Pelvic Mythology

HC Sagi
University of Cincinnati

1

Disclosures

- **Consultant:** Stryker USA and Europe
- **Royalties:** Stryker USA and Europe
- **Stock:** GLW and Altior Trauma
- **Section Editor:** Journal of Orthopedic Trauma

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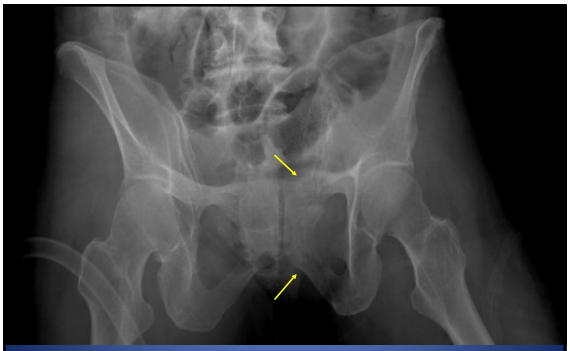
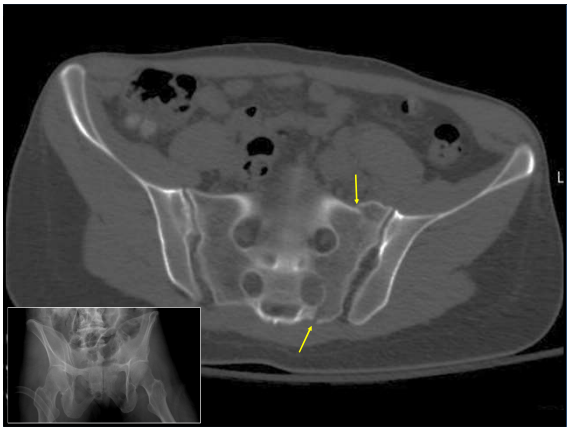
MYTH

CLASSIFYING A PELVIC FRACTURE BASED ON PLAIN RADIOGRAPHS AND COMPUTED TOMOGRAPHY WILL TELL US IF A PELVIC FRACTURE IS STABLE OR UNSTABLE

3


58 year old lady falls off of horse. Pain

4



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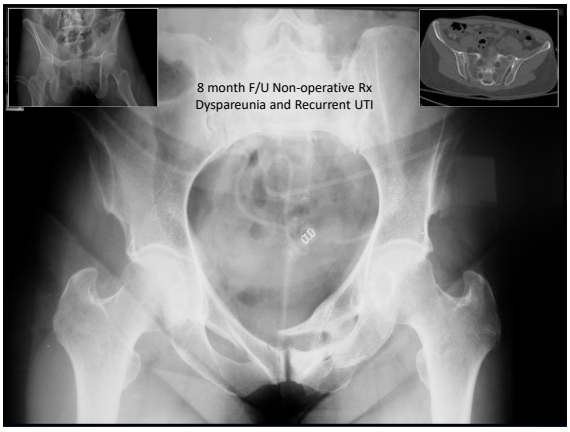
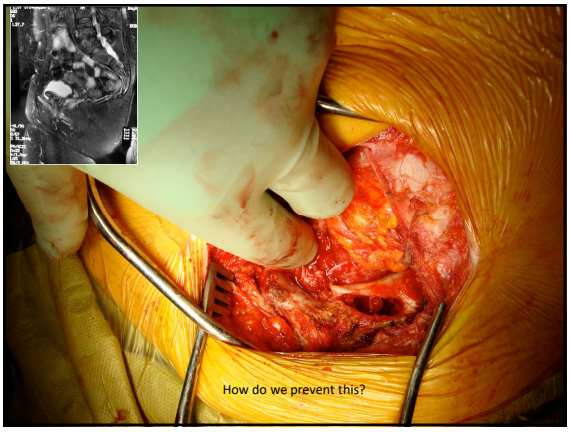

8 month F/U Non-operative Rx
Dyspareunia and Recurrent UTI

6



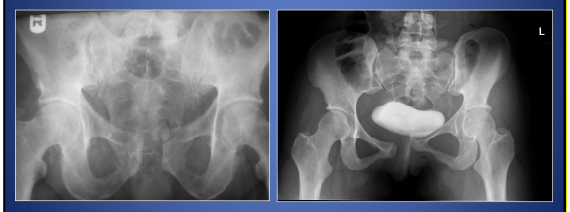
7

True or False?

