

Life Threatening Soft Tissue Infection

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Disclosures

Ultrasound Indications

- Cellulitis vs Abscess
- Abscesses near Vascular Structures
- Simple Abscess vs Deep Space Infections
- Necrotizing Soft Tissue Infections

Cellulitis on ULS

- Edema: Increased echogenicity
- Cobblestoning
 - NOT specific for cellulitis
 - Also seen in dependent edema



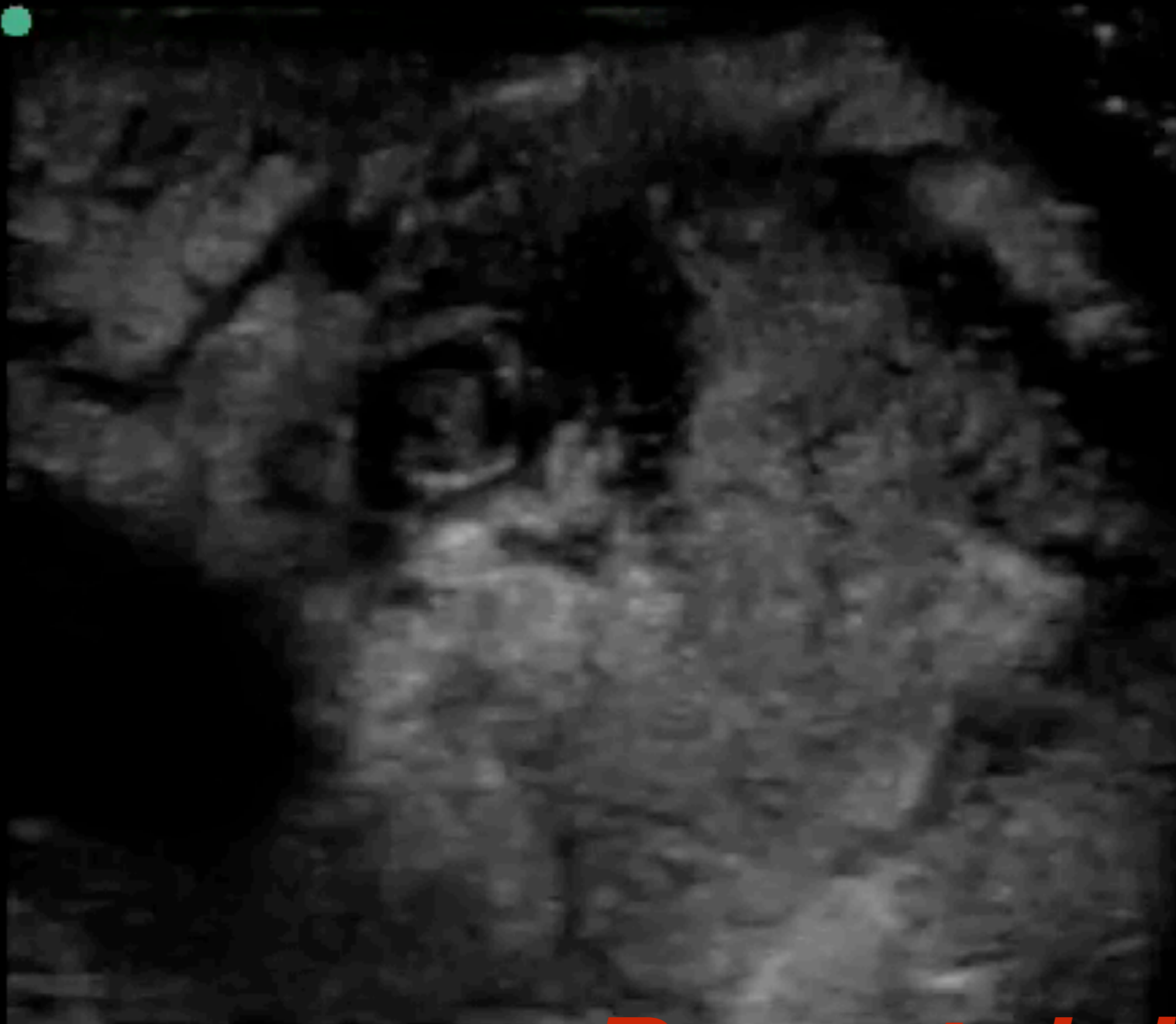
Case 1

3 y/o boy with scalp swelling x 4 days after falling off bed.



