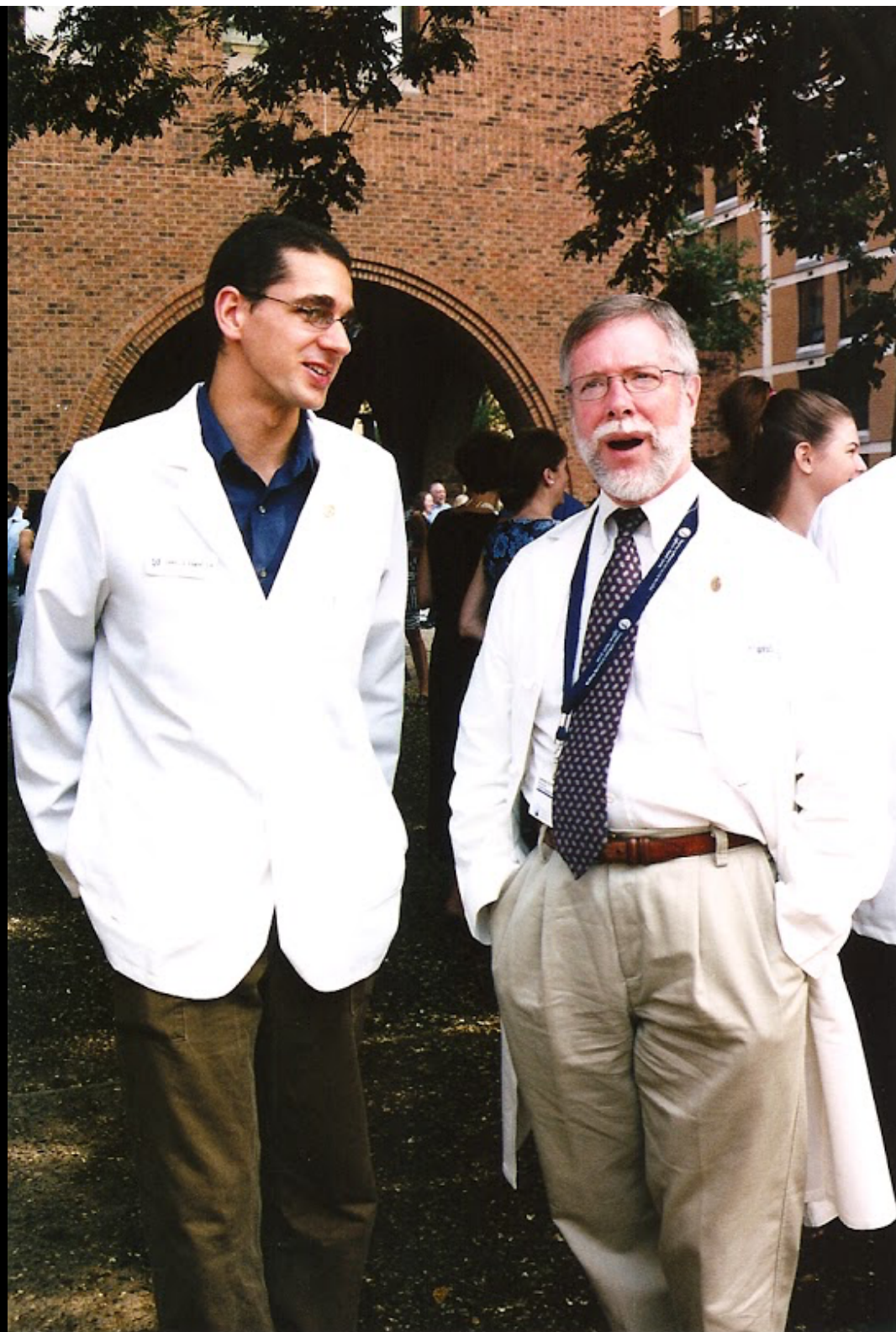


# WHOA HERE THEY COME: ULTRASOUND IN THE WILD

DAN KAMINSTEIN MD, DTM&H, FACEP

- Ultrasound as a teaching tool
- Ultrasound as a clinical tool
- Logistics and Q&A



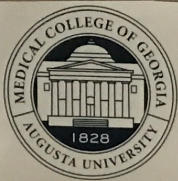




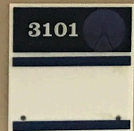
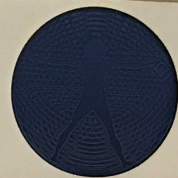