CLASSIFYING A PELVIC FRACTURE BASED ON PLAIN RADIOGRAPHS AND COMPUTED TOMOGRAPHY WILL TELL US IF A PELVIC FRACTURE IS STABLE OR UNSTABLE

8

ARE THESE THE SAME INJURY?



ARE THEY CLASSIFED APC-1, APC-2 (or something else…)?

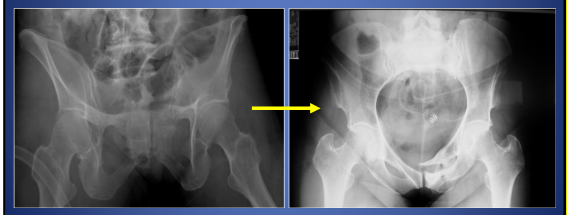
9

ARE THESE THE SAME INJURY?

ARE THEY REALLY BOTH CLASSIFED LC-1 (or something else…)?

10

And…..How do we prevent this?



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ORIGINAL ARTICLE

J Orthop Trauma • Volume 25, Number 9, September 2011

Examination Under Anesthetic for Occult Pelvic Ring Instability

H. Claude Sagi, MD,† Franco M. Coniglione, DO,‡ and Jason H. Stanford, MD§*

METHOD OF EUA

- 15 distinct fluoroscopic images:
  - Static, ER, IR, Push-Pull
  - AP, Inlet, Outlet projections

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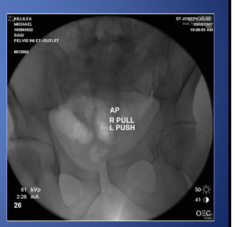
AP COMPRESSION - ER

13

LATERAL COMPRESSION - IR

14

BILATERAL PUSH AND PULL



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APC INJURY

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- 50% = No fixation (True APC-1)
- 50% = Anterior fixation (Occult APC-2)

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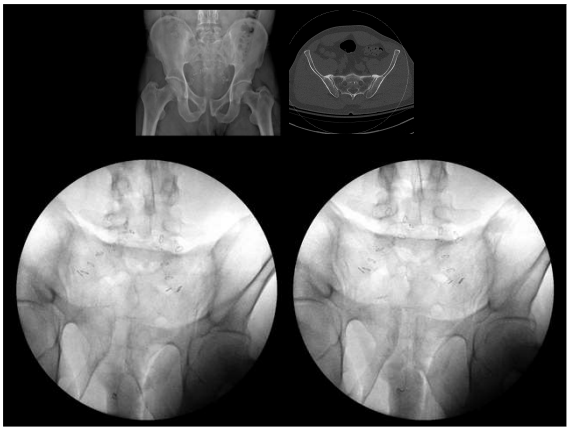