Abscess

2013Feb0



94%
MI
0.8
TIS
0.1

A 
B 



2.2

Pus-stalsis

Case 2

VS: 36.8 117/78 100 16 100%RA



VS: 36.8 117/78 100 16 100%RA



Res
S MB

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Msk

L25



78%

MI

0.7

TIS

0.2

A



2.6



Res



0

Guide



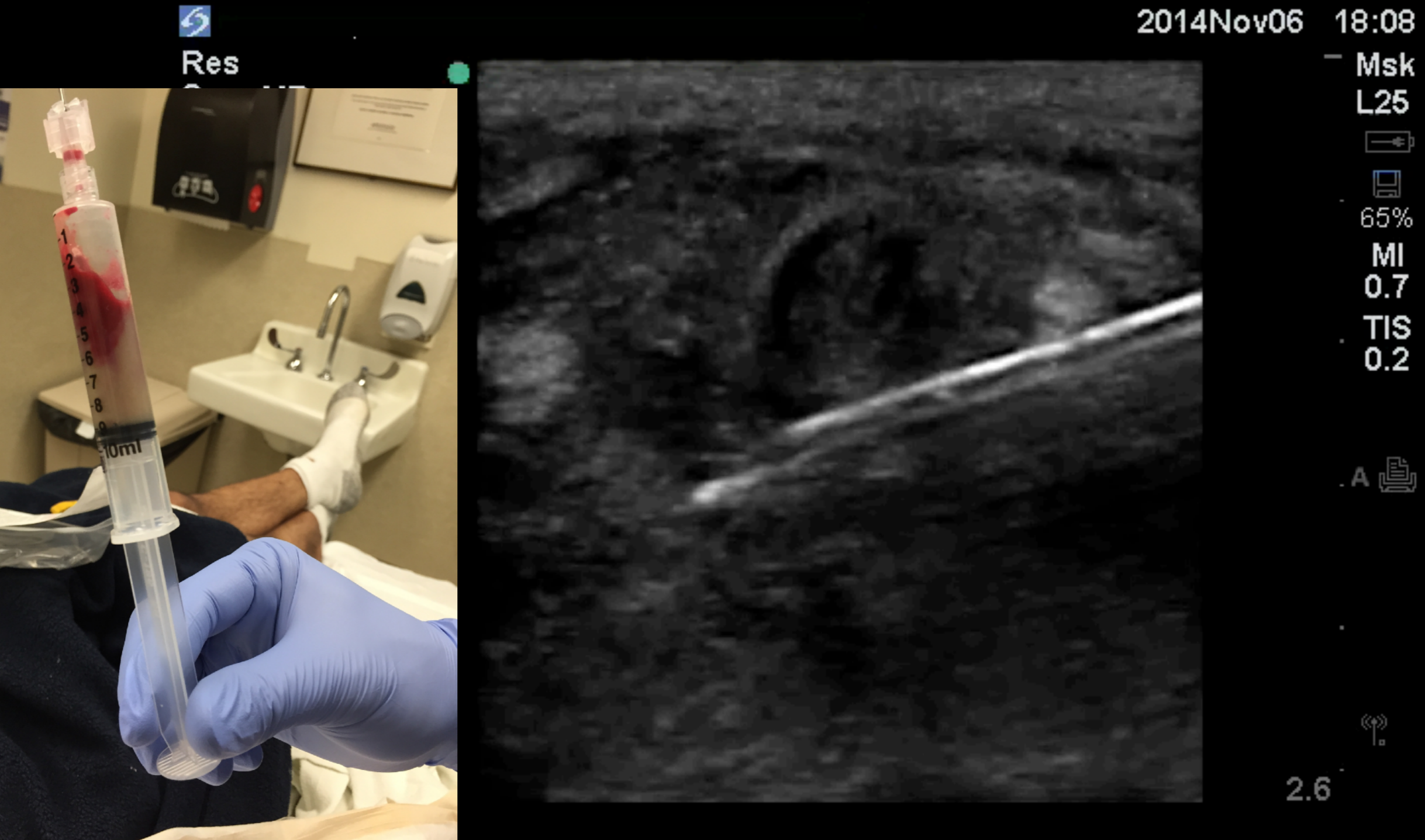
MB On



Dual

Page 1/2

U/S Guided Needle Aspiration



Case 3

- 59 y/o with h/o HIV (last cd4 400s) and OUD c/o Left Hip Pain and Swelling

VS: 36.5 126/74 122 22 96%RA

Cephalad

Caudad

Cephalad

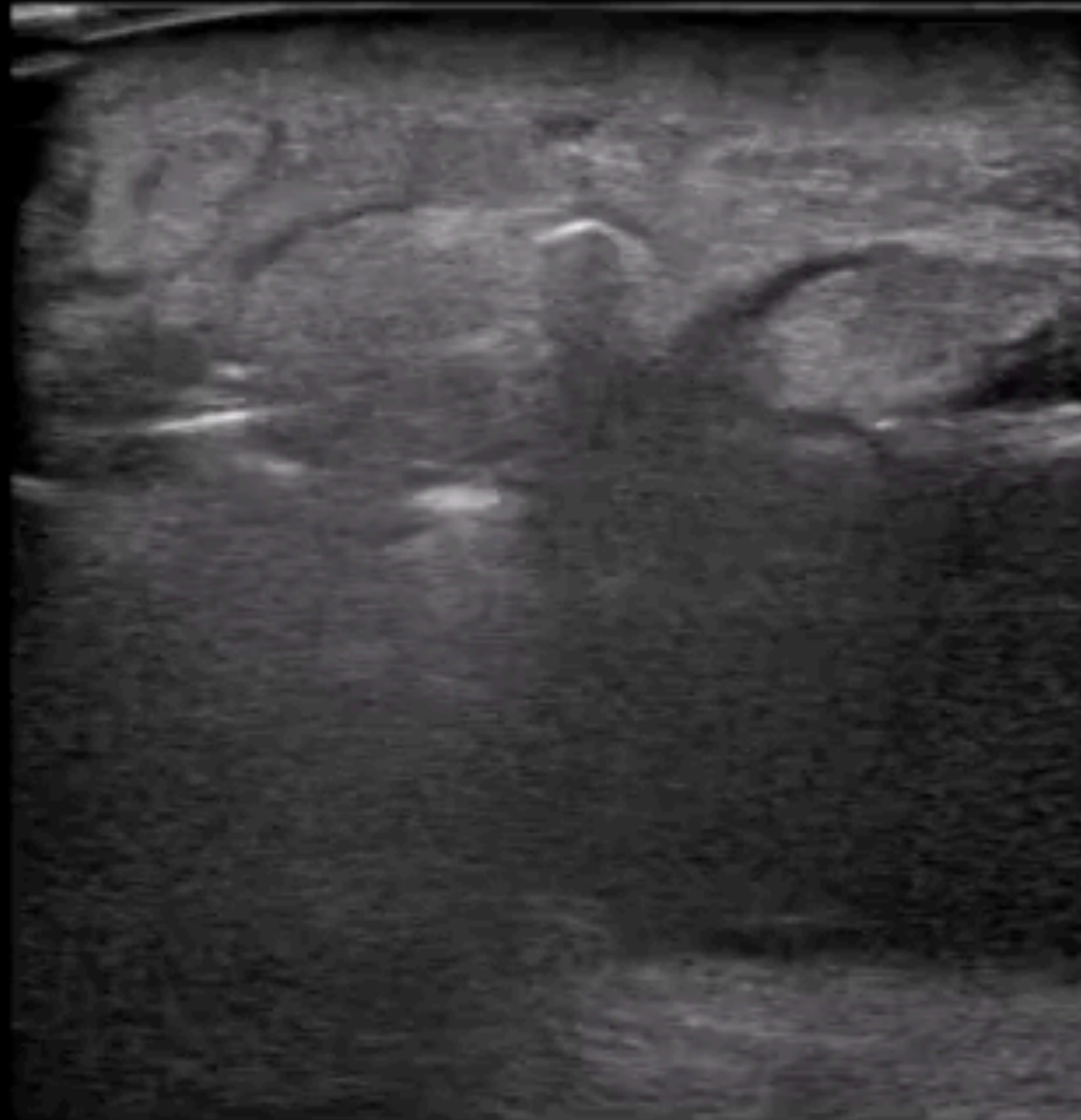
Caudad

Labs

$$11.7 > \frac{9.4}{29.6} < 385$$

137	101	15	< 68
4.7	30	1.17	

POCUS



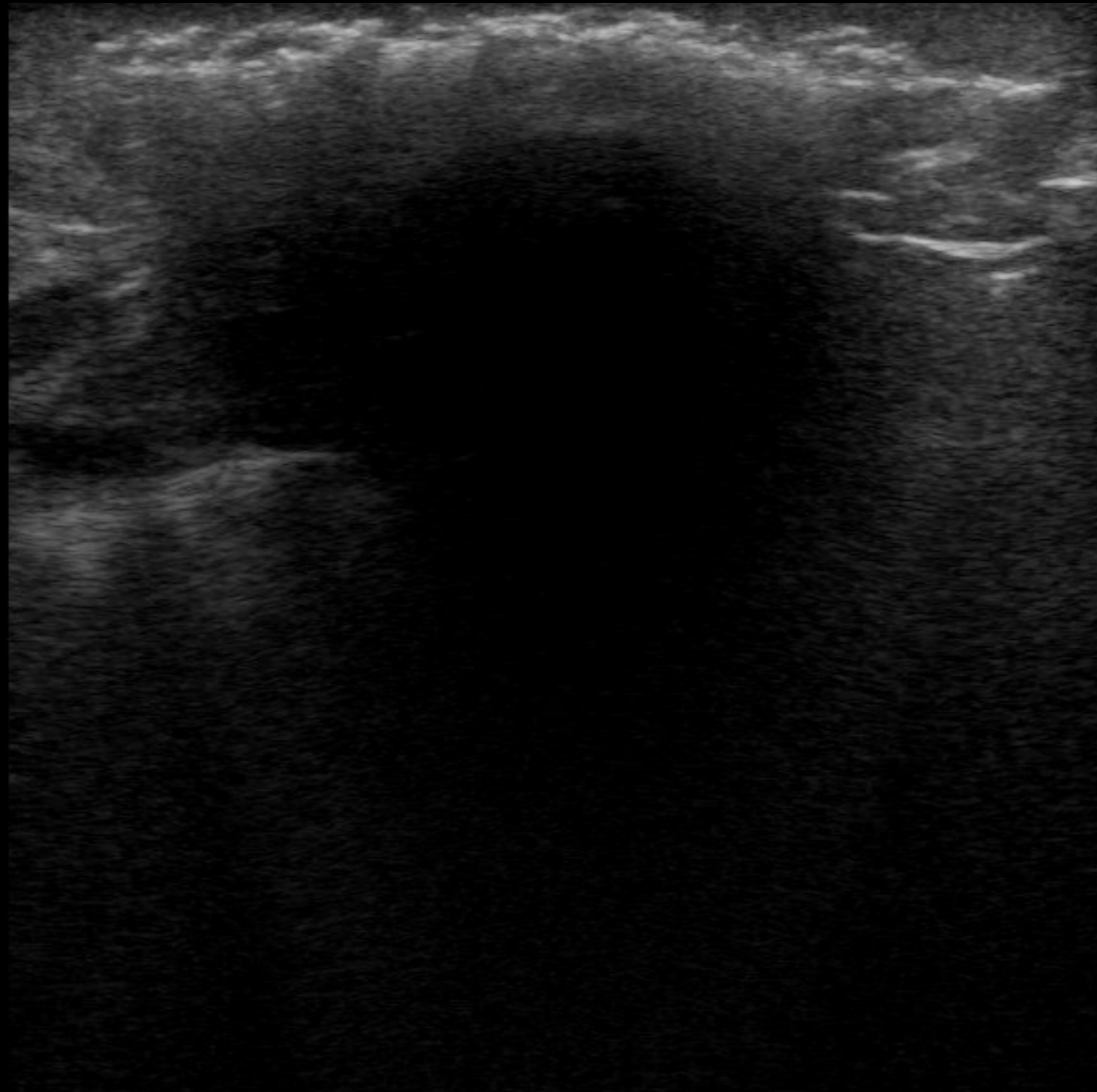
4.0 cm

SonoSite
HFL38xp/13-6 MSK
MI: 0.7 TIS: 0.3

2D: G: 50
DR: 0
MB