Medical College of Georgia  
Hospital and Clinics

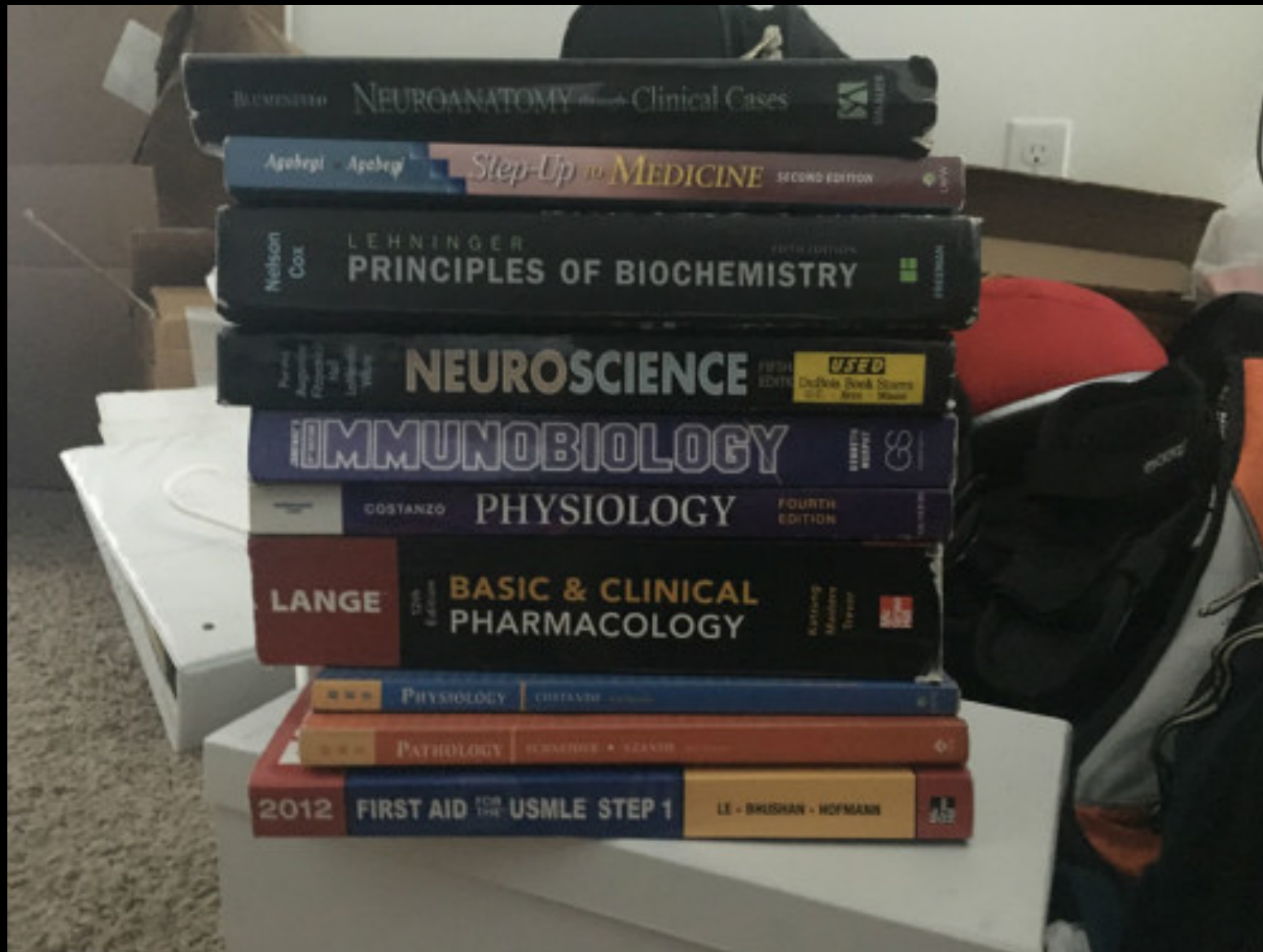




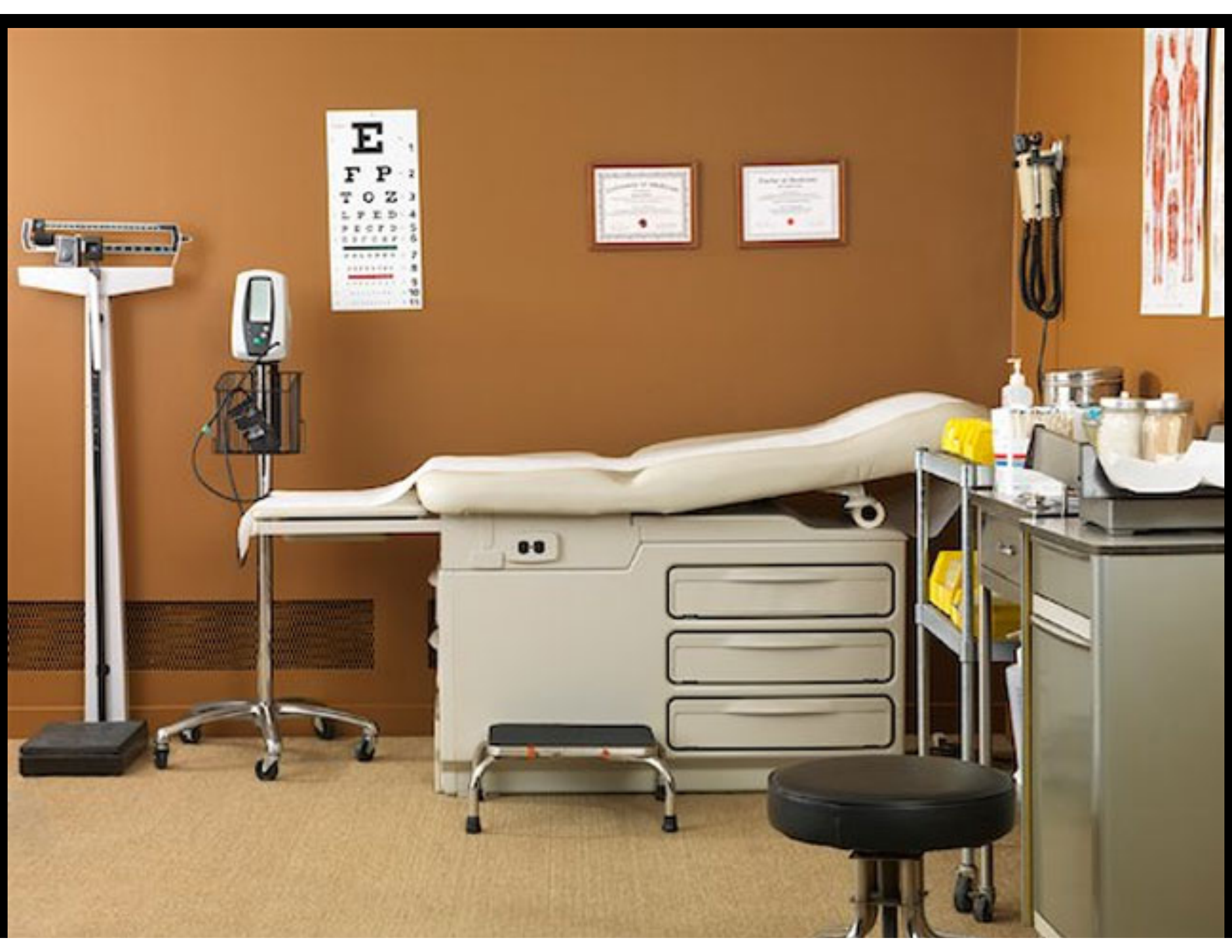
**ULTRASOUND EDUCATION  
AND RESEARCH**

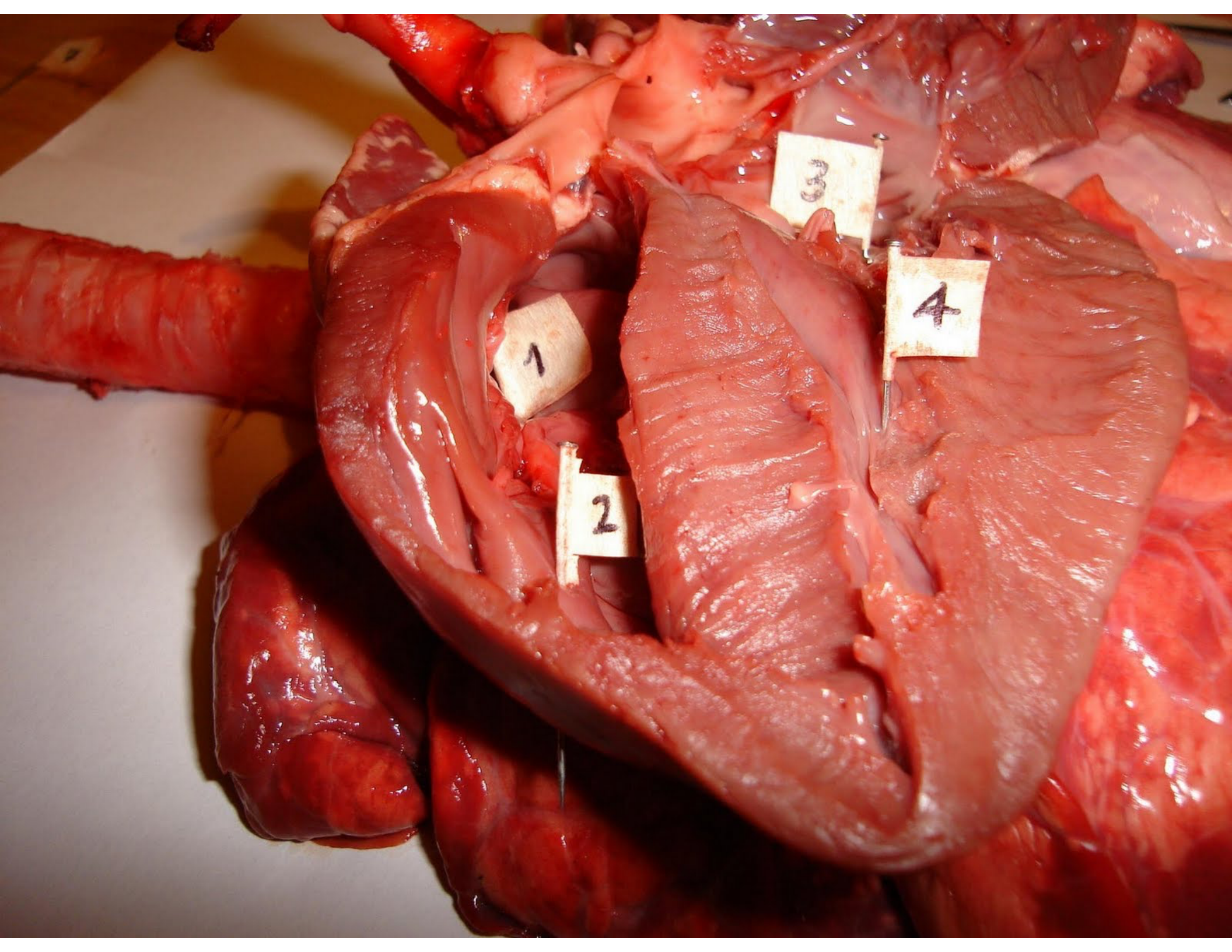


- MS1
- MS2









en THI  
MB

Abd  
- C60



81%

MI  
0.8

TIS  
0.1



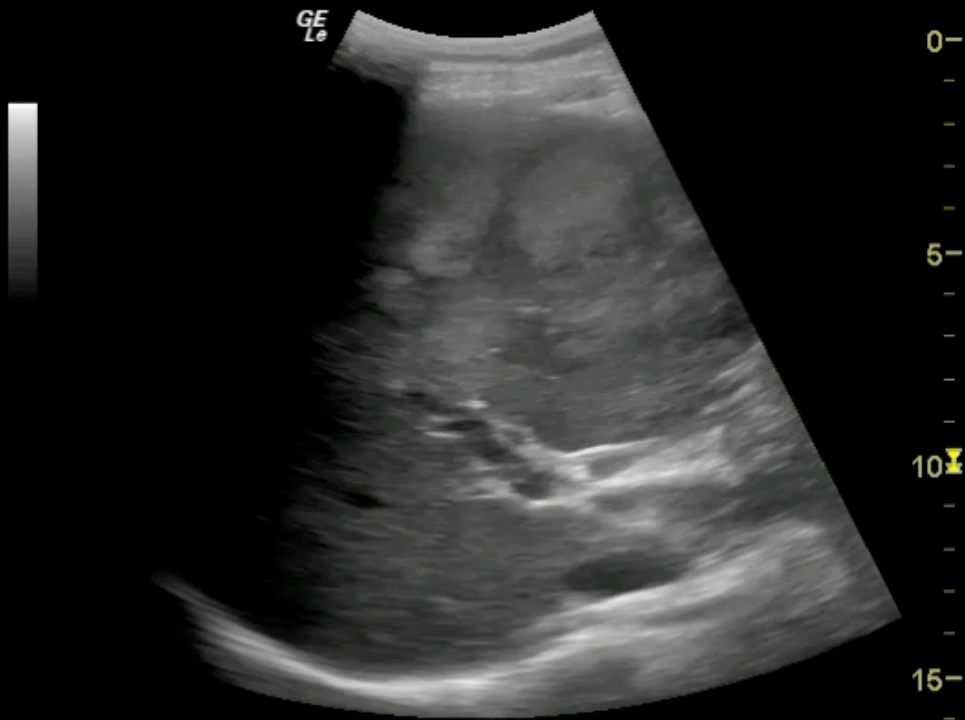
IVC

13



# DIAGNOSTIC

# CLINICAL



YORK HOSPITAL EDU1  
C5-2/60-BIL-General

10/15  
12:51

Har-Re  
Freq H  
Depth  
Sector  
Gain 4  
FrRate  
FPS 28  
Dyn 74  
Persist  
Map 6  
Chrom  
Power  
MI<0.9  
Clarity

GB SAG

26 - + x1 B

This is a clinical B-mode ultrasound image of the gallbladder, showing a similar view to the diagnostic image. The image is displayed on a screen with various technical parameters and controls. The patient information at the top right includes 'YORK HOSPITAL EDU1' and 'C5-2/60-BIL-General'. The date and time are '10/15' and '12:51'. A list of technical parameters is shown on the far right, including 'Har-Re', 