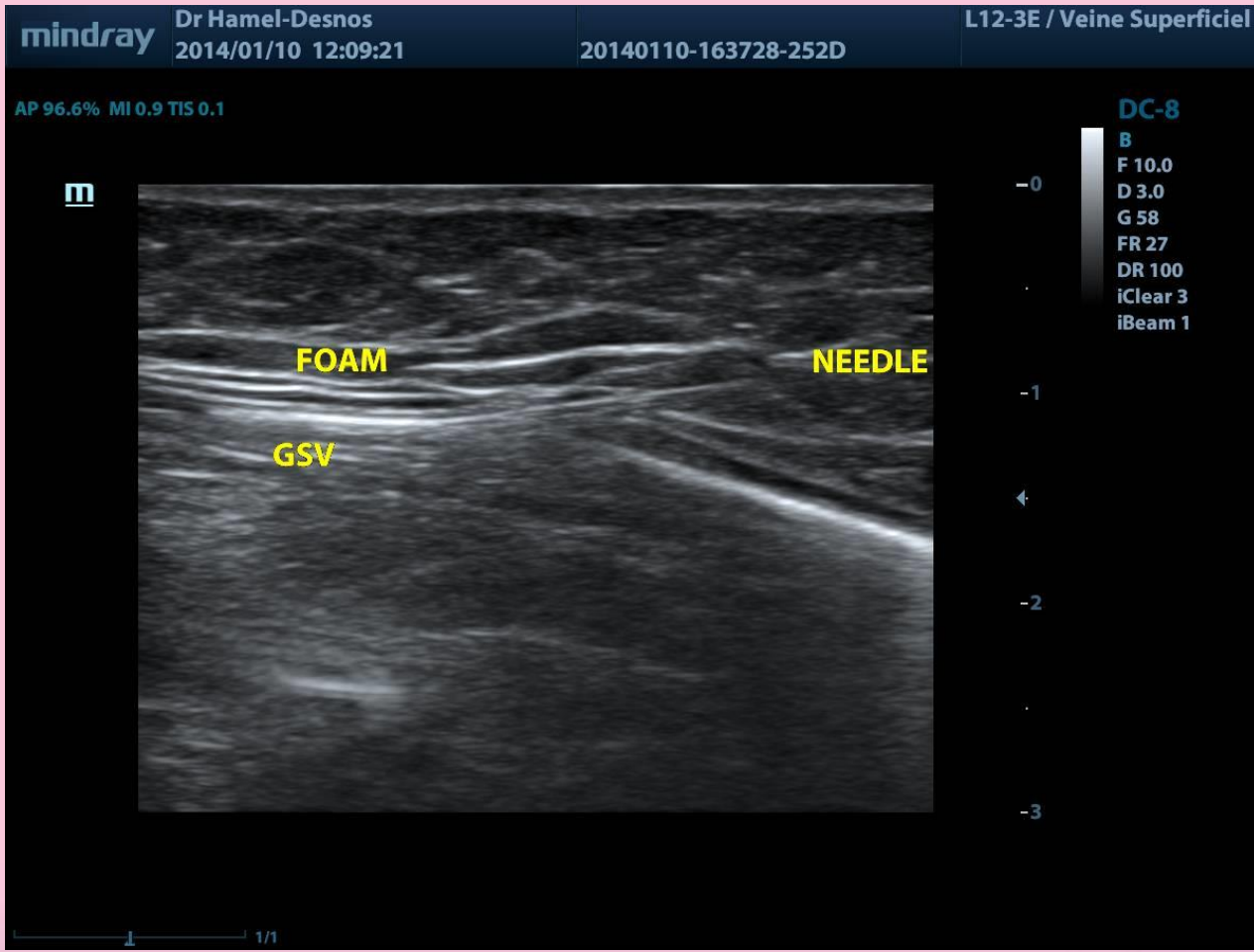
1 1/1

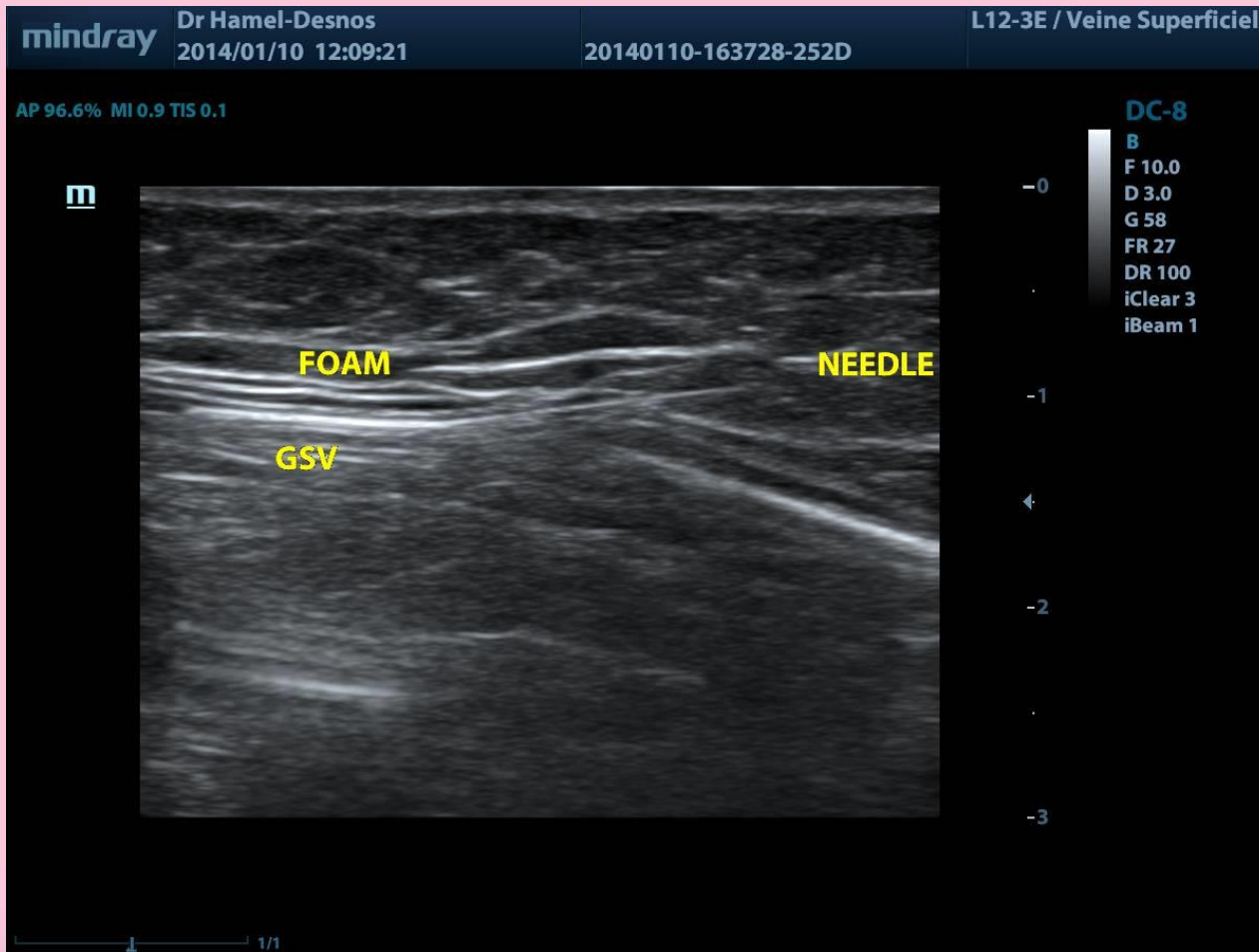


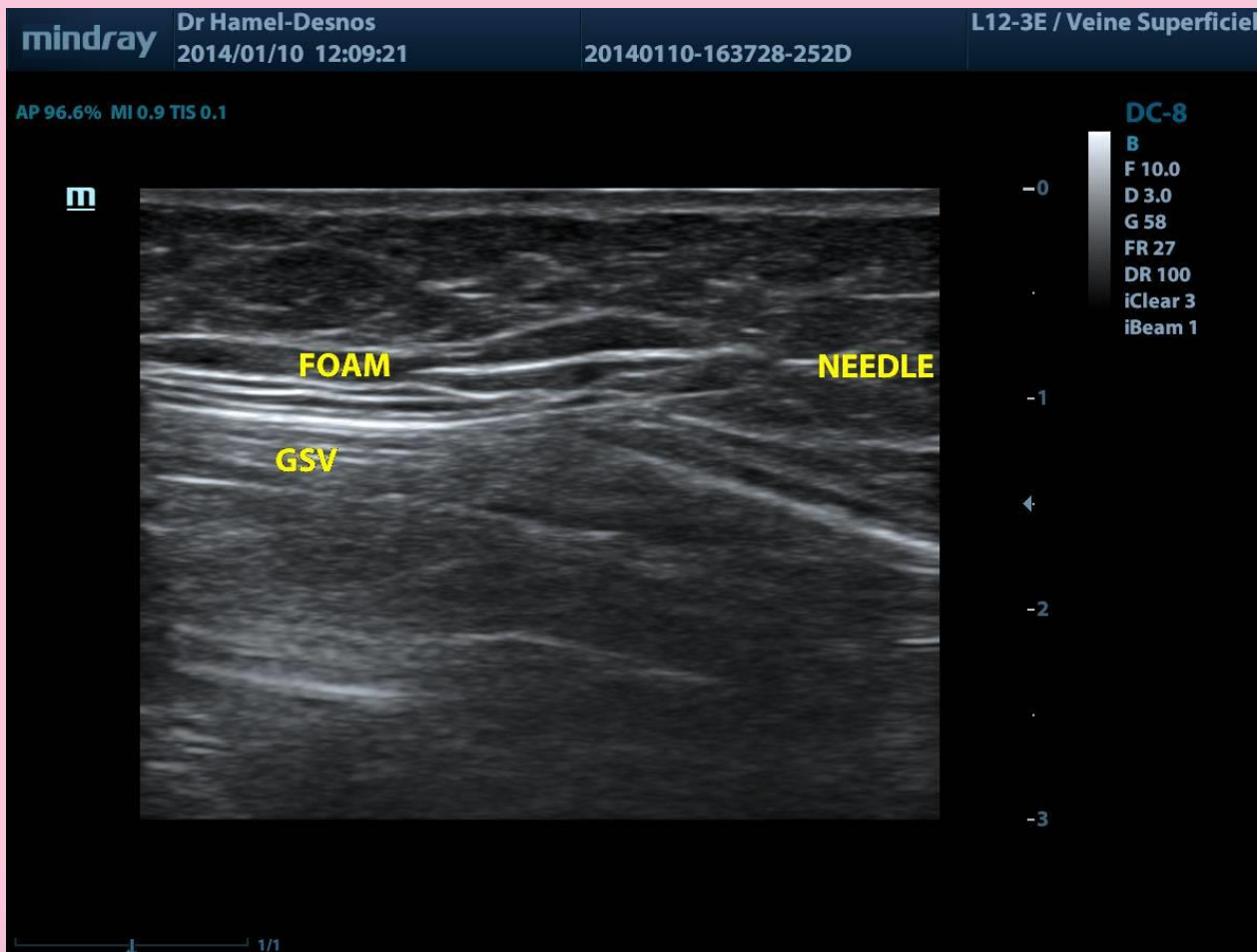
LOOK : SPASM OCCURRENCE DURING INJECTION