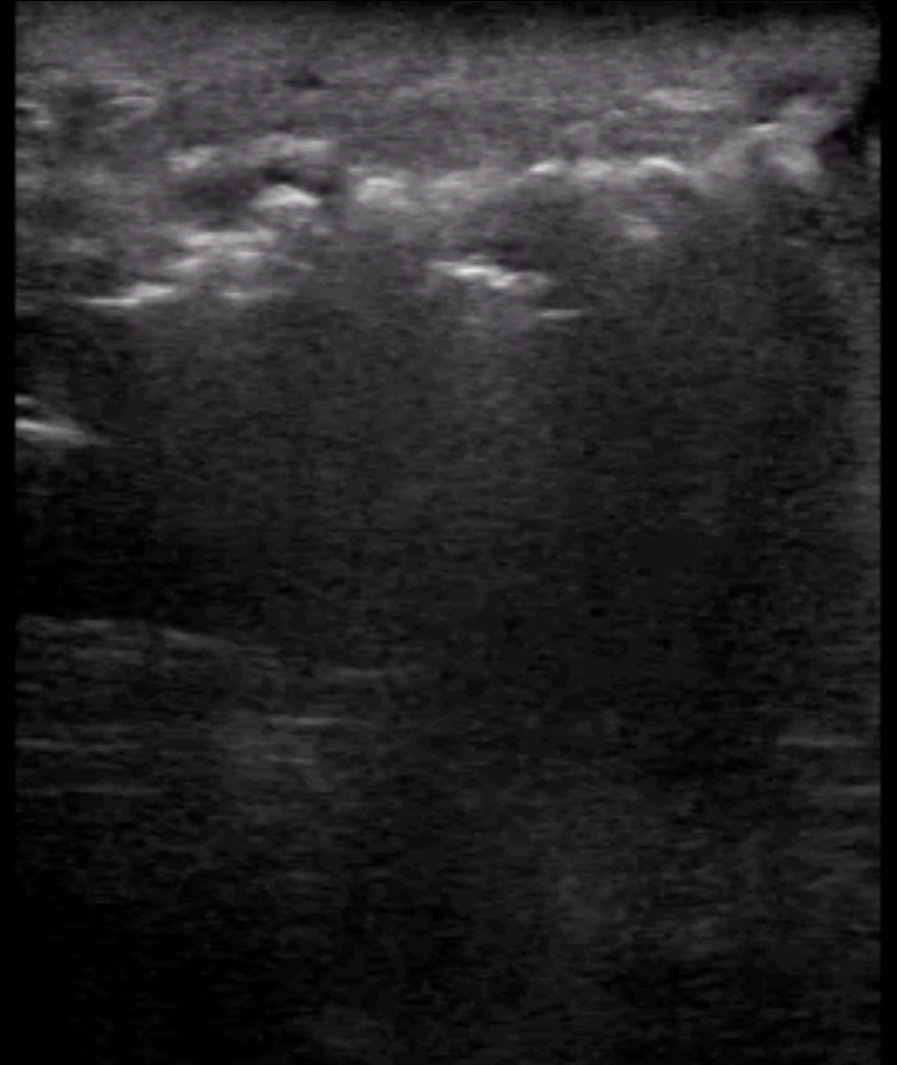


POCUS



4.0 cm

POCUS



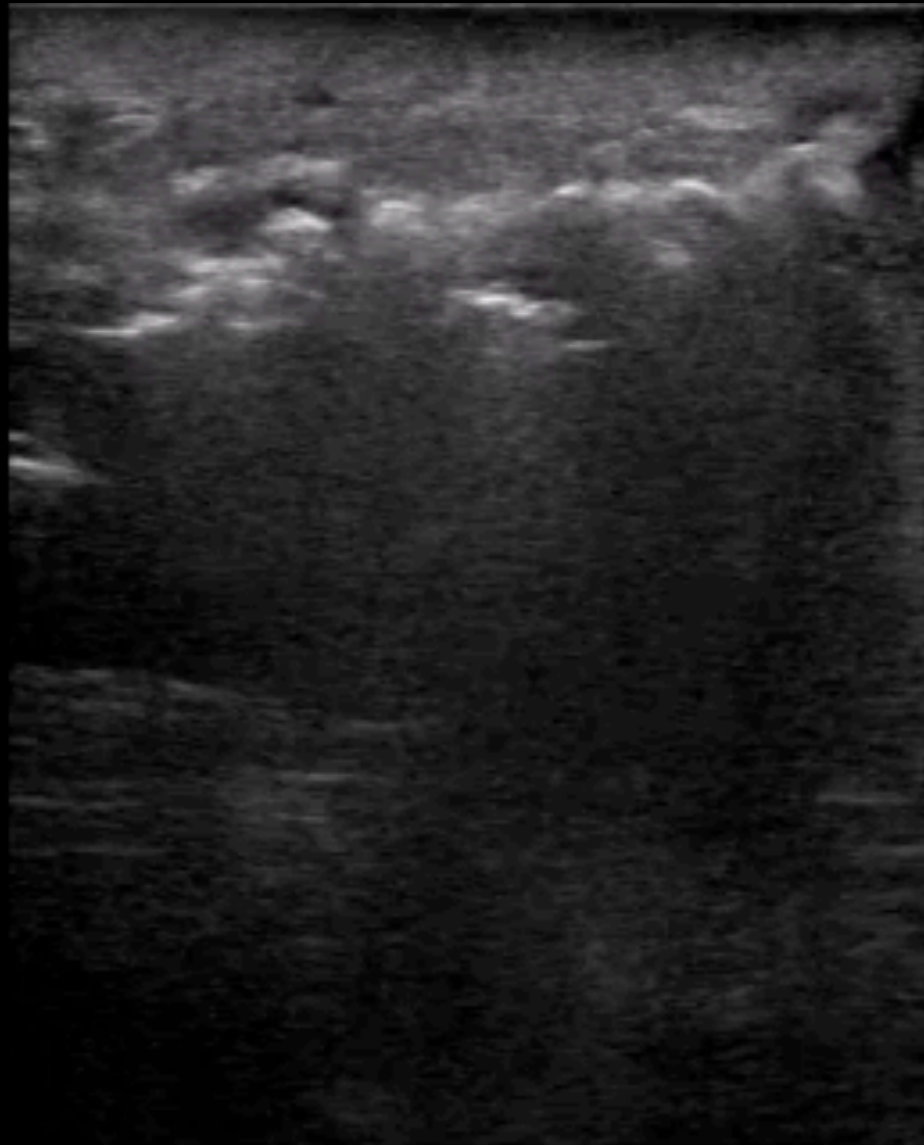
SonoSite
HFL38xp/13-6 MSK
MI: 0.7 TIS: 0.2

13-6 MSK
MI: 0.2

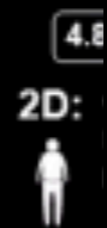
4.8 cm
2D: G
D
M

Pus-stalsis

POCUS



MSK



SonoSite
HFL38xp/13-6 MSK
MI: 0.7 TIS: 0.2

Confirmatory Study



LRINEC

CRP (mg/L)

☒ < 150 0

☐ ≥ 150 +4

WBC (per mm³)

☒ < 15 0

☐ 15-25 +1

☐ > 25 +2

Hemoglobin (g/dL)

☐ > 13.5 0

☐ 11-13.5 +1

☒ < 11 +2

Sodium

☒ ≥ 135 0

☐ < 135 +2

Creatinine

☒ ≤ 1.6 mg/dL / 141 mmol/L 0

☐ > 1.6 mg/dL / 141 mmol/L +2

Glucose

☒ ≤ 180 mg/dL / 10 mmol/L 0

2

points

If high suspicion for necrotizing fasciitis through clinical history and physical exam, do not calculate a LRINEC score and go straight to operative debridement.