'Freq H', 'Depth', 'Sector', 'Gain 4', 'FrRate', 'FPS 28', 'Dyn 74', 'Persist', 'Map 6', 'Chrom', 'Power', 'MI<0.9', and 'Clarity'. The image is labeled 'GB SAG' in the top left. At the bottom, there are controls for frame number '26', zoom in/out ('-', '+'), magnification 'x1', and a 'B' button. A depth scale is visible on the left side of the image, ranging from 0 to 15 cm.

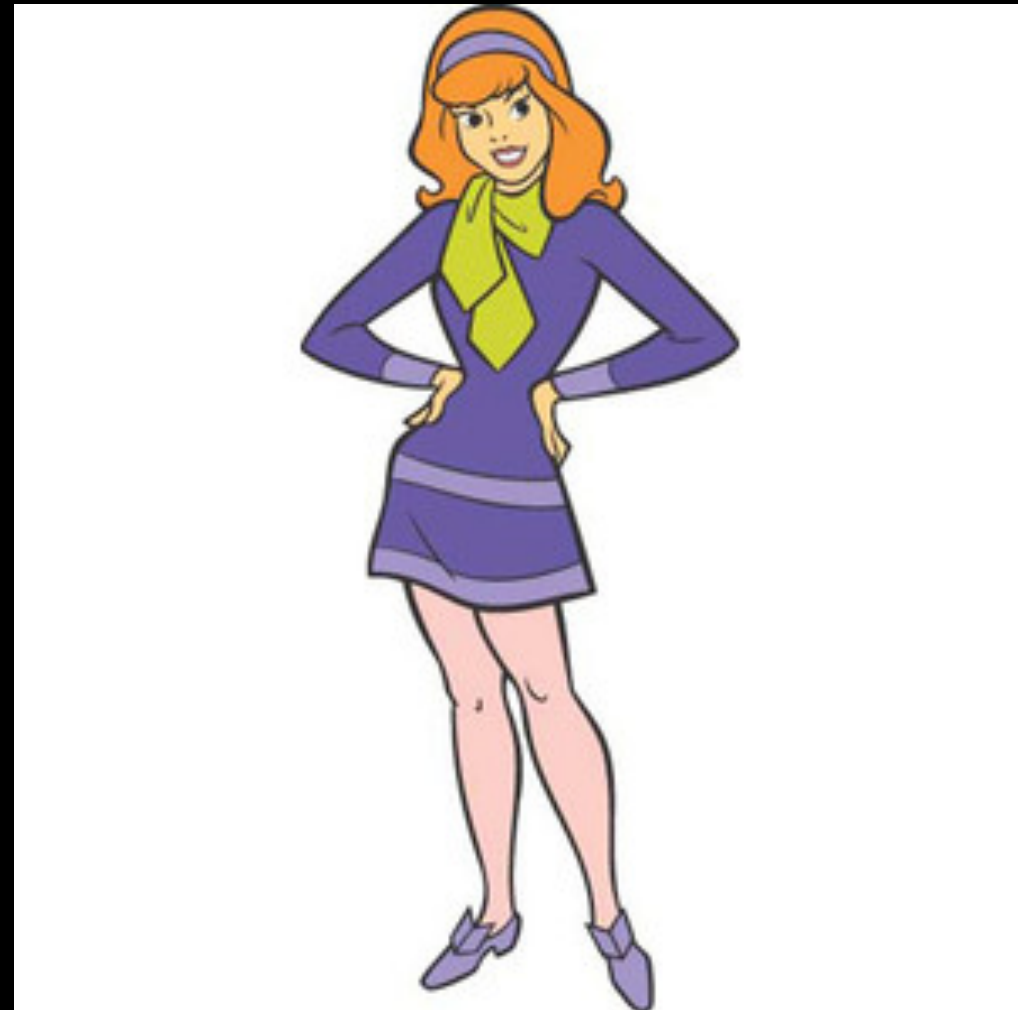
# CASE 1

- 65 yo farmer
- CC: Flank Pain and Hematuria
- No primary care for 25 years
- Smokes - 3 PPD
- BP 185/95



# CASE 2

- 25 yo female
- CC: Vaginal bleeding and abdominal cramping
- LMP - 8 weeks ago
- HR 115 BP 95/60



# CASE 3

- 90 yo female from nursing home
- CC: AMS
- HR 120 BP 80/50 Temp 38.0
- PMH: Dementia, HTN, DM, CAD, DVT, PE, Uterine CA



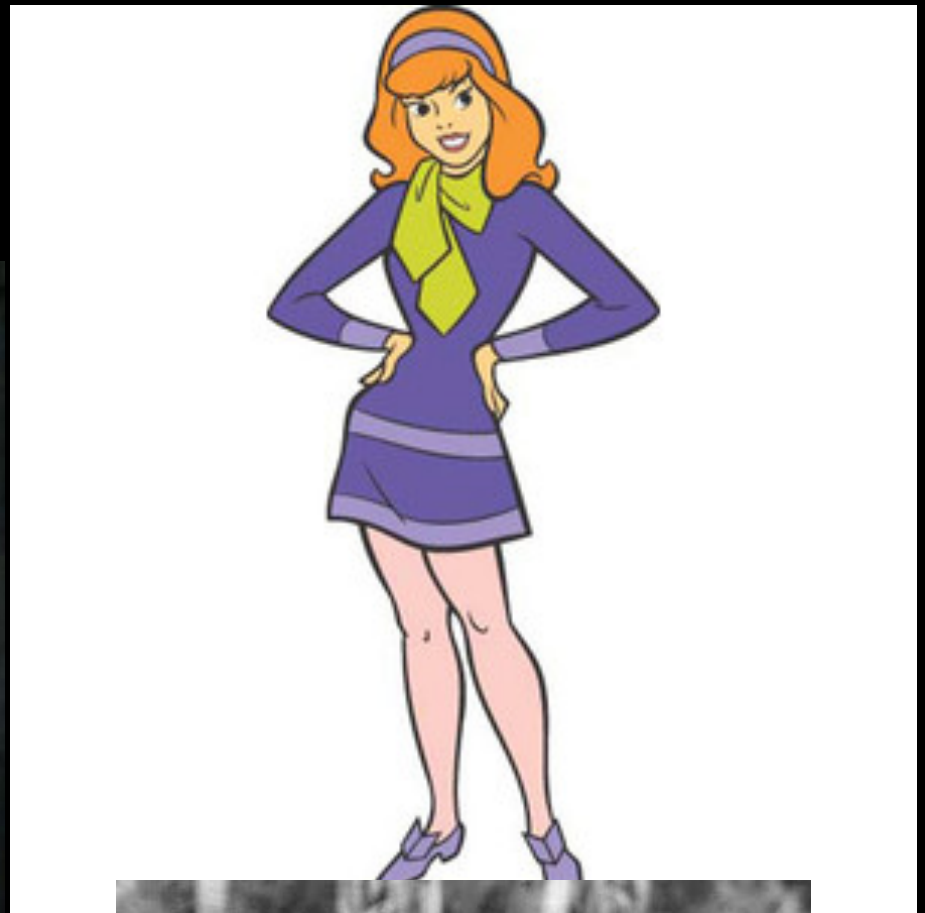


# MS3 AND MS4 - 5 OF EACH EXAM TYPE DURING CLERKSHIP

- Emergency Medicine
  - FAST Exam
- Family Medicine
  - Abdominal Aorta and IVC
- OBGYN
  - Third trimester