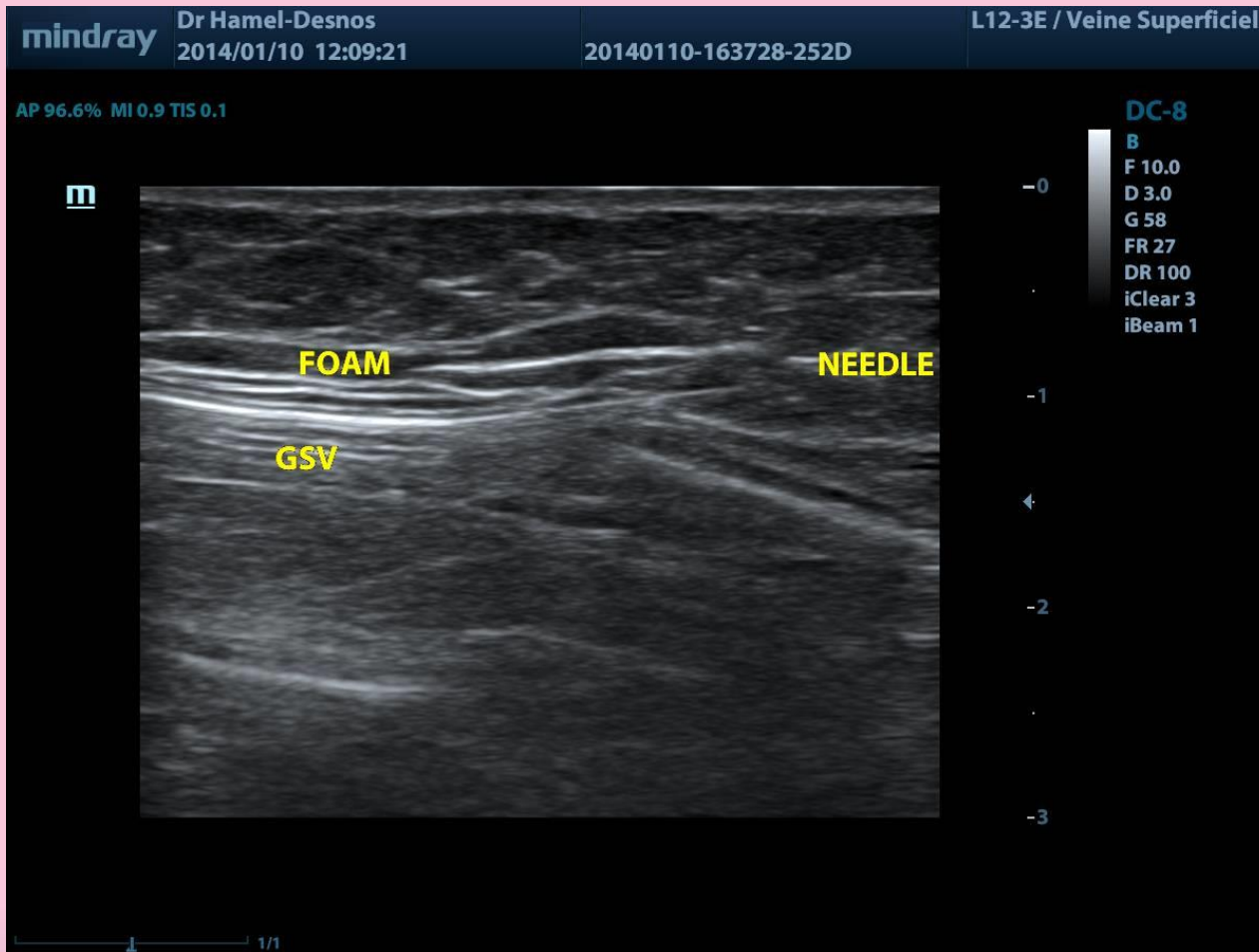
LUMEN

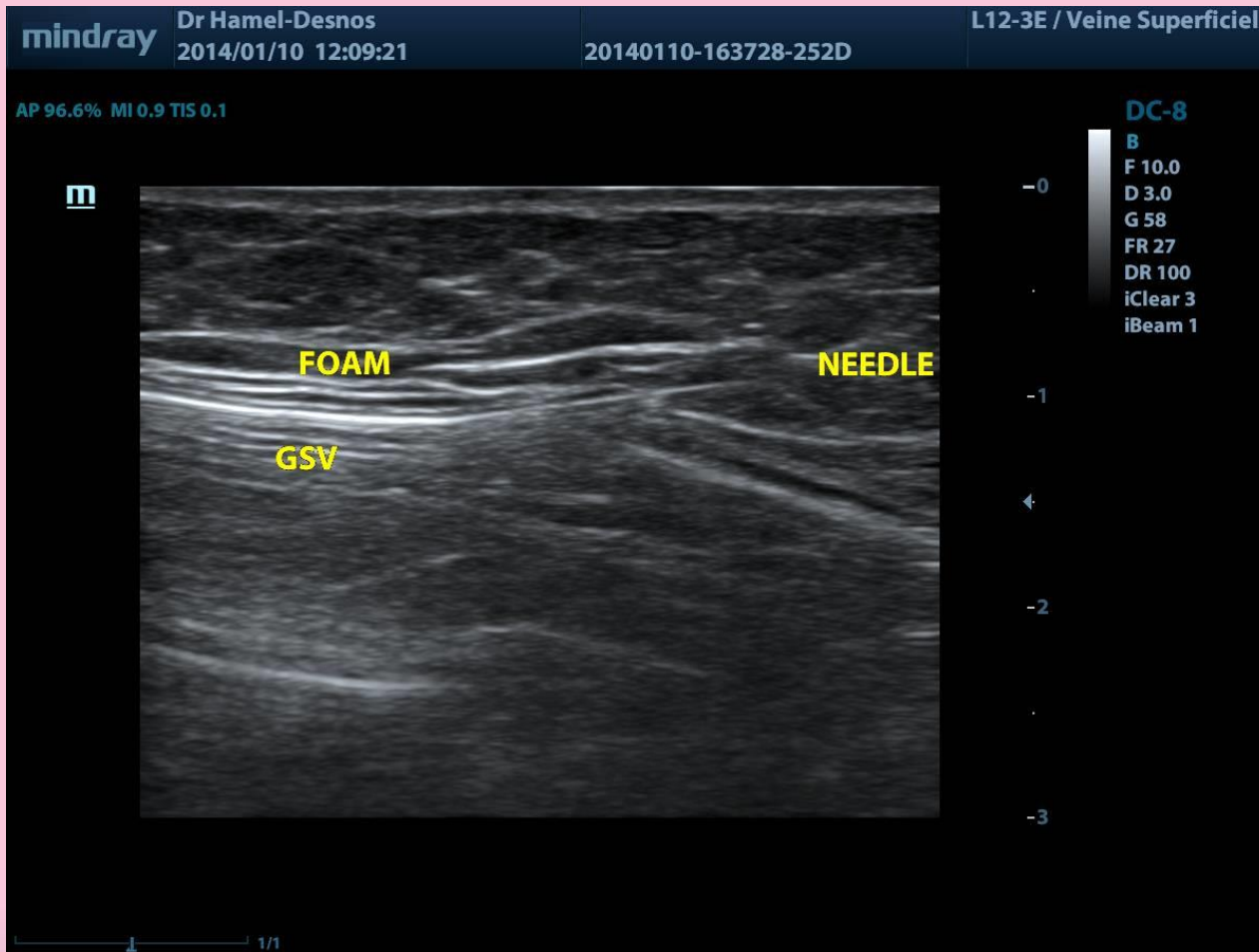


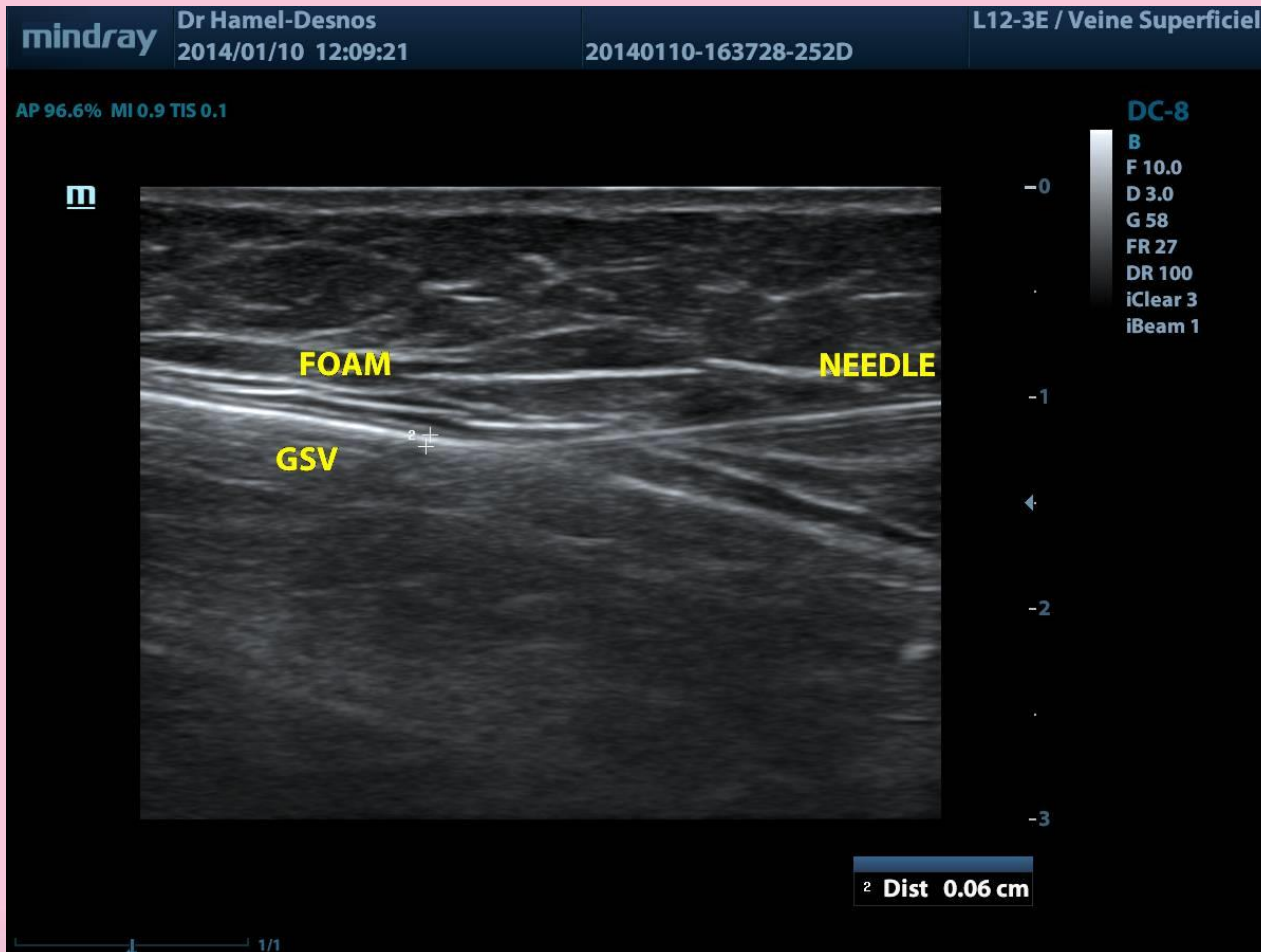








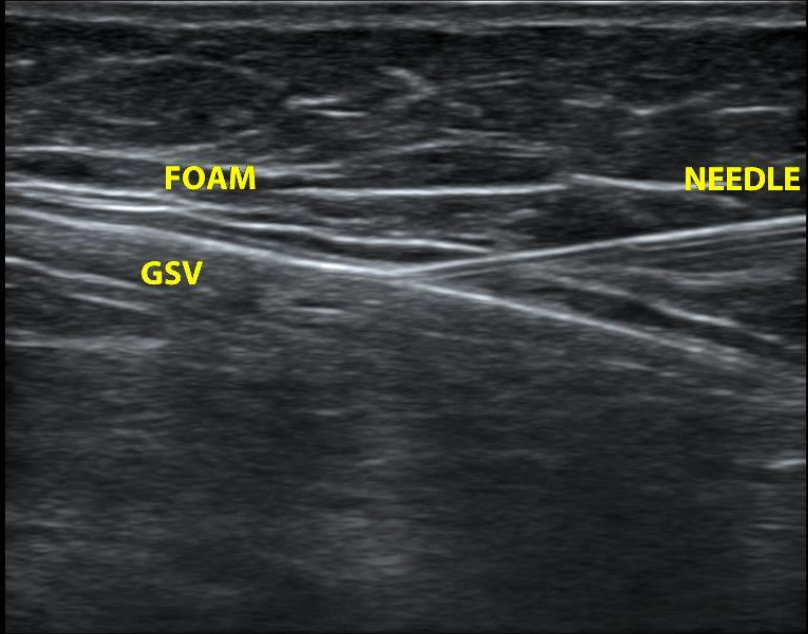




