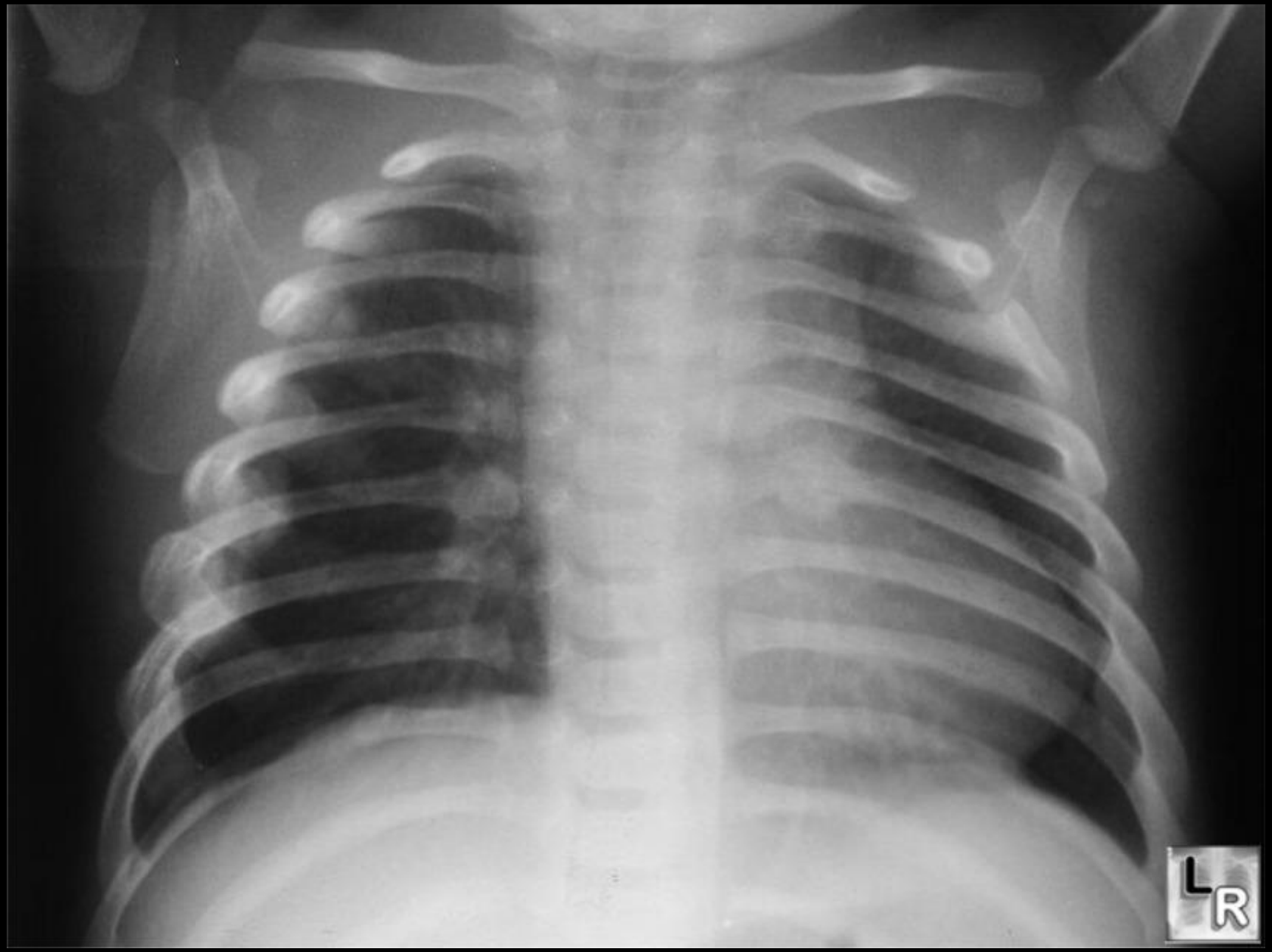
Top Plain Films You Don’t Wanna Miss!

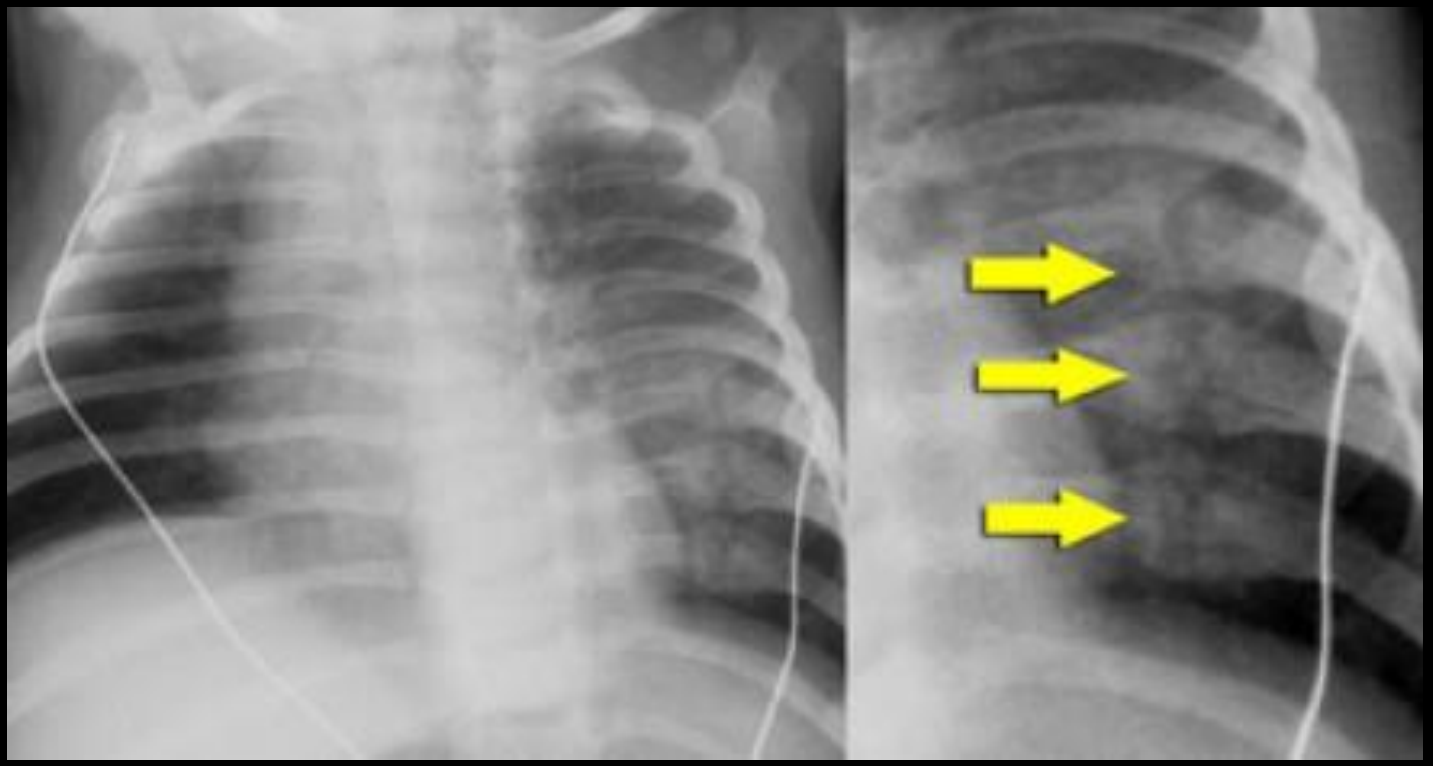
Gillian Schmitz, MD, FACEP

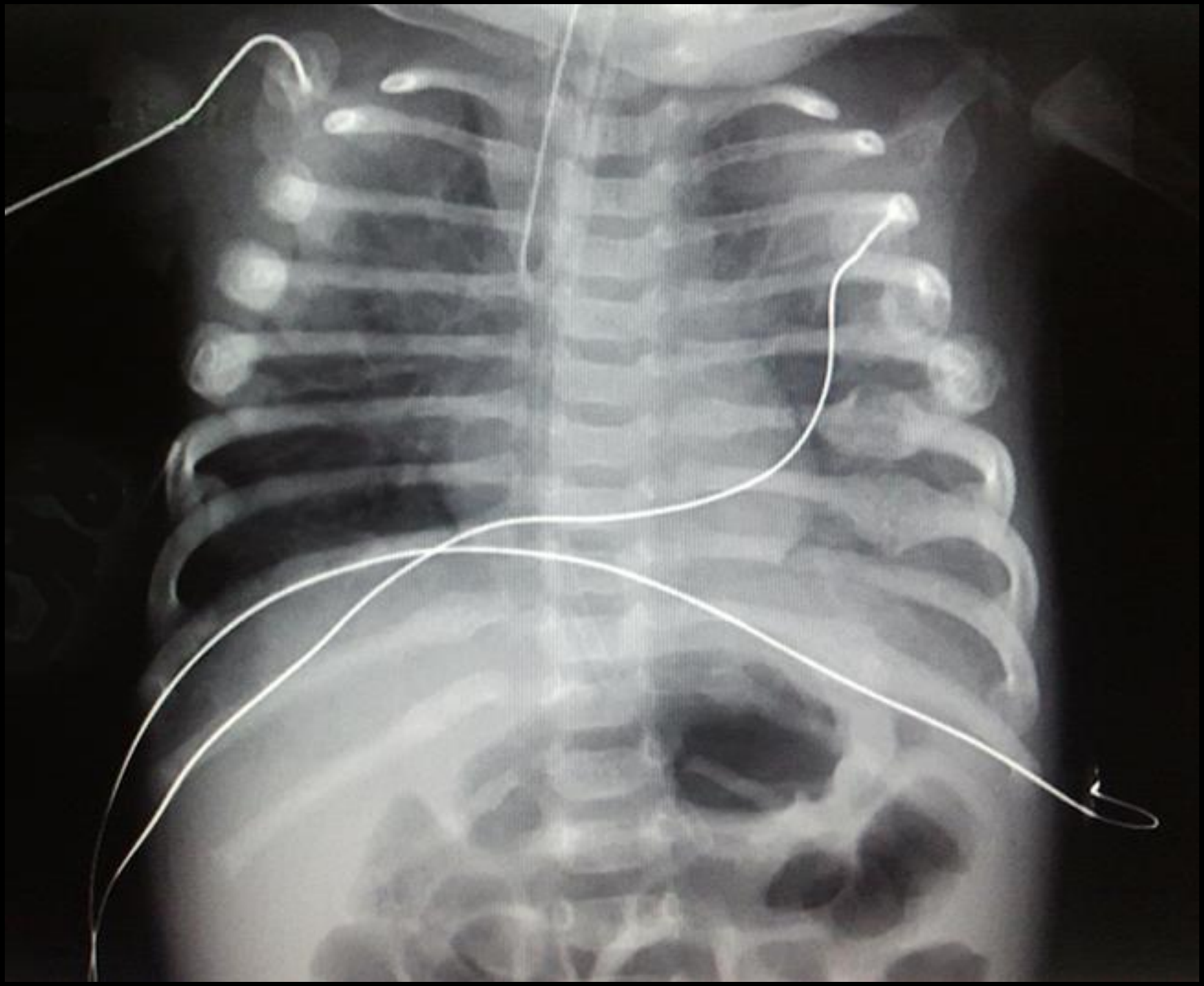
My Favorite
Quiz Questions

What Do You Want to Be When You Grow Up? ……..