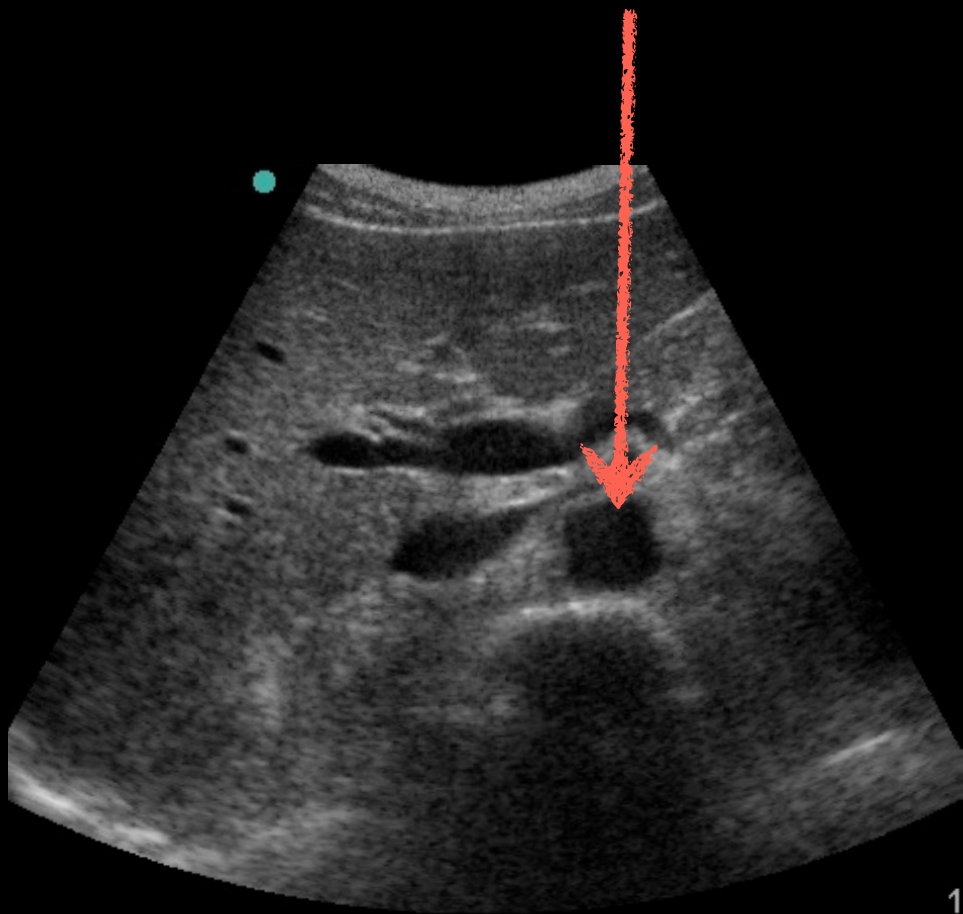




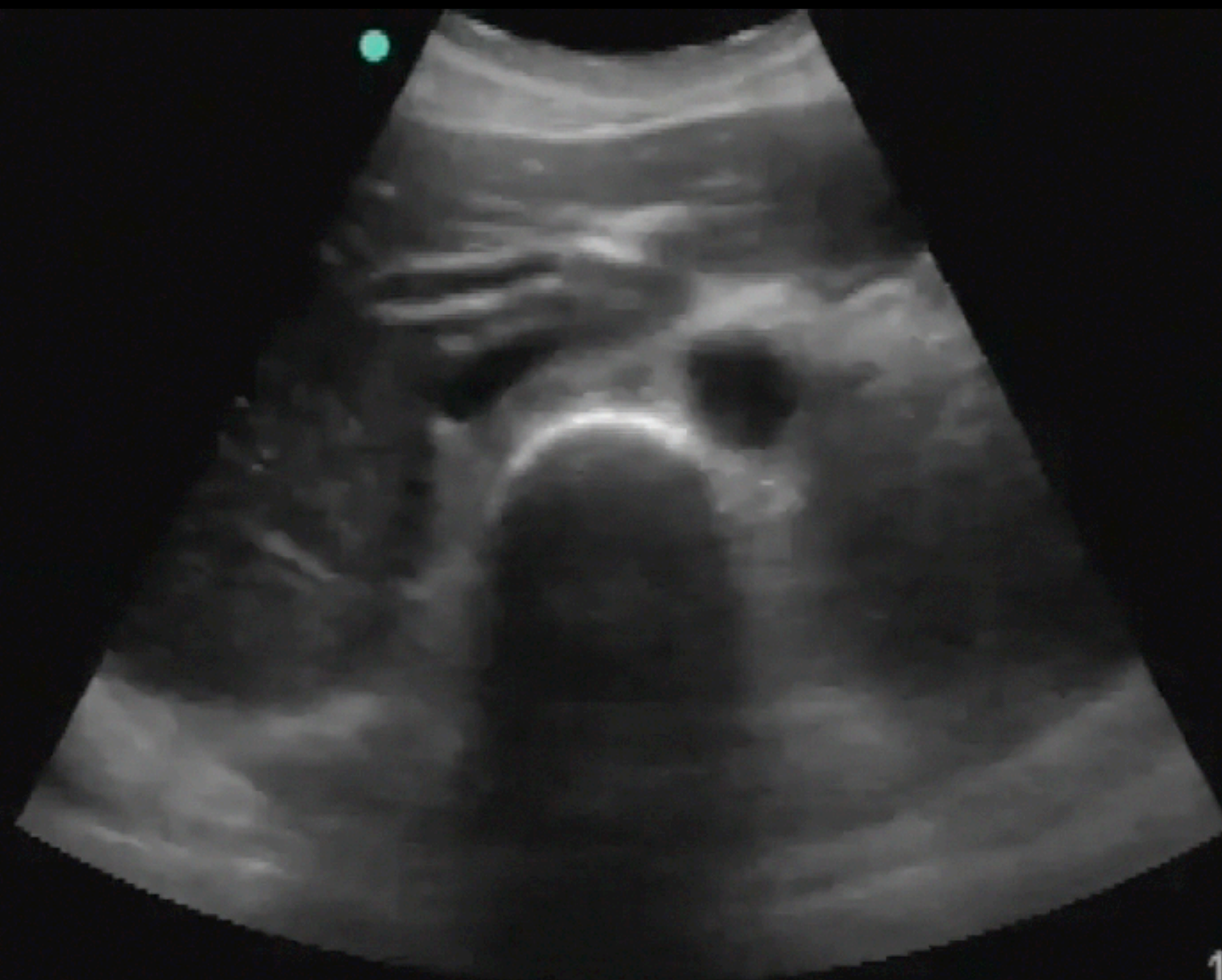
# CASE 1 - AAA?