mindray Dr Hamel-Desnos 2014/01/10 12:09:21 20140110-163728-252D L12-3E / Veine Superficiel

AP 96.6% MI 0.9 TIS 0.1

m



FOAM **NEEDLE**

GSV

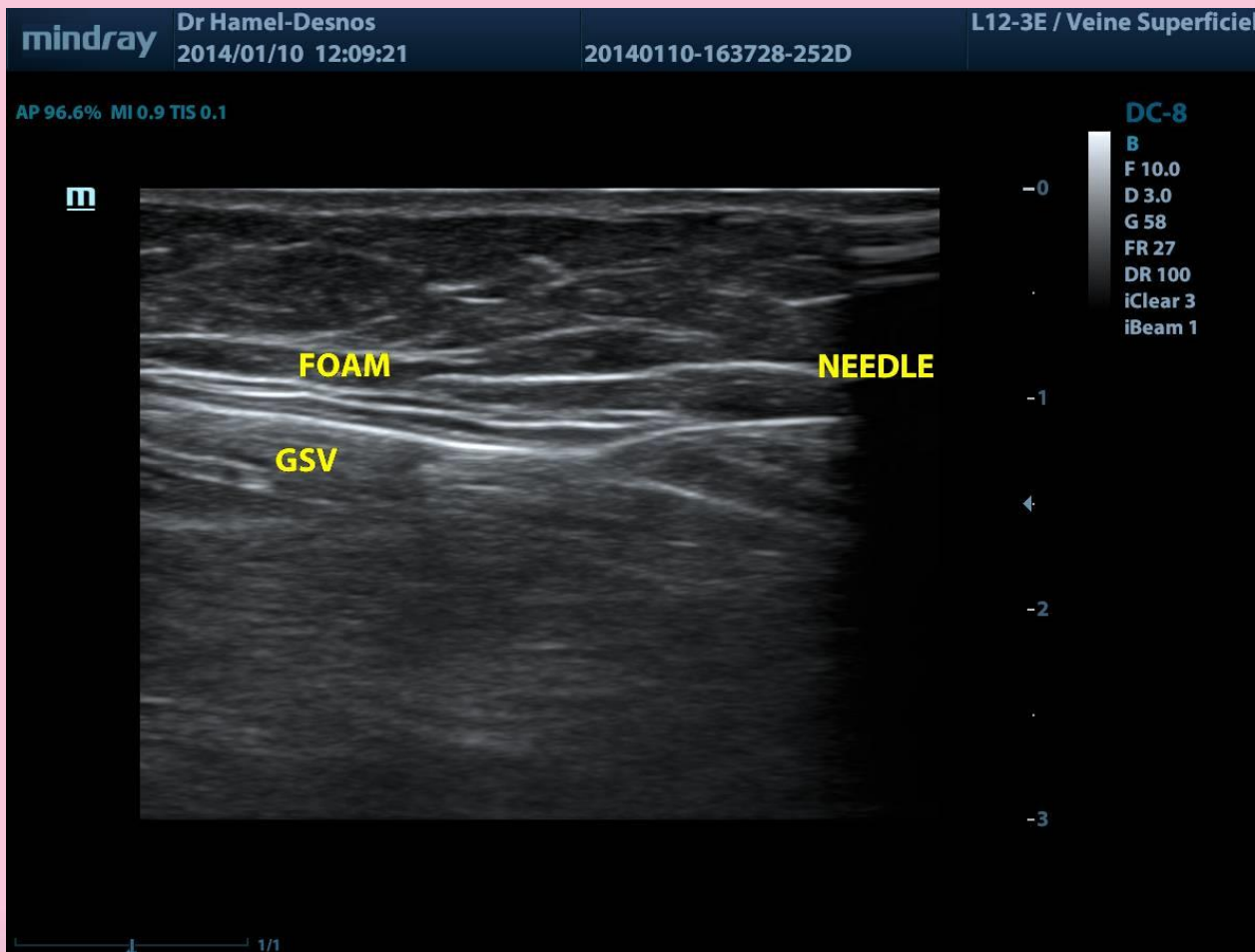
DC-8
B
F 10.0
D 3.0
G 58
FR 27
DR 100
iClear 3
iBeam 1