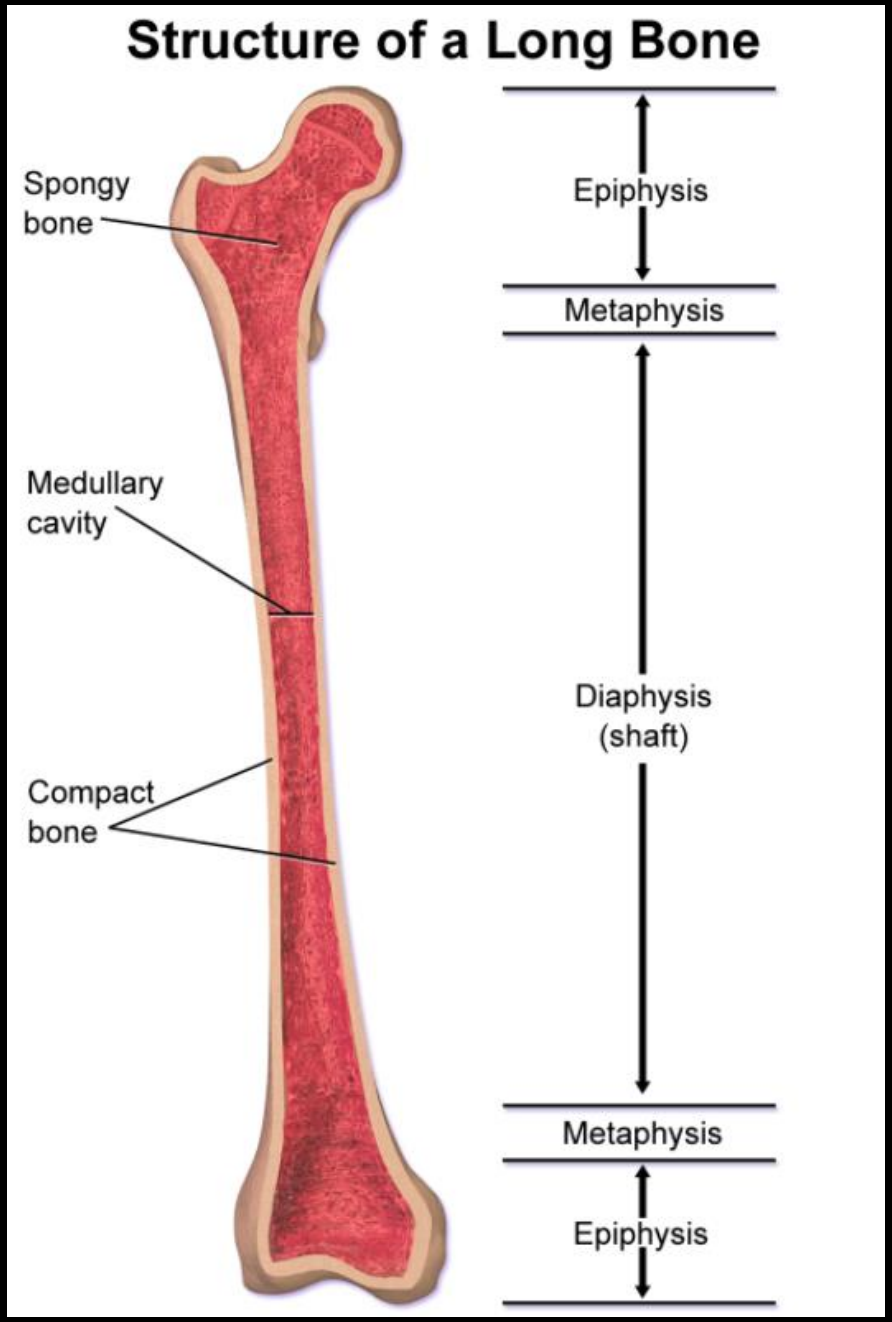
Case # 1

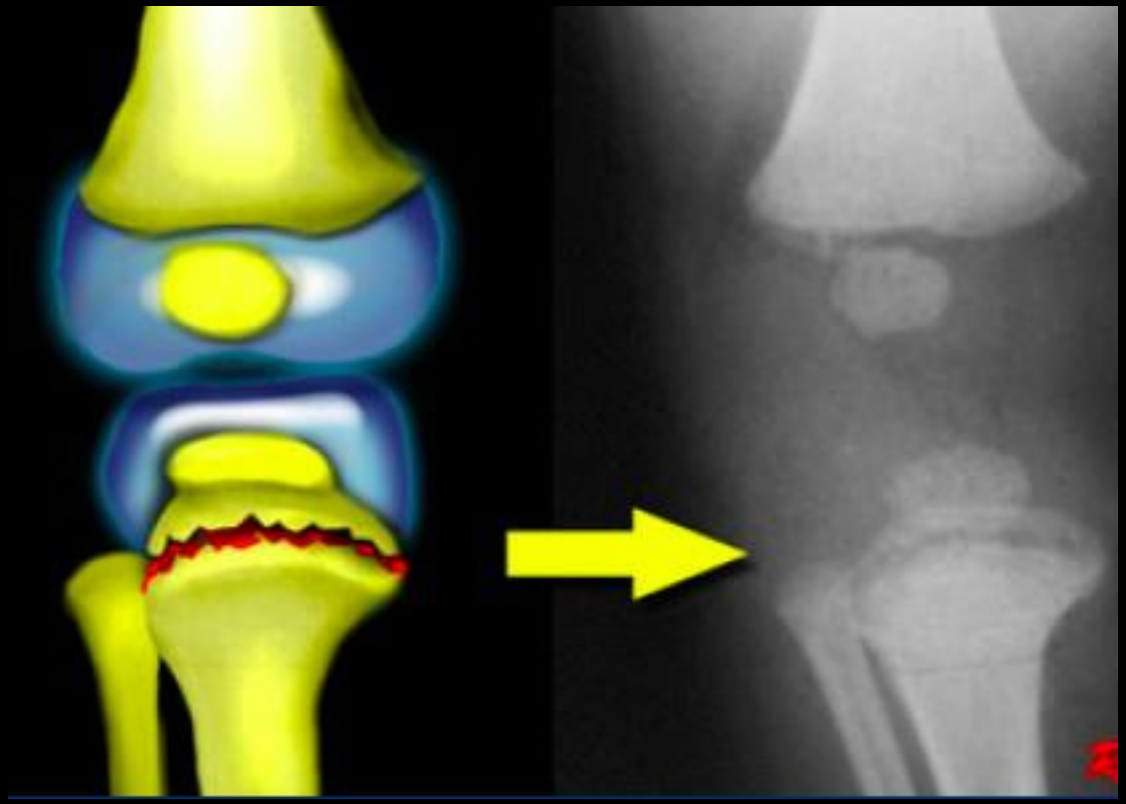

L
R





Structure of a Long Bone

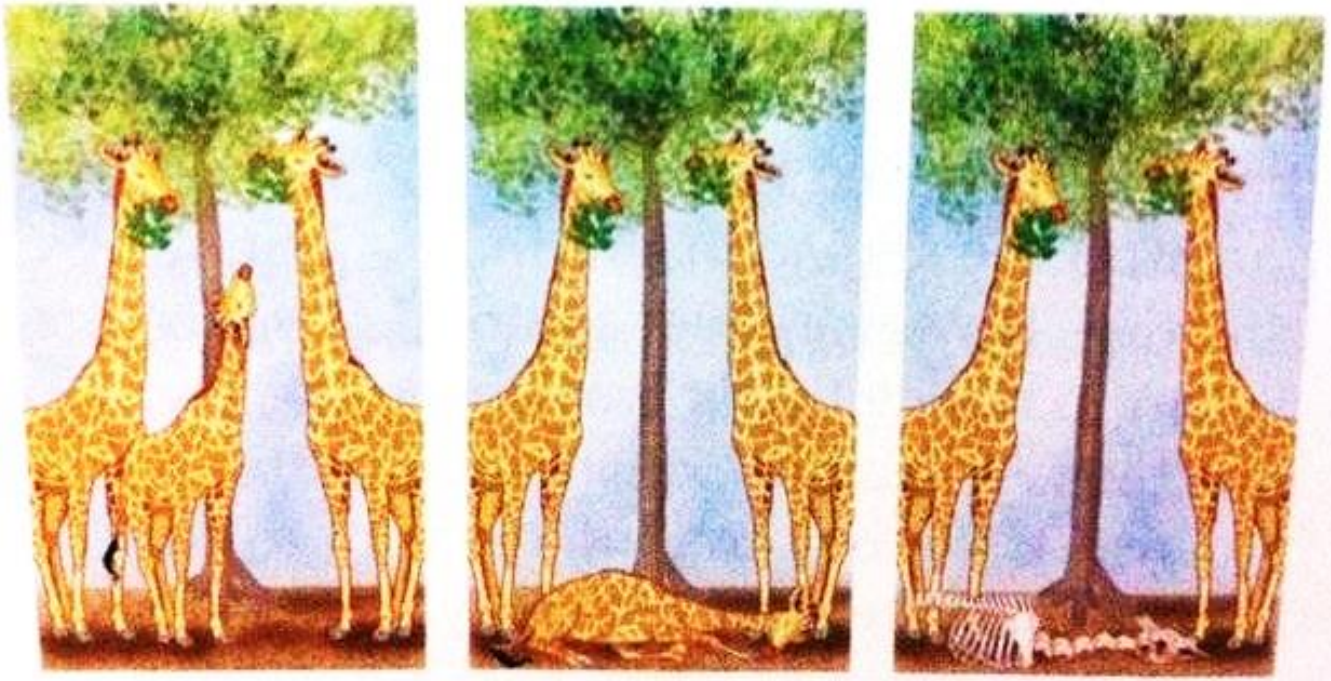




Rule # 1

Use your history to interpret the Xray

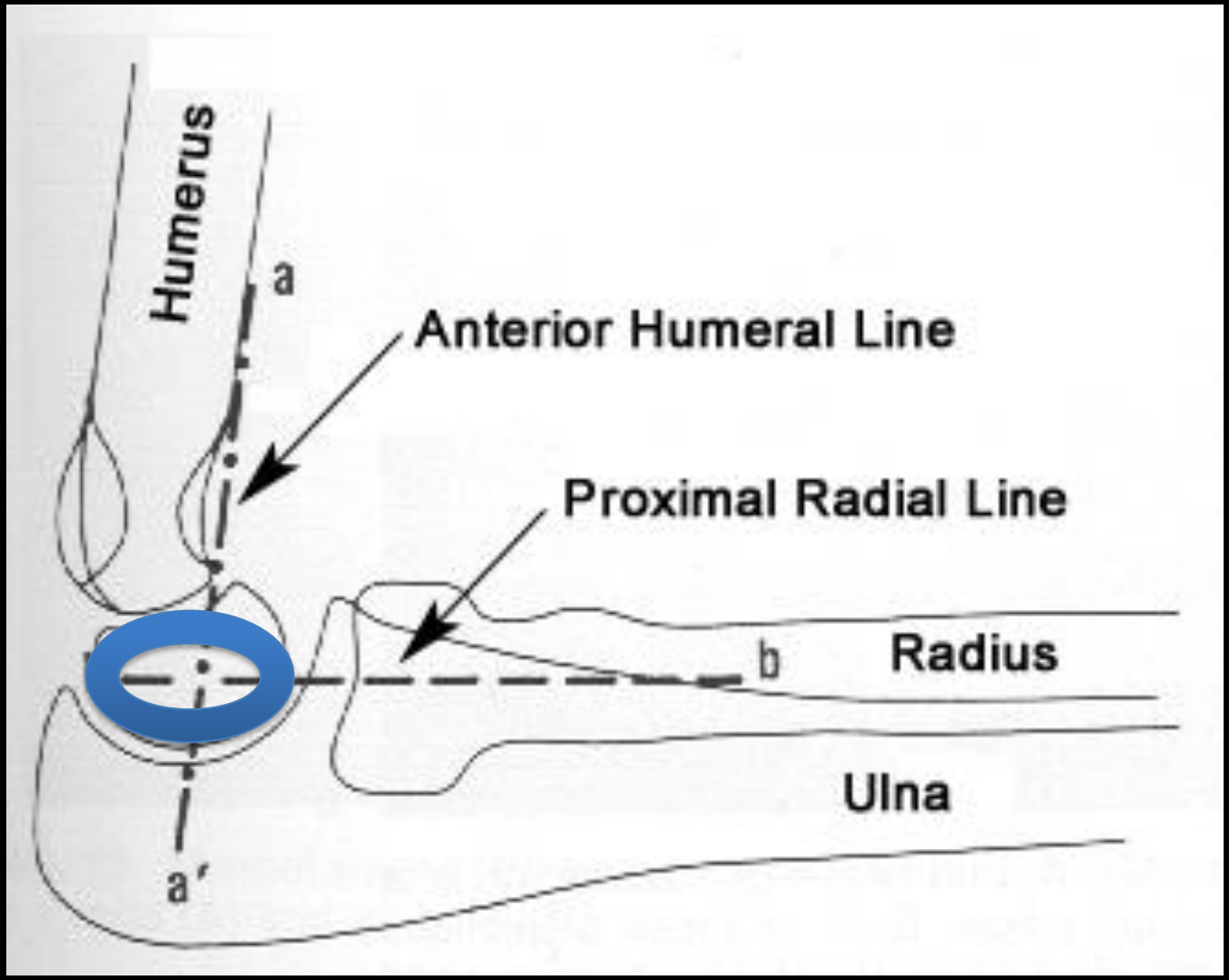
10. The diagram below best illustrates



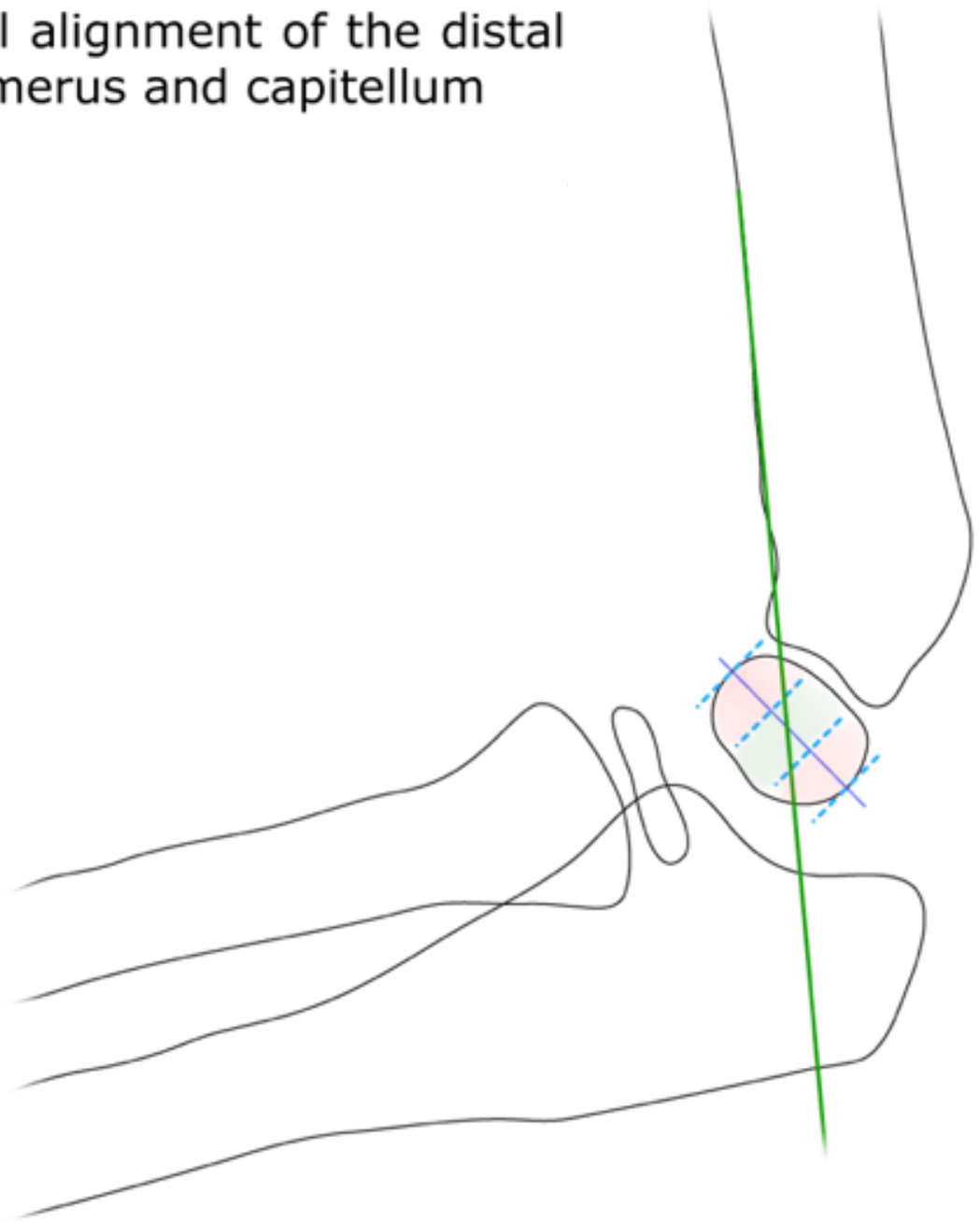
a. Lamarck's theory of evolution.
b. Darwin's theory of evolution.
c. Malthus's principles.
d. Lyell's theory about past changes.
e. Giraffes are heartless creatures.

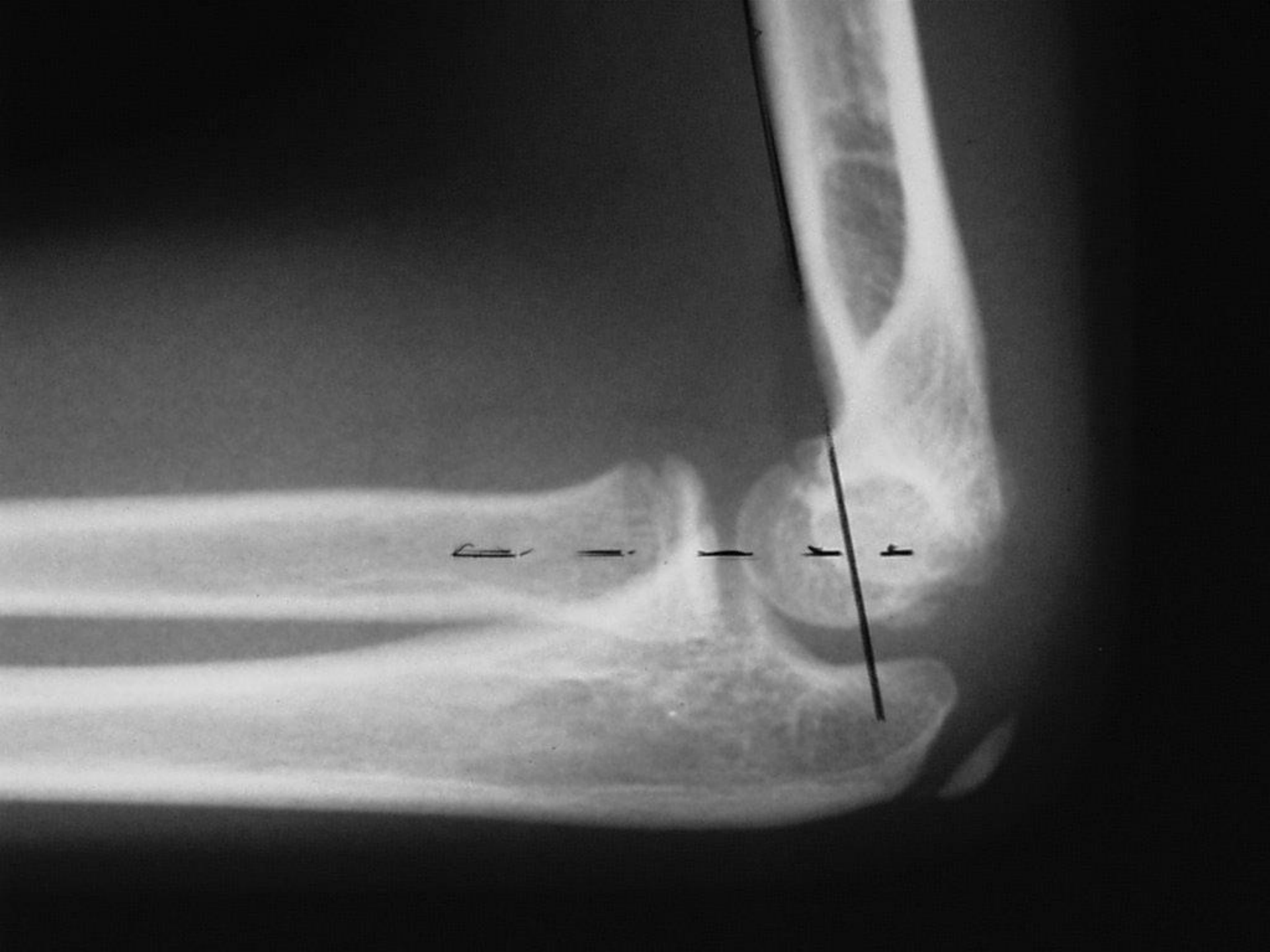
CASE # 2

facebook
Join Us On
facebook


Humerus
a
Anterior Humeral Line
Proximal Radial Line
b
Radius
Ulna
a'

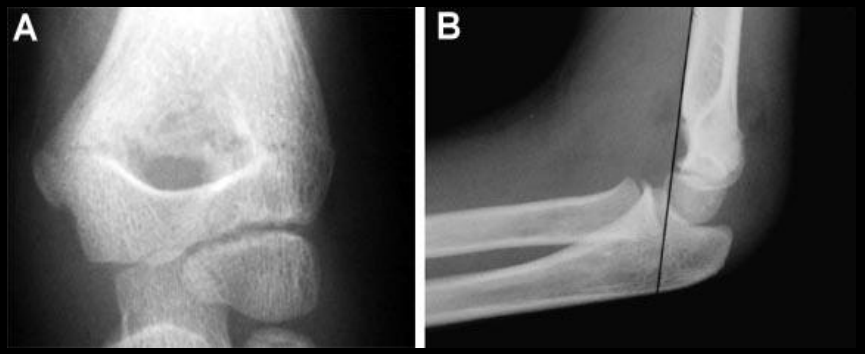
Normal alignment of the distal humerus and capitellum



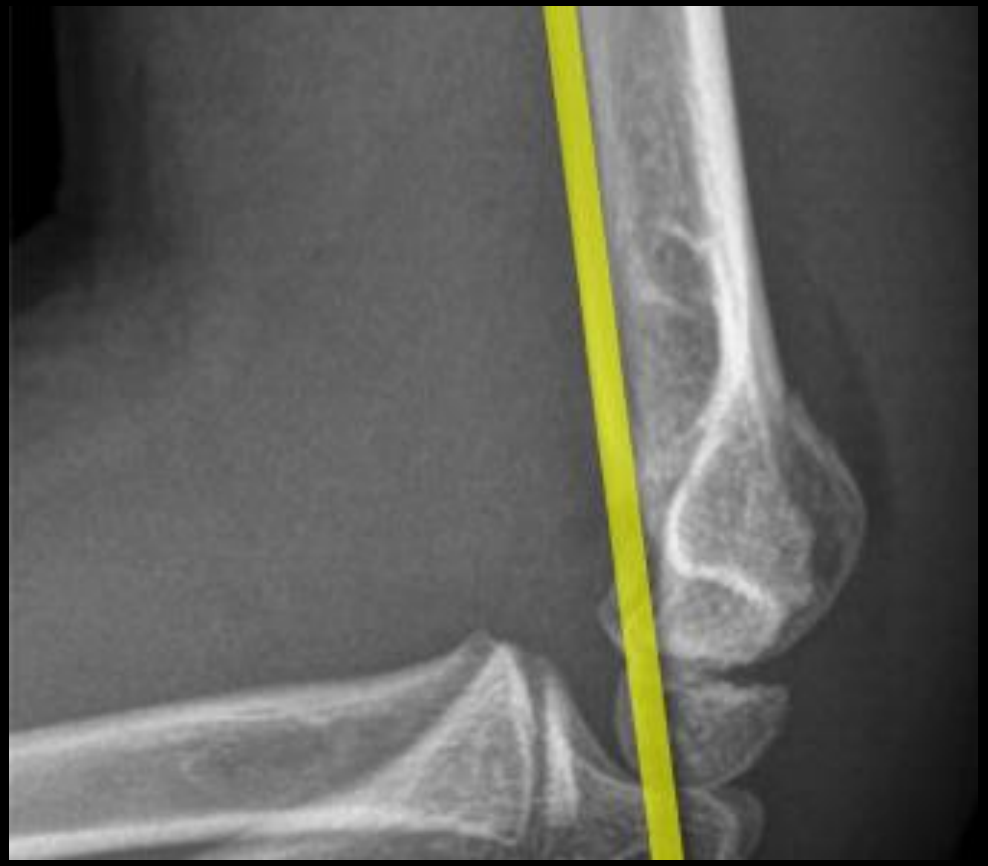


Supracondylar Humerus Fx

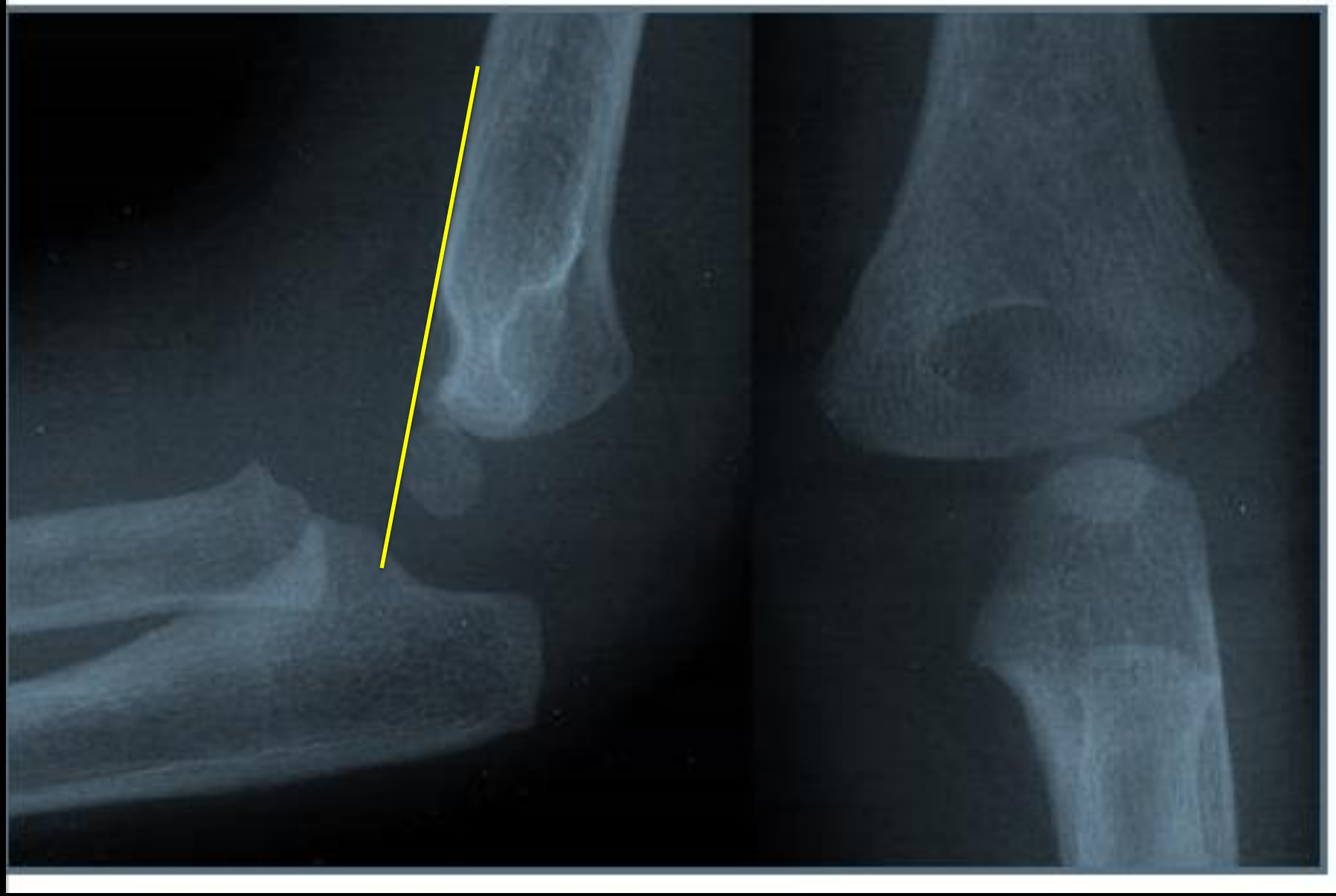
- Second most common pediatric fx (16.6%)
- Most common type of pediatric elbow fx (50-70%)
- Peak age 3-10 yo
- Male : Female → 2 : 1
- Usually non-dominant arm



Wilkins KE: Fractures and dislocations of the elbow region, in Rockwood CA Jr, Wilkins KE, King RE(eds): *Fractures in Children, 3rd ed.* Philadelphia: JB Lippincott, 1991, vol, pp 526-617.



A
B

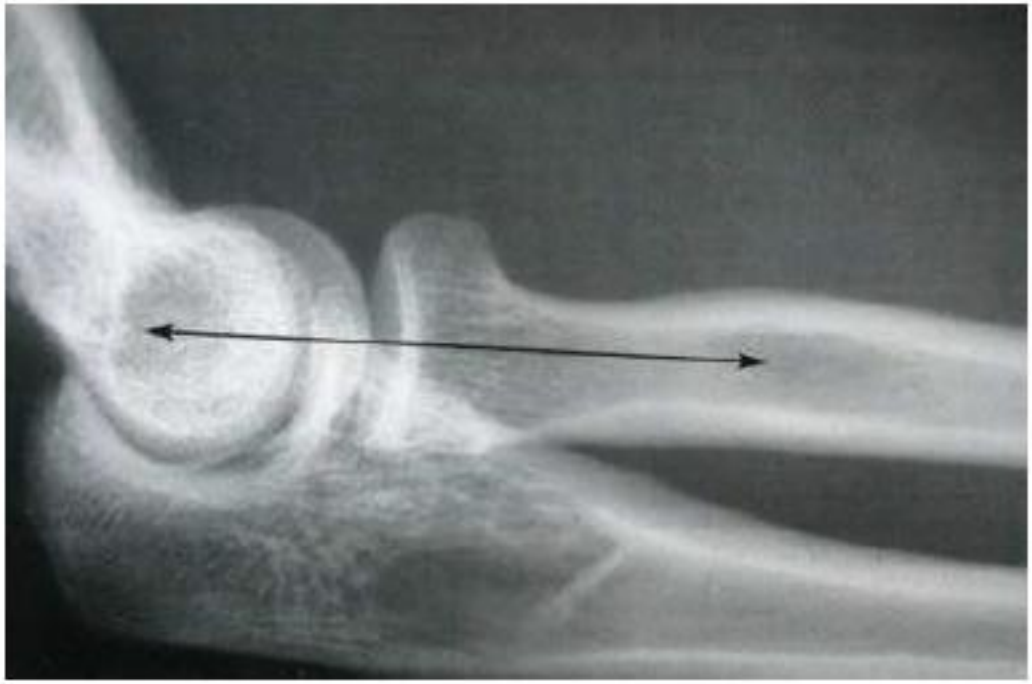


Radiologic Exam

- Type I
  - Positive Posterior fat pad sign

- Type II
  - Anterior humeral line is anterior to capitellum
  - Posterior cortex intact

- Type III
  - No cortical contact

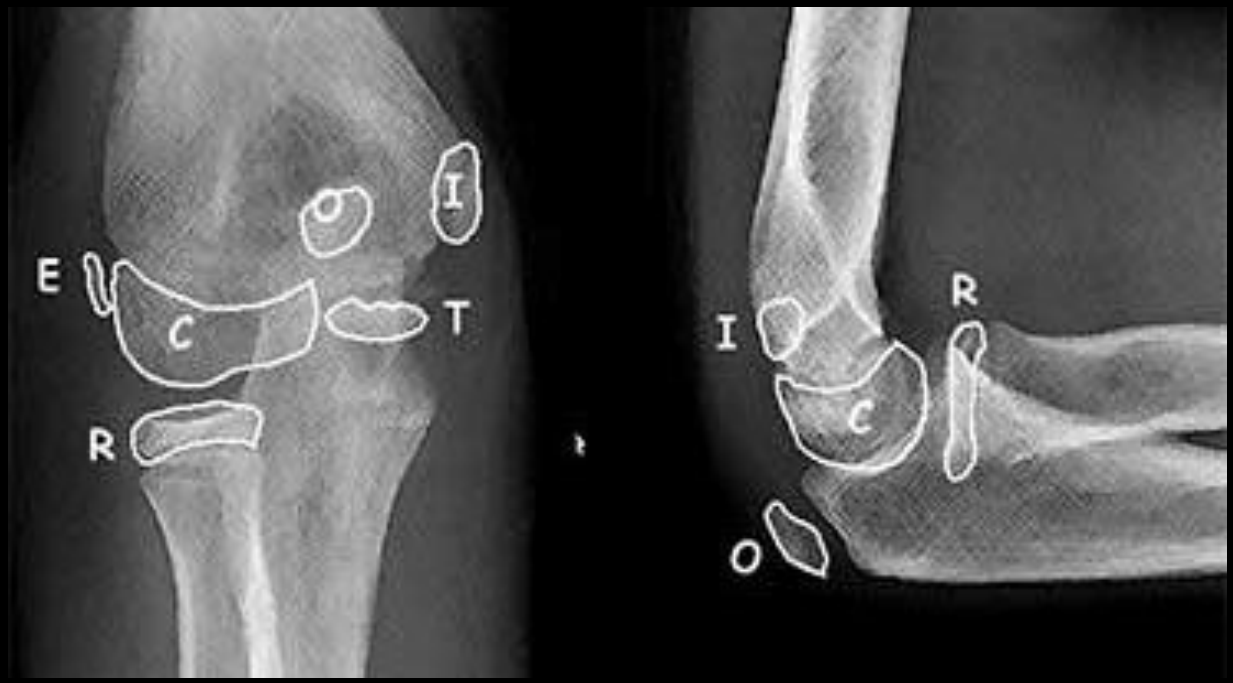


Ossification Centers of the Elbow

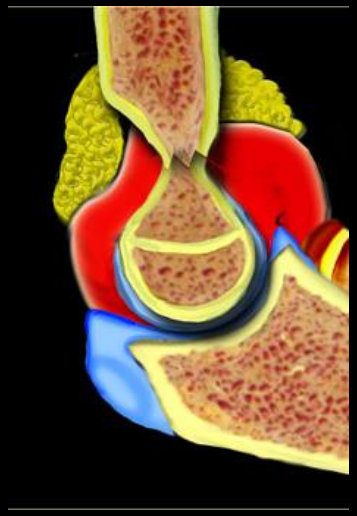
- **CRITOE**
  - **C**apitellum
  - **R**adial head
  - **I**nternal (medial) epicondyle
  - **T**rochlea
  - **O**lecranon
  - **E**xternal (lateral) epicondyle