# CASE 1 - AAA?

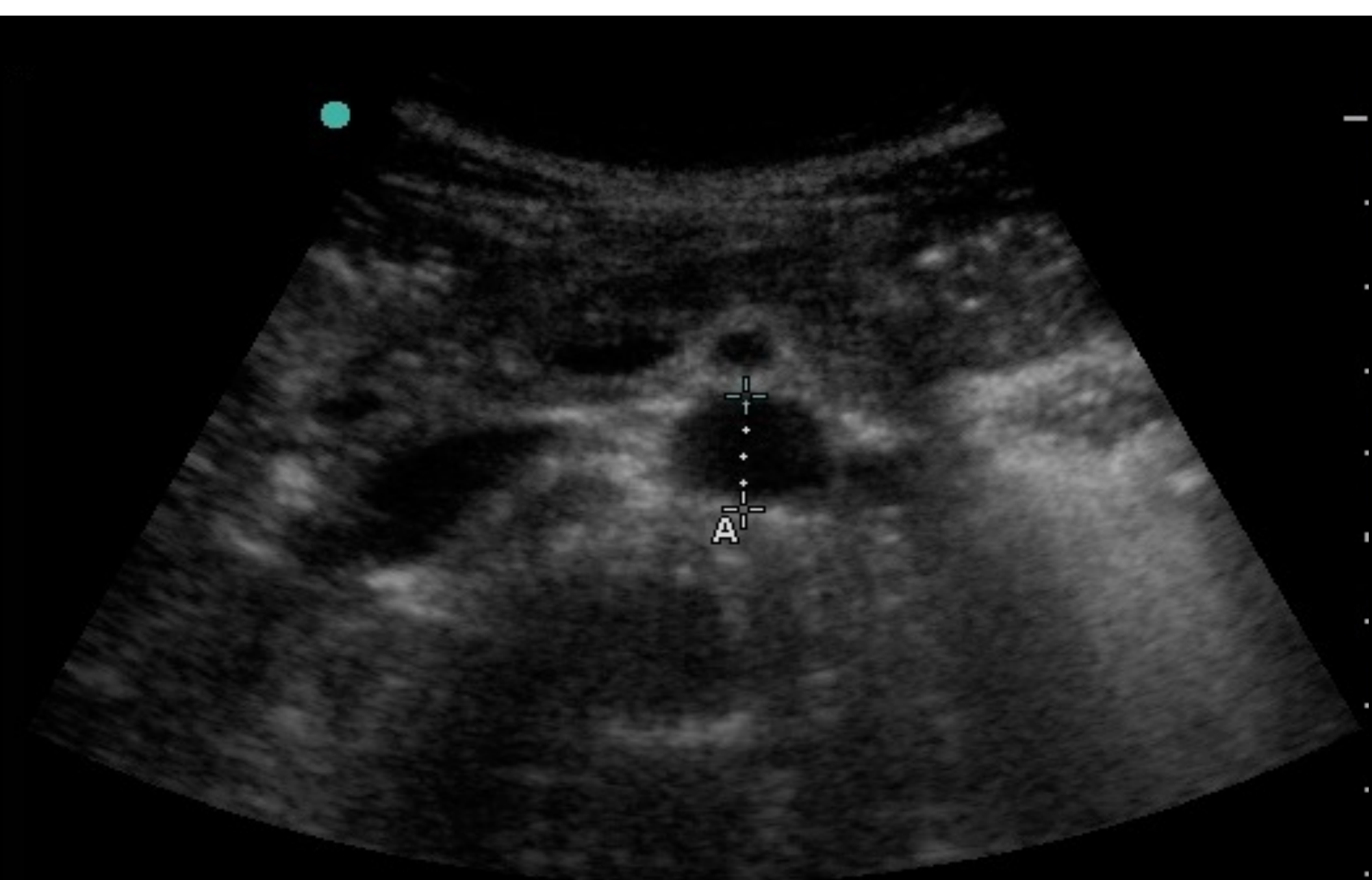


THI  
MB



ADD  
- C60  
· [E-]  
· [E]  
99%  
MI  
0.7  
· TIS  
0.1

A [E]  
B [E]



A

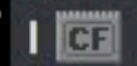
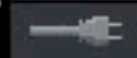
A 1.35cm