-0
-1
-2
-3

1 1/1

CONTINUE TO LOOK AT THE SCREEN, DO NOT LOOK AT YOUR HANDS

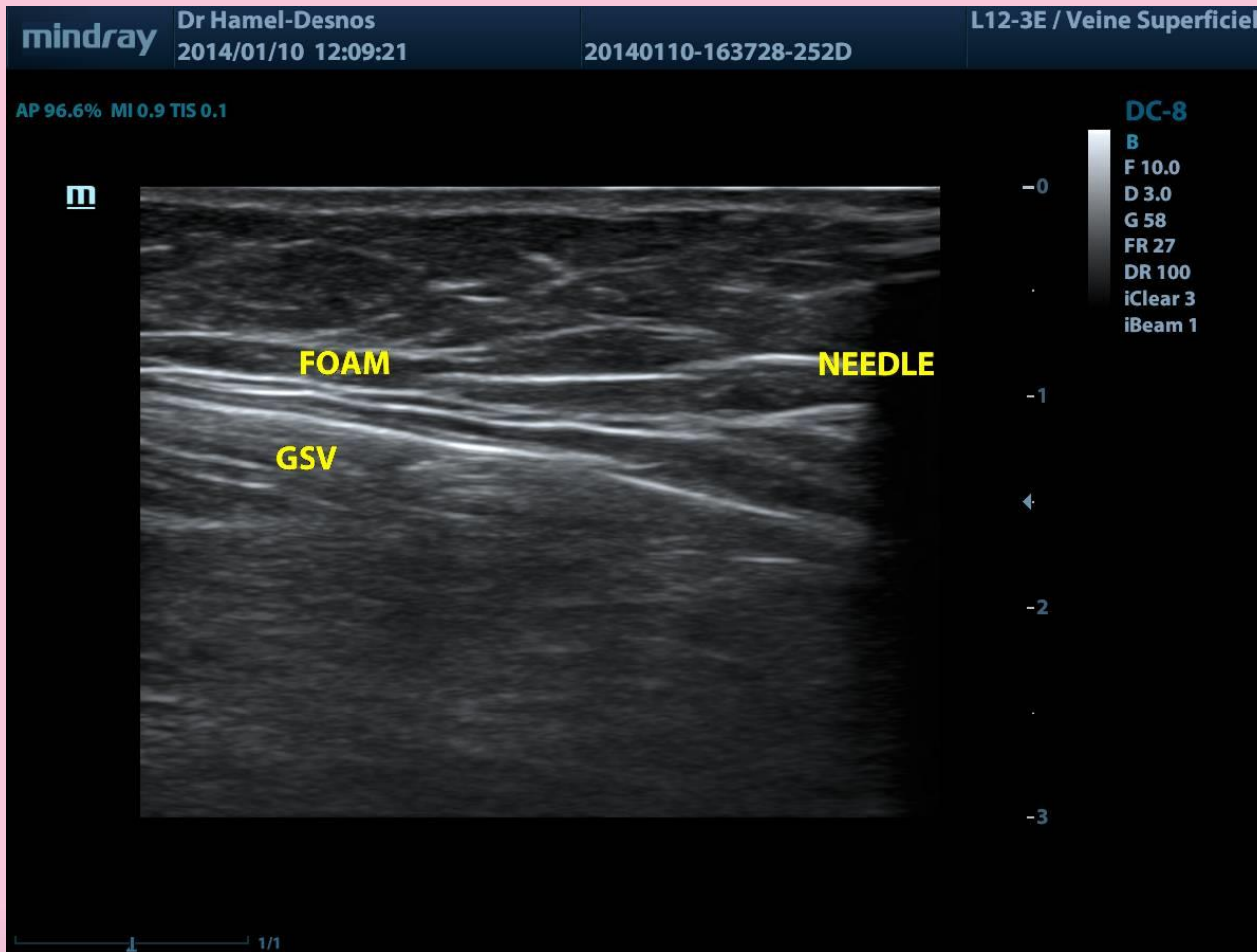


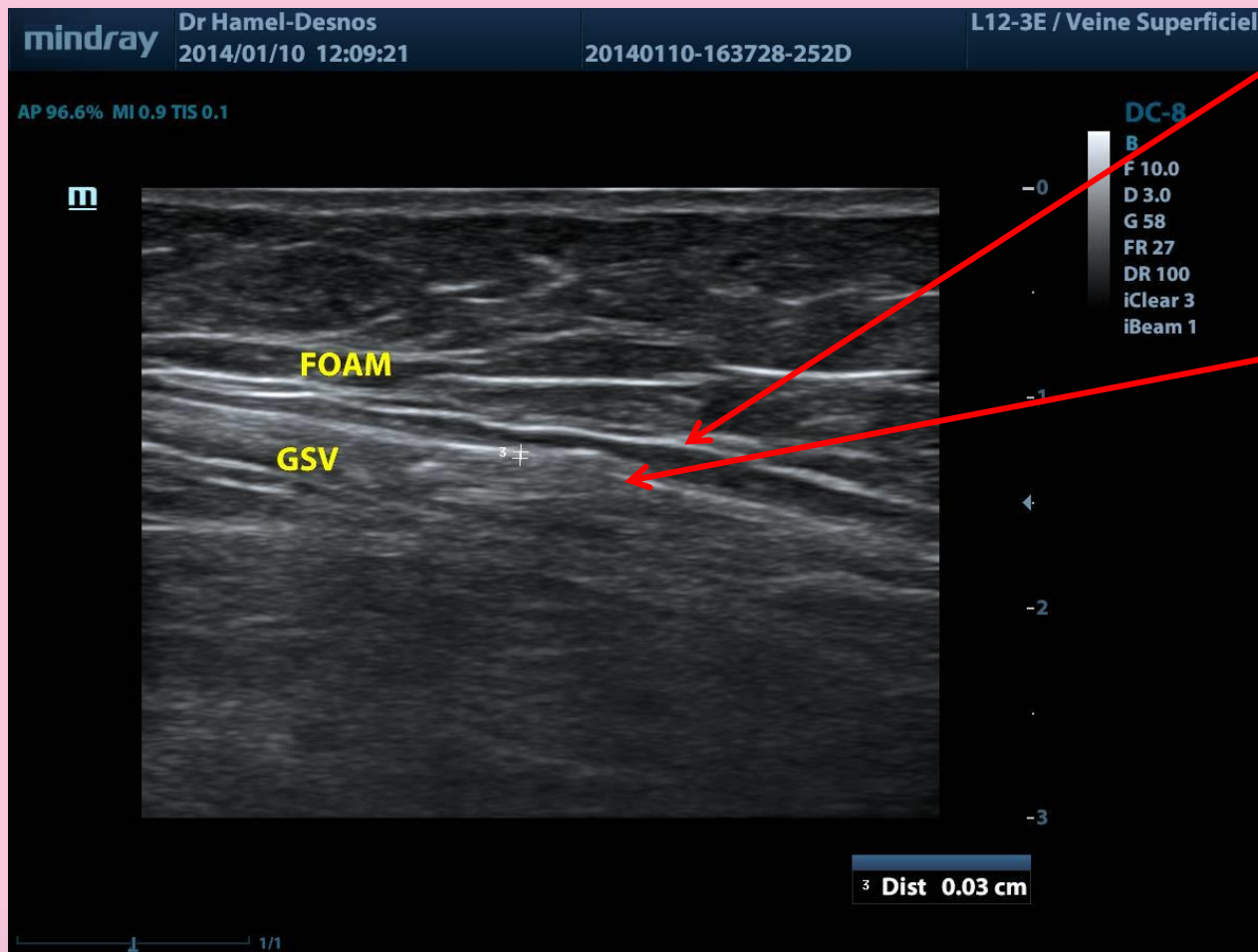


END of INJECTION



Removal of needle





FASCIA

GSV



Cross section

THE PROCEDURE

SSV



SSV

Cross view

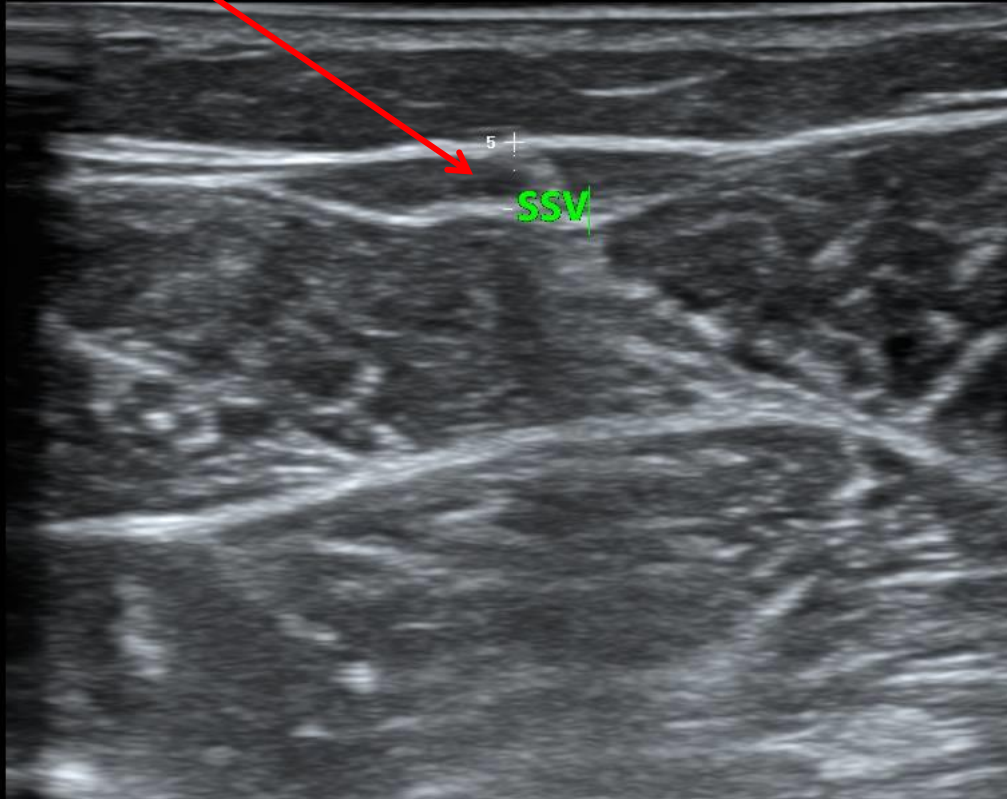
mindray

Dr Hamel-Desnos