Consider IV antibiotics and serial labs to monitor response to treatment. Scores <6 were low risk — but not no risk — for necrotizing soft tissue infections.

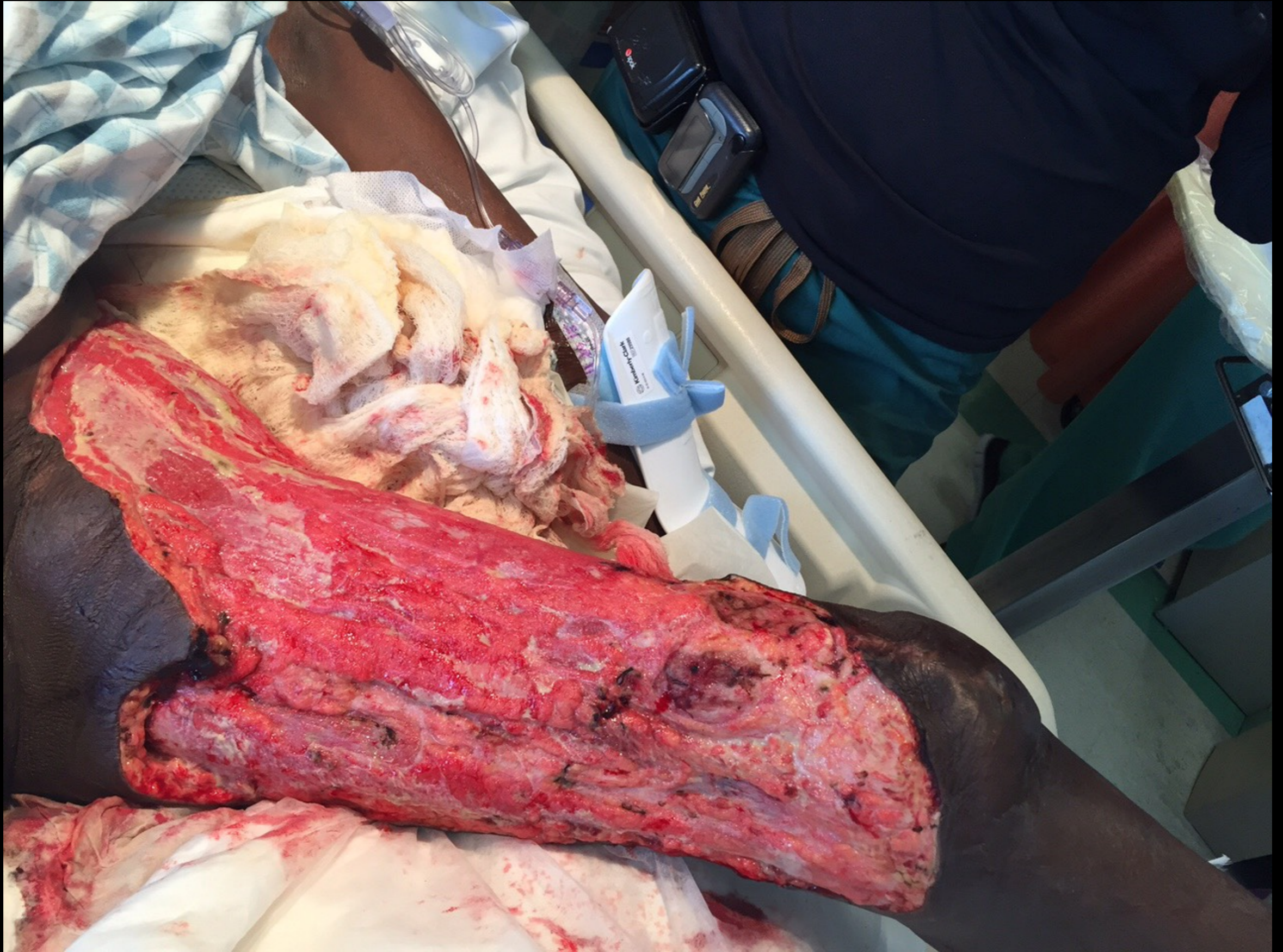
Intra-Op



Follow-Up

- 33 Day Hospital Stay
- s/p 13 OR Visits
- Discharged with a Wound Vac in place
- Limb & Life Saved!

Follow-Up



Clinical Suspicion

HIV IDU

Lactate: 6.0

Heart Rate: 120s-130s



Case 4

45 y/o with a h/o OUD c/o 1 week of worsening R shoulder pain, redness and swelling.

VS: 40.0 98/60 125 20 95%RA



Labs

- WBC Ct: 21
- Lactate 3.6
- Sodium 130





Res
S MB

2013Feb28 15:28

Vas
L25



30%

MI
0.7

TIS
0.2

A



3.7



Res



0

Guide



MB On



Dual

Page 1/2

Confirmatory Study



Follow-Up



Follow-Up

- 23 Day Hospital Stay
- s/p 10 OR Visits
- Humeral Resection Flail RUE
- Limb & Life Saved!

Case 5

- 40 y/o with 1 week of testicular pain. Treated with IM meds and po abx at OSH. ↑swelling and foul smell x 1 day.