9.2





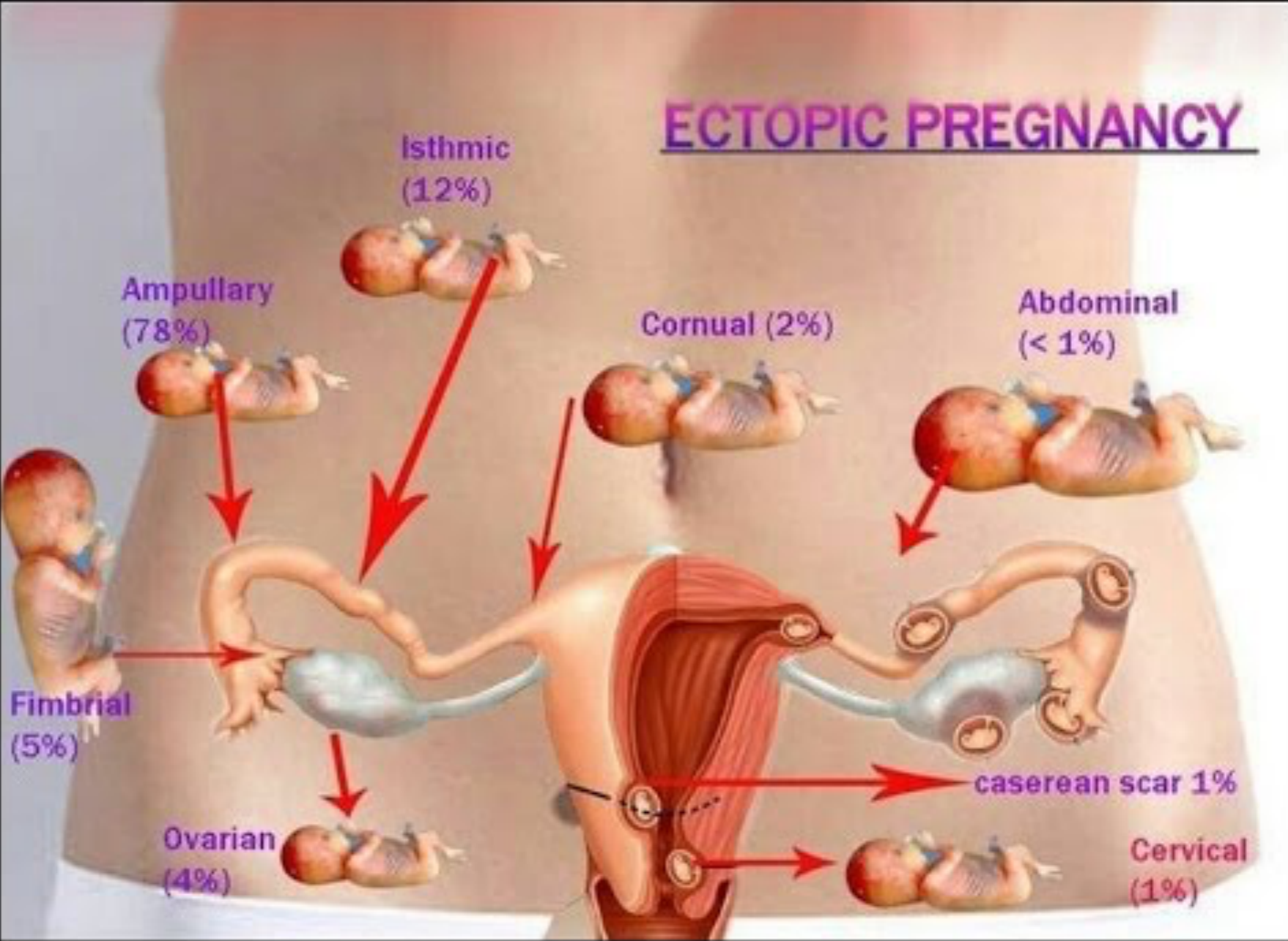
Abd  
C60



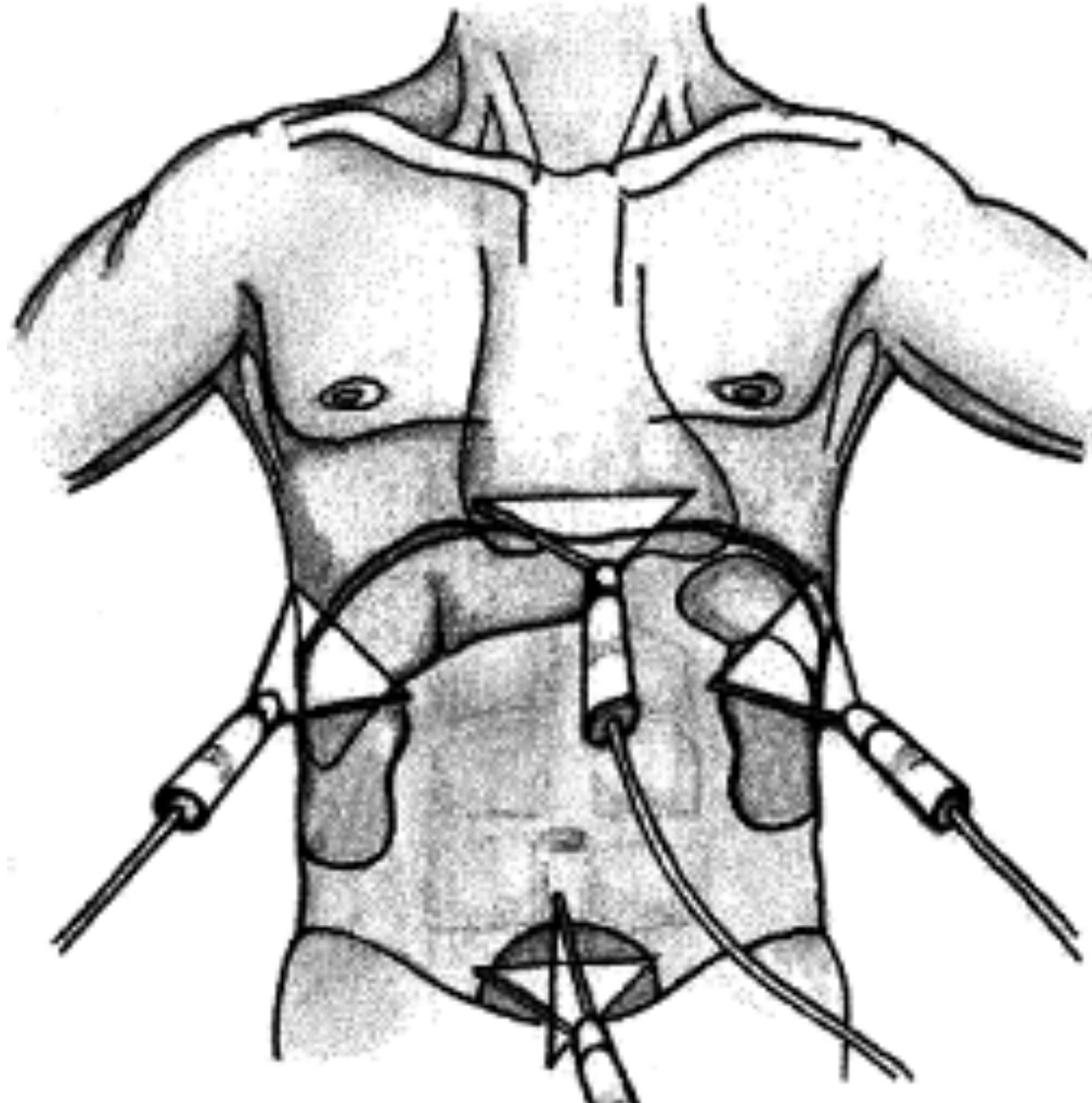
100%  
0  
0

MI  
0.6

# CASE 2 - ECTOPIC?



# A window into the abdomen



RUQ



MI 1.0  
TIS <0.4  
5C2A  
OM/I/2/M/TV2  
Gn 50 DR 55  
Depth 16 cm  
20 Hz



1 THI  
MB



Abd  
C60  
64%  
MI  
0.6  
TIS  
0.1

A  
B

RUQ

18

Home Home/Set Label... Symbols... X Word Done

Gen THI  
S MB

PELVIS SAG

OB  
- C60



27%

MI  
0.7

TIB  
0.1

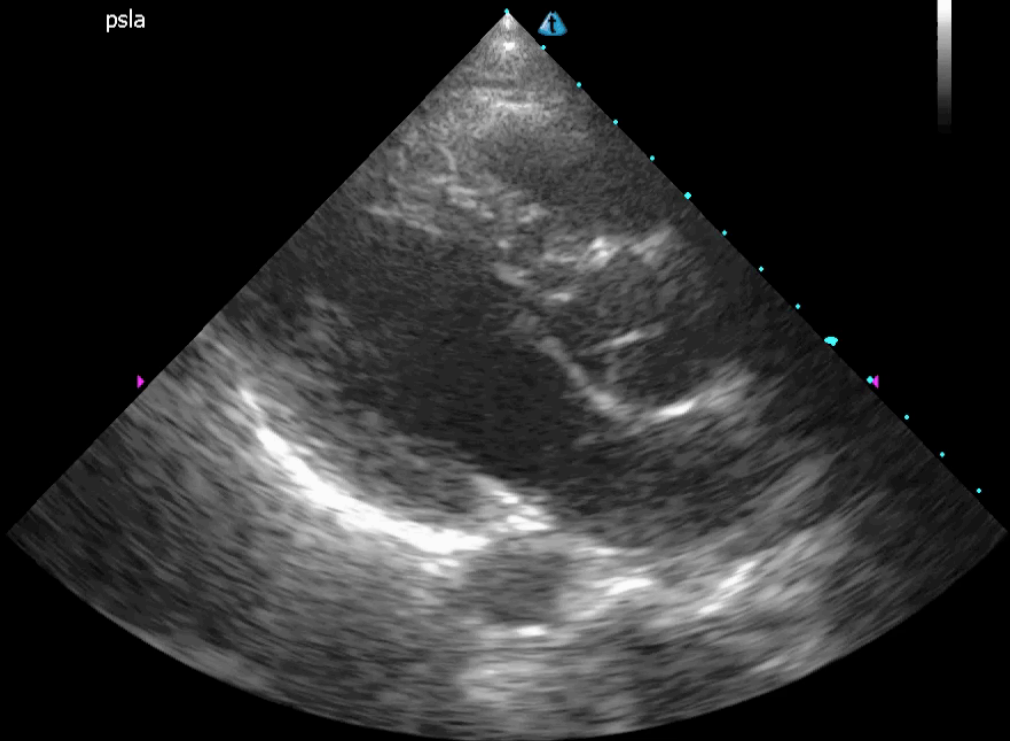


15

# CASE 3 - UNDIFFERENTIATED SHOCK

<b>Hypovolemic</b>	<ul style="list-style-type: none"><li>- Intravascular vol loss</li><li>- hemorrhagic</li><li>- fluid loss</li></ul>
<b>Cardiogenic</b>	<ul style="list-style-type: none"><li>- Arrhythmia</li><li>- AMI, valve failure</li><li>- cardiomyopathy</li><li>- pericarditis/PE</li></ul>
<b>Distributive</b>	<p>Vasodilatory-↓↓ SVR</p> <ul style="list-style-type: none"><li>- septic shock/SIRS/TSS</li><li>- Anaphylaxis</li><li>- neurogenic shock</li><li>- Drug/toxin</li><li>- Addisonian crisis</li></ul>
<b>Obstructive</b>	<ul style="list-style-type: none"><li>- Tension PTX</li><li>- Tamponade</li><li>- PE</li></ul>

psla



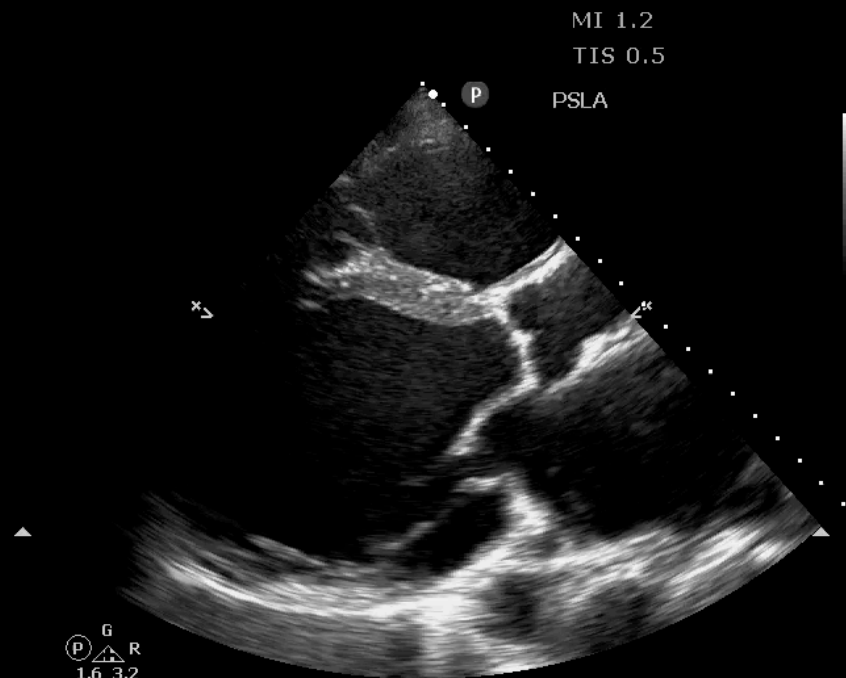
MI 1.5  
TIS 1.2  
4V2A  
E/1/M/TV2  
Gn 63 DR 65  
THI  
Depth 14 cm  
46 Hz