09-01-2014 15:27:52

20140109-152920-252D

AP 96.6% MI 0.9 TIS 0.1

m



DC-8

B

F 10.0

D 3.0

G 65

FR 27

DR 100

iClear 3

iBeam 1

-0

-1

-2

-3

5 Dist 0.25 cm



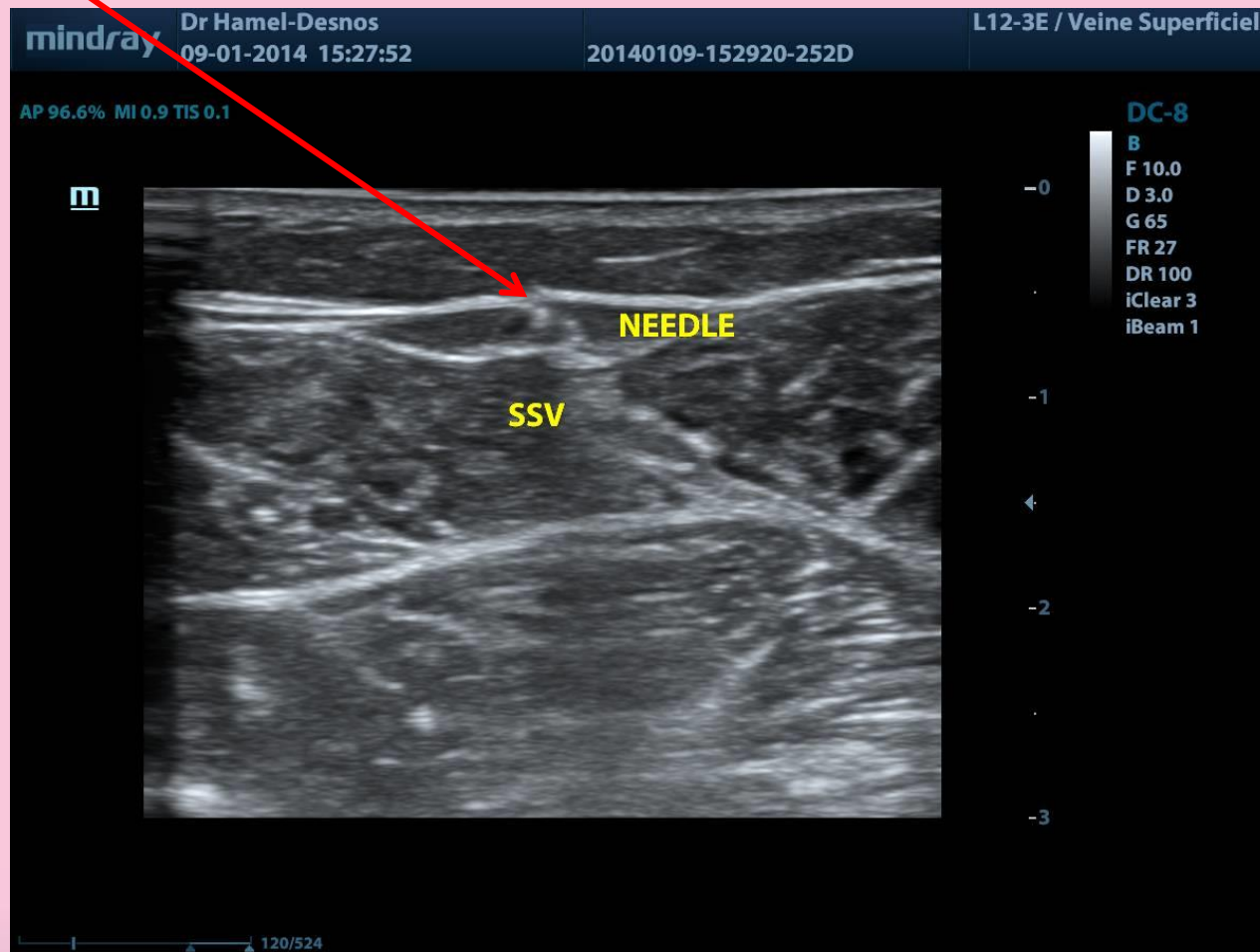
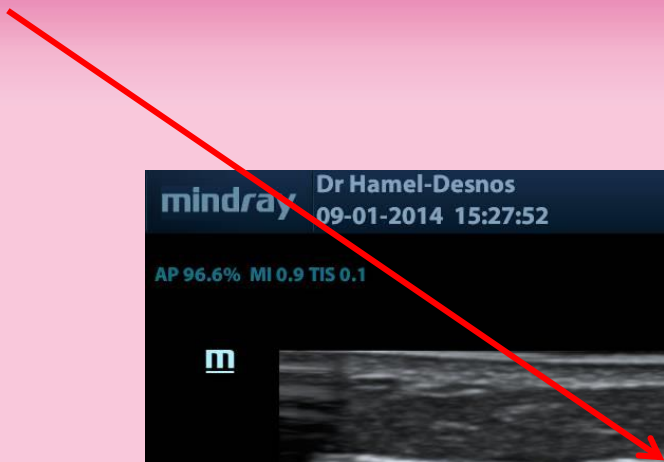








TIP OF NEEDLE

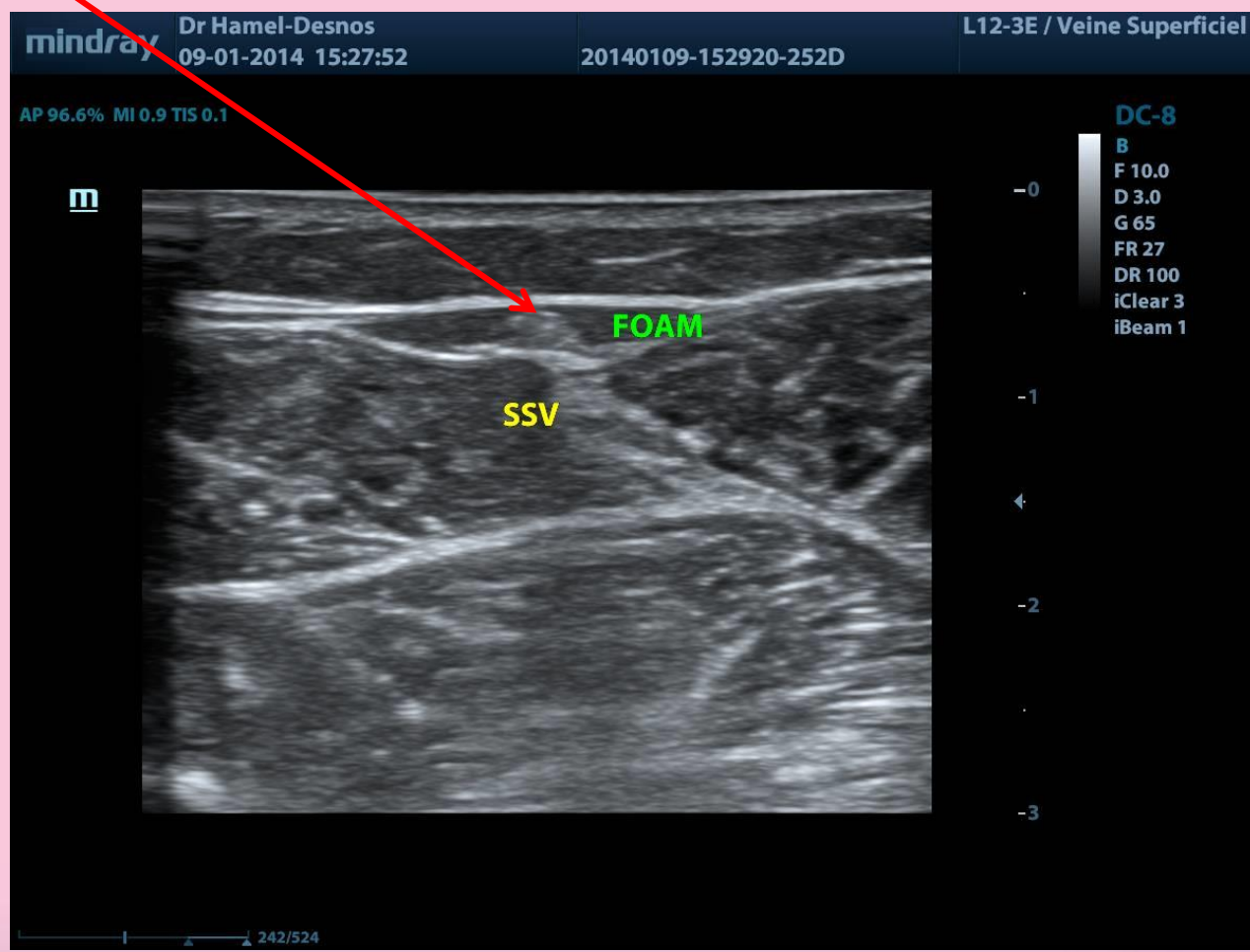
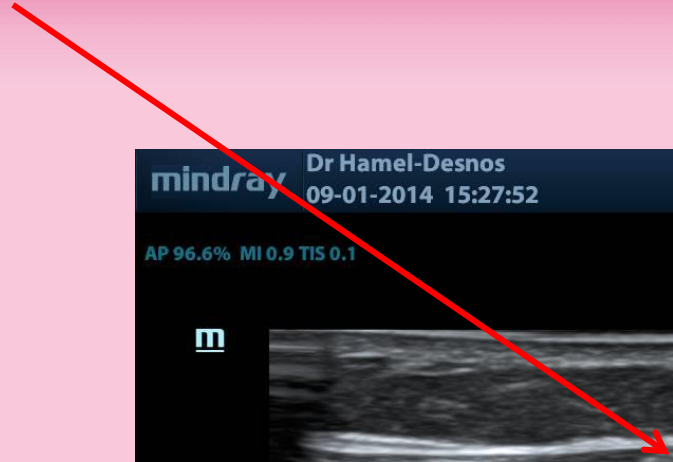