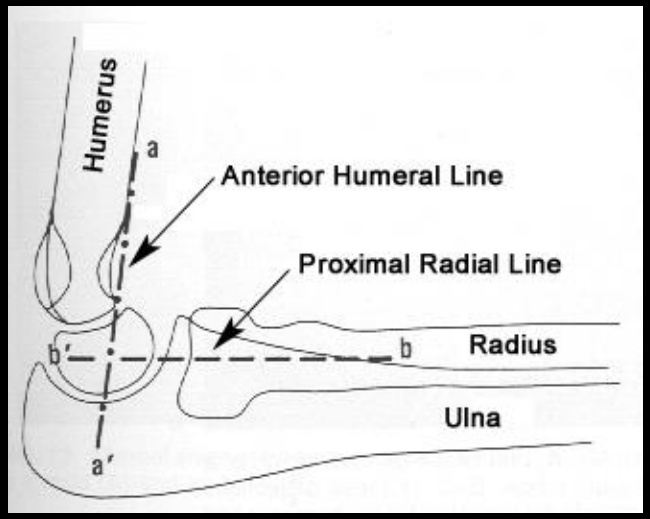
AGES

1	C apitellum
3-5	R adial Head
5-7	M edial Epicondyle
7	T rochlea
9	O lecranon
11	L ateral Epicondyle



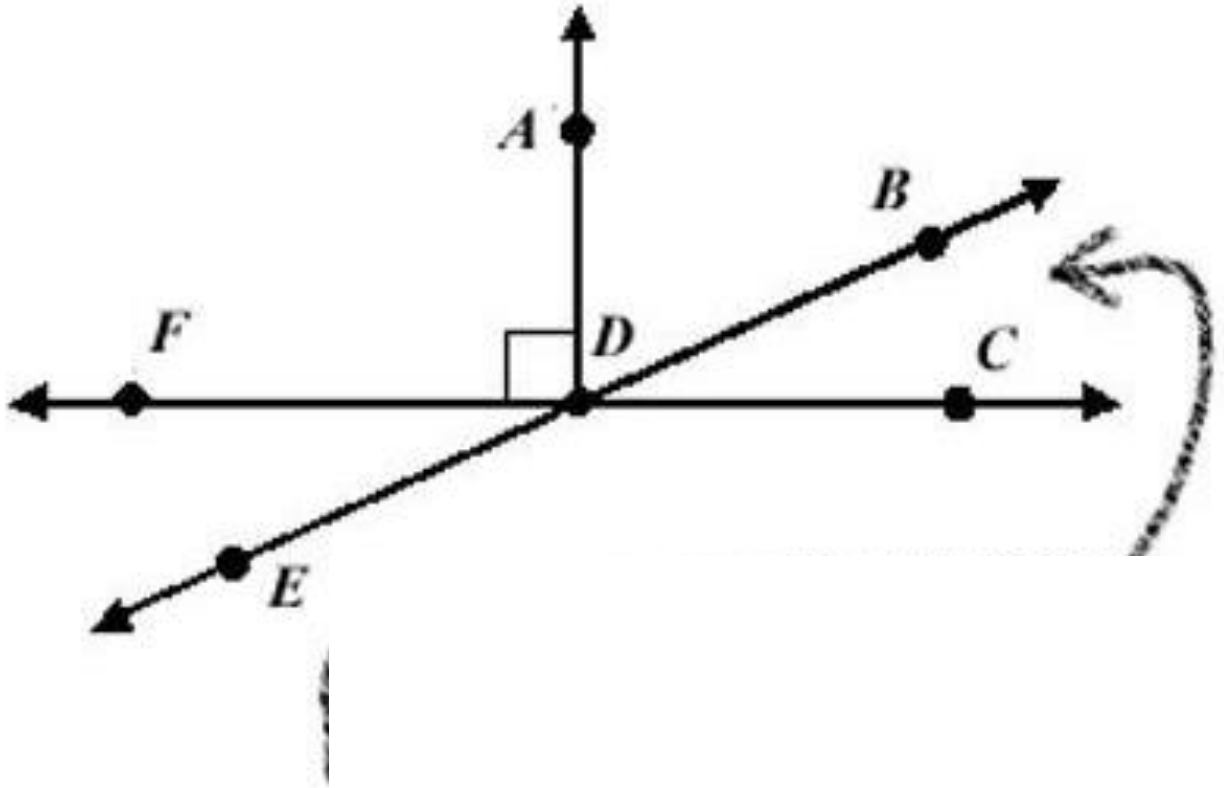
Pediatric Elbow Fractures



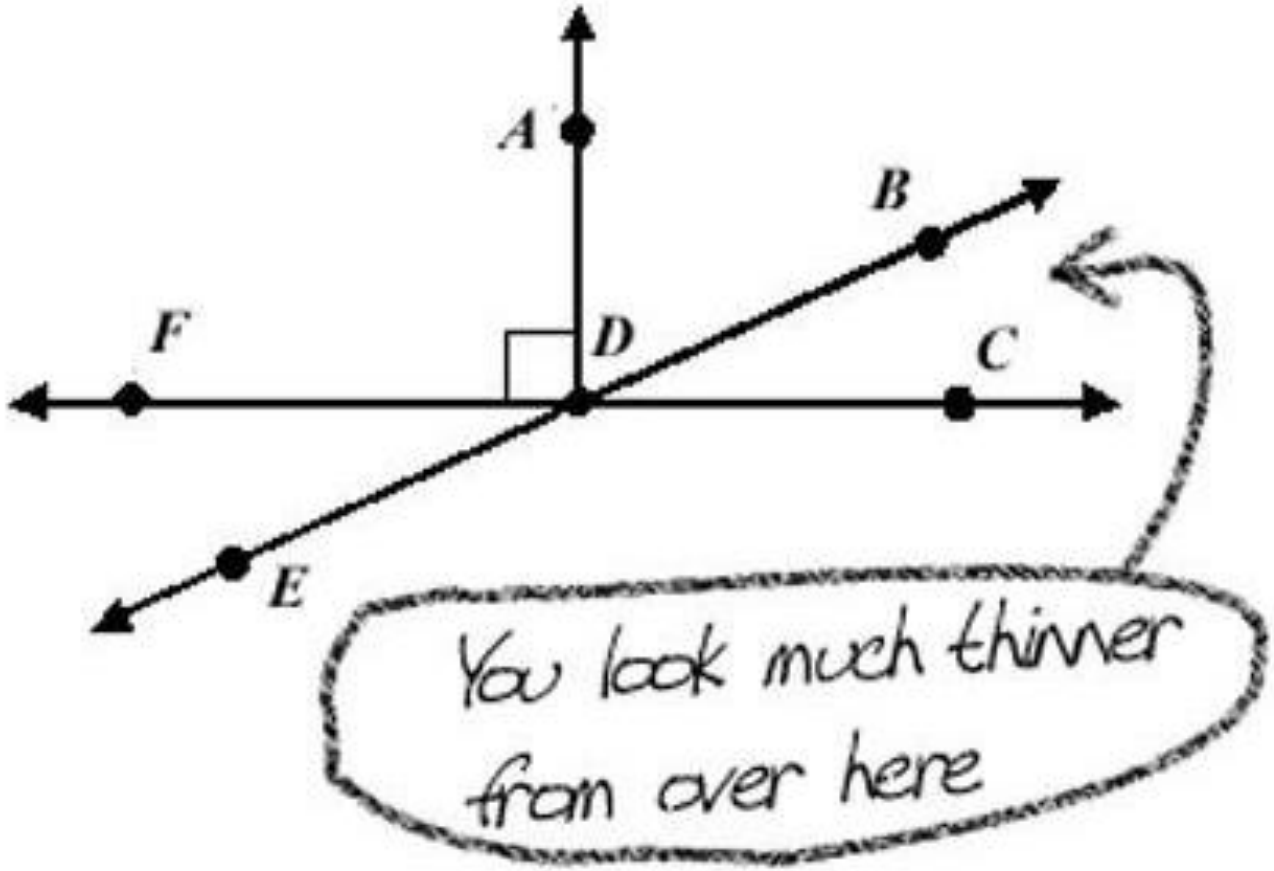


Ossification centre	Age (yr.)
Capetellum	1
Radius	3
Internal (medial) epicondyle	5
Trochlea	7
Olecranon	9
External (latreral) Epicondyle	11

3. Name an angle complimentary to BDC:



3. Name an angle complimentary to BDC:



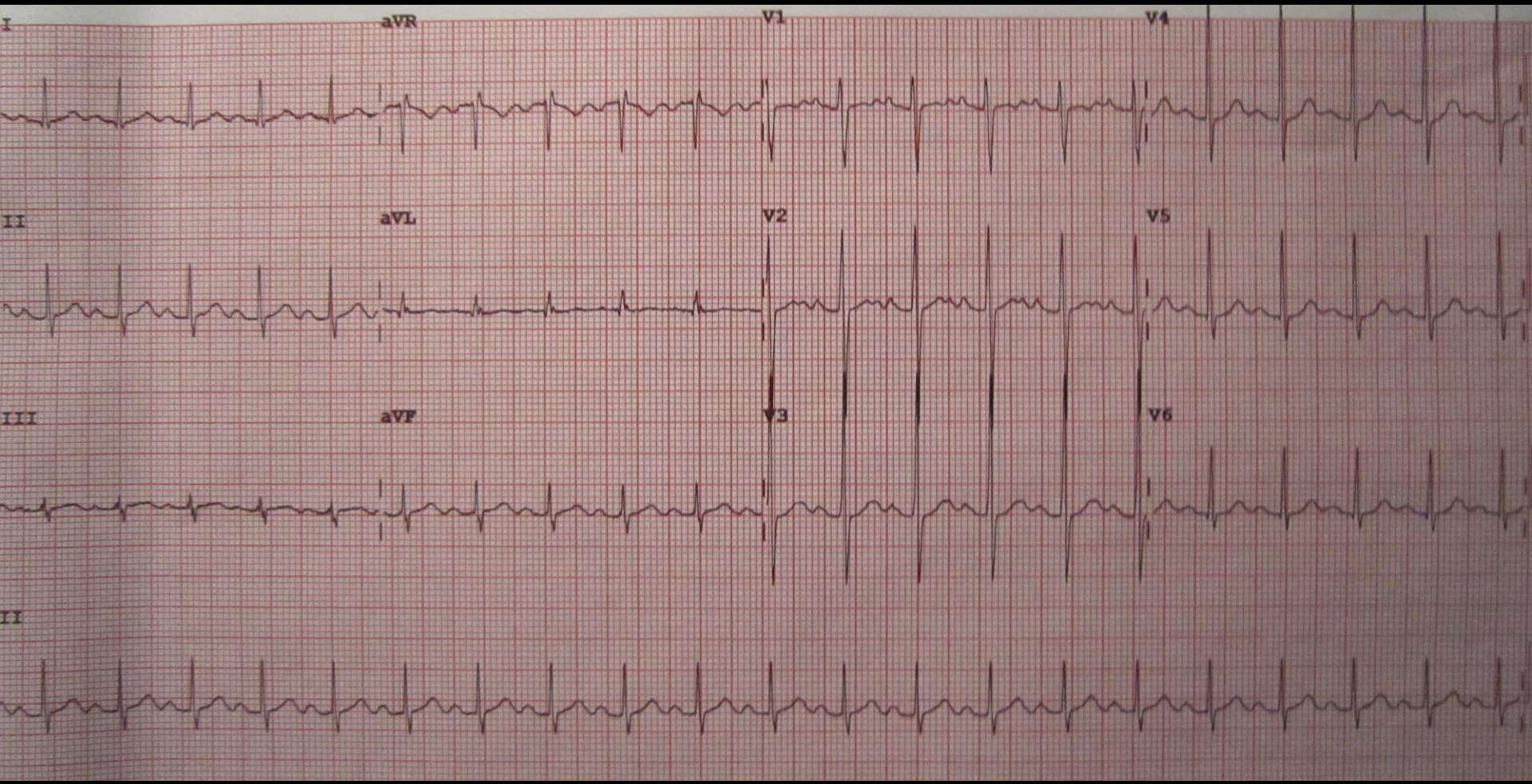
5. What is love? BABY DON'T HURT ME, DON'T HURT ME NO MORE.

6. How do we love God?

7. How do we love our neig

17 y/o
Passionate
Poet

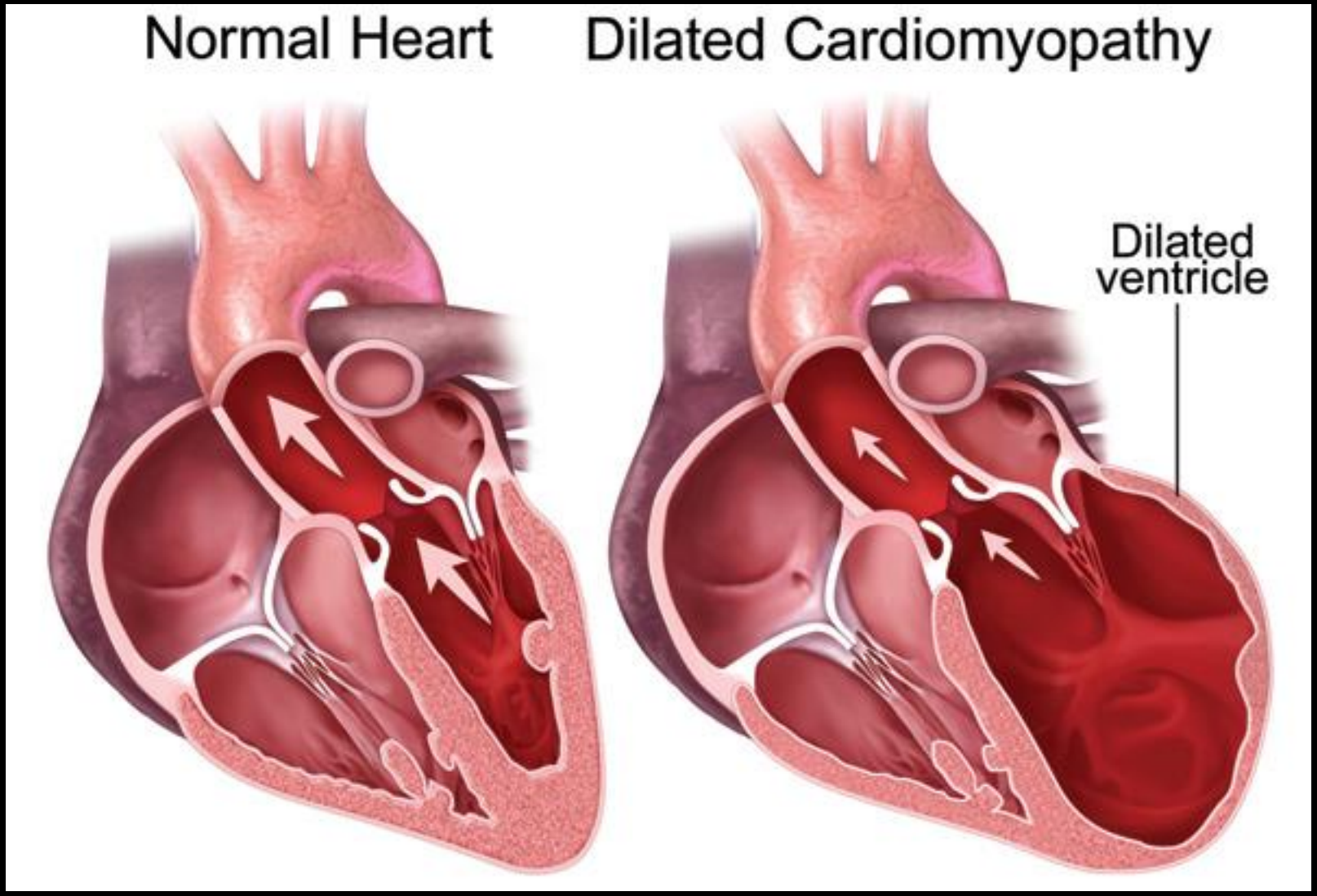
Physical Exam
T 98.3
HR 105 BP 109/73
RR 14 Pulse Ox 99% RA