ED CARDIAC  
S4-2  
28Hz  
19.0cm

2D  
HPen  
Gn 75  
50  
4/2/0

MI 1.2  
TIS 0.5

PSLA



G  
P R  
1.6 3.2

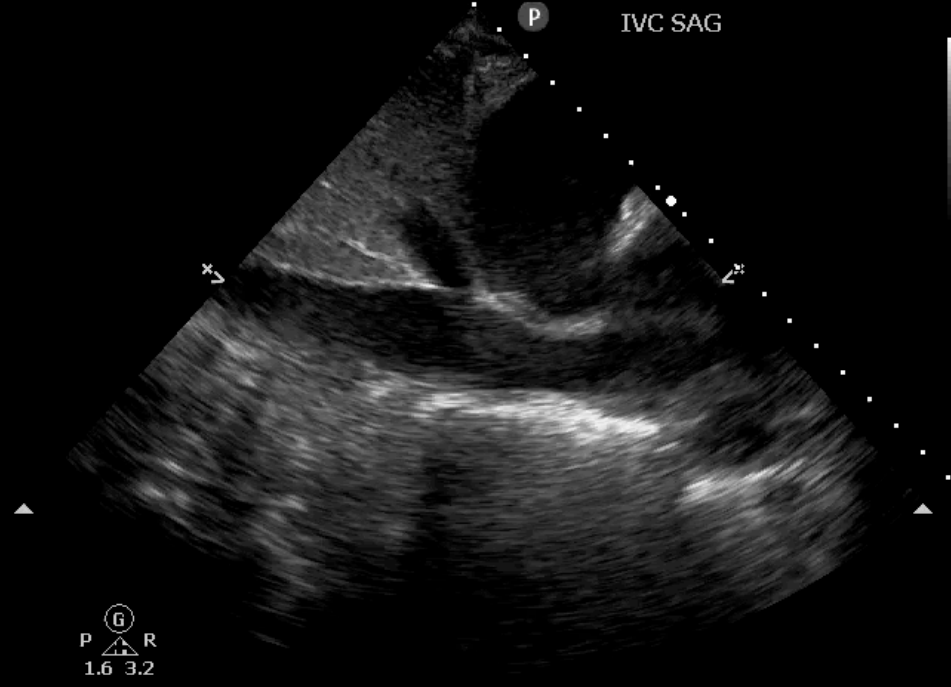
PHILIPS

MI 1.2  
TIS 0.5

ED CARDIAC  
S4-2  
30Hz  
18.0cm

IVC SAG

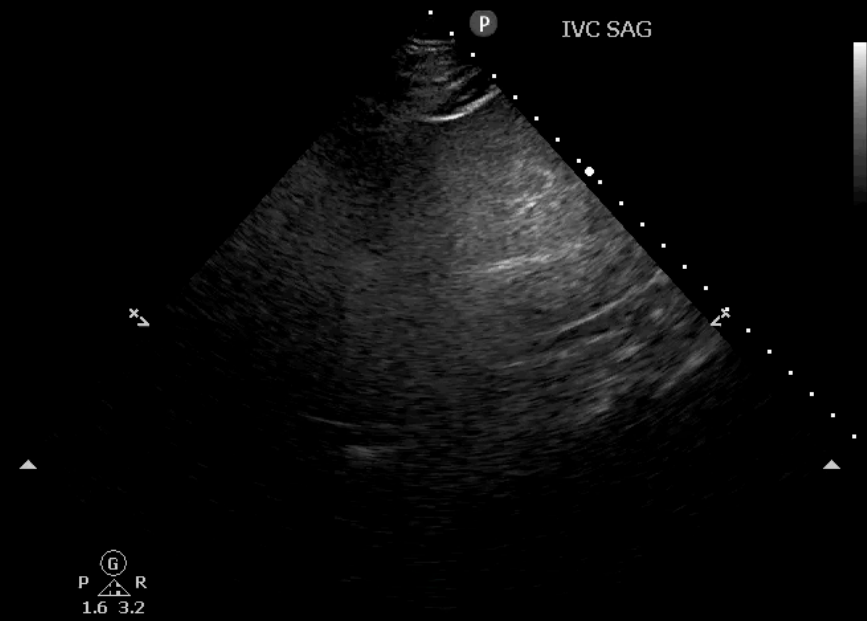
2D  
HGen  
Gn 50  
50  
4/2/0



Ⓞ  
P △ R  
1.6 3.2

MI 1.0  
TIS 0.5  
IVC SAG

2D  
HGen  
Gn 50  
50  
4/2/0



Ⓞ  
P △ R  
1.6 3.2



- Crd  
 P21  
 [Battery Icon]  
 [Monitor Icon]  
 89%  
 MI  
 0.8  
 TIS  
 0.7

A [Print Icon]  
 B [DVD Icon]



**WHO**

**WHAT**

**WHERE**

**WHEN**

**WHY**

**HOW**

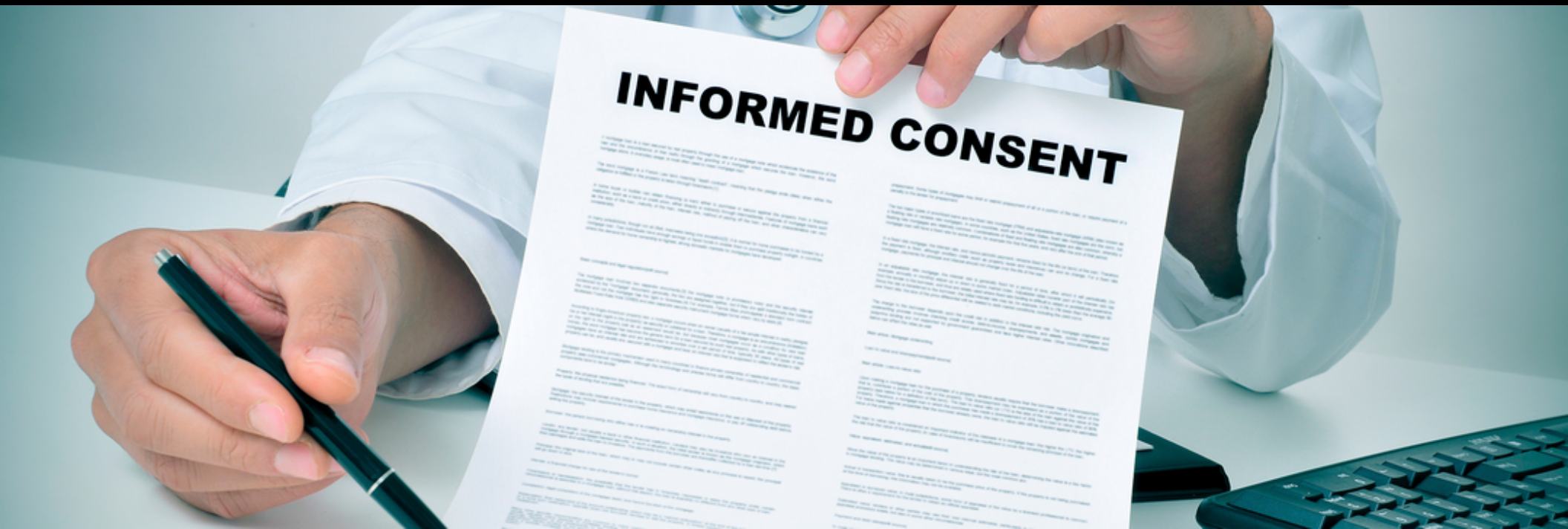
# QUESTIONS

- What if I don't know how to do the US exam?