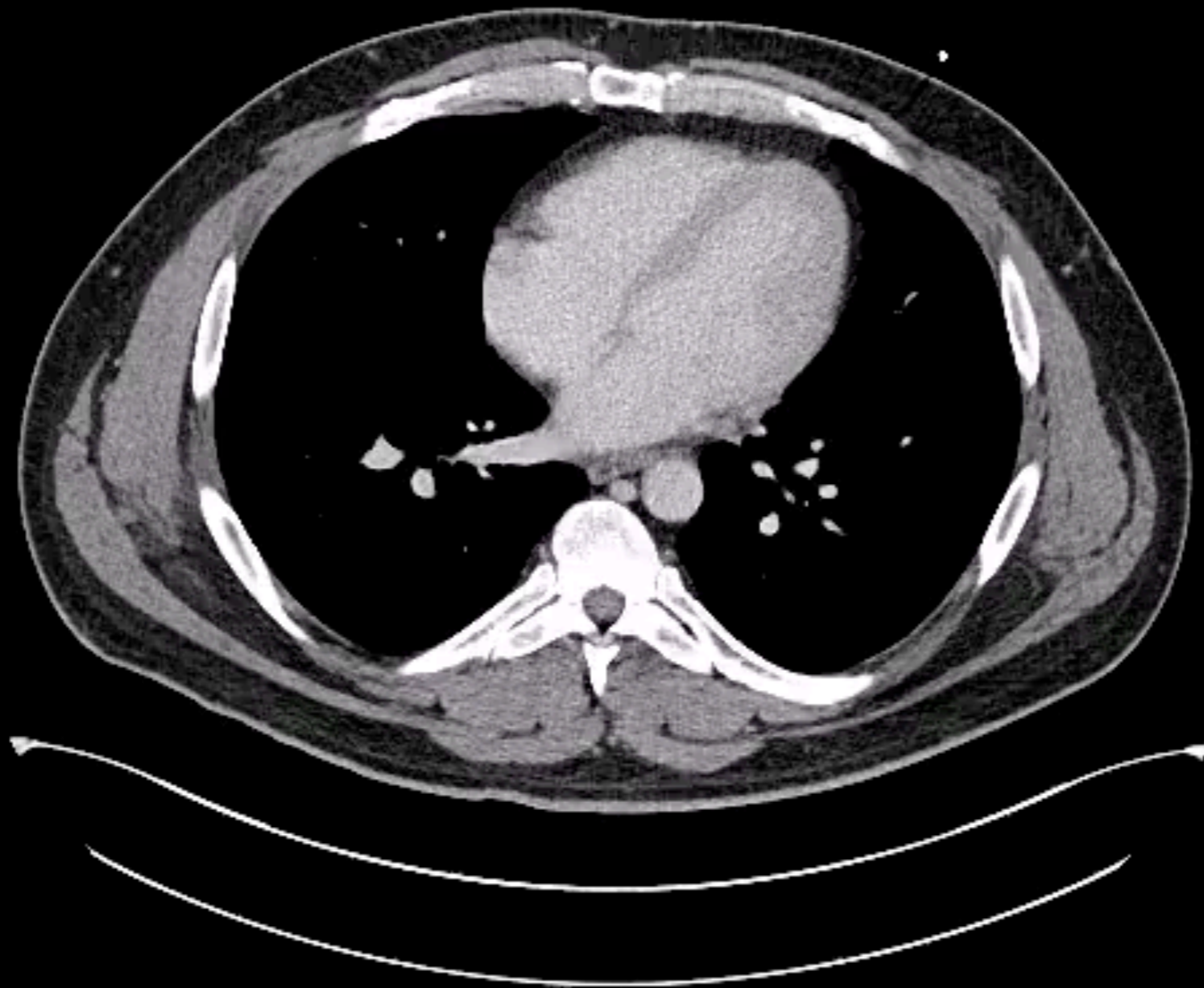
VS: 37.0 157/93 124 18 100%RA

- B/L testicular swelling $R > L$
- R testicle with 12x10cm area of fluctuant

POCUS



Confirmatory Study



Follow Up



Follow Up

- 2 OR visits
- D/C'd with preservation of testicle
- Great Catch!

Case 6

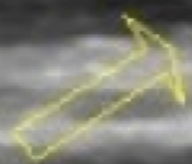
- 50 y/o with no PMHx c/o 3 days of RLE pain, fevers, chills. Preceding sore throat.

VS: 39.5 142/88 115 20 96%RA



LOGIQ
E9

A



Follow- Up

- Wound Cx—> Group A Strep
- 11 Day Hospitalization
- Full Recovery of Limb Function
- Life & Limb Saved!

Case 7

- 41 y/o with h/o HIV c/o R sided Buttock pain x 5 days.

Exam



POCUS

31 Mar 2017 / 11:33



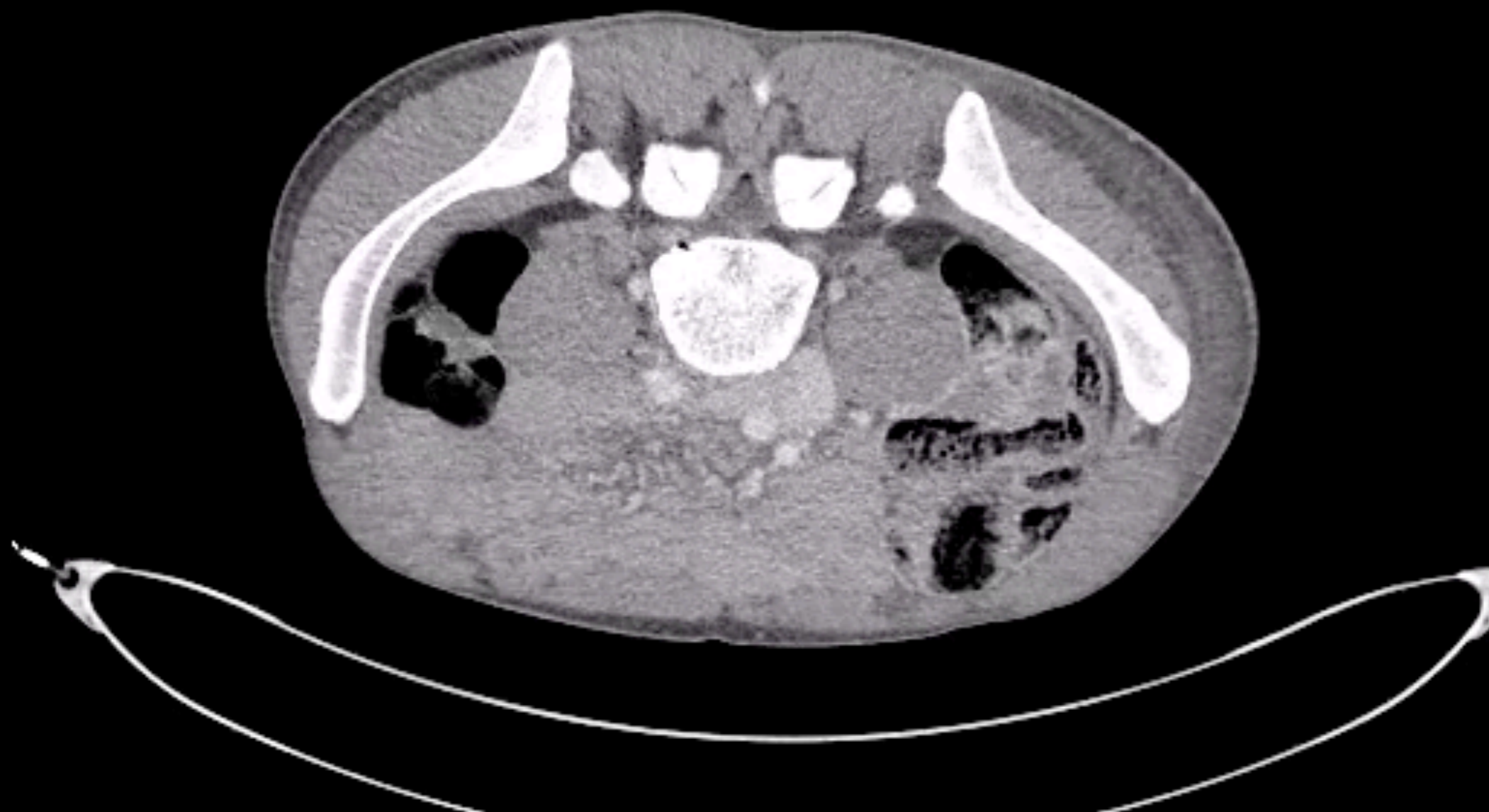
SonoSite
C60xp/5-2 MSK
MI: 0.9 TIS: 0.2

SFGH

14.3 cm

2D: G: 50
DR: 0
MB
THI

CT



Case 8

- 55 y/o with h/o IDU c/o worsening Left lateral thigh swelling & pain x 2 weeks.

Exam

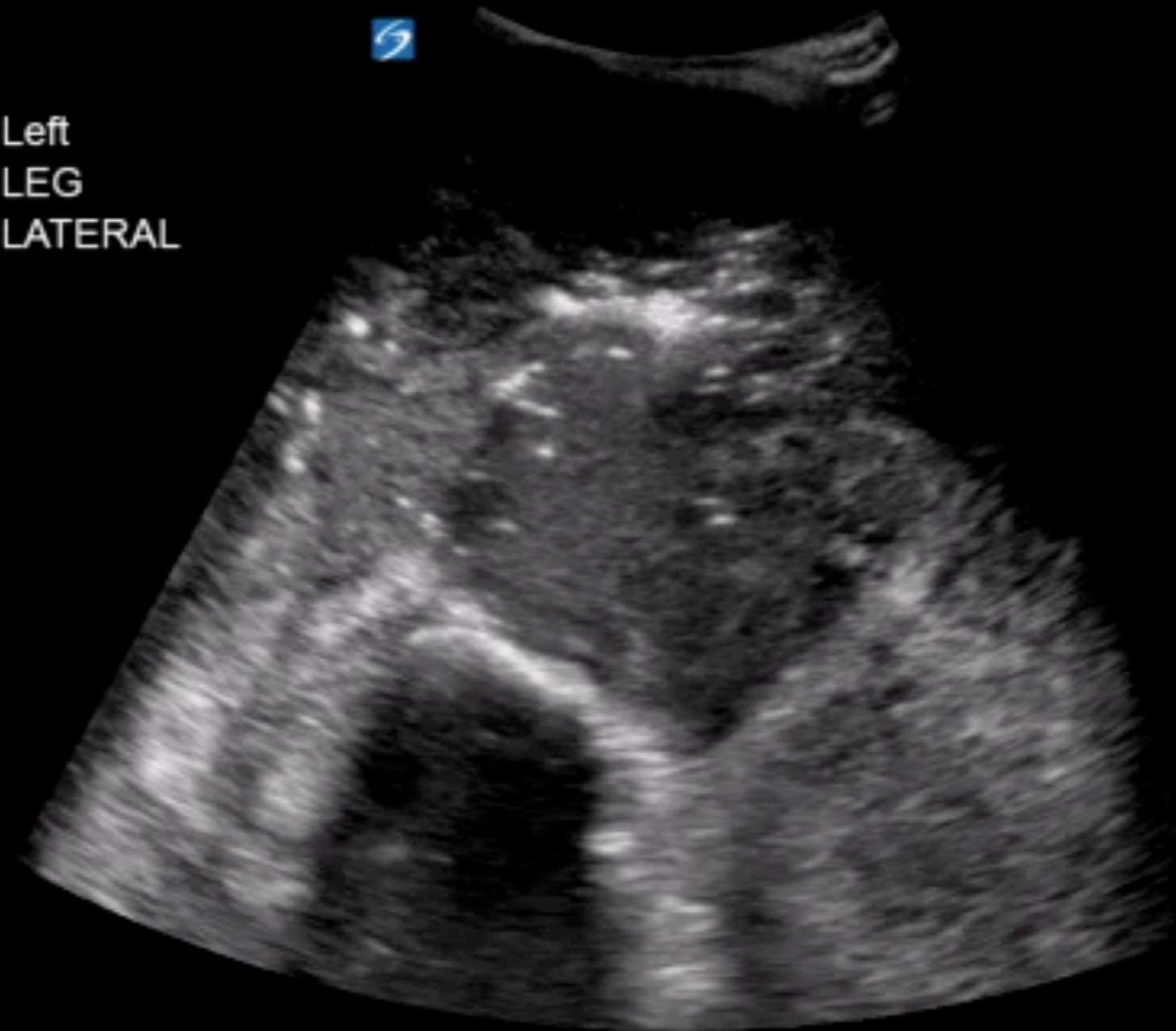
VS: 37.0 138/79 126 24 95%RA



POCUS

2 Nov 2017 / 16:55

Left
LEG
LATERAL



E ED
S SFGH

SonoSite
C60xp/5-2 MSK
MI: 0.9 TIS: 0.2

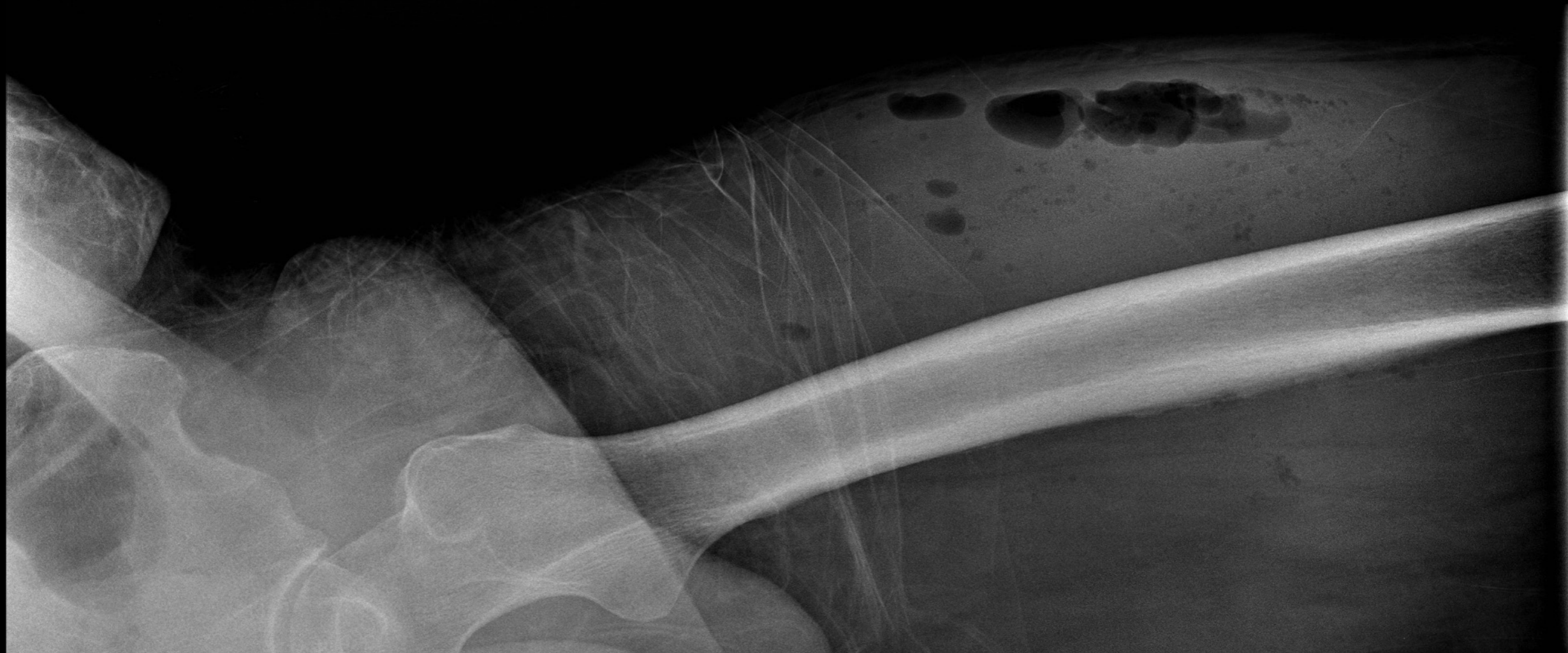
14.3 cm

2D: G: 50
DR: 0
MB
THI

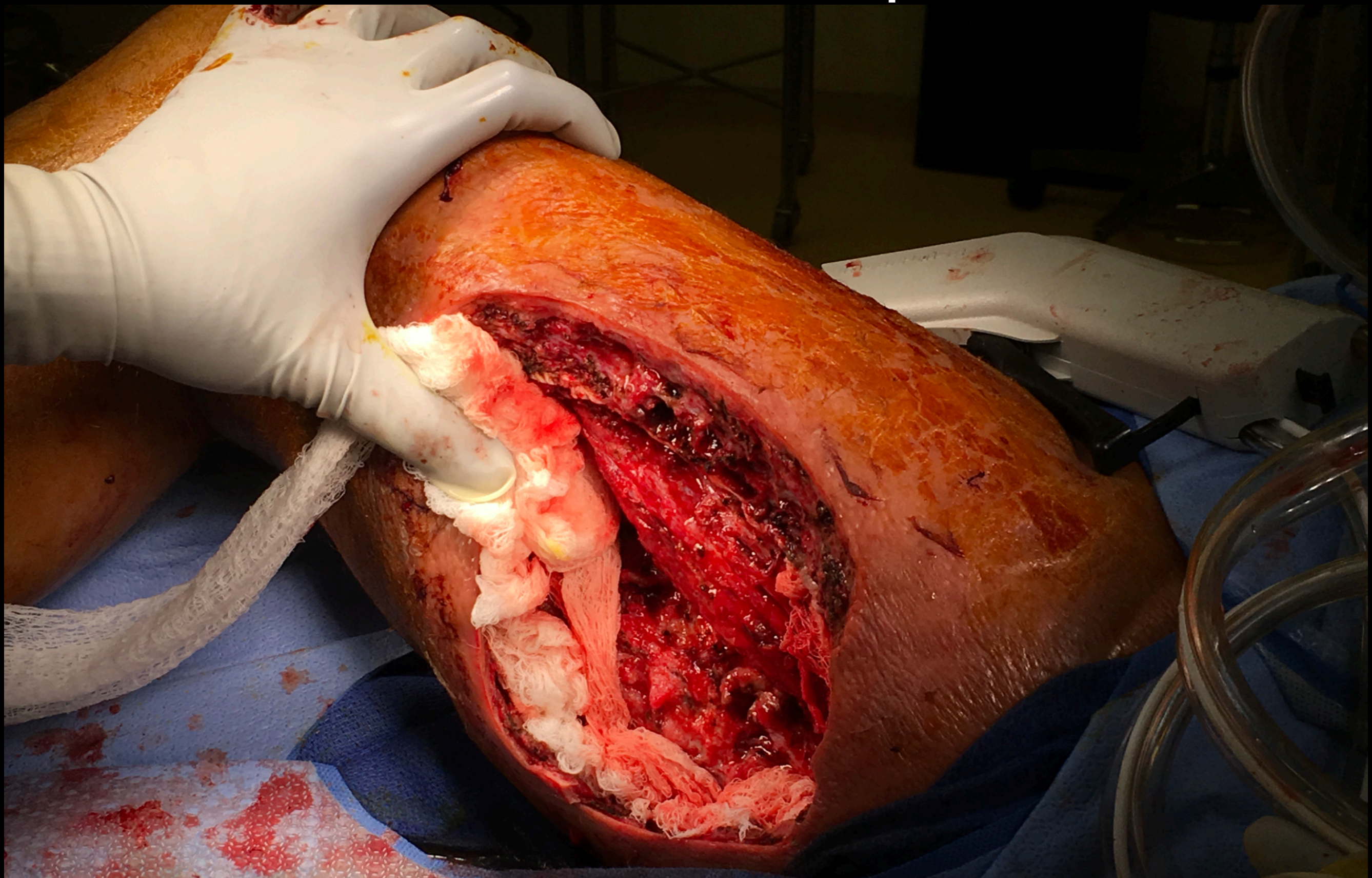
Confirmatory Test

X-TABLE LAT

L
MRE



Follow-Up



Case 9

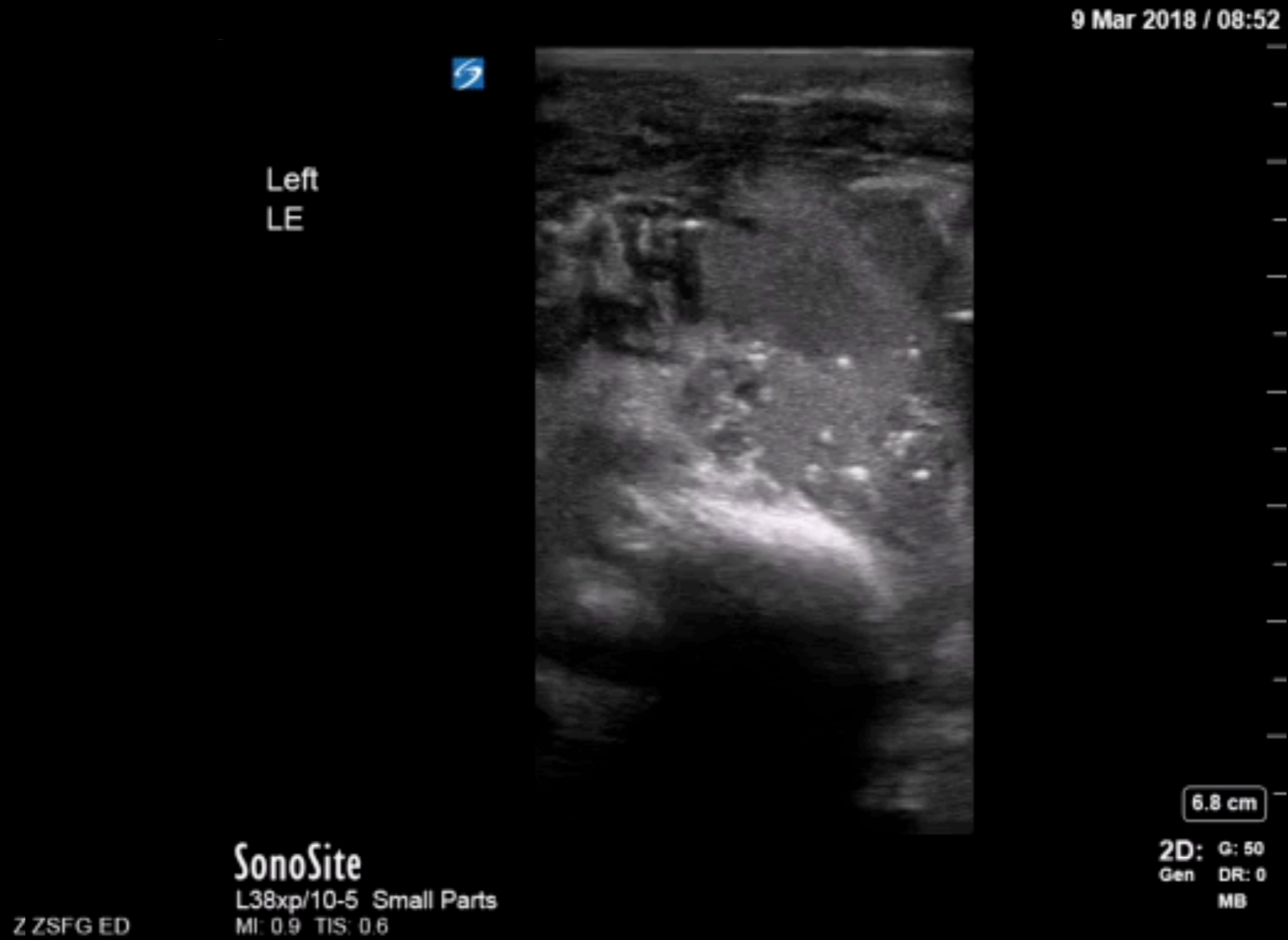
- 54 y/o with h/o HTN, Aortic Dissection, OUD c/o L lateral leg swelling & pain x 1 week.

Exam

VS: 37.0 177/107 125 17 99%RA



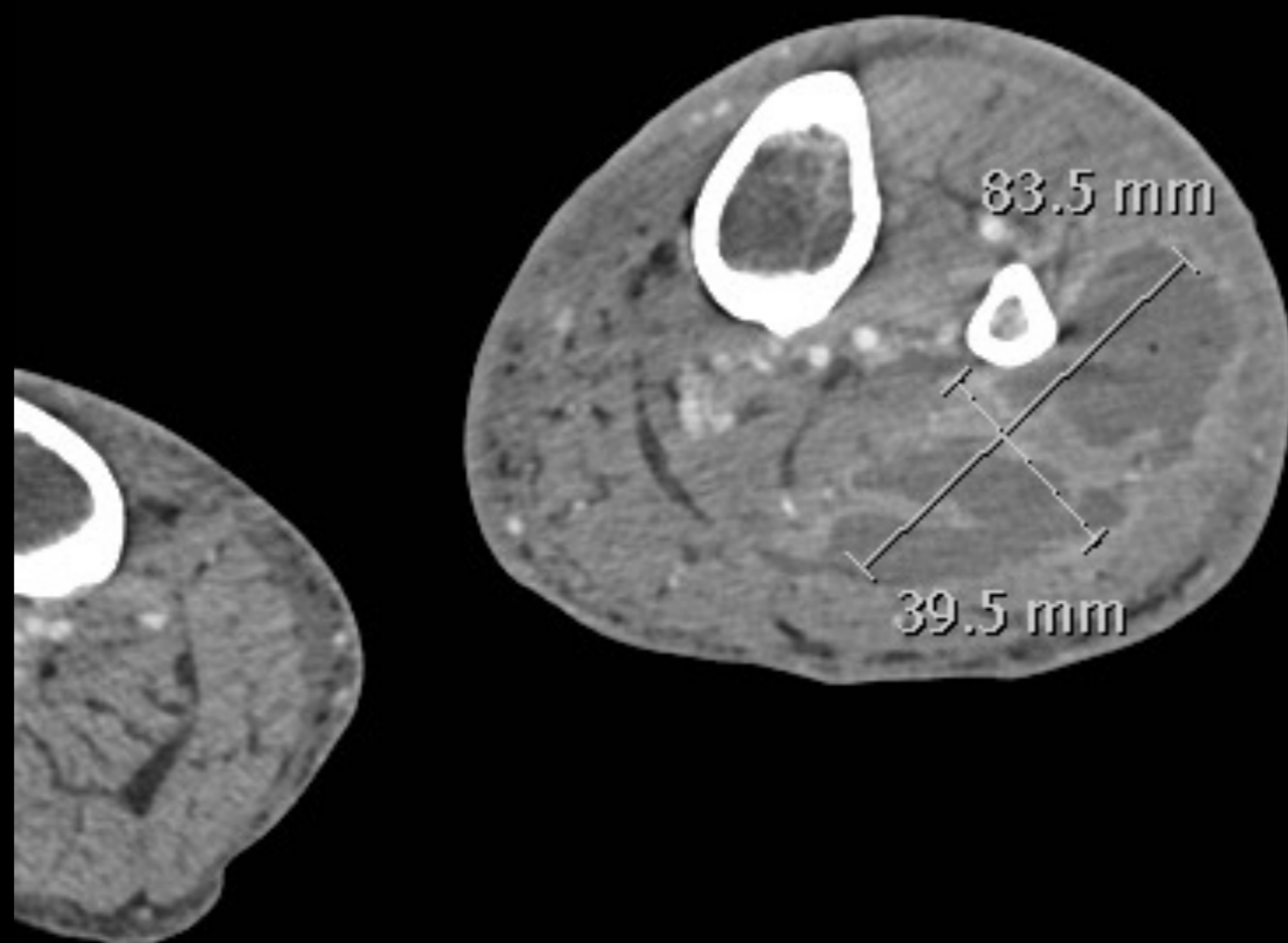
POCUS



X-Rays



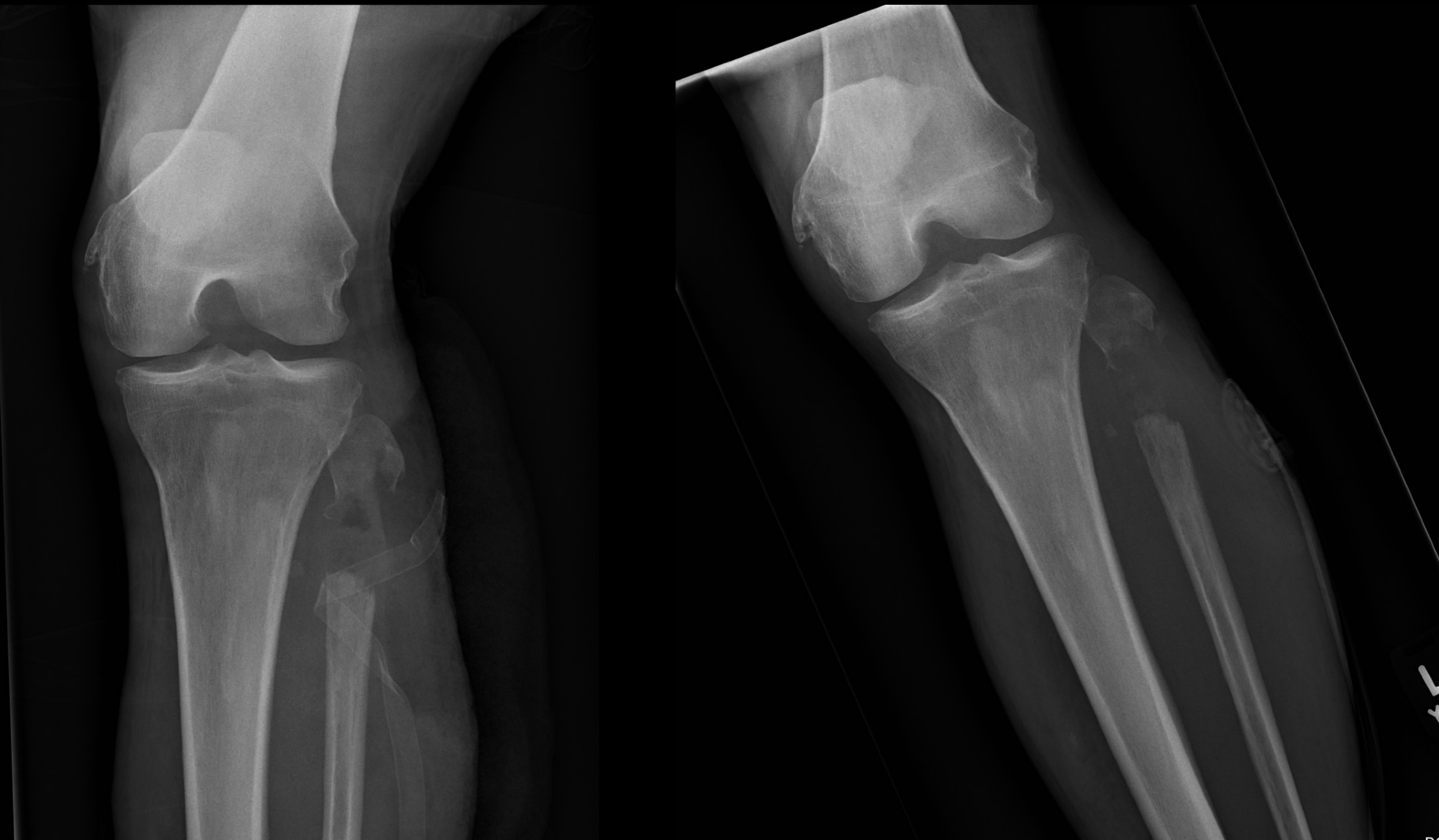
CT



Follow-Up

- 37 Day Hospitalization
- Extensive Debridement (Partial Fibula Resection)
- Treated for Endocarditis
- Wound closure via Plastics
- Life & Limb Saved!

Follow-Up



Literature

ORIGINAL CONTRIBUTION

1448

Yen et al. • ULTRASONOGRAPHY IN NECROTIZING FASCIITIS

Ultrasonographic Screening of Clinically-suspected Necrotizing Fasciitis

Zui-Shen Yen, MD, MPH, Hsiu-Po Wang, MD, Huei-Ming Ma, MD, PhD,
Shyr-Chyr Chen, MD, Wen-Jone Chen, MD, PhD

Take Home

- High Clinical Suspicion for Necrotizing Infection
 - LRINEC
- Scan the entire cellulitic area
- Pus-stalsis (palpate with probe)
- Dirty Shadows (fan through abscess cavity)
- Fluid collections deep to fascia

Thank You