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II

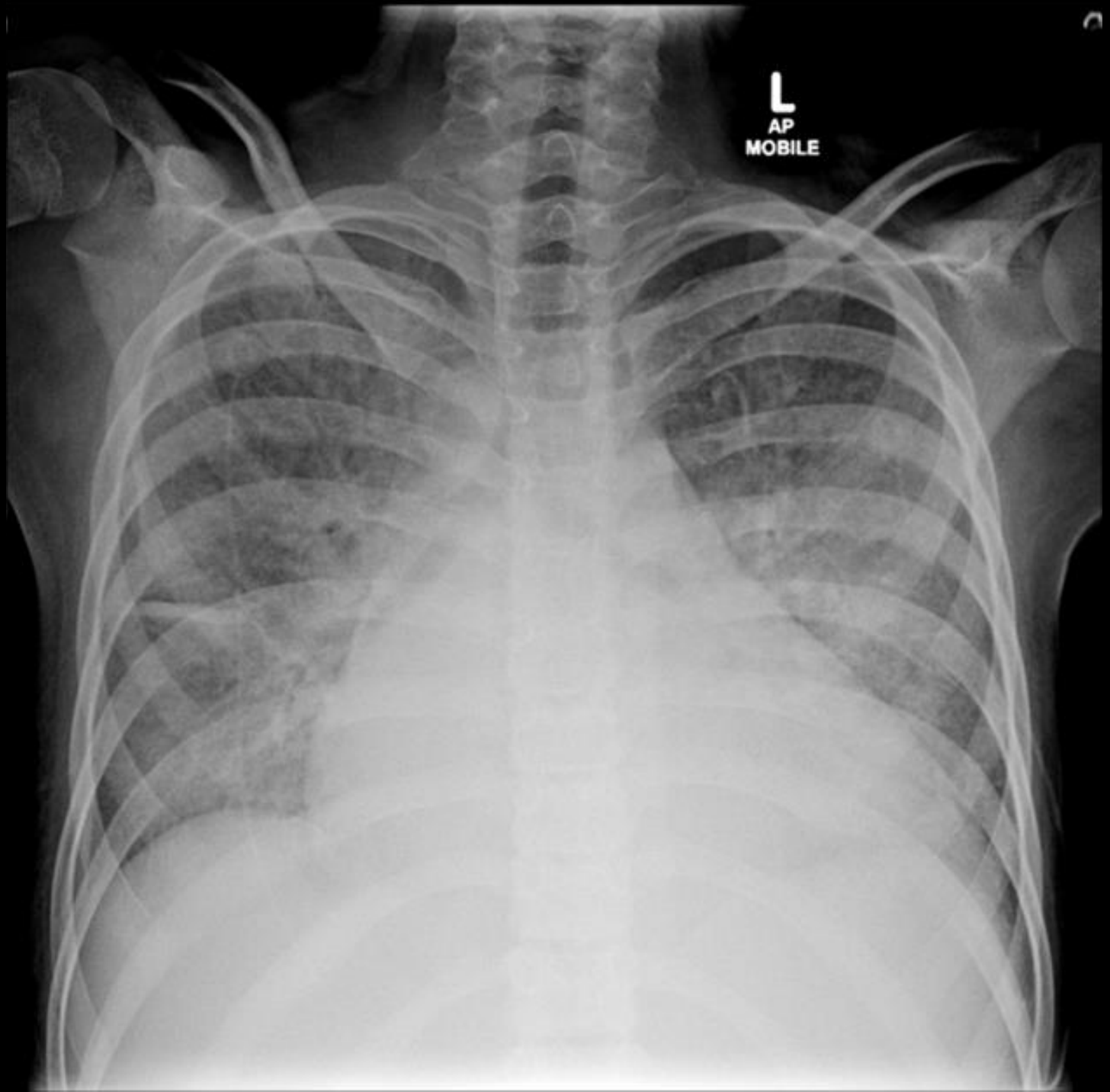
L

OLD

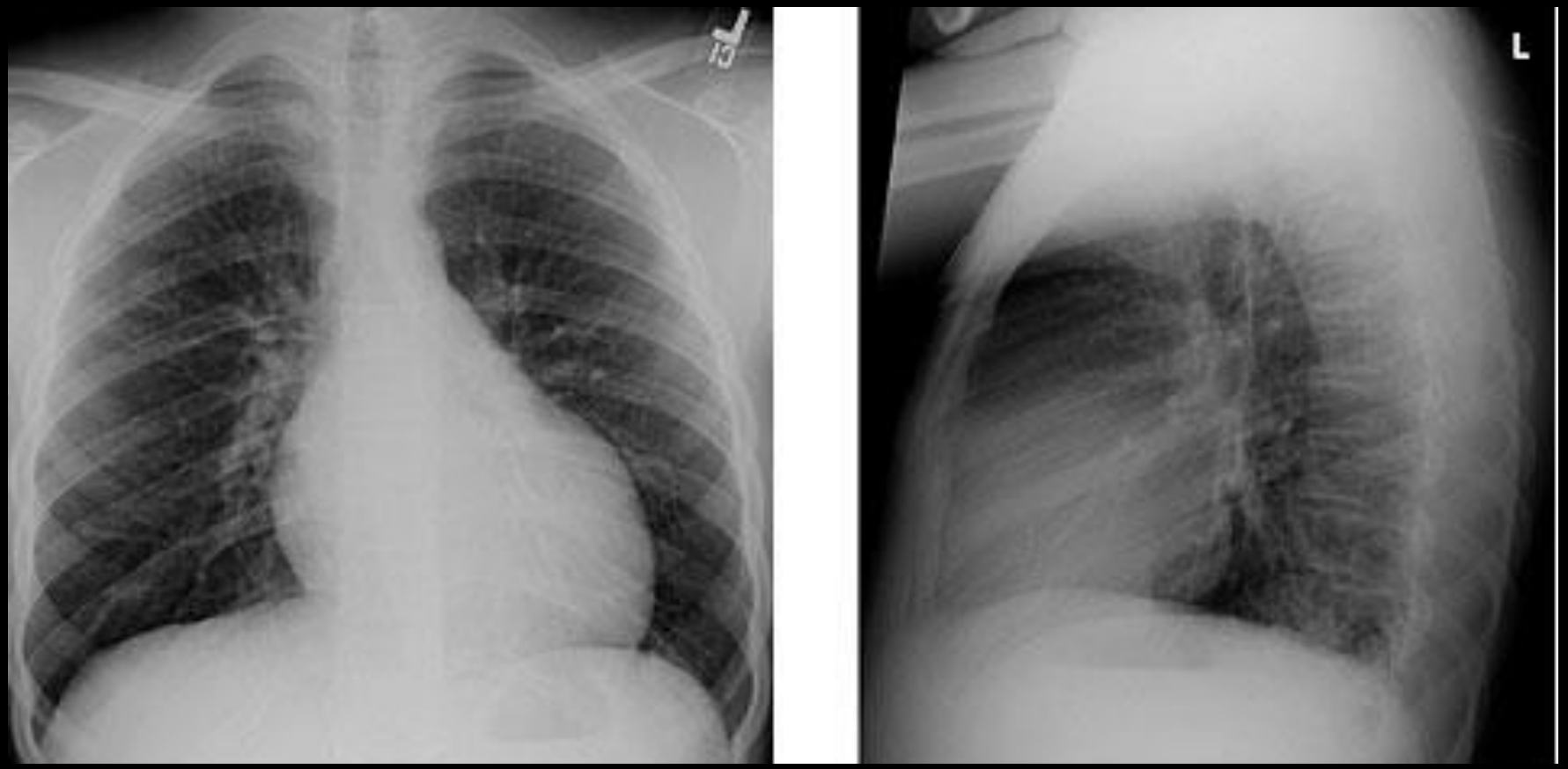
SOB with clear lungs

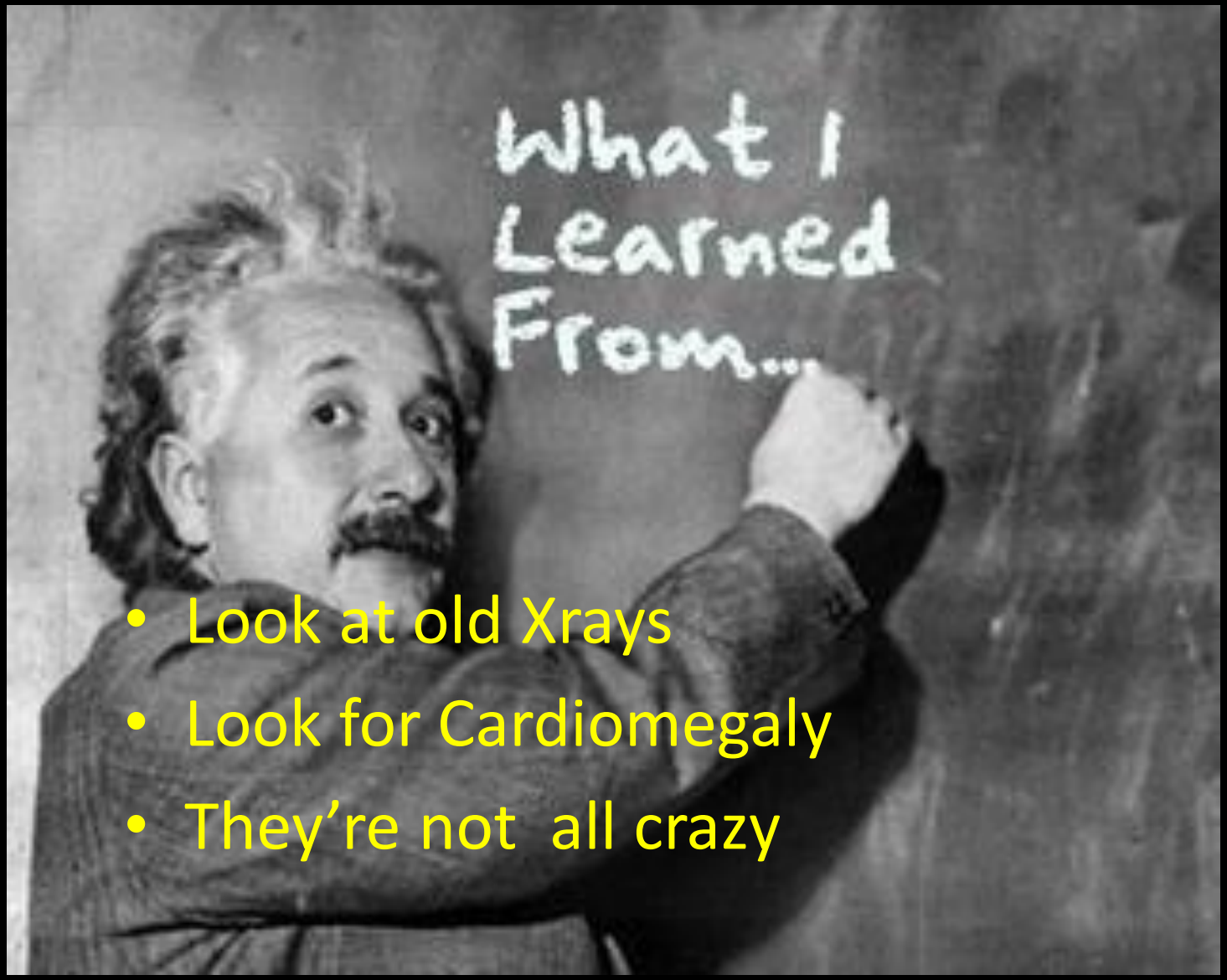

Normal Heart
Dilated Cardiomyopathy
Dilated ventricle

03 Oct 06
11:11:14 am
4V1c-S 53Hz
H4.25MHz 180mm
Cardiac
NTHI General
65dB T1/ 0/1/ 4
Gain= 10dB Δ=3
Store in progress
0:19:59
HR= 65bpm

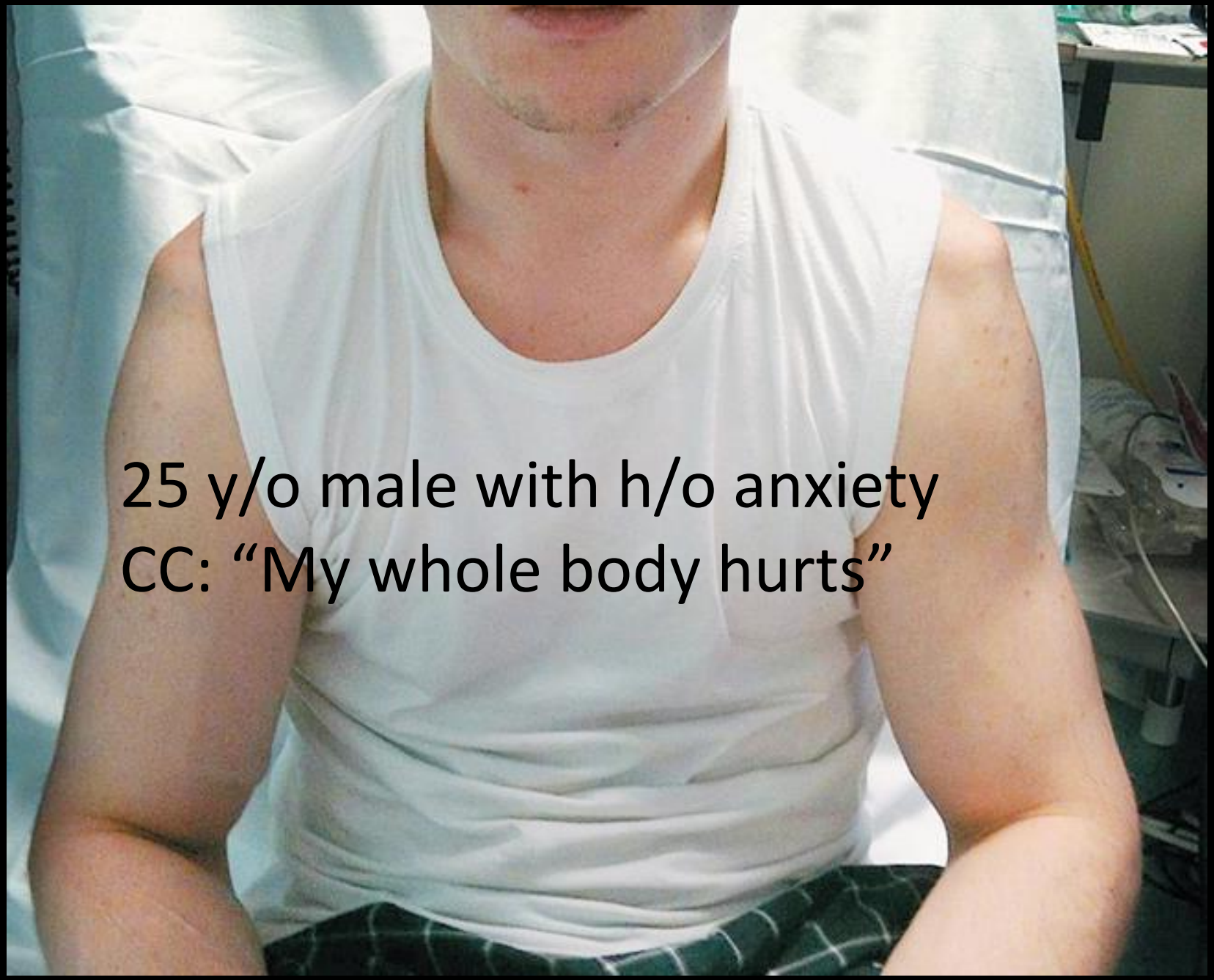

L
AP
MOBILE

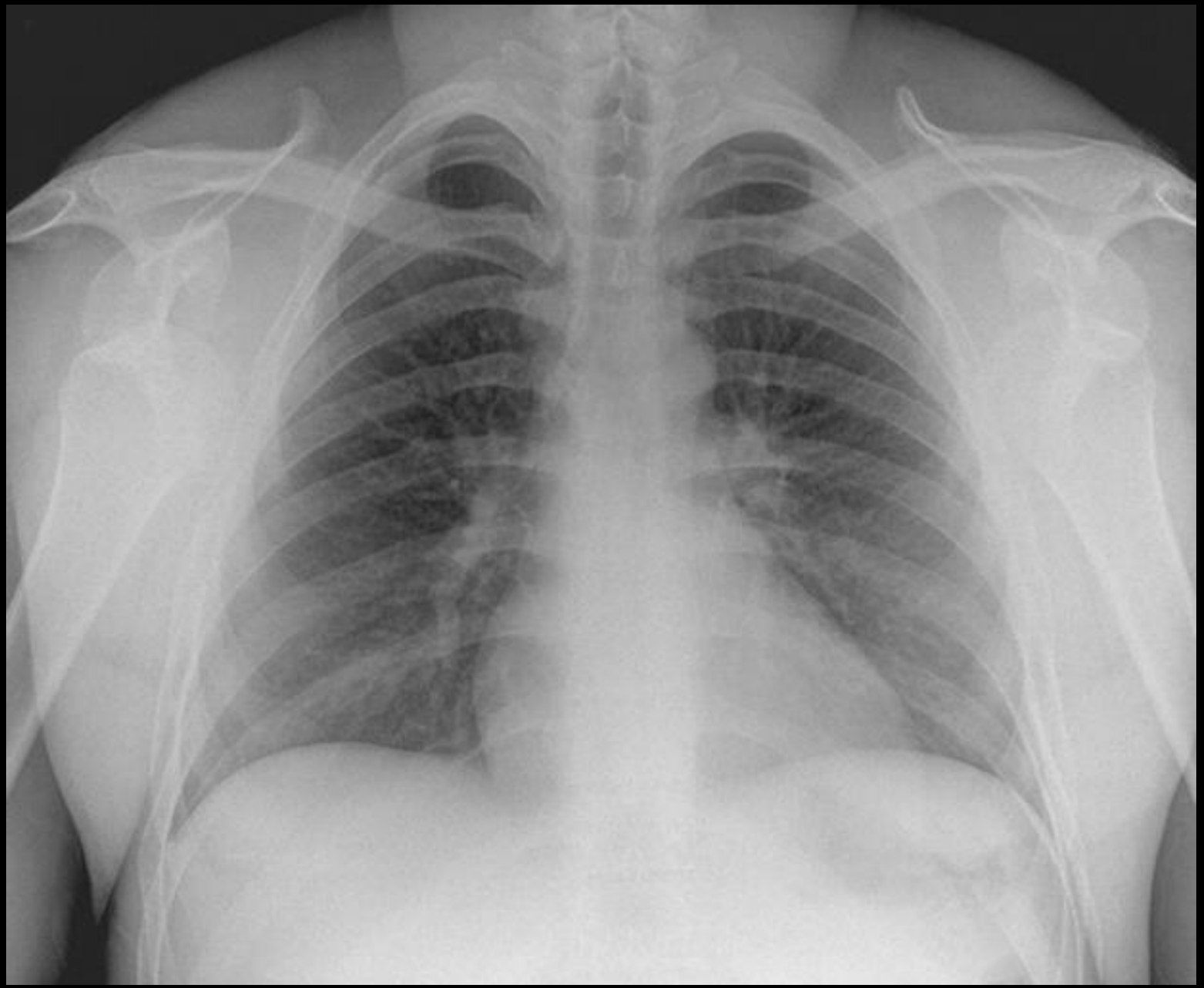
L
46


L

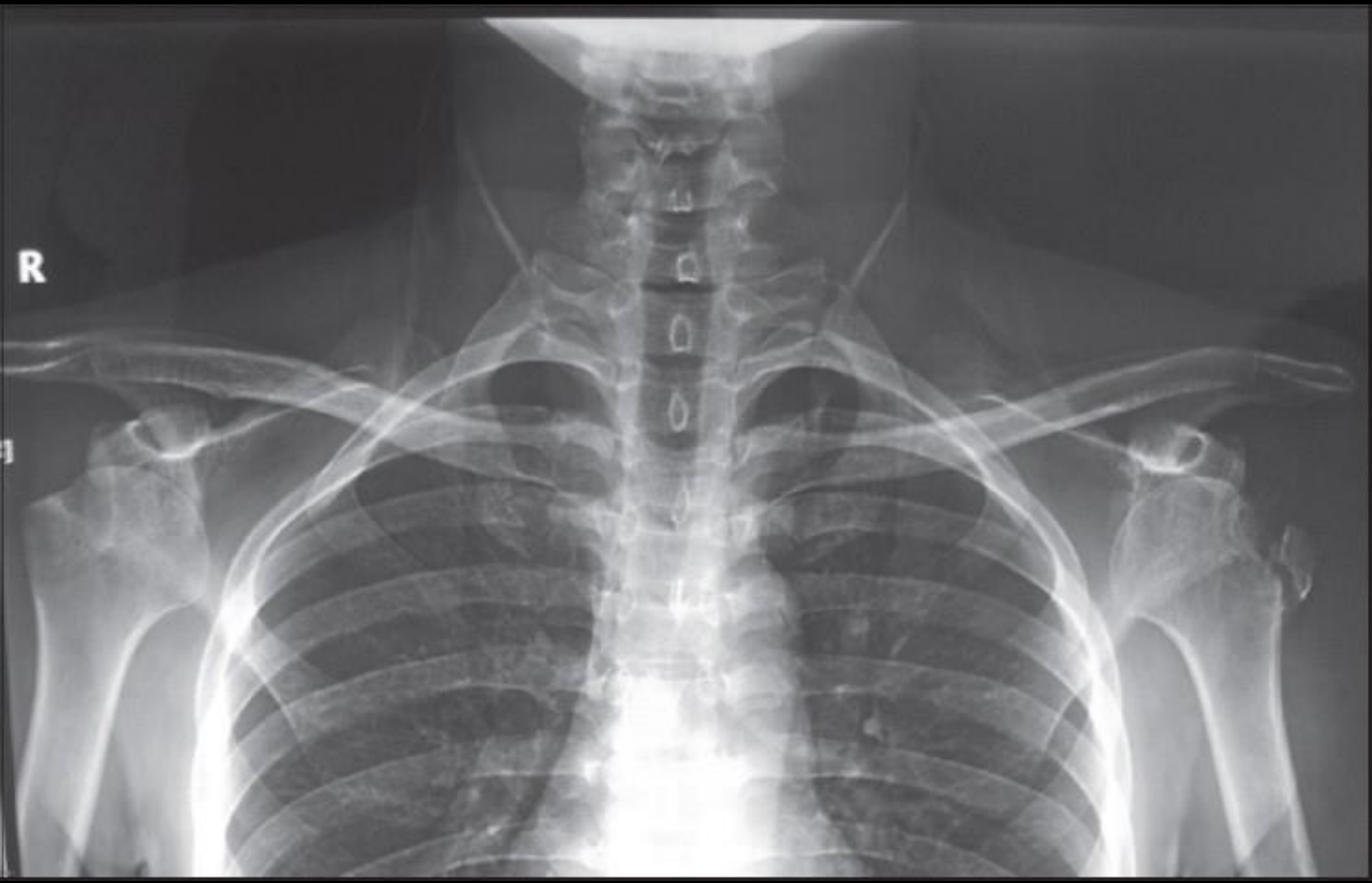


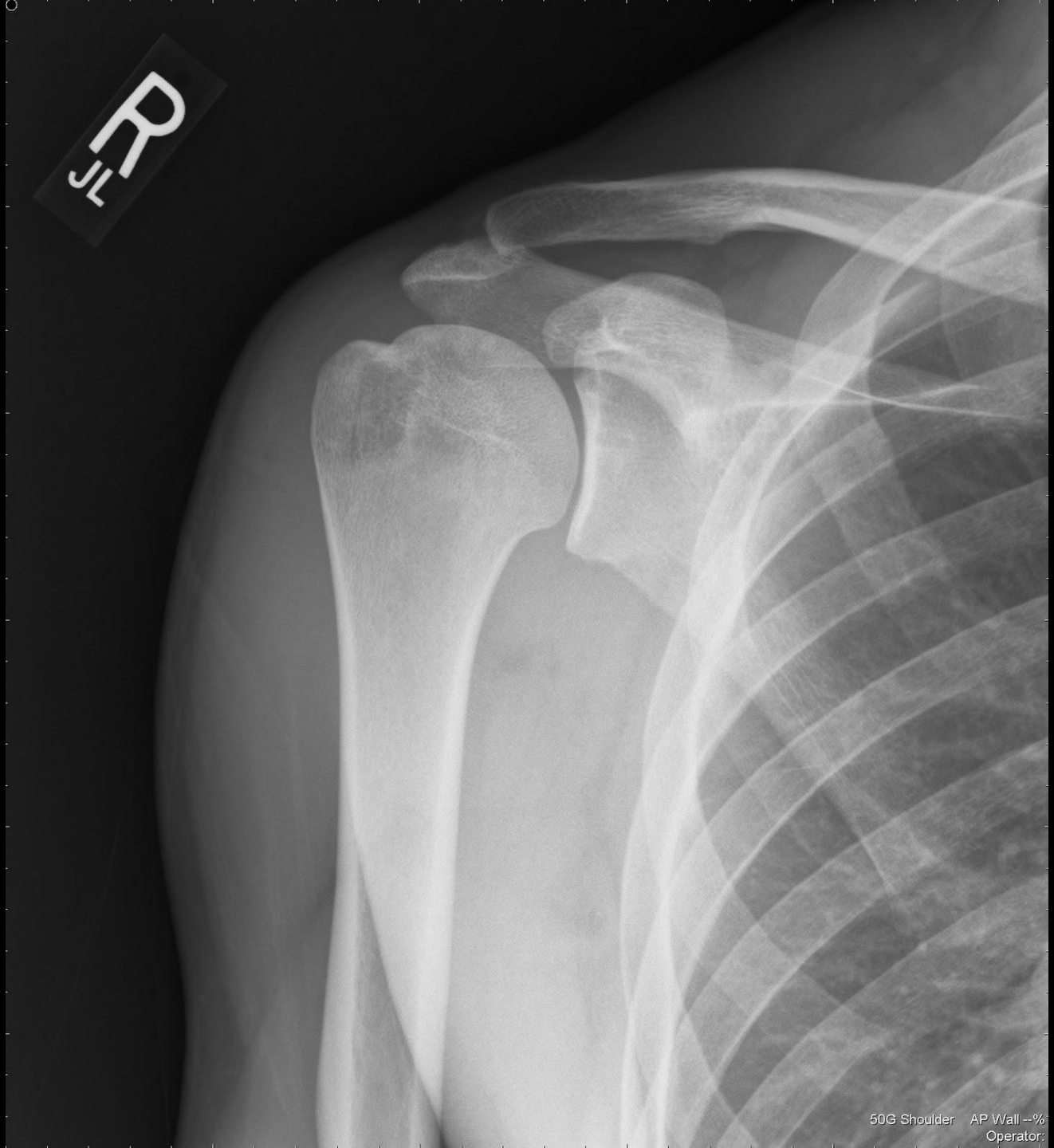
- Look at old Xrays
- Look for Cardiomegaly
- They're not all crazy


25 y/o male with h/o anxiety
CC: “My whole body hurts”



Rule # 5
Always Look
at the Entire Xray!