# QUESTIONS

- Patient consent?



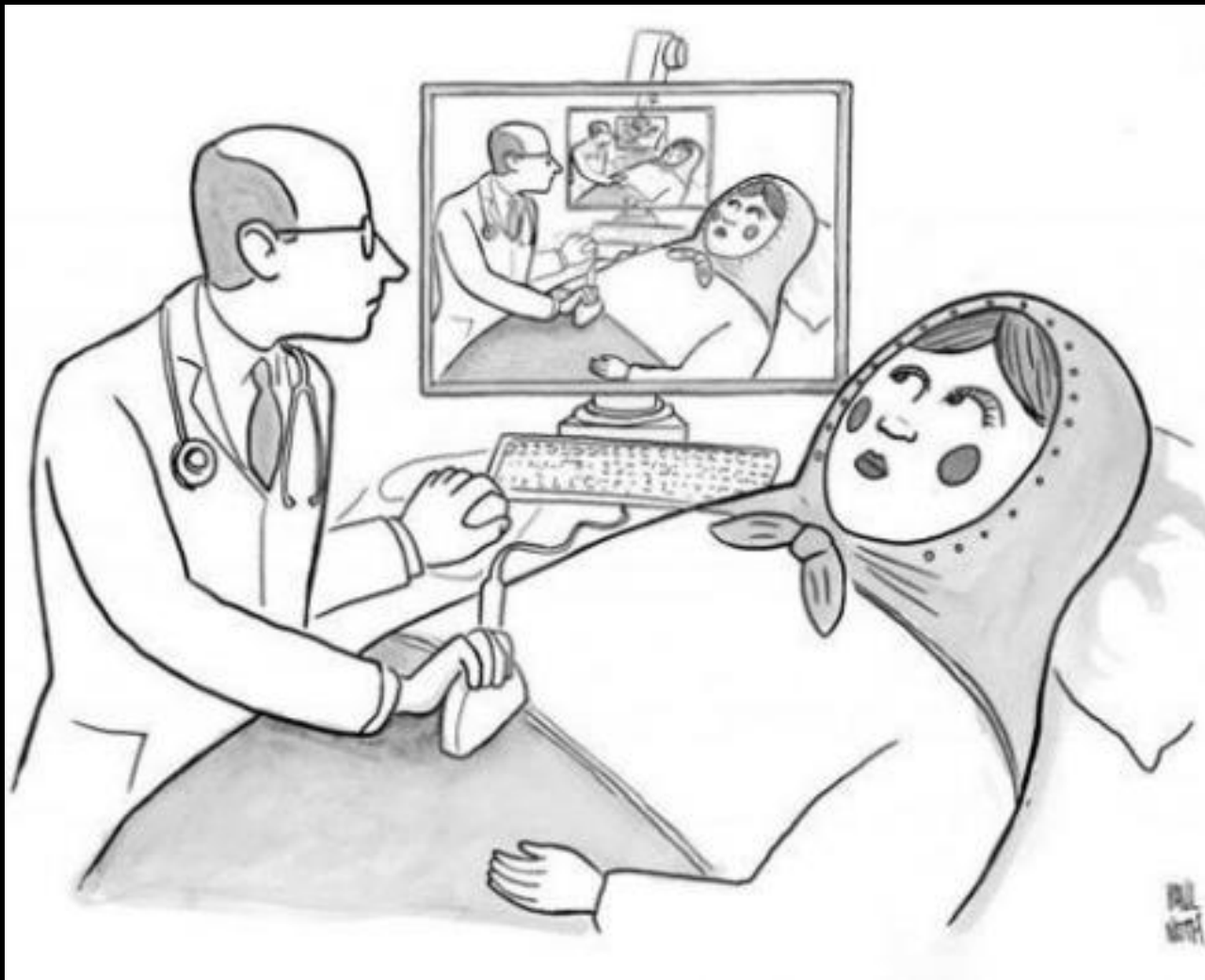
# QUESTIONS?

- What if it doesn't work?



# QUESTIONS?

- Can we use them for patient care?



# QUESTIONS?

- What if we find something weird?



PHILIPS

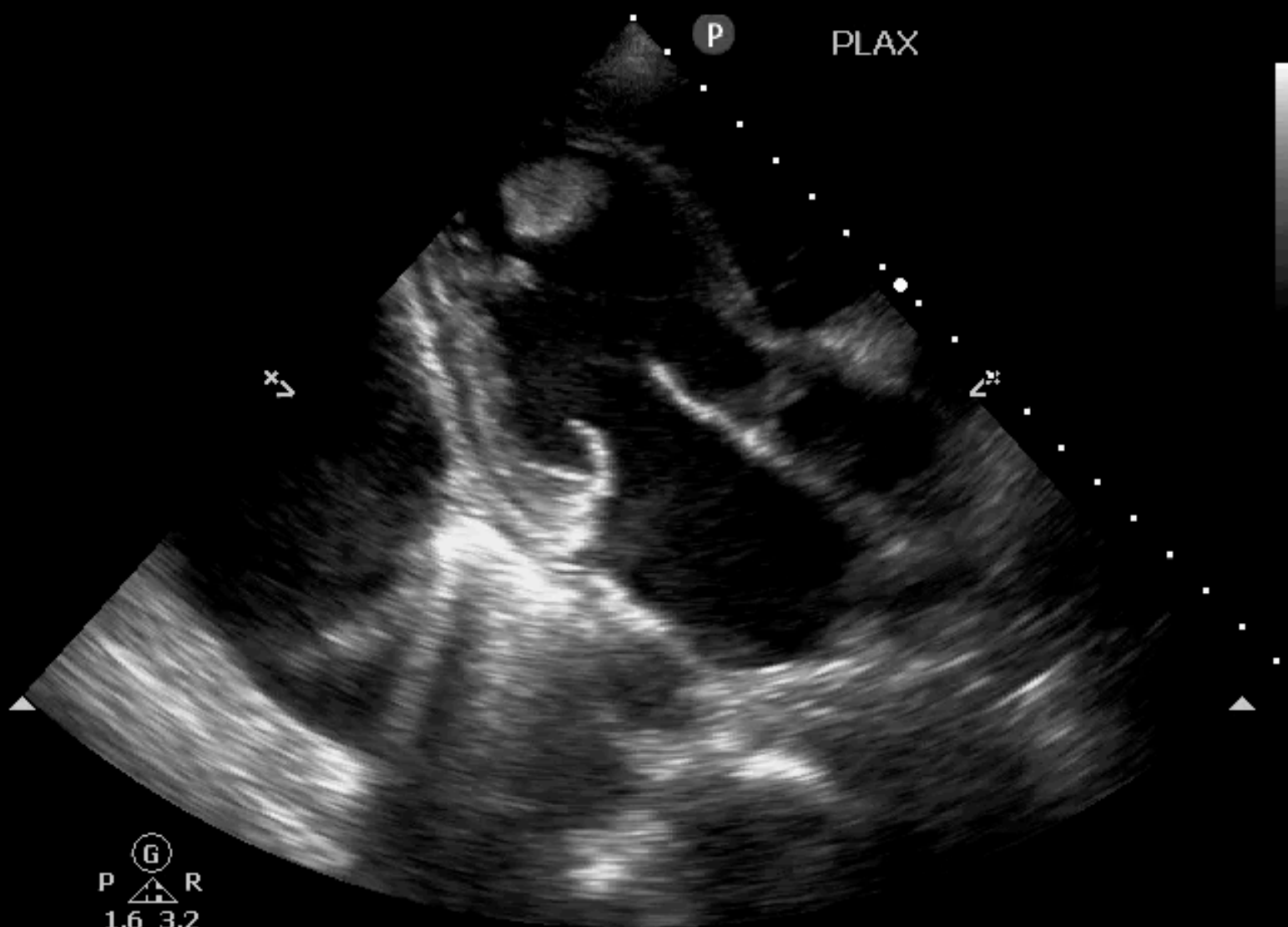
MI 1.2

TIS 0.5

Cardiac  
S4-2  
30Hz  
18.0cm

PLAX

2D  
HGen  
Gn 50  
50  
4/2/0



G  
P R  
1.6 3.2

# CONTACTS

- Matt Lyon - [mlyon@augusta.edu](mailto:mlyon@augusta.edu)
- Dan Kaminstein - [dakaminstein@augusta.edu](mailto:dakaminstein@augusta.edu)