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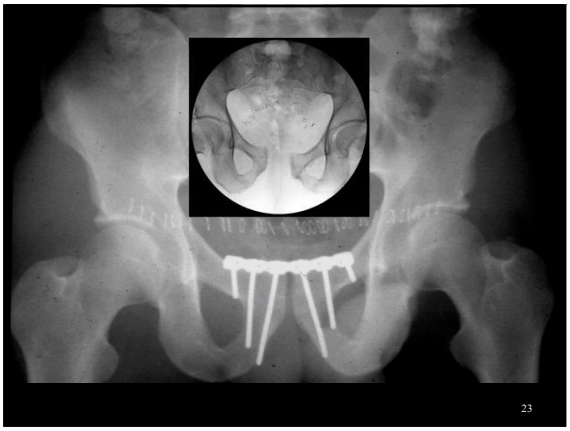
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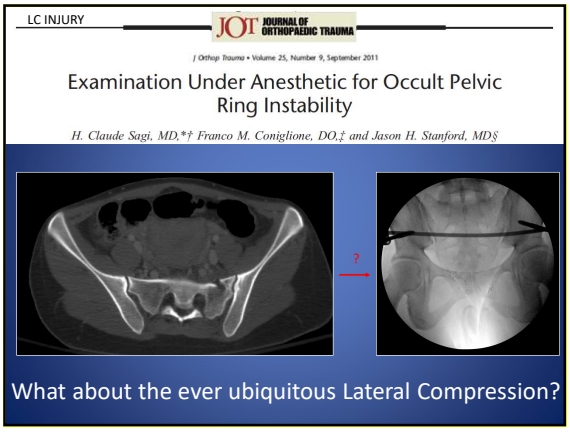
LC INJURY
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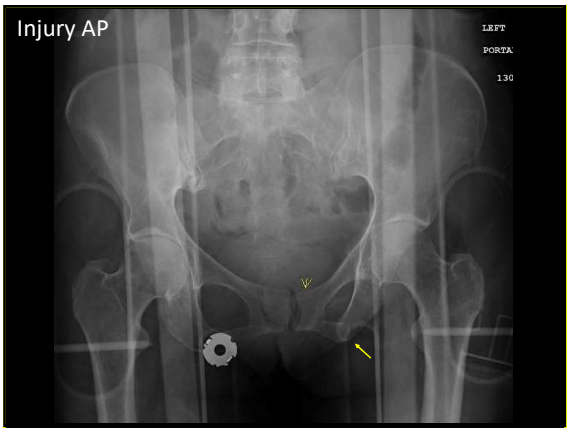
?
What about the ever ubiquitous Lateral Compression?

24



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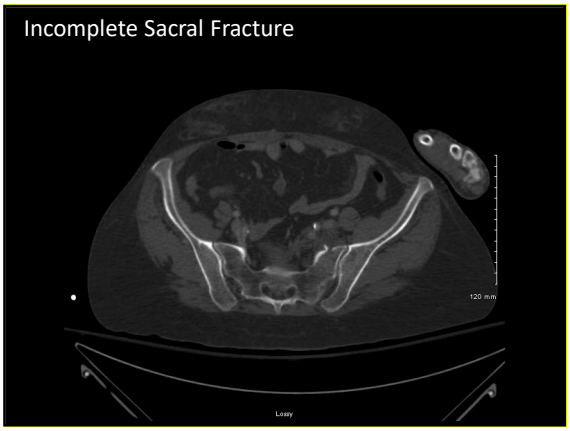

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ORIGINAL ARTICLE

J Orthop Trauma • Volume 25, Number 9, September 2011

OTA Highlight Paper

Predicting Future Displacement of Nonoperatively Managed Lateral Compression Sacral Fractures: Can It Be Done?

Brandon Bruce, MD, Mark Reilly, MD,† Steven Sims, MD‡*

Characteristic	Total Number	Number of Displaced	Rate of Displacement
Incomplete sacral fracture + none or unilateral rami fracture	54	0	0%
Incomplete sacral fracture + bilateral rami fractures	22	2	9%
Complete sacral fracture + no rami fracture	2	0	0%
Complete sacral fracture + unilateral rami fracture	17	6	33%
Complete sacral fracture + bilateral rami fractures	22	15	68%

*Rami fractures include ipsilateral and contralateral injuries to the sacrum.

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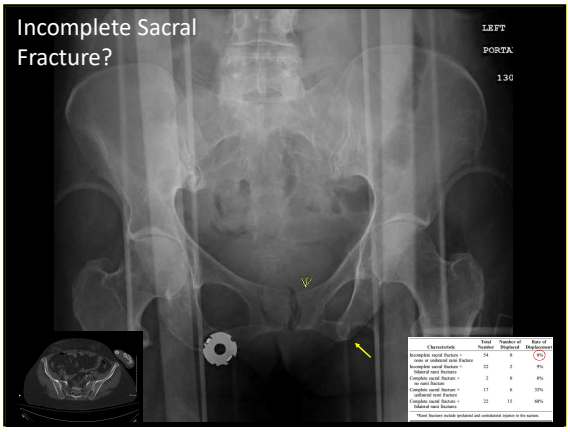