BLOOD BACK FLOW

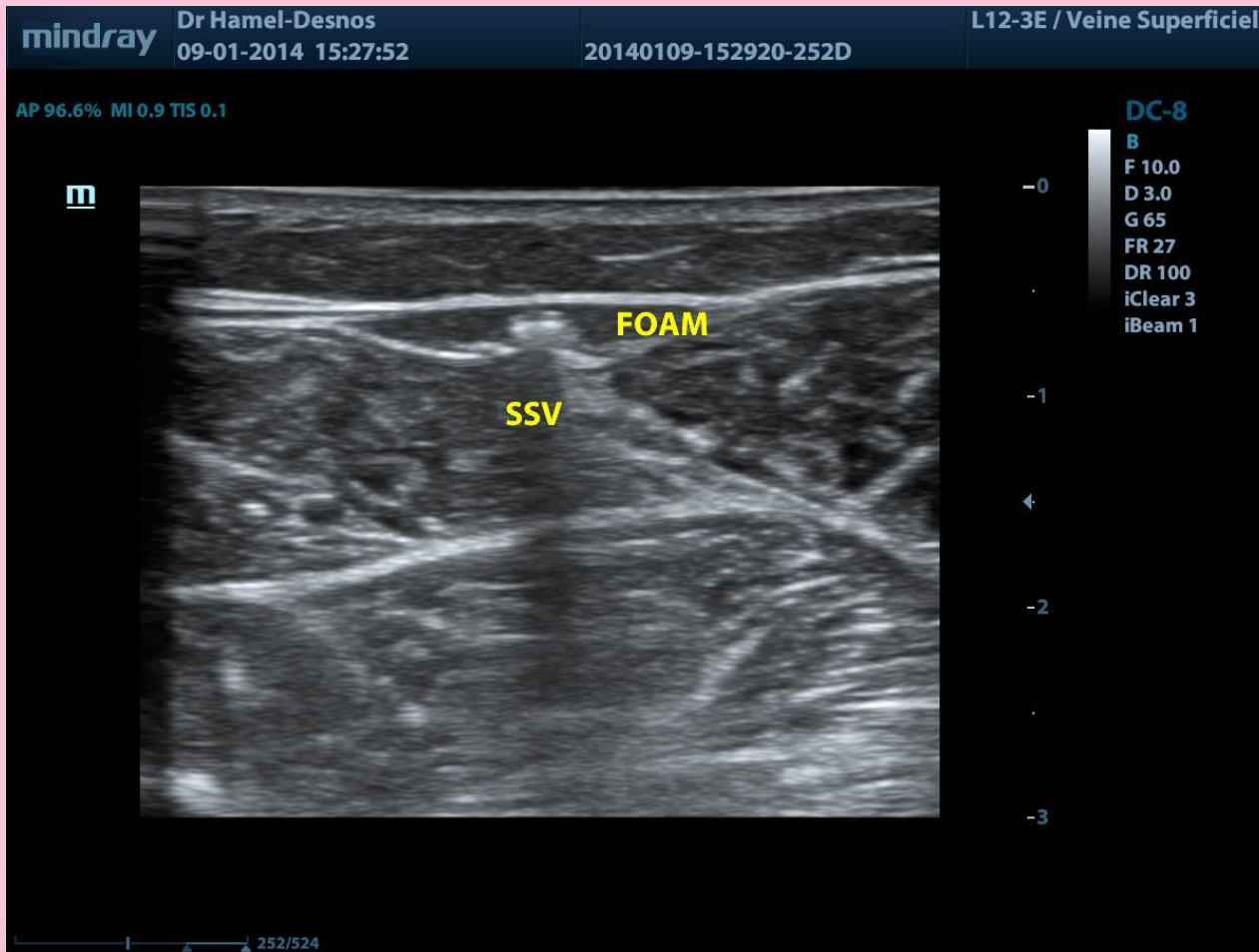


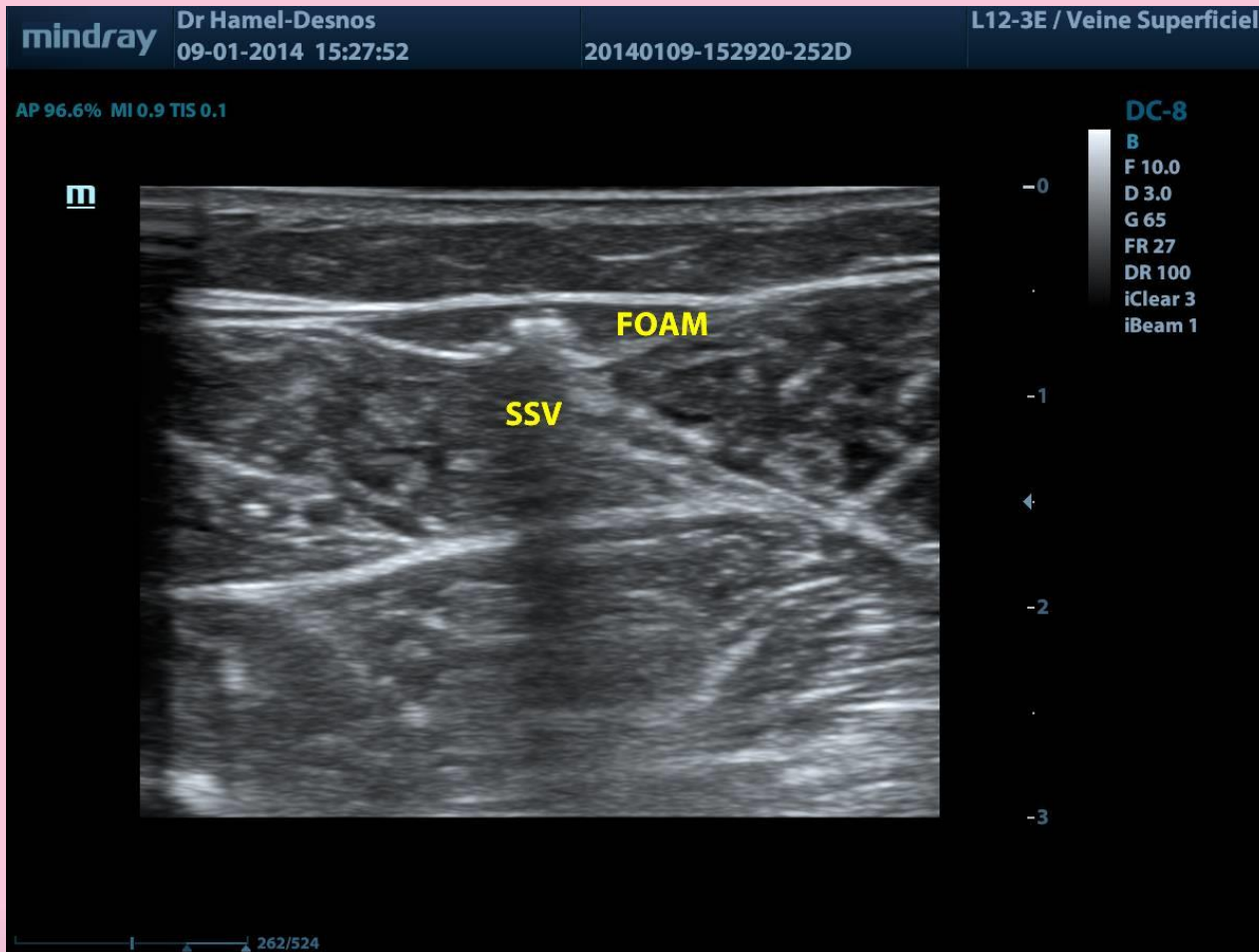


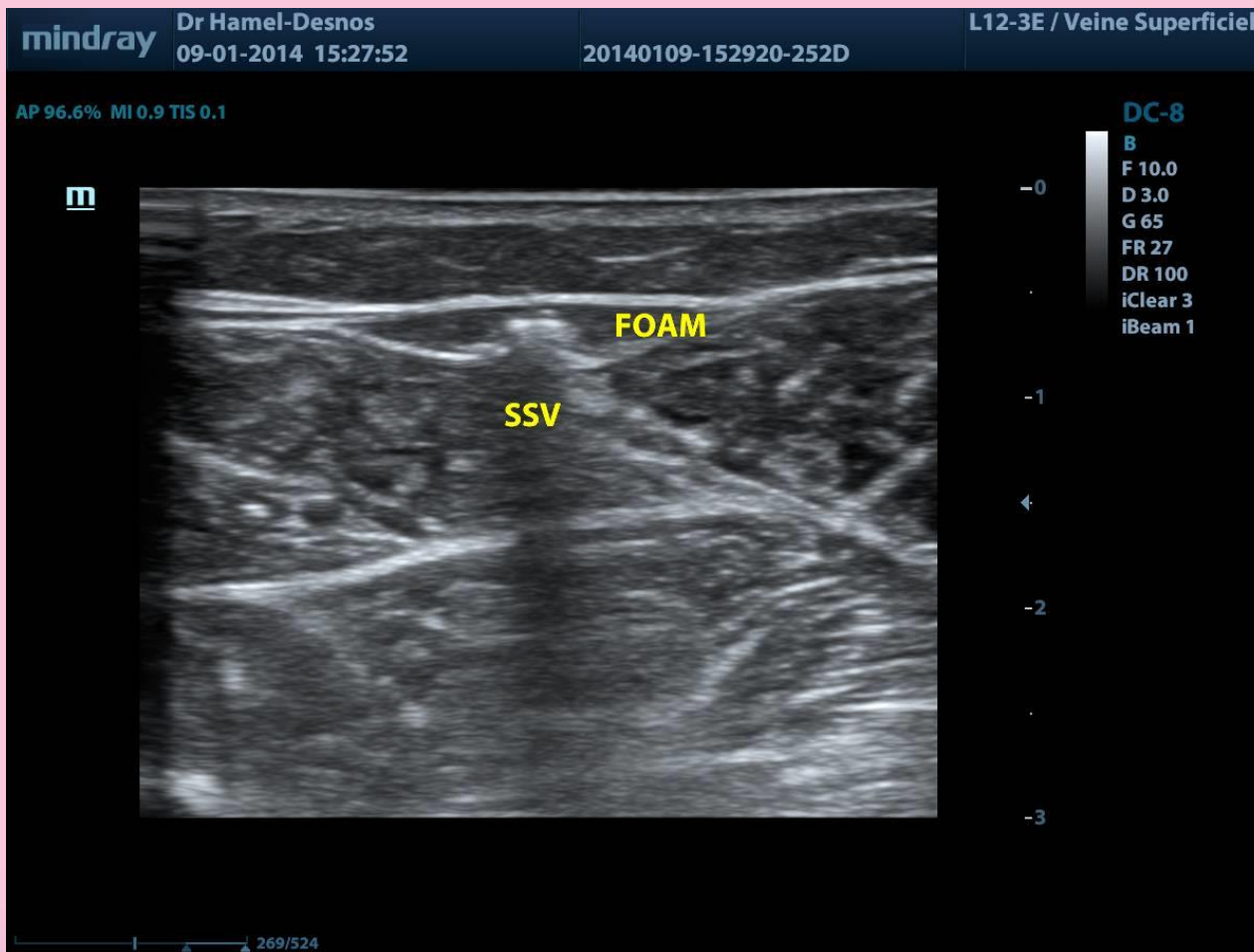
FOAM



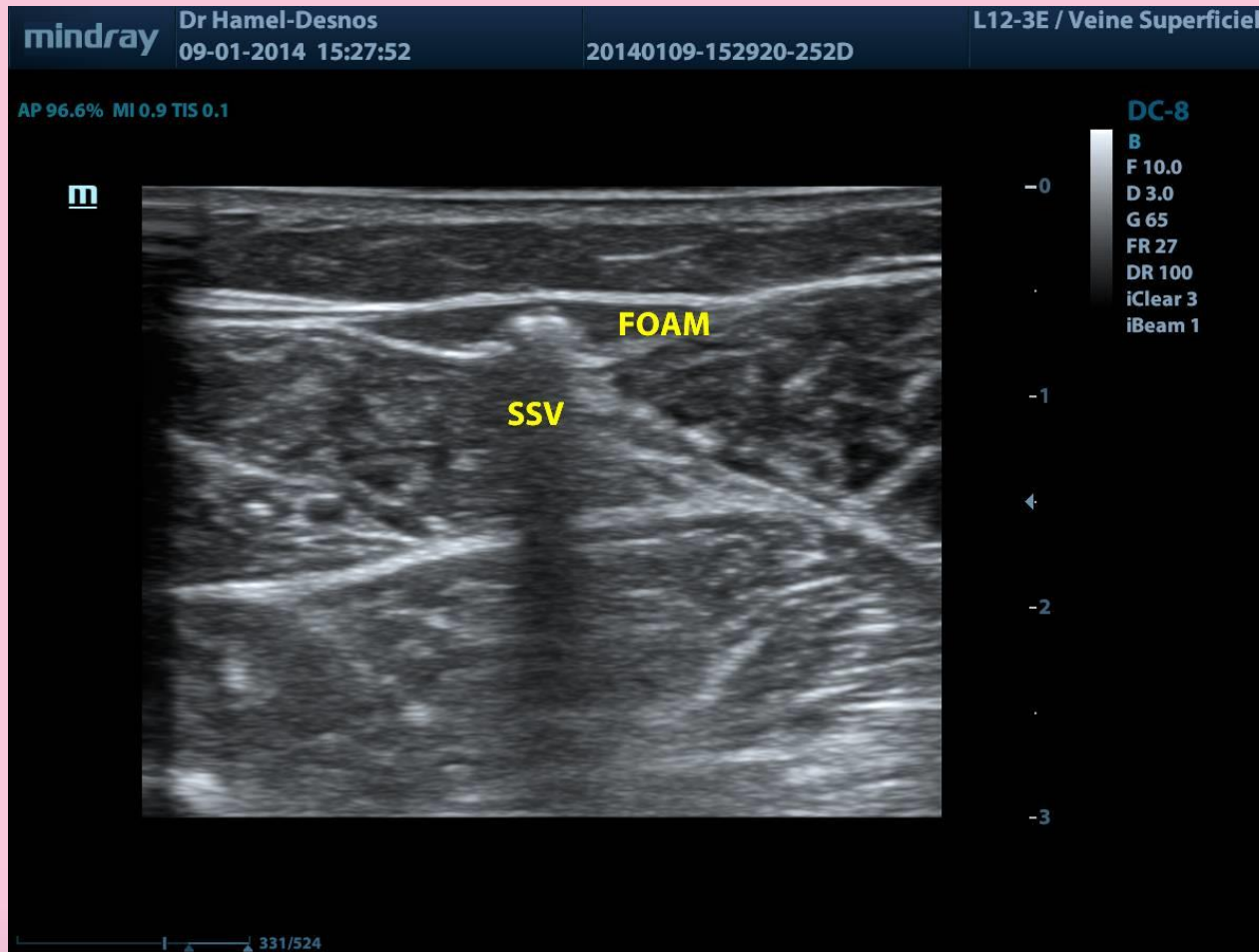






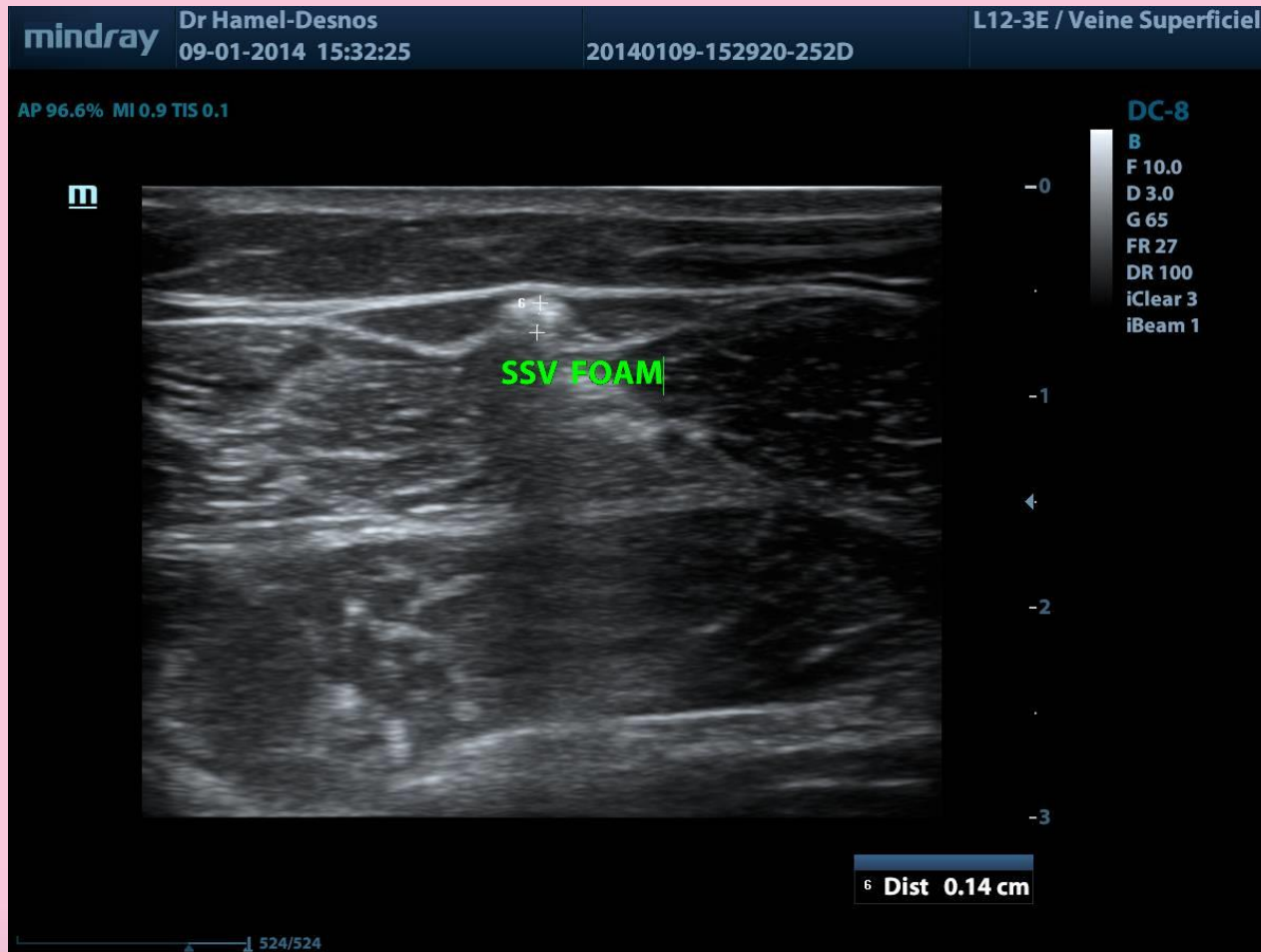


DISTRIBUTION OF THE FOAM IS NOT WELL VISIBLE DURING THE INJECTION, BUT YOU CAN CHECK THE ABSENCE OF EXTRAVASCULAR INJECTION





END OF INJECTION



Advantages and Disadvantages