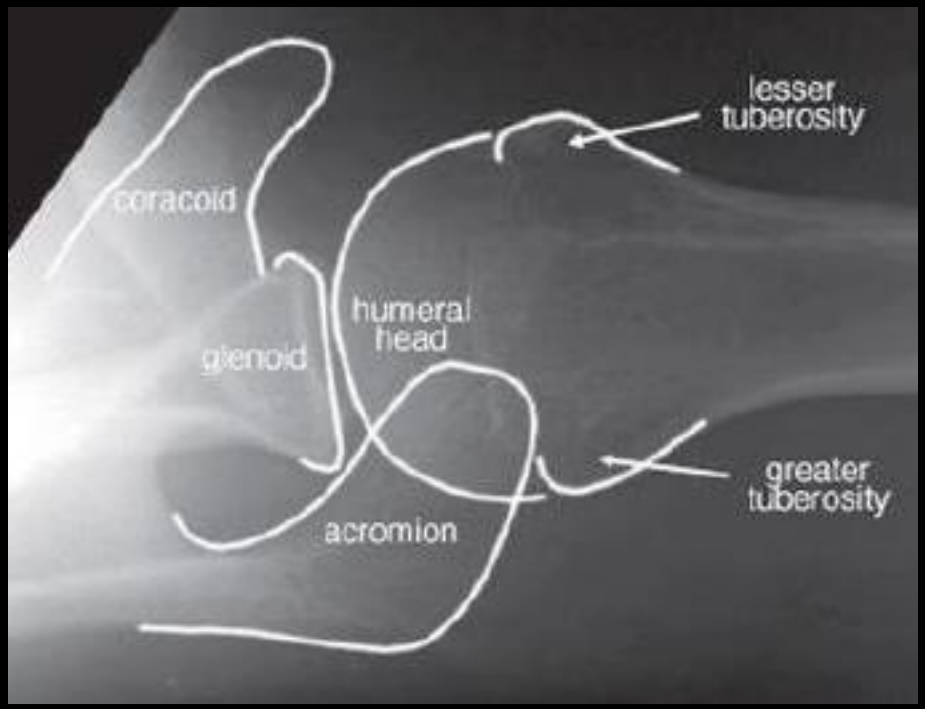

R


R
JL
50G Shoulder AP Wall --%
Operator:

M N

Anterior
Posterior

Axillary Lateral

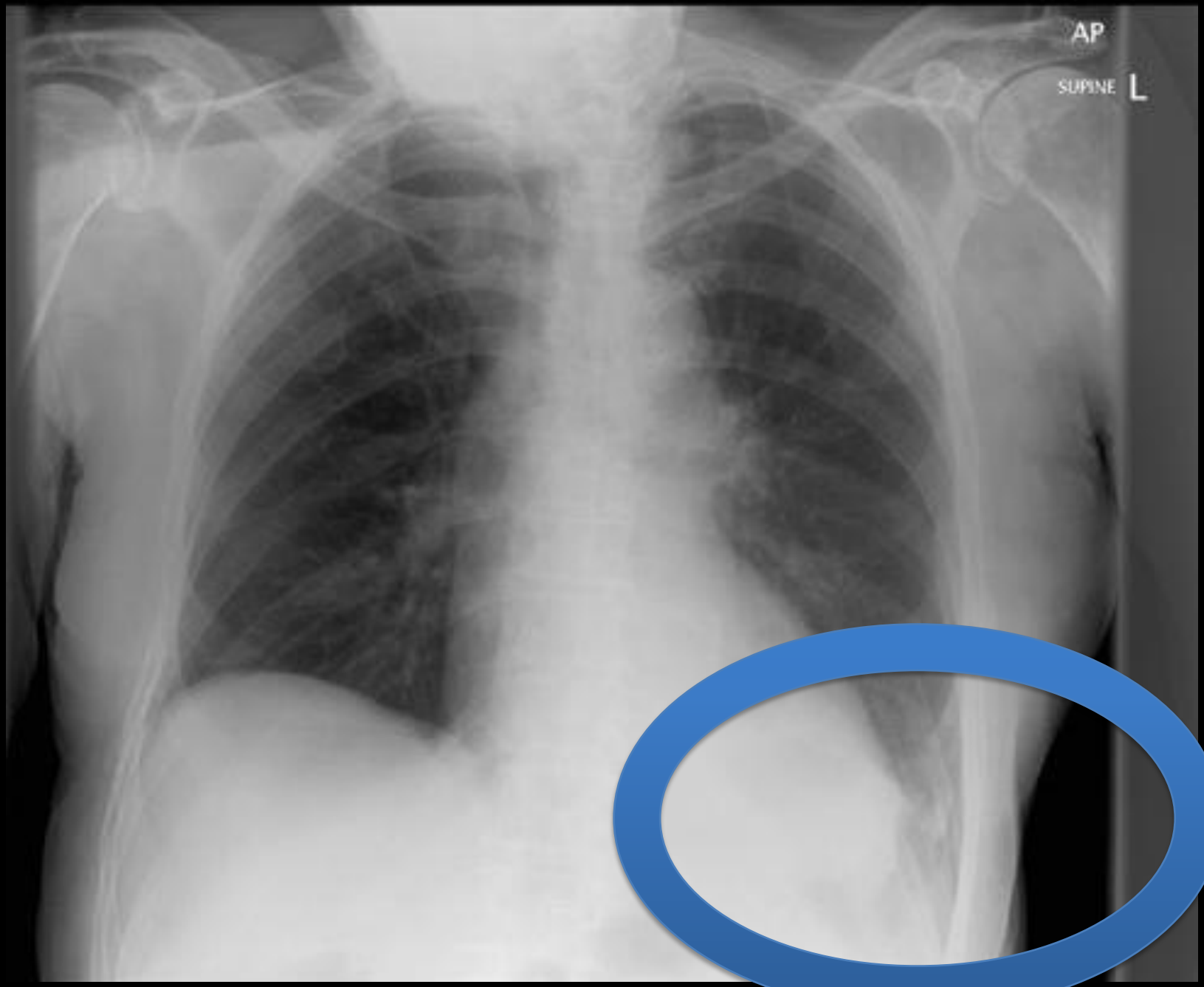


- Tachycardia
- Unexplained shoulder dislocations
- SEIZURE!
- Hyperkalemia, renal failure
- Rhabdo
- Alcohol withdrawl
- Admitted to ICU

4. A uniform bridge span weighs 50.0×10^3 N and is 40.0 m long. An automobile weighing 15.0×10^3 N is parked 12.0 m from the right pier. What upward support force does the left pier provide?

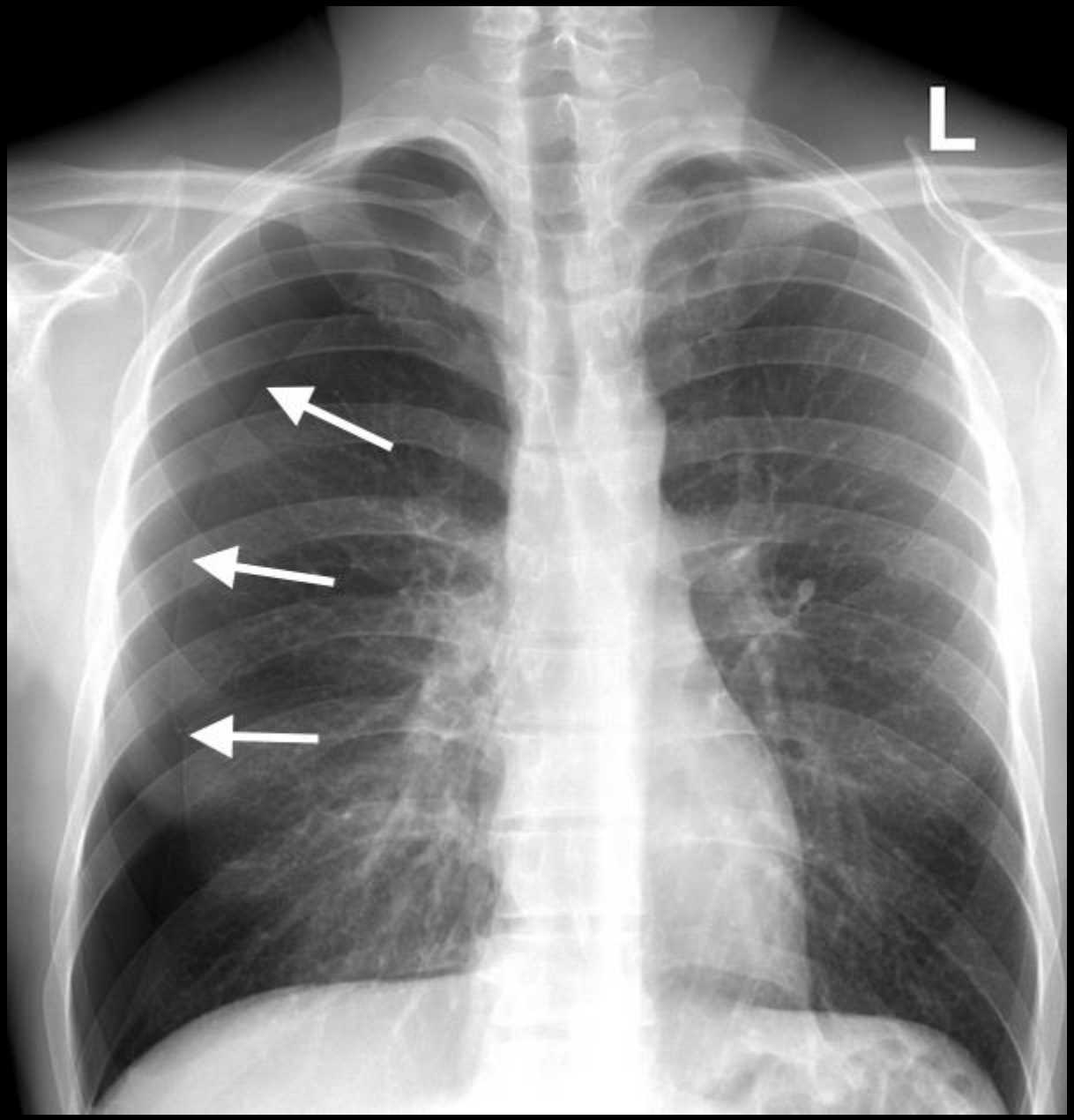
50,000 · 40 = 2,000,000

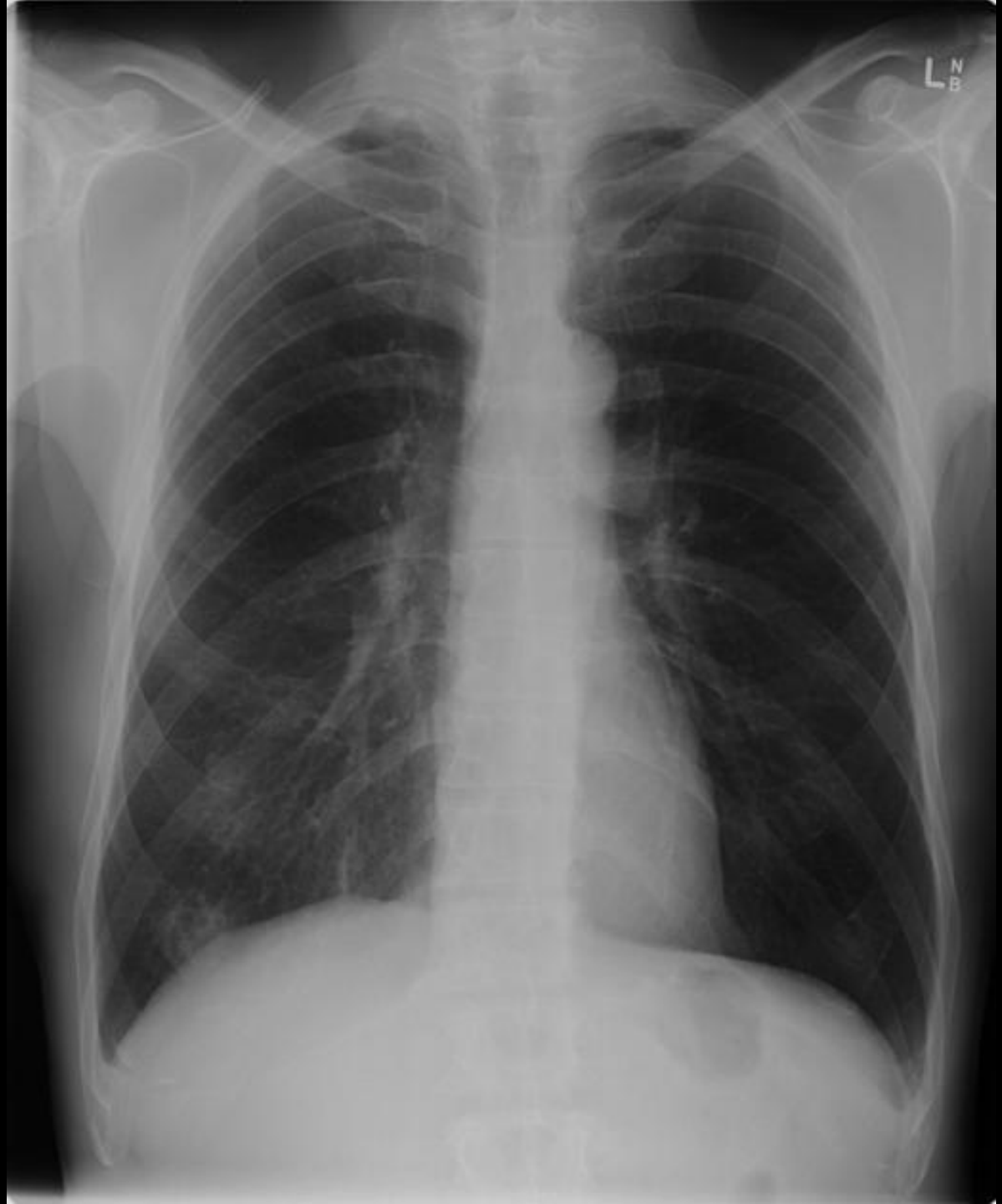
Case # 5
32 y/o s/p MVC


AP
SUPINE
L

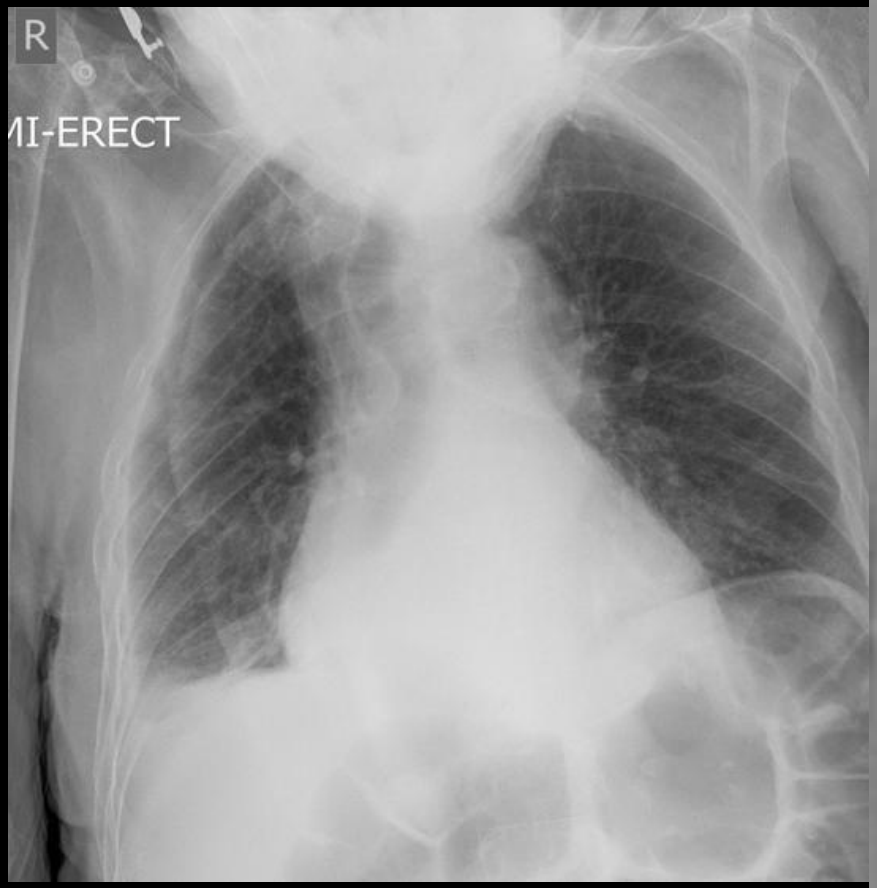
Rule # 3
Know how Xray was taken

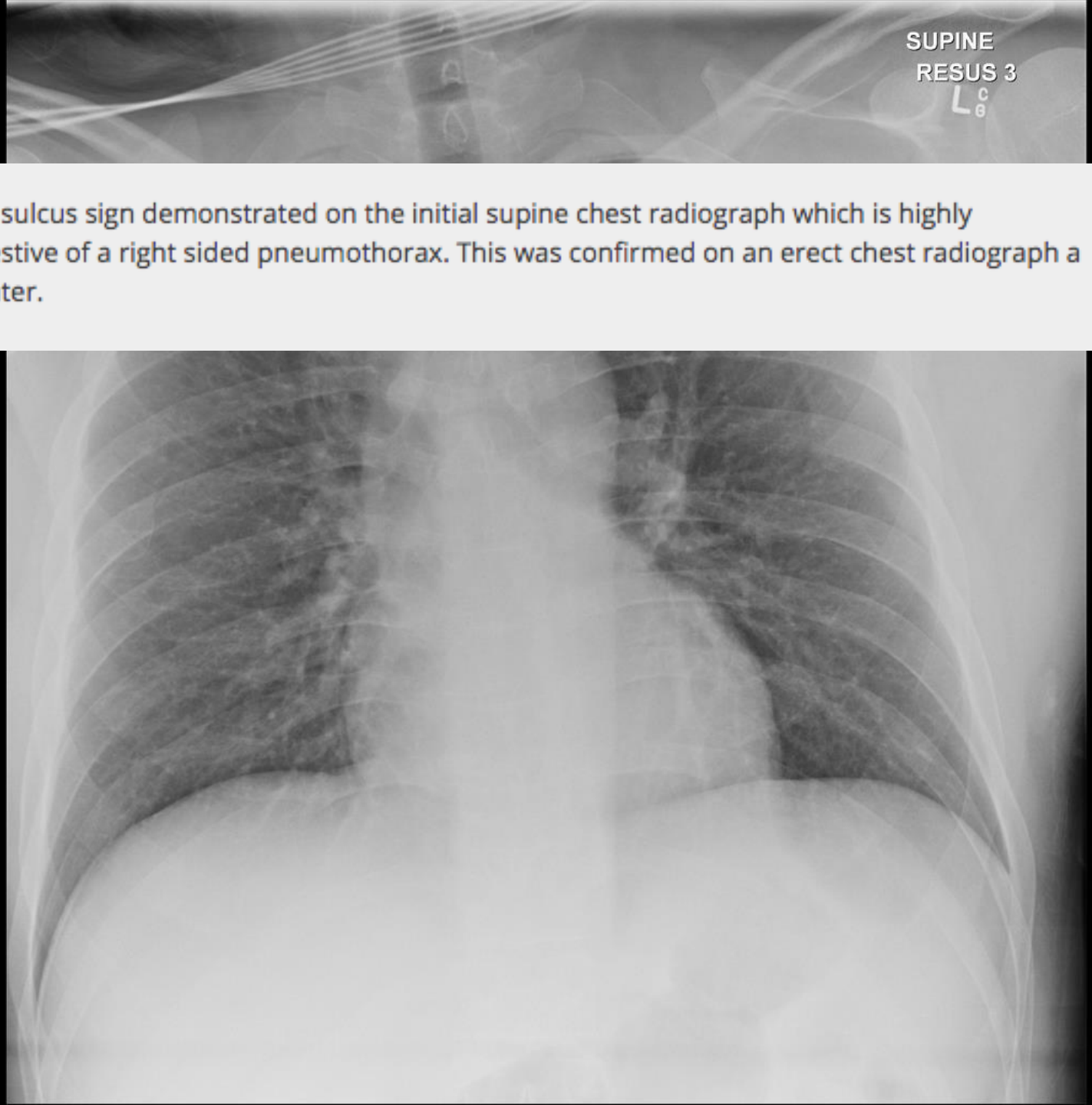
Understand how patient is positioned


L


L

R
MI-ERECT


R
MI-ERECT



Deep sulcus sign demonstrated on the initial supine chest radiograph which is highly suggestive of a right sided pneumothorax. This was confirmed on an erect chest radiograph a day later.