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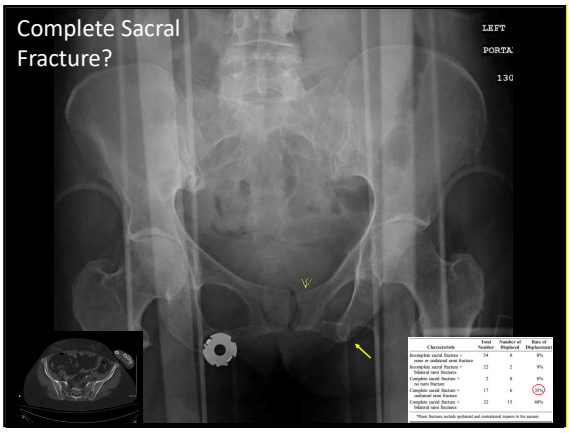
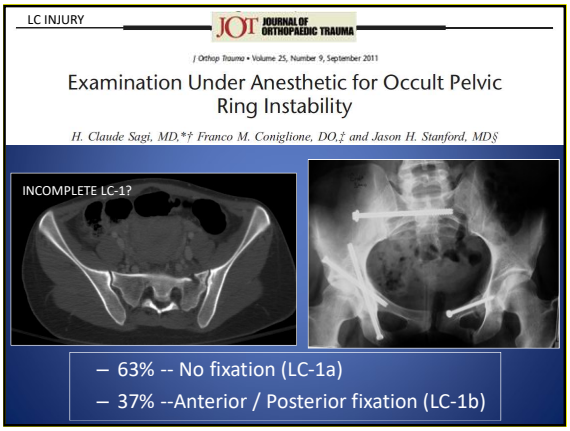

Complete Sacral Fracture?
LEFT
PORTA
130

31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INCOMPLETE LC-1?
– 63% -- No fixation (LC-1a)
– 37% --Anterior / Posterior fixation (LC-1b)

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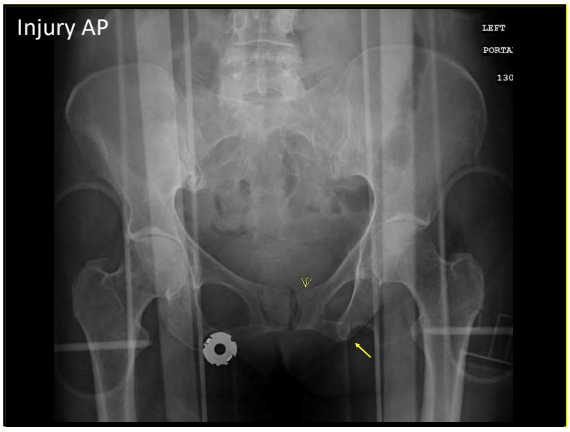
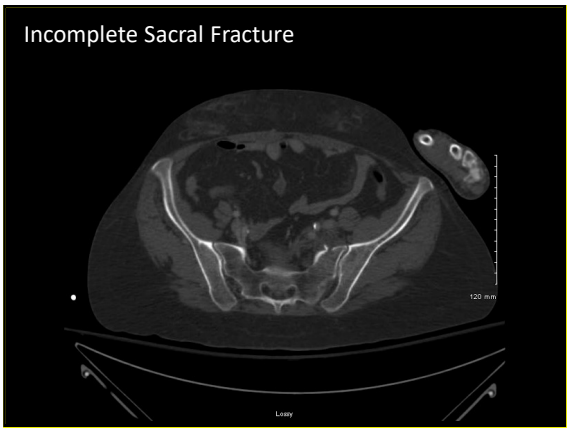