LONGITUDINAL SECTION

Better visibility of



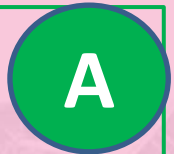
- vein and lumen
- anterior and posterior walls
- needle
- distribution of foam and venous spasm

- Lateral walls not seen
- US beam may be difficult to reach
- Parallax error possible



CROSS SECTION

- All vein walls visible
- US beam easy to reach
- No risk of parallax error



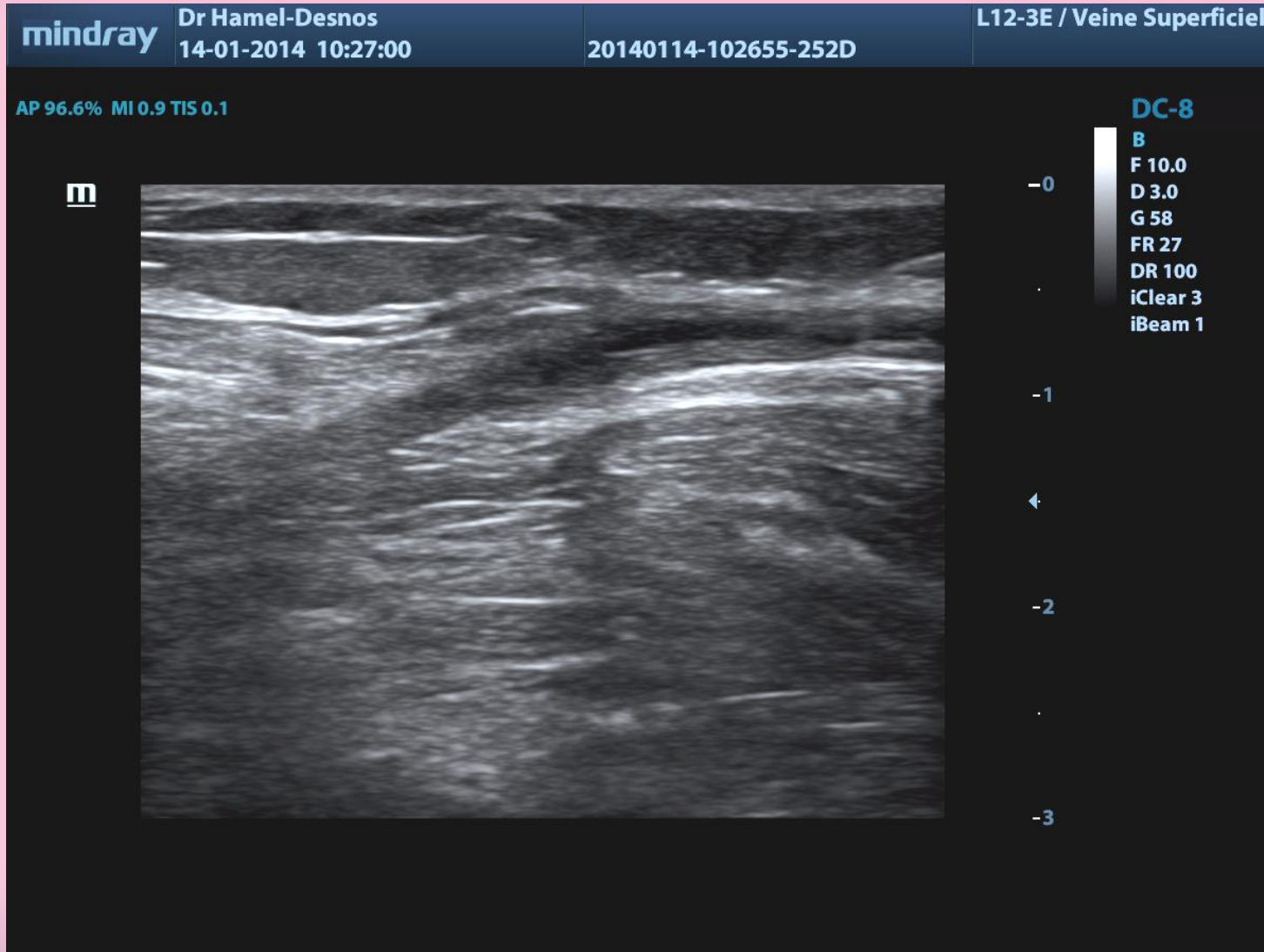
Not well visible:

- vein and lumen
- needle
- distribution of foam and venous spasm

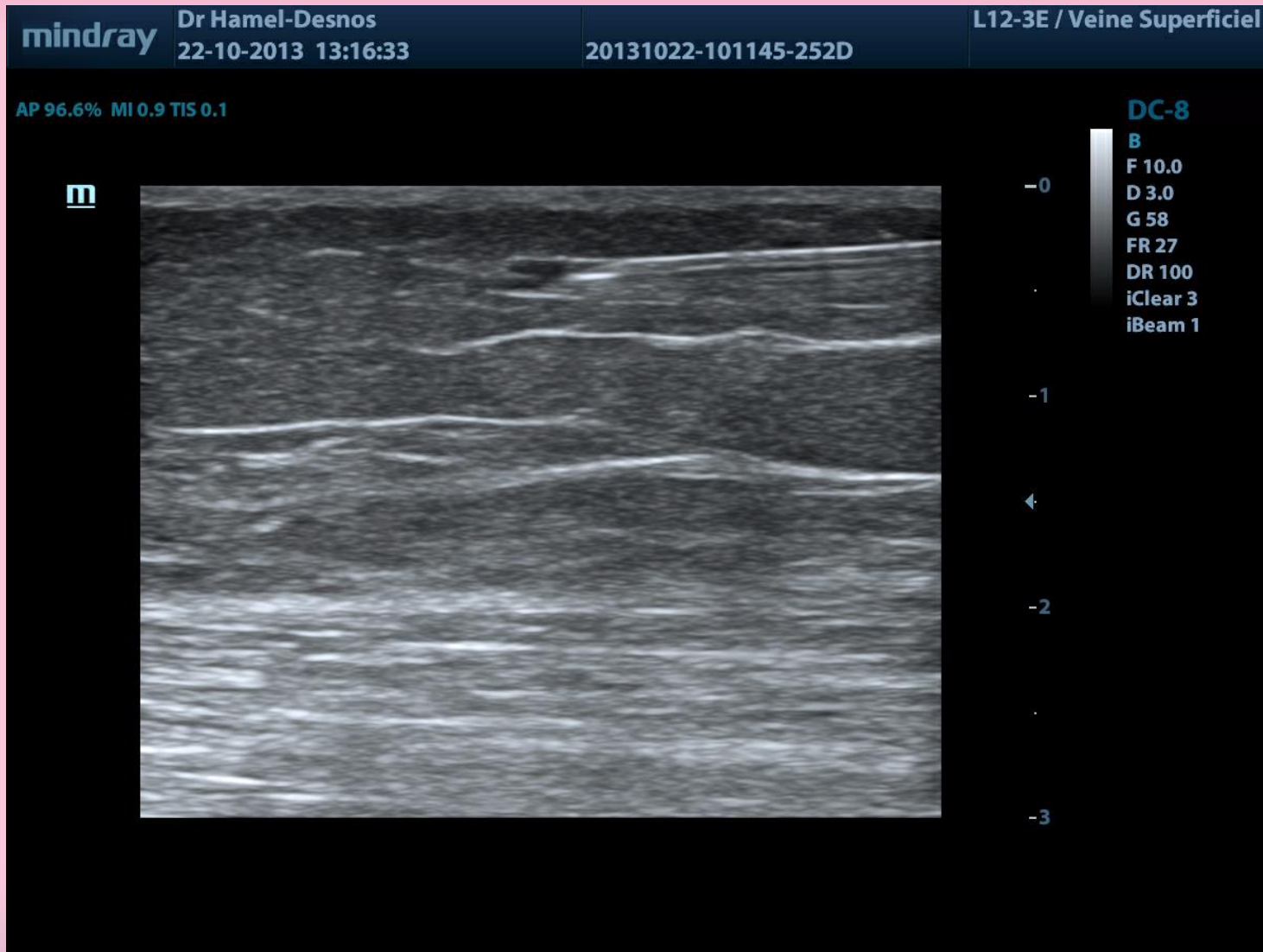


Risk of passing through the posterior wall

Recanalization of a SSV: UGFS, longitudinal view



US Guidance



video

mindray

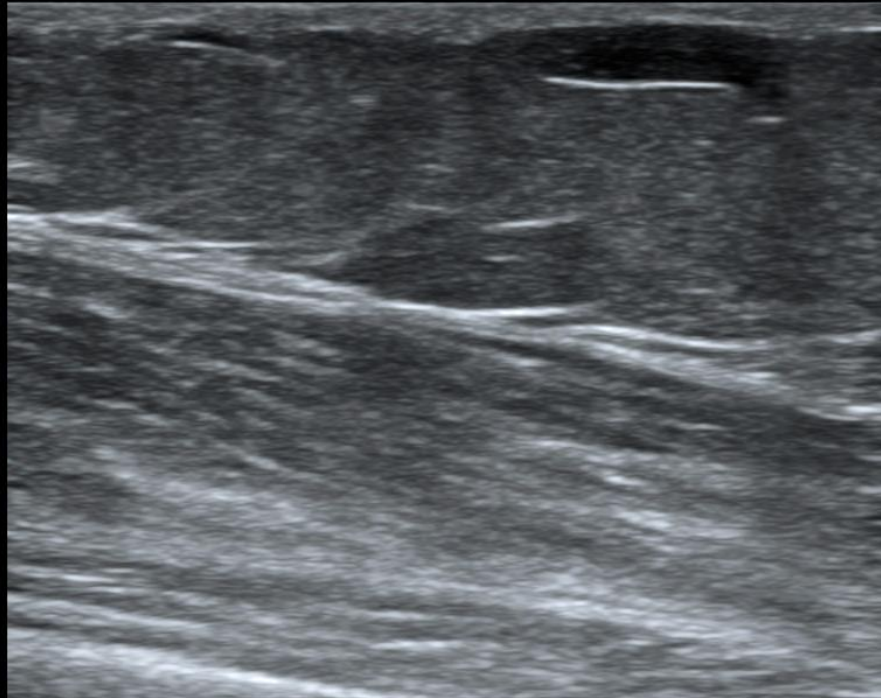
Dr Hamel-Desnos
22-10-2013 10:37:28

20131022-101145-252D

L12-3E / Veine Superficiel

AP 96.6% MI 0.9 TIS 0.1

m



DC-8

B

F 10.0

D 3.0

G 58

FR 27

DR 100

iClear 3

iBeam 1

-0

-1

-2

-3

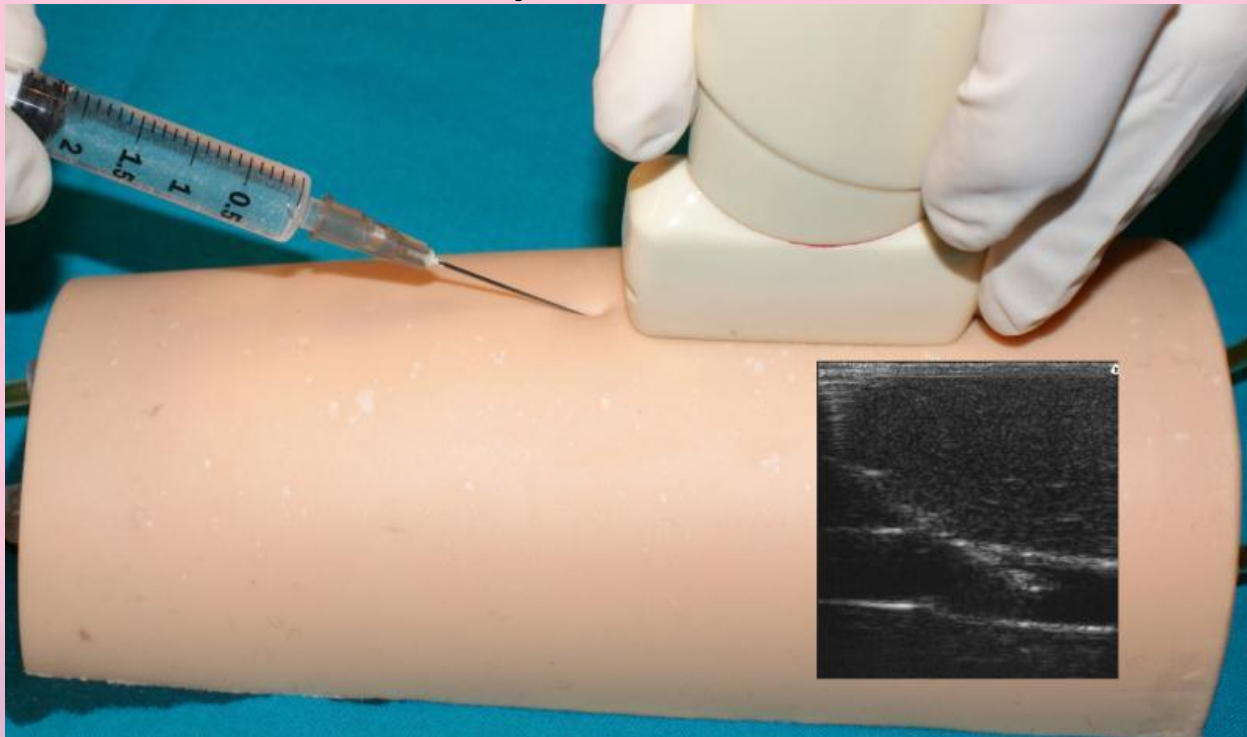
video

22 Gauge needle, 4 cm in length

claudine@desnos.eu

CONCLUSION

- Both sections can be used
- Be comfortable, use the one you prefer but in any case, be CAREFUL!
- You can train with a phantom



Thank you for your attention

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