L

10 cm

NORMAL

PNEUMO

Case # 6

80 y/o male with AMS

T 39.1

HR 121

BP 84/60

O2 98% RA

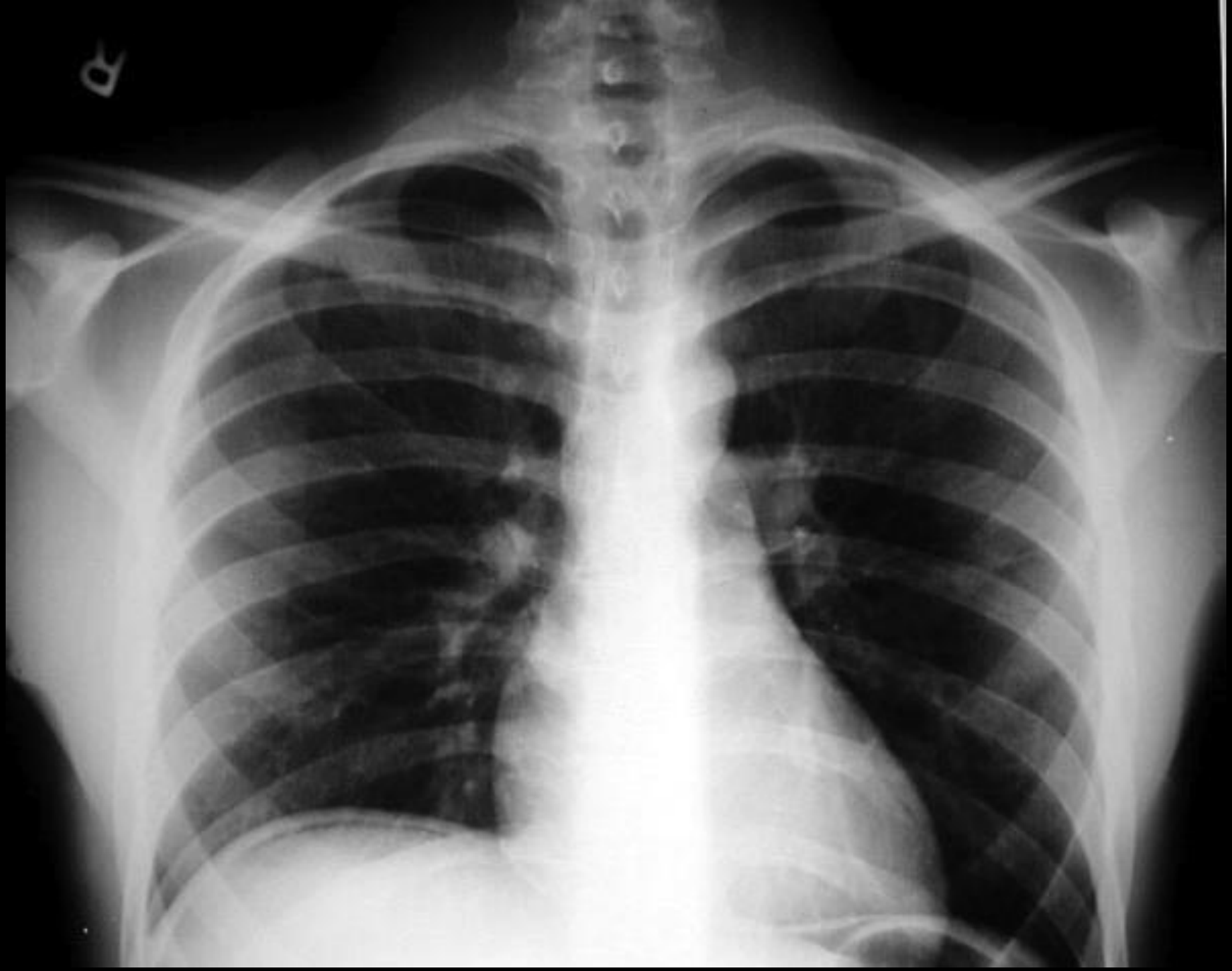
D stick 135

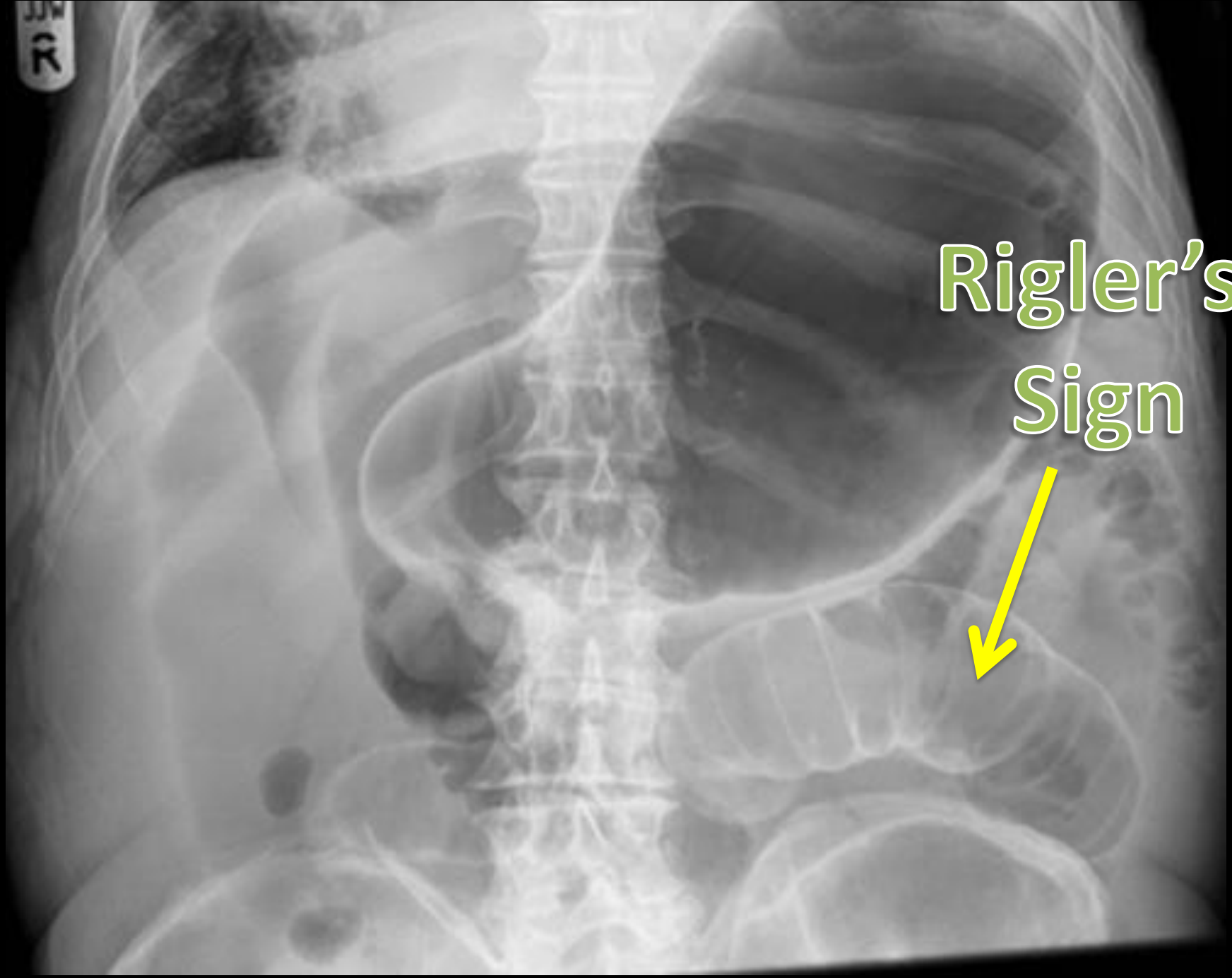
Se:1
Im:1

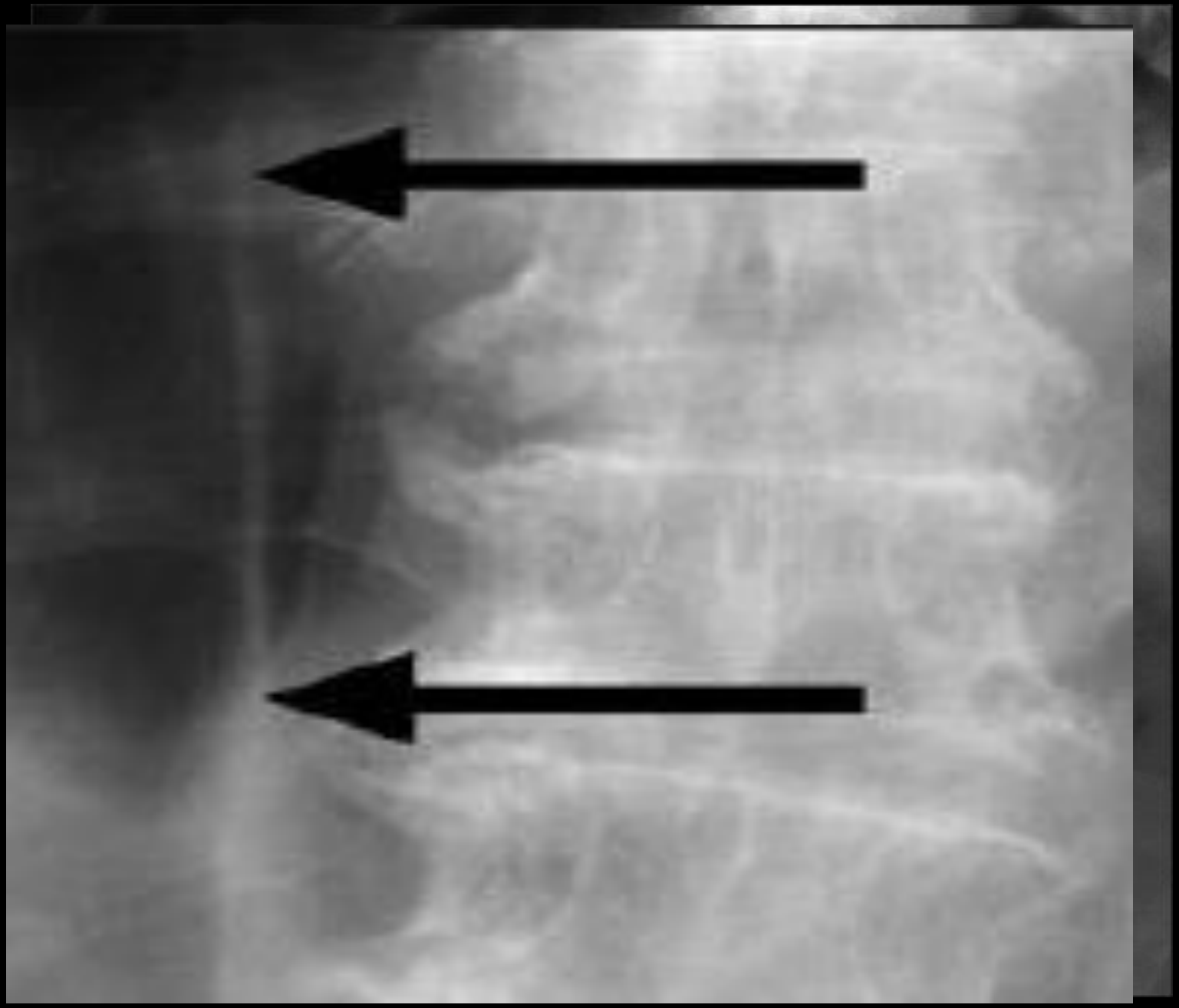
R
R

Series Description: AP
Series Date: 2014-07-04
PORTABLE
L

Rule # 2
Look for air…
Where it shouldn’t be




Rigler's
Sign



CASE # 7

40 Y/O WITH FOOT PAIN

L

Rule # 4
Always Look
At Your Own Films!

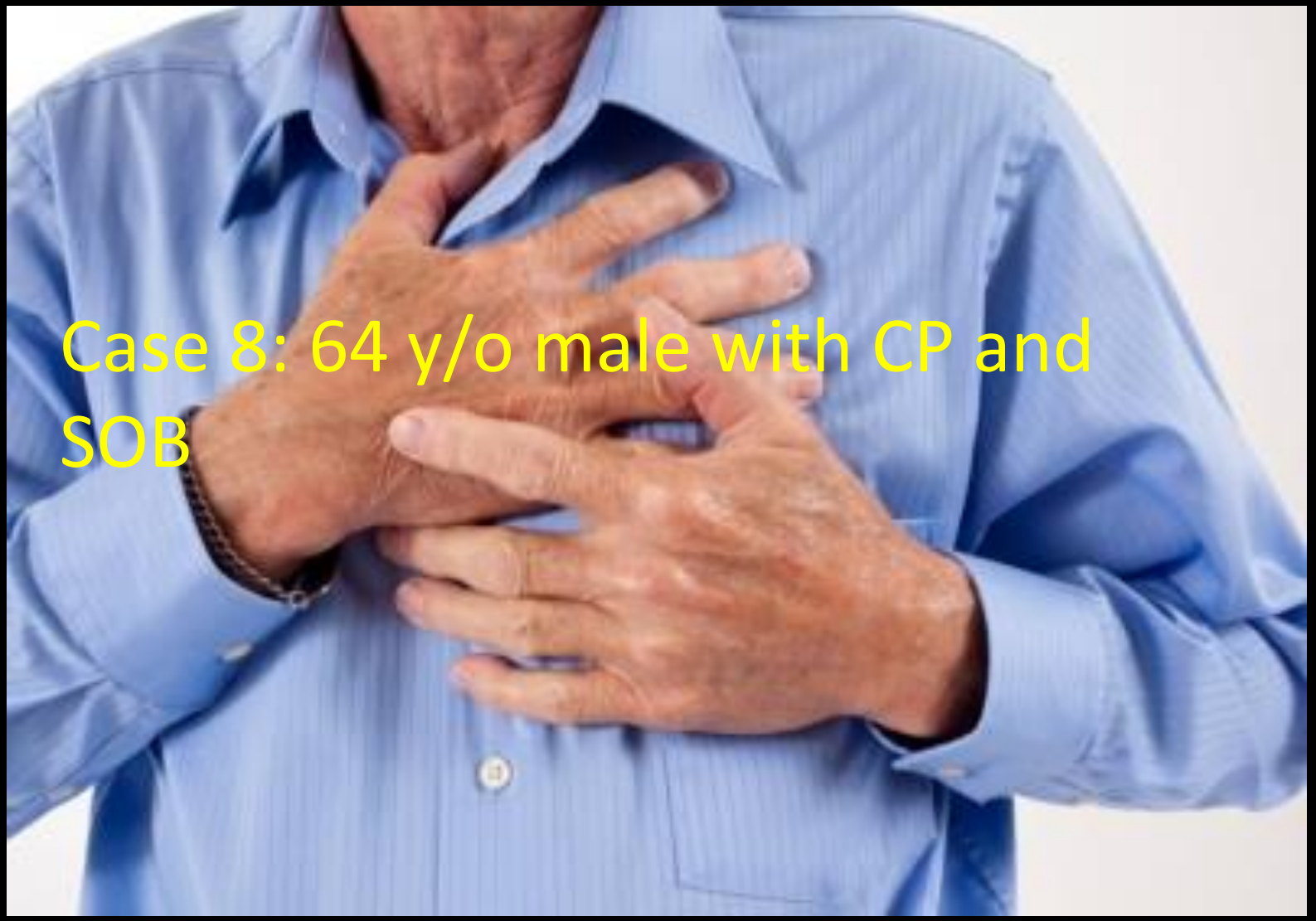
L

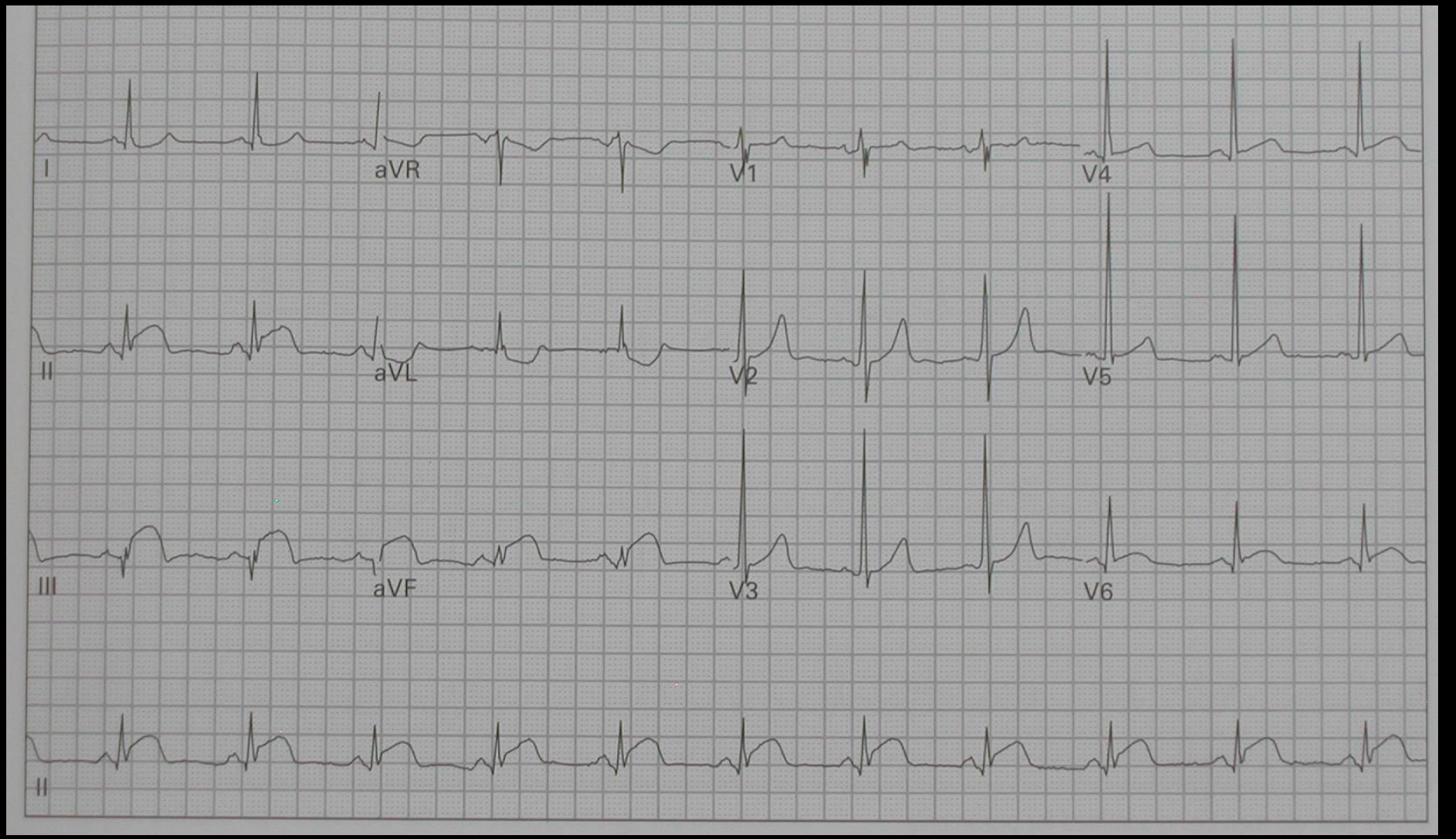
OBL
4
3
5
6
< 3 mm

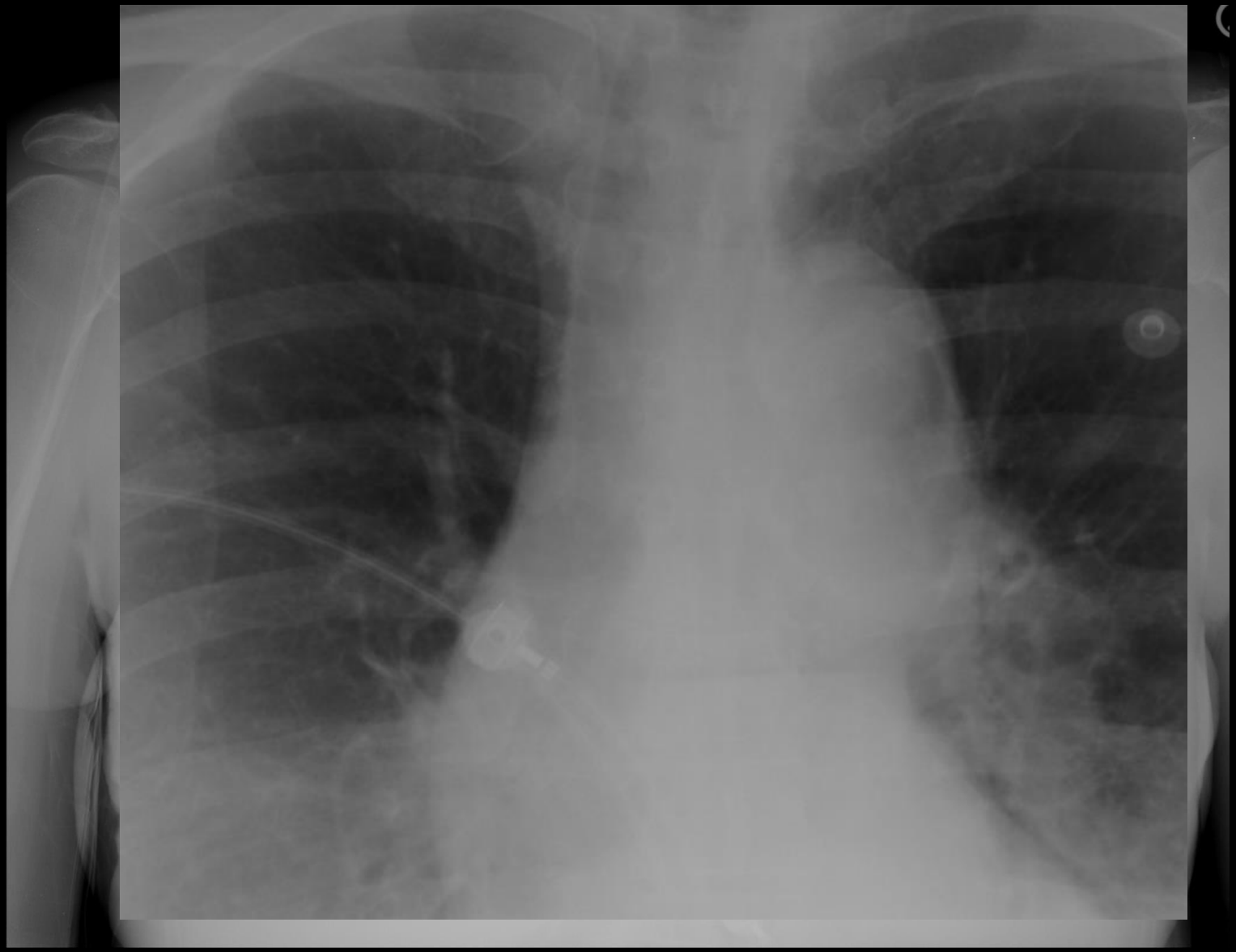
L
JM

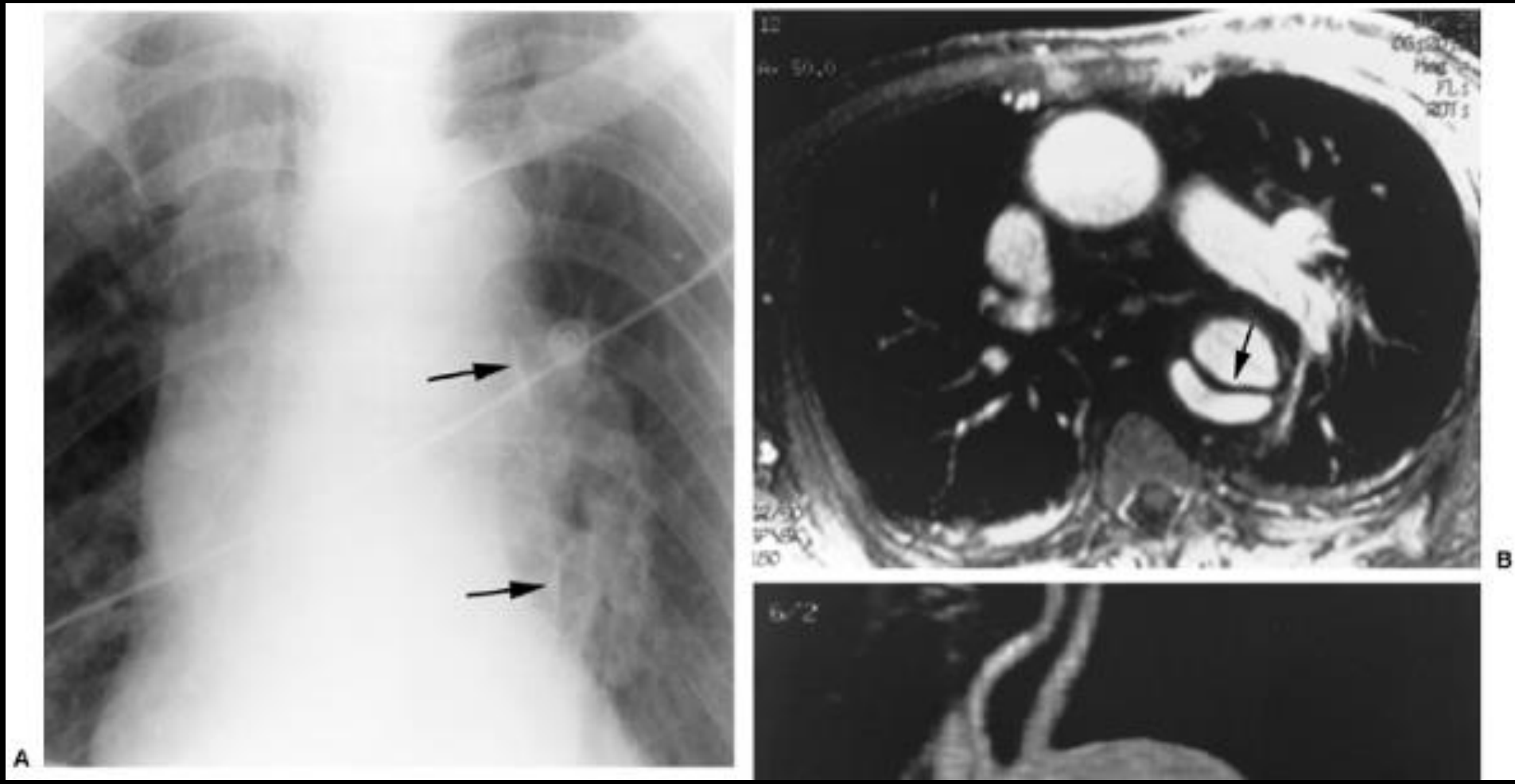
[0.2] A 23-year-old medical student makes lists of all the tasks that he must accomplish each day. He spends hours studying and refuses to go out with his colleagues even when there are no tests on the immediate horizon, preferring to spend his time looking at specimens in the laboratory. He keeps meticulous notes during all his classes and prefers to attend every lecture, not trusting his colleagues to take notes for him. He is doing well in school and has a girlfriend who is also a medical student. Which of the following disorders does this student most likely have?