Injury AP
LEFT
PORTA
130

33



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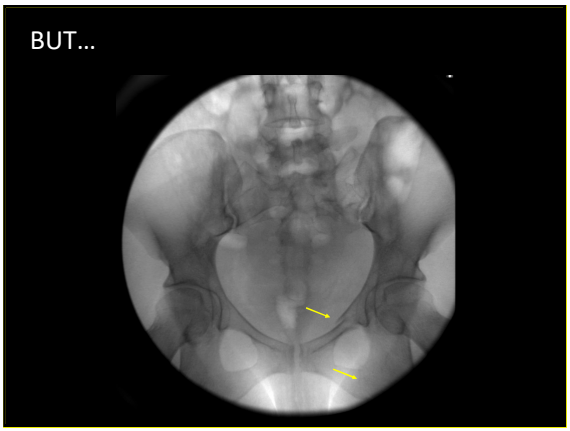

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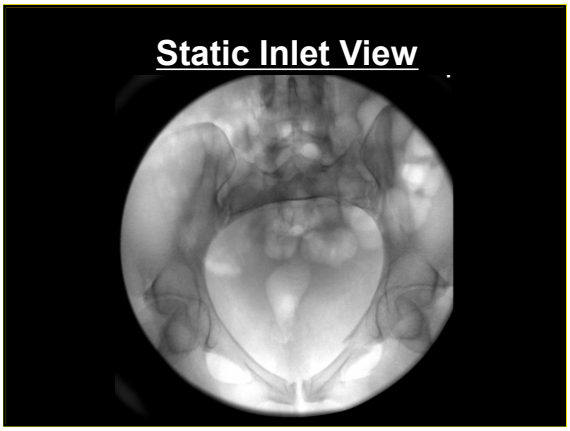

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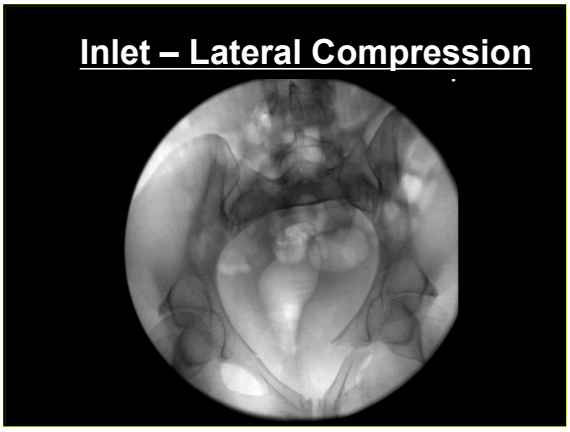

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Post Fixation

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Conclusion

- Static radiographs inadequately define pelvic ring instability:
  - *Some* APC-1 ---> APC 2 (and need fixation)
  - *Some* APC-2 ---> FI/Ex too muc (need post ORIF)
  - *Some* LC-1 ---> IR too much (?)
- Poor functional outcomes may be due (in part) to undiagnosed instability.

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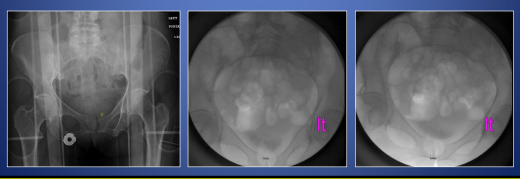
Conclusion

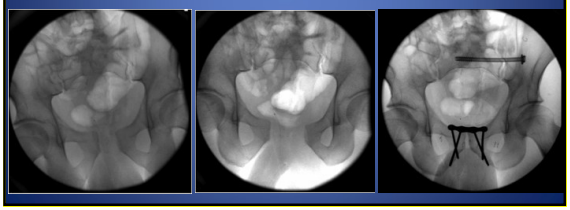
- Pelvic EUA helps to confirm stability and avoid unnecessary transfers for surgery… for me.



45

Conclusion

- Pelvic EUA is an important diagnostic tool to guide treatment and fixation…for me.



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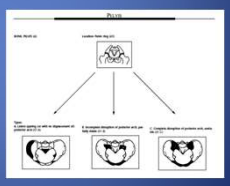
Conclusion

Existing Classification Systems are OBSOLETE and cannot help to decide treatment with modern strategies.



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