

Current Solutions in Orthopaedic Trauma

2017

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CASE 1

CASE 1

• 42 y/o female
twisting injury
while hiking



CASE 1- Next Step?

4Dx: Left ankle lateral malleolar fracture
2 y/o female twisting injury while hiking

POLL
OPEN



- 1 Cast and NWB 6.9%
- 2 CAM Boot & NWB 17.24%
- 3 CAM Boot & WBAT 10.34%
- 4 Stress views in office 65.52%

CASE 1

- Manual stress view performed (gravity stress alt option)



CASE 1

- Manual stress view performed (gravity stress alt option)

No lateral translation of talus noted



CASE 1

- Manual stress view performed (gravity stress alt option)
 - No lateral translation of talus
- No widening of medial clear space**



CASE 1-Isolated lateral malleolar fracture- Treatment:

POLL OPEN

1. Cast & NWB
17.39%
2. CAM Boot & NWB
26.09%
3. CAM Boot & WBAT
56.52%



CASE 2

CASE 2

- 26 y/o male, injured right ankle sliding into second base



CASE 2-26 y/o male, injured right ankle sliding into second base-Next Step:

POLL OPEN

- 1 Cast NWB 0%
- 2 CAM Boot NWB 4%
- 3 CAM Boot WBAT 0%
- 4 Stress views 96%



CASE 2-Are these findings suggestive of a medial sided injury (aka bimal equivalent)?

POLL OPEN

Manual stress performed in office (wear gloves!)

- 1 Yes 100%
- 2 No 0%



CASE 2

- Talus shifted lateral



CASE 2

- Talus shifted lateral
- Medial clear space NOT symmetric with remaining joint space



CASE 2

- Talus shifted lateral
- Medial clear space NOT symmetric with remaining joint space

Yes, we are manipulating through the fibula fracture, but an intact deltoid would prevent talar displacement.



CASE 2

- Talus shifted lateral
- Medial clear space NOT symmetric with remaining joint space

Yes, we are manipulating through the fibula fracture, but an intact deltoid would prevent talar displacement.

Stress testing in a fractured lateral malleolus is primarily testing deltoid competency



CASE 2-Next Step:

26 y/o male, injured right ankle sliding into second base

- 1 Cast NWB 3.45%
- 2 CAM Boot NWB 0%
- 3 CAM Boot WBAT 0%
- 4 ORIF 96.55%

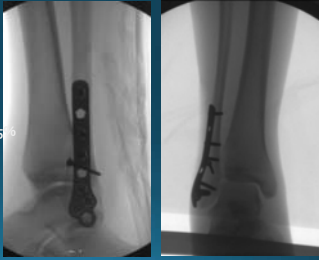




CASE 2-Need to stress intraop?

POLL OPEN

Successful ORIF of ankle fracture




1 Yes 84.85%

2 No 15.15%

CASE 2-What is this stress test looking for?

POLL OPEN



1. medial clear space widening 3.23%

2. syndesmosis widening (tib-fib clear space) 22.58%

3. Both of the above 74.19%



Right Right Right

CASE 3

CASE 3

• 42 y/o male
twisting injury
coming off curb



The image shows three X-ray views of a left ankle. From left to right: an anterior view, a medial view, and a lateral view. The bones are clearly visible, and there is a small 'L' marker on the lateral view.

CASE 3-What's next?

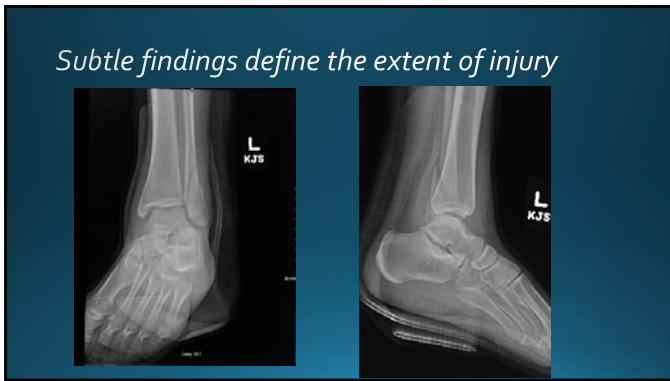
42 y/o male twisting injury
coming off curb

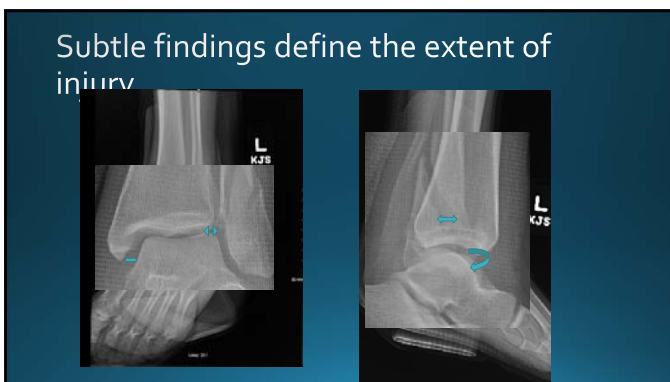
POLL
OPEN

- 1 CAM Boot WBAT
0%
- 2 Stress views
41.67%
- 3 ORIF
58.33%



The image shows three X-ray views of a left ankle, similar to the previous slide. To the left of the images are three progress bars corresponding to the numbered list items. The first bar is at 0%, the second at 41.67%, and the third at 58.33%.





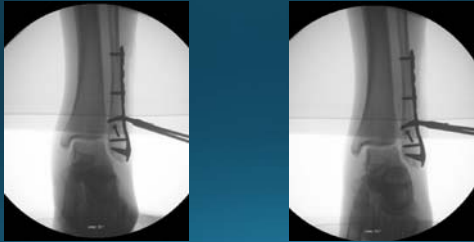
CASE 3-Xray is prior to lateral force, will syndesmosis be stable or unstable?

POLL OPEN

Patient underwent successful ORIF. Stress test performed to evaluate for syndesmosis injury

1 Stable	51.61%
2 Unstable	48.39%

since the fibula has been repaired, syndesmosis incompetency is responsible for talar translation and tib-fib clear space widening.



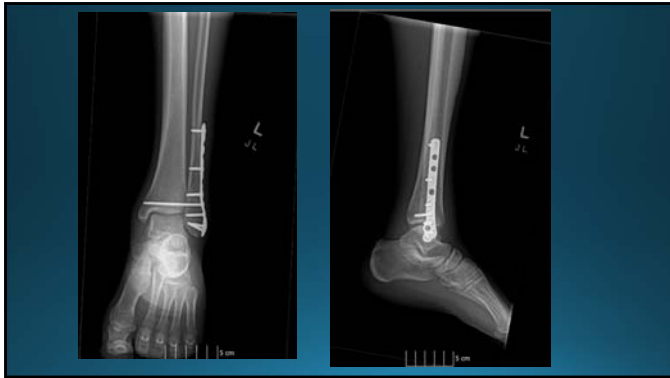
CASE 3-Now what?

- 1 Clamp reduction and screw fixation of syndesmosis
- 2 Manual reduction and screw fixation
- 3 Clamp reduction and suture fixation
- 4 Manual reduction and suture fixation
- 5 Any of the above



POLL OPEN





CASE 4

CASE 4


- 47 y/o male passenger in MVA
- Closed, NVI


CASE 4-What next?

POLL OPEN

47 y/o male passenger in MVA
Closed, NVI

- 1 Reduce/splint/CT 82.61%
- 2 OR/ex fix/CT 17.39%






CASE 4-Surgical approach?

POLL OPEN

- 1 Posterior lateral + medial 78.79%
- 2 Lateral + medial 18.18%
- 3 Posterior medial 3.03%



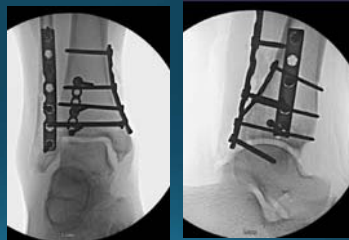
CASE 4

- Prone positioning
- Posterior lateral for fibula and posterior malleolus



CASE 4

- Prone positioning
- Posterior lateral for fibula and posterior malleolus
- Medial approach for medial malleolus





CASE 5

CASE 5

- 39 y/o male fall from height
- 7cm open wound lateral ankle
- NVI
- Presents to outside hospital



CASE 5

- 39 y/o male fall from height
- 7cm open wound lateral ankle

Initial Management should consist of:

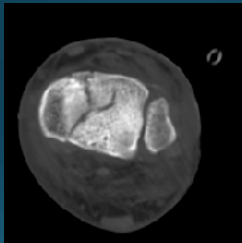
1. Emergently go to OR for I&D and stabilization
2. ER reduction, immobilization, abx, +/- advanced imaging
3. Transfer to local trauma center as is



Pt reduced in ER and taken later that day to OR for debridement and application of external fixation



POST Ex-Fix CT



CASE 5

Surgical Plan for fracture fixation

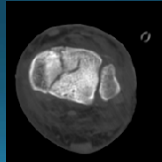
1. ORIF fibula with plate/screws and medial tibia with plate/screws
2. Convert to thin wire fixator
3. Intramedullary fixation of fibula and plate/screws fixation medial tibia
4. BKA



CASE 5

Surgical Plan for fracture fixation

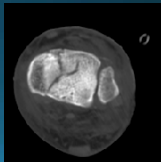
1. ORIF fibula with plate/screws and medial tibia with plate/screws
2. Convert to this wire fixator
3. Intramedullary fixation of fibula and plate/screws fixation medial tibia
4. BKA



CASE 5-Surgical Approach?

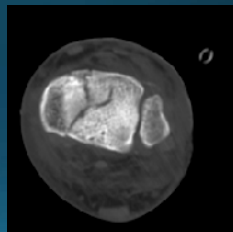
POLL OPEN

1. ORIF fibula with plate/screws and medial tibia with plate/screws 54.55%
2. Convert to this wire fixator 0%
3. Intramedullary fixation of fibula and plate/screws fixation medial tibia 18.18%
4. BKA 0%
5. Direct lateral for fibula, and medial for tibia 0%
6. Direct lateral for fibula and anterior-medial for tibia 27.27%
7. Direct anterior for both 0%



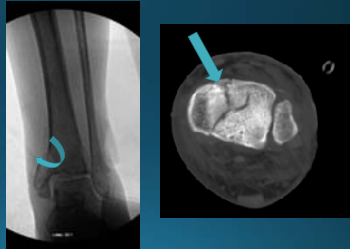
CASE 5

- Surgical approach to allow for visualization of articular injury and plate application



CASE 5

- Surgical approach to allow visualization of articular injury and plate application
- *Anterior medial approach to address both*





THANK YOU!