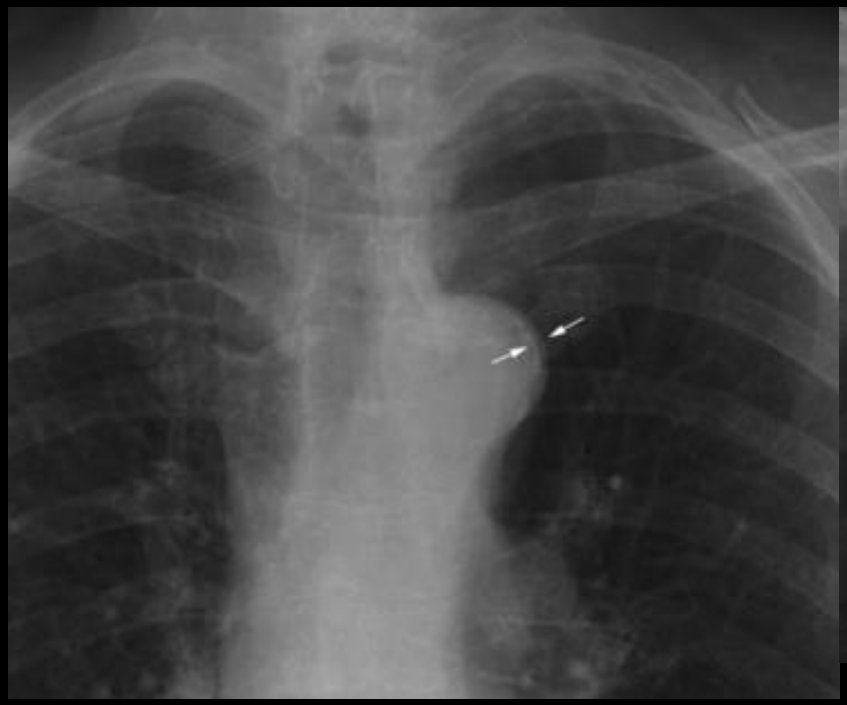
A. OCD
B. Obsessive-compulsive personality disorder
C. Obsessive-compulsive traits
D. Schizoid personality disorder
E. [redacted]
F. [redacted]

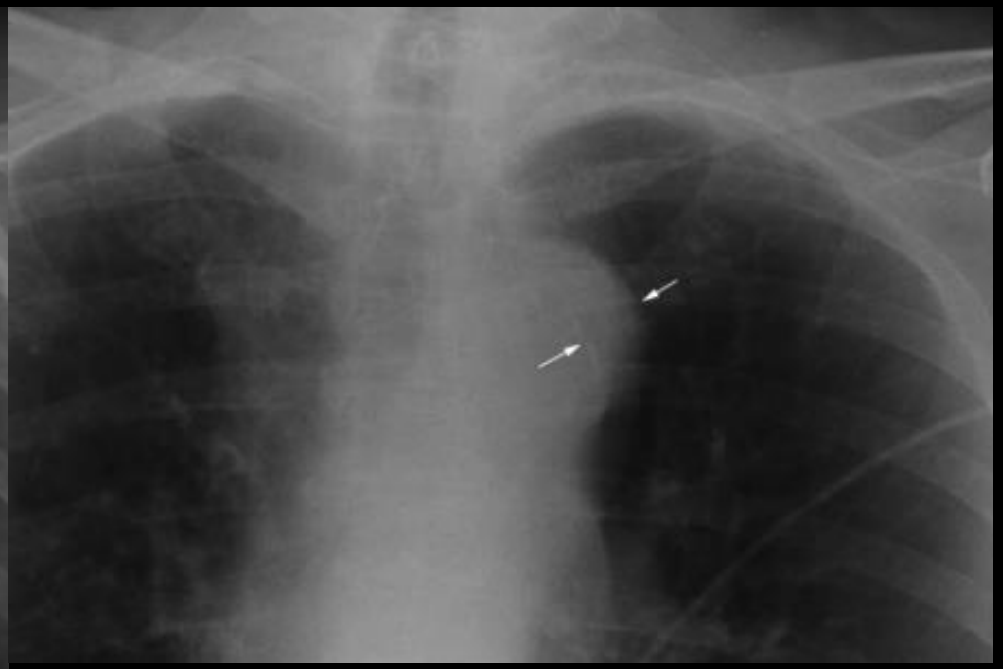

Case 8: 64 y/o male with CP and SOB


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II

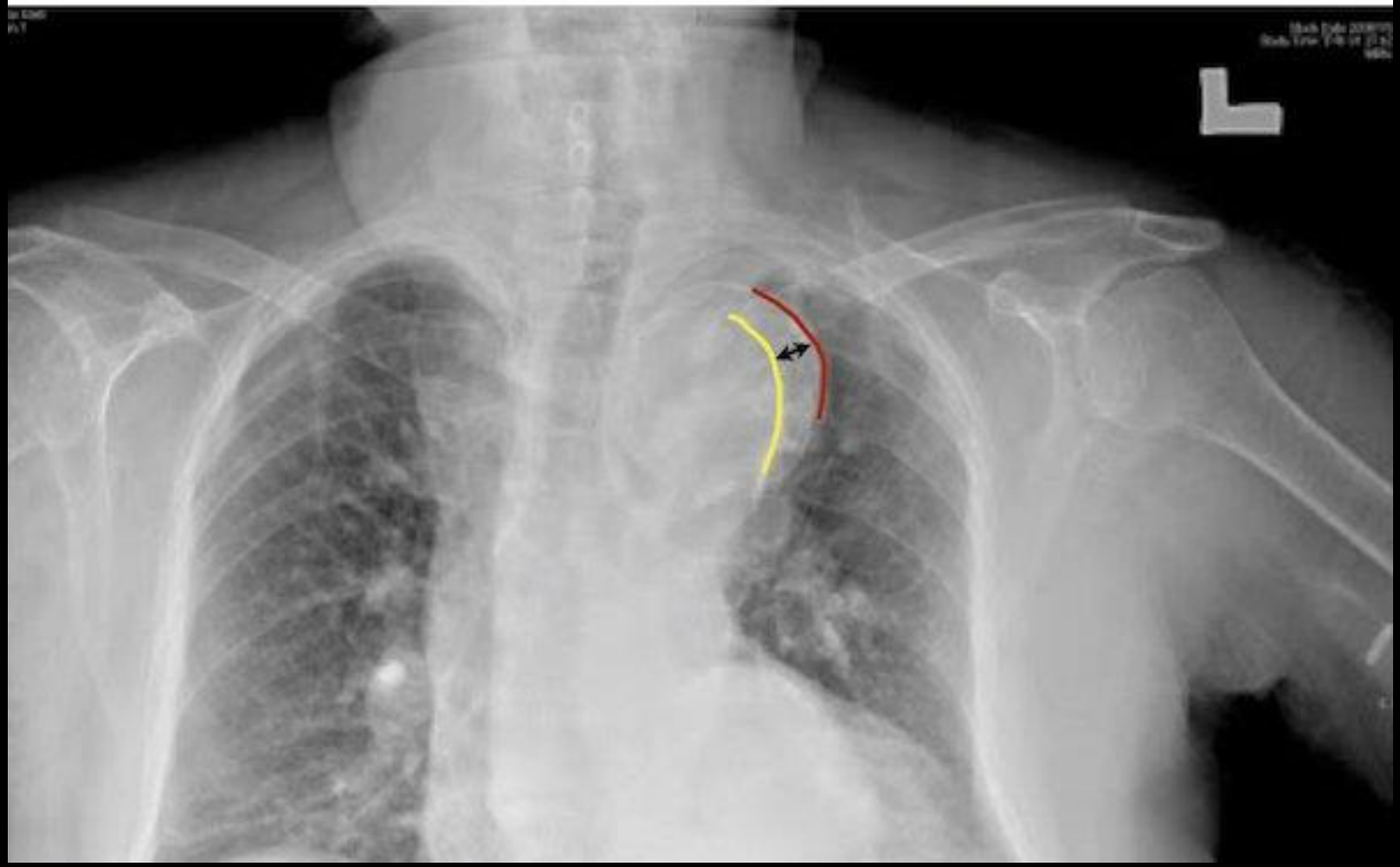



A
B

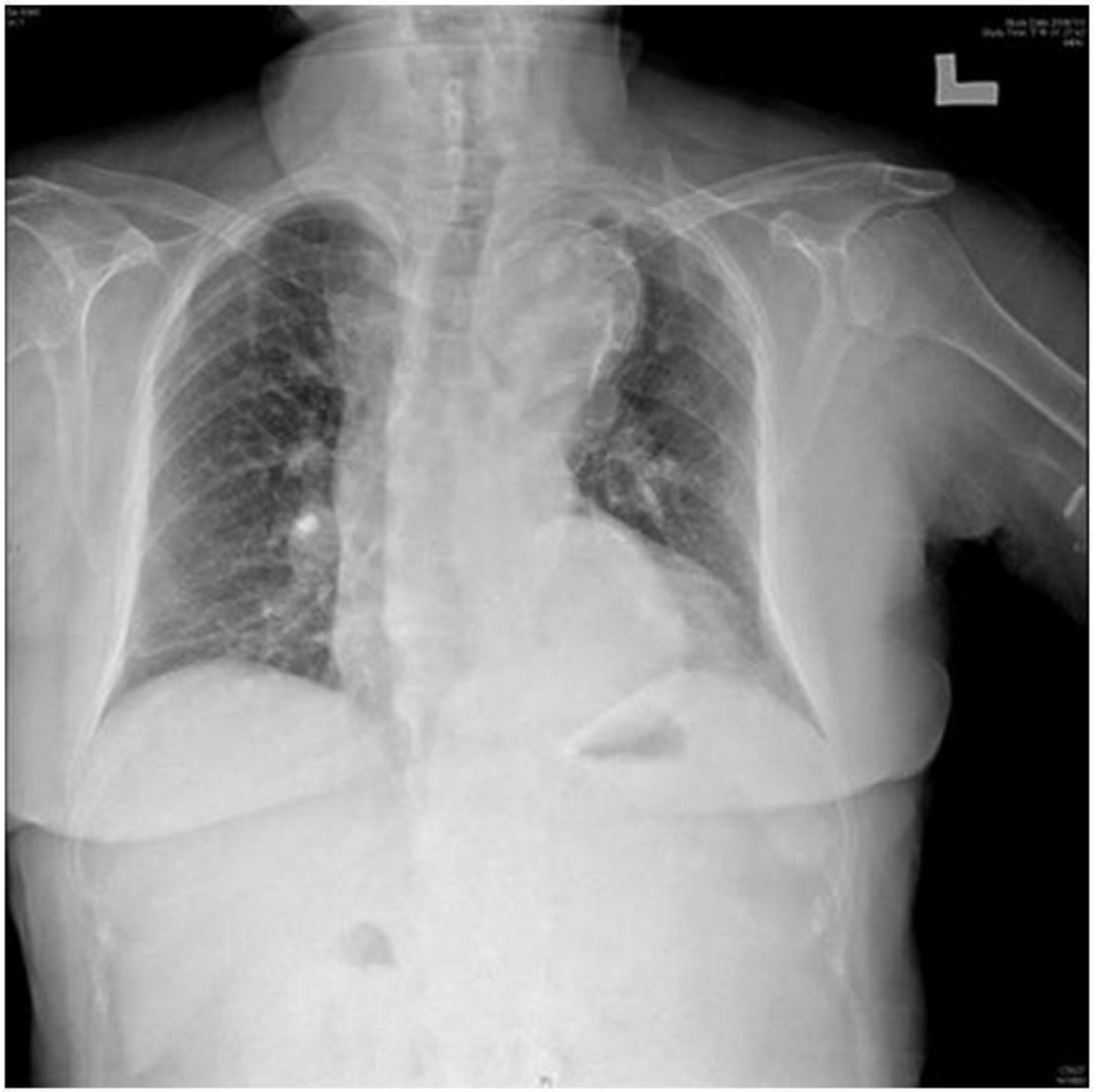




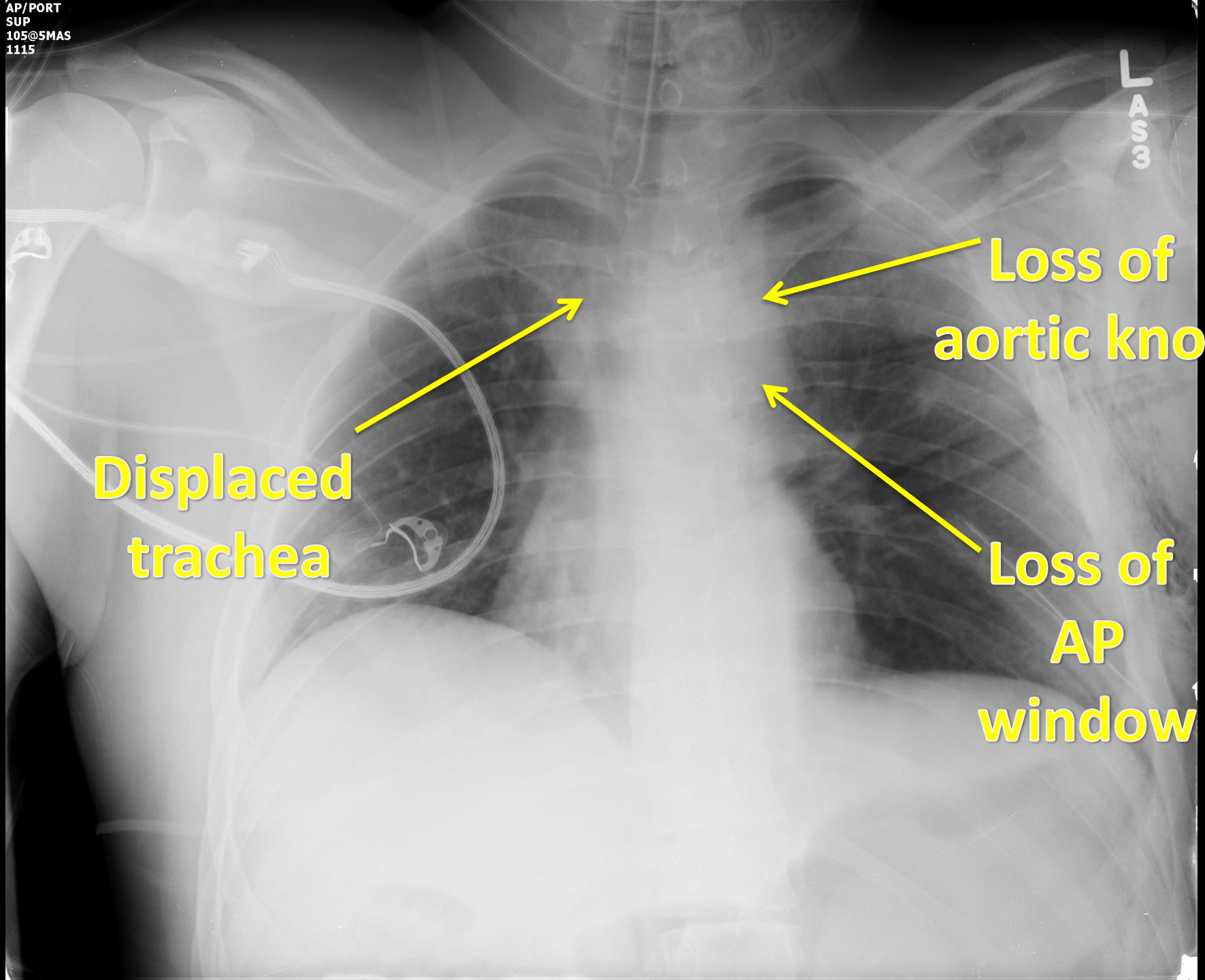
CALCIUM SIGN >1CM

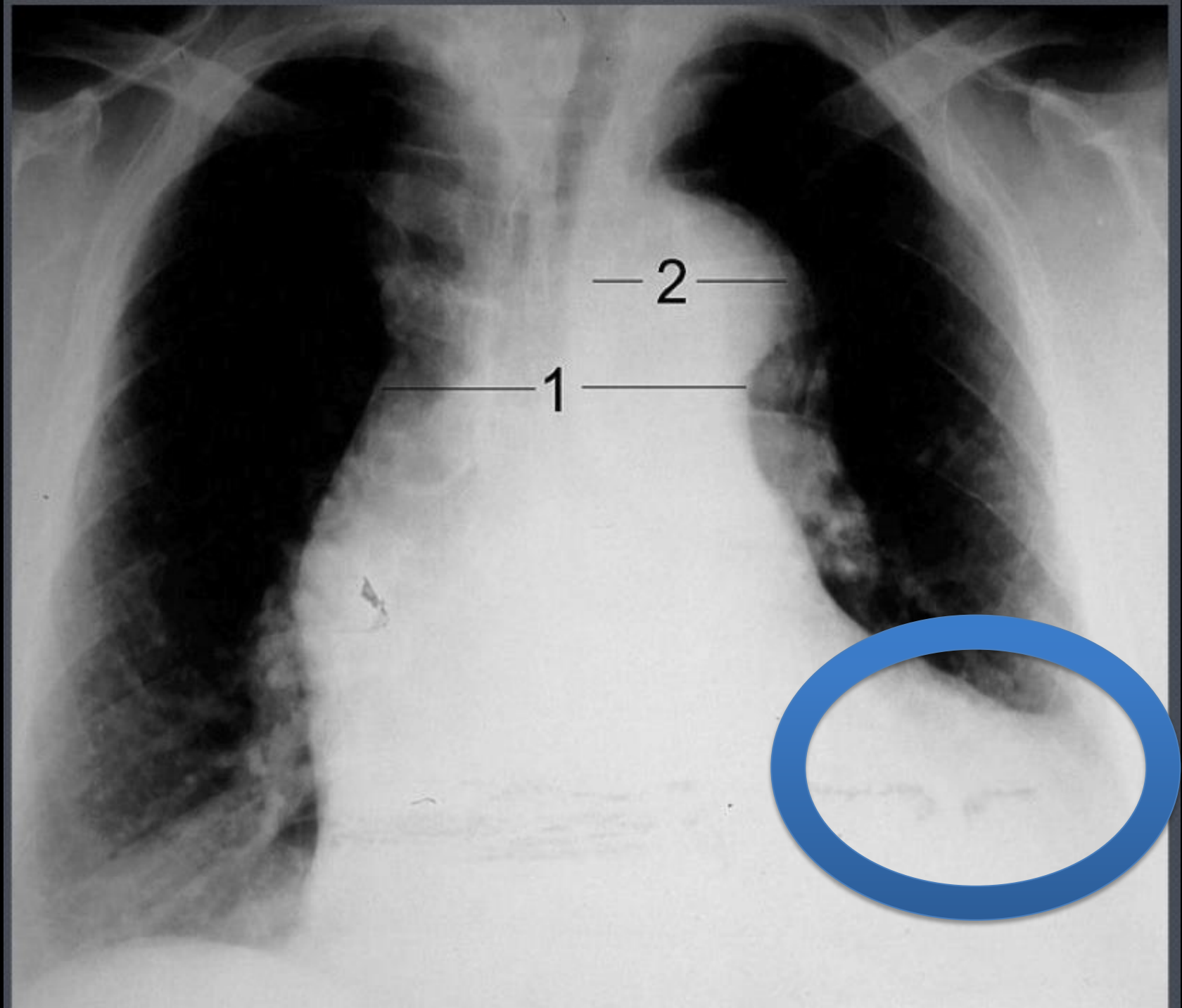


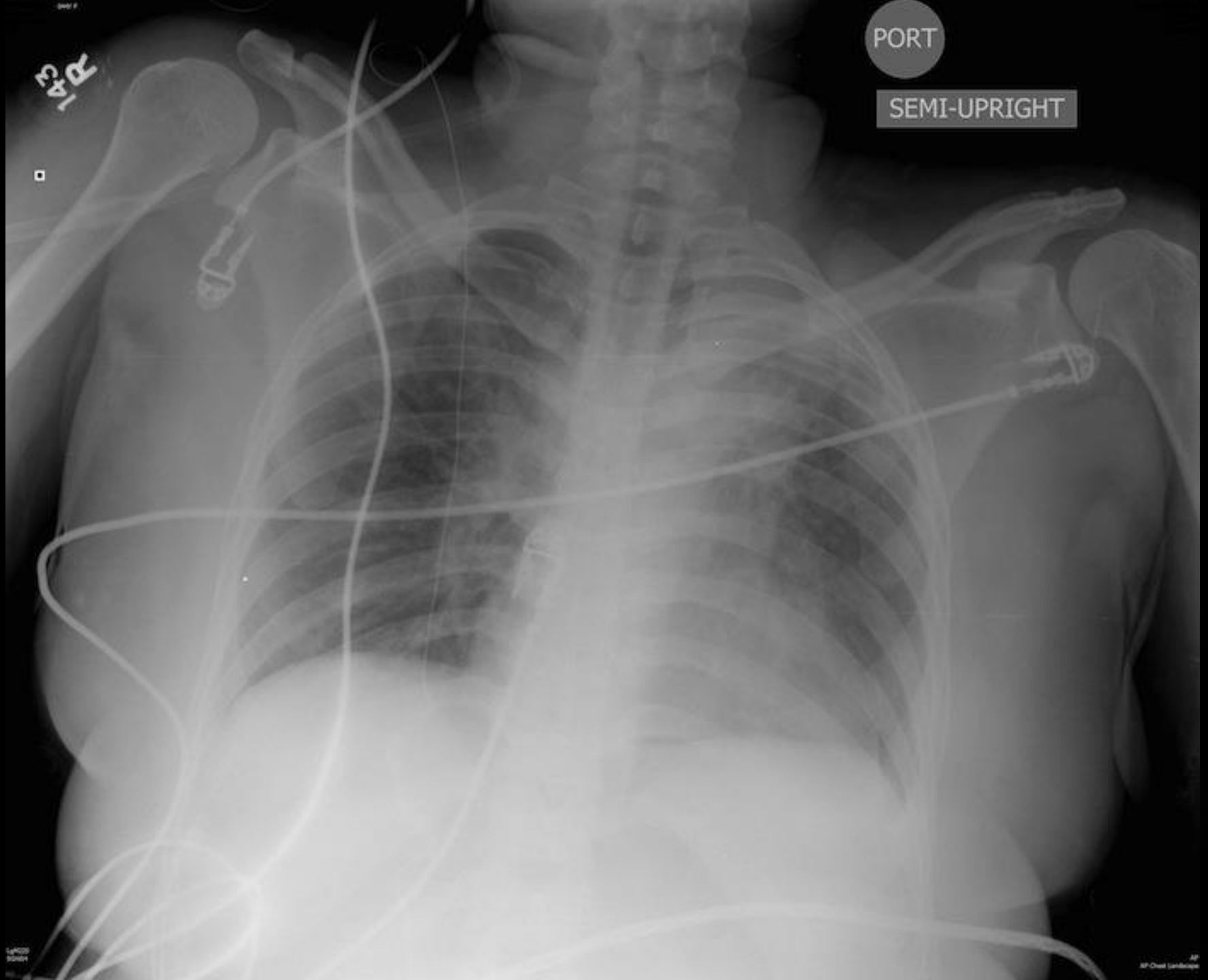
Calcium sign

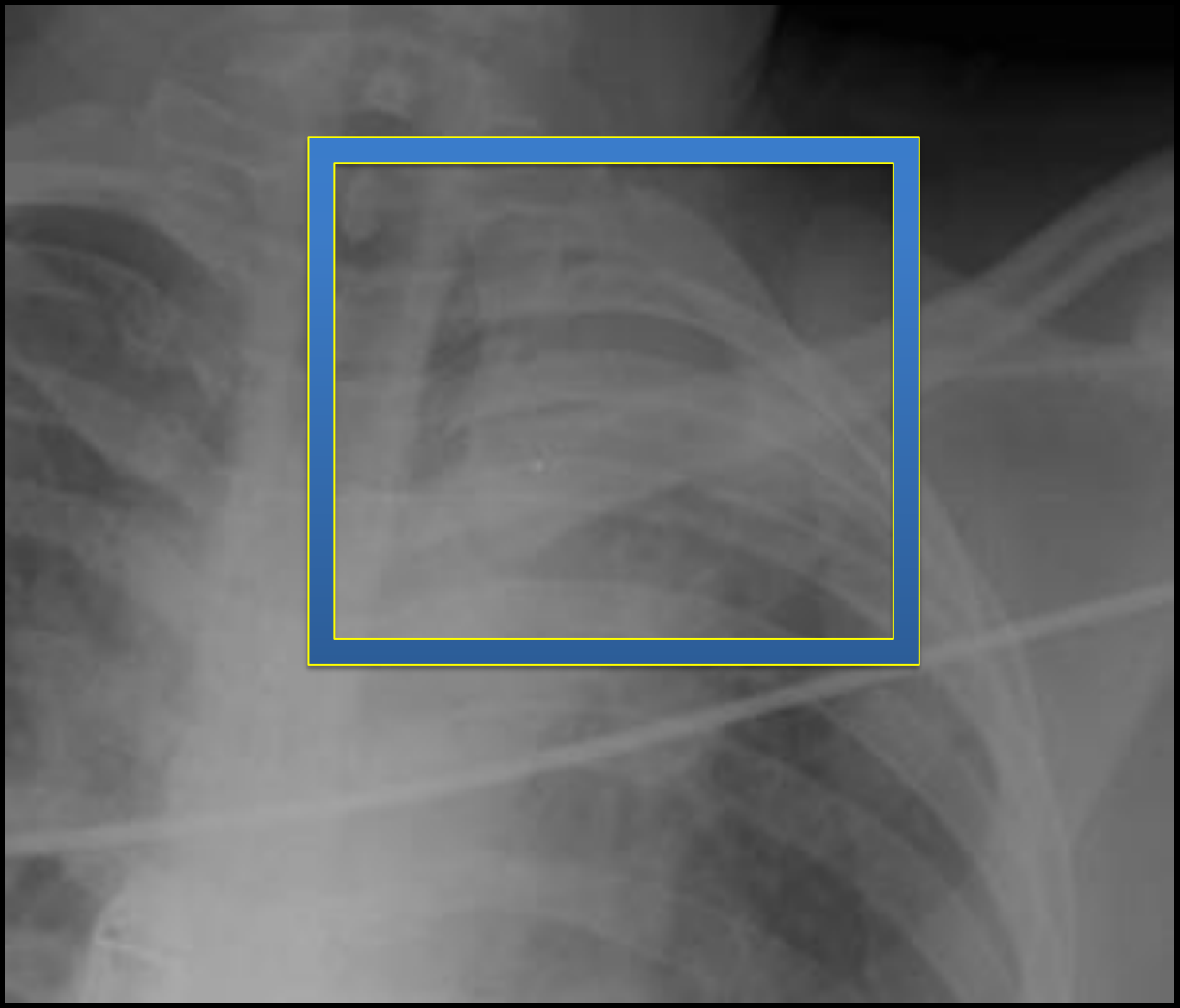


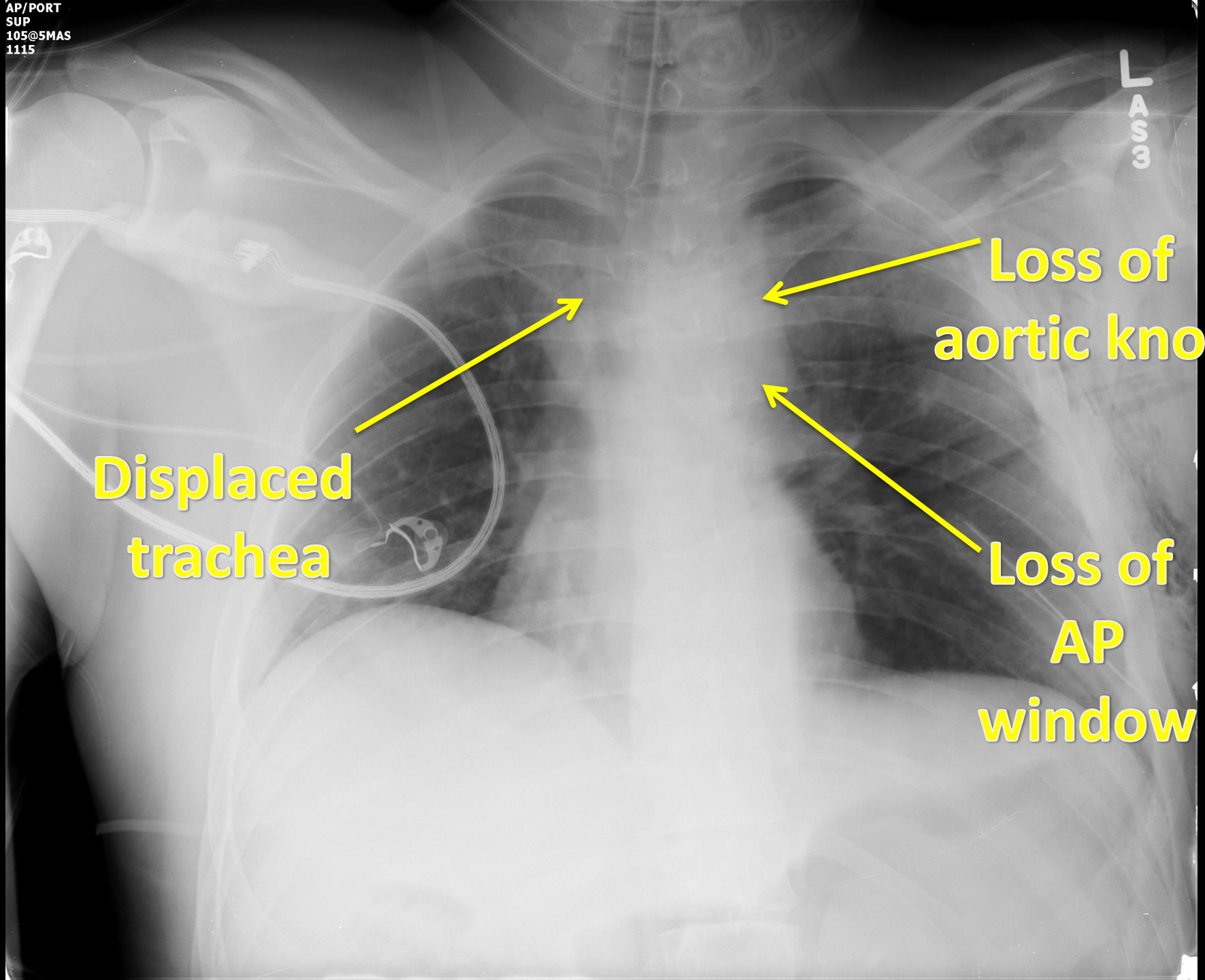
44 y/o female s/p motor vehicle crash complaining of chest pain and shortness of breath.

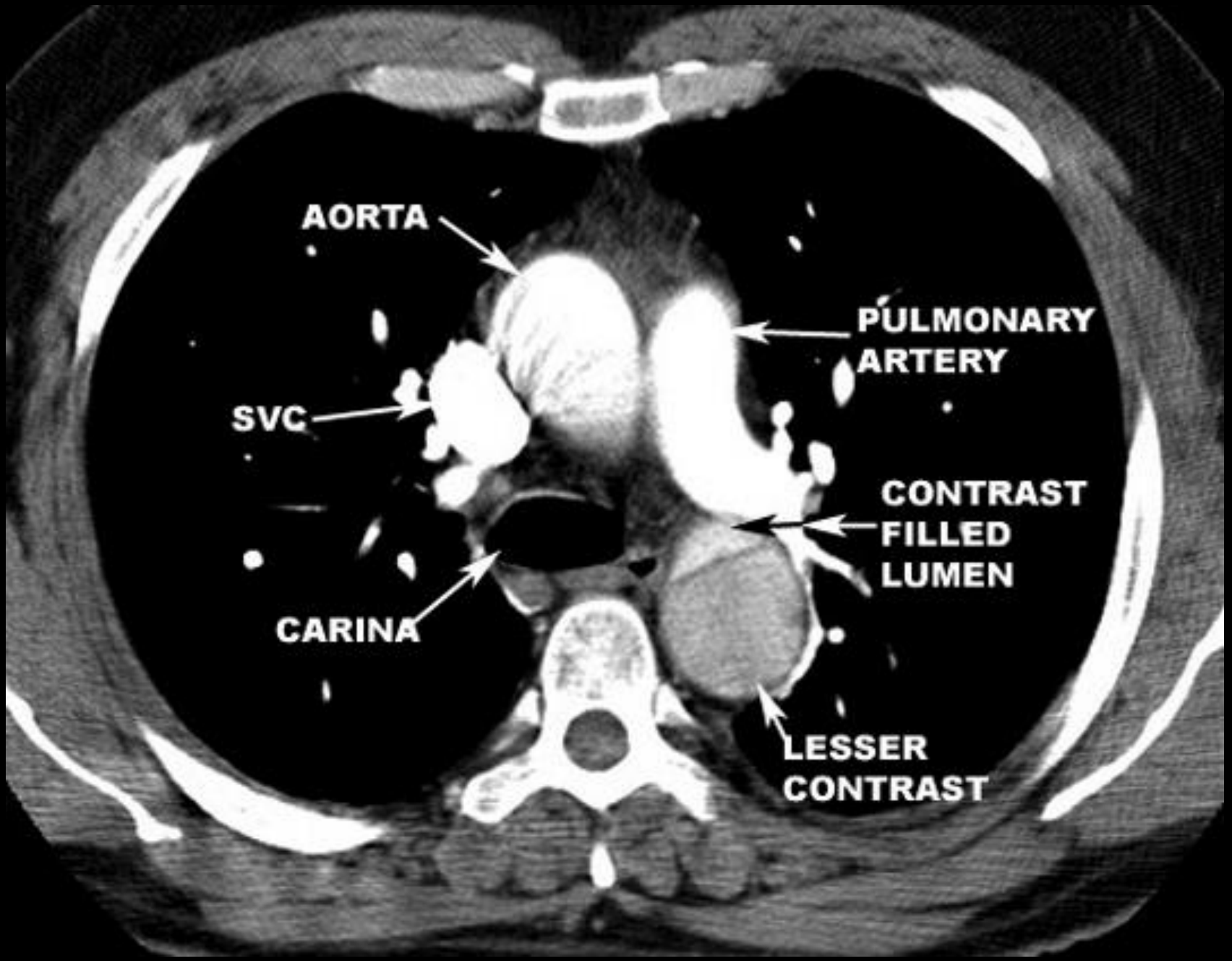

AP/PORT
SUP
105@5MAS
1115
L
AS3
Loss of aortic knob
Displaced trachea
Loss of AP window

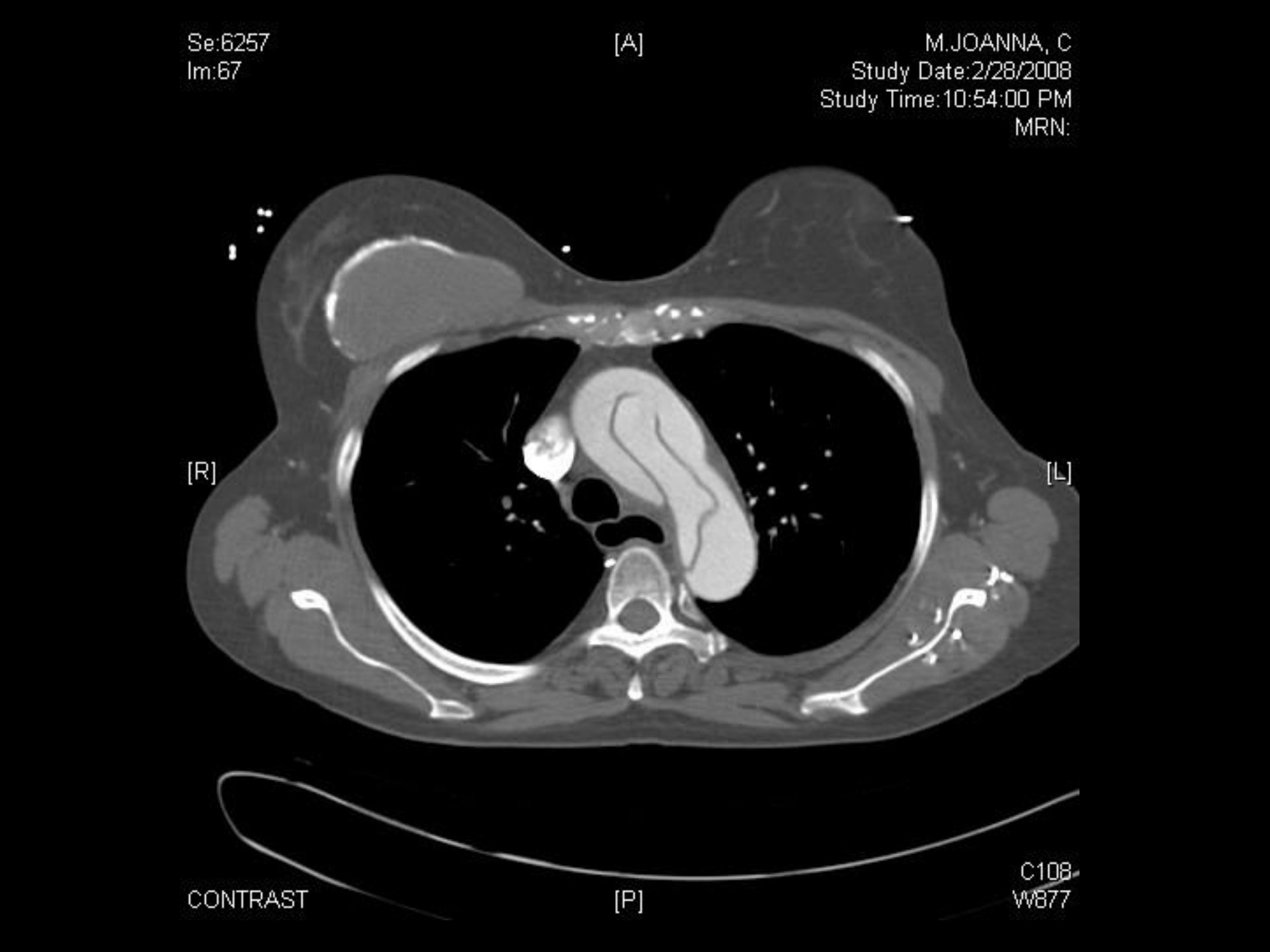

2
1


PORT
SEMI-UPRIGHT




AP/PORT
SUP
105@5MAS
1115
L
AS3
Loss of aortic knob
Displaced trachea
Loss of AP window


AORTA
PULMONARY ARTERY
SVC
CONTRAST FILLED LUMEN
CARINA
LESSER CONTRAST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Study Time:10:54:00 PM
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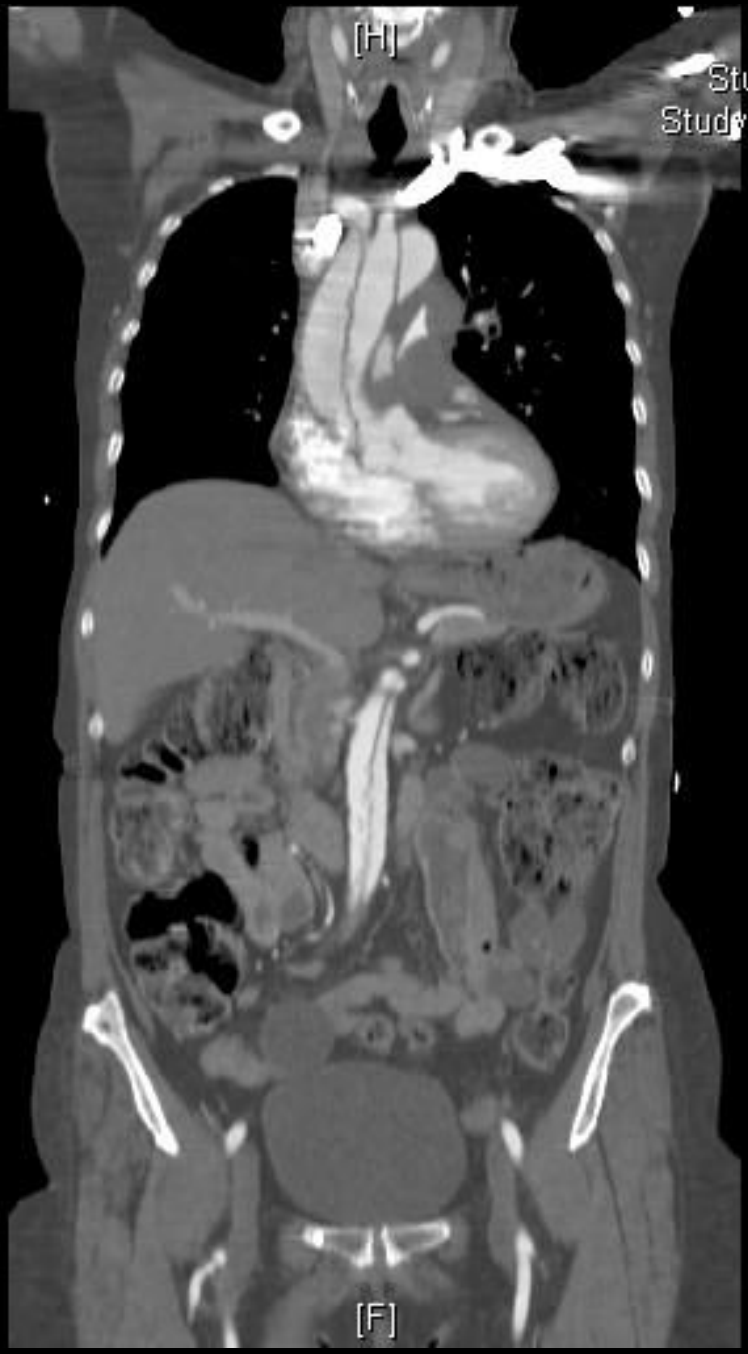
CONTRAST
[P]
C108
W877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[L]
CONTRAST
[F]
C108
W877

110
10:51:28PM
V5M+ 23Hz
7.0MHz 160mm
ADLT HRT/V
5:51:51:10
PWR = 0dB
68dB B/B/D
GAIN= 5dB
LENS=38.7°

Schmitz's Rules of Radiology

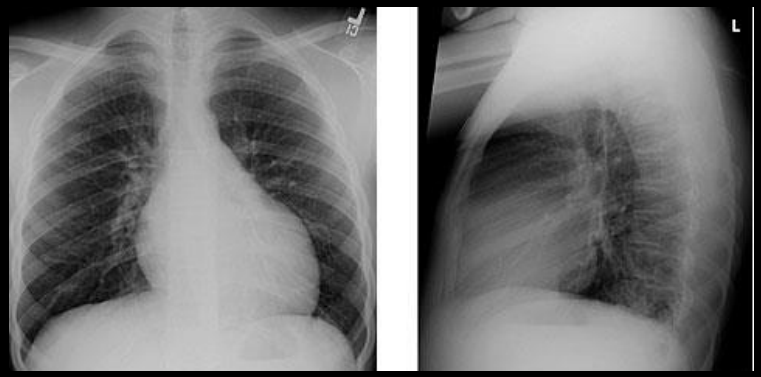
- Fully undress and examine the patient

Schmitz's Rules of Radiology

- Use history and age to help interpret images
- Have high index of suspicion

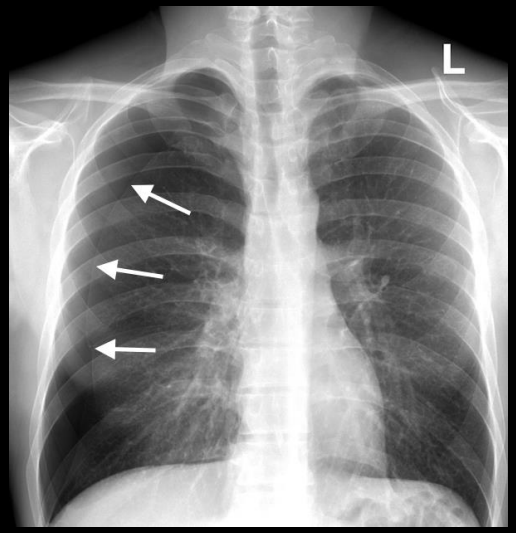
Schmitz's Rules of Radiology

- Have high index of suspicion



Schmitz's Rules of Radiology

- Know how film was taken
- Always look at your own films



Schmitz's Rules of Radiology

- Use systematic approach to looking at Xrays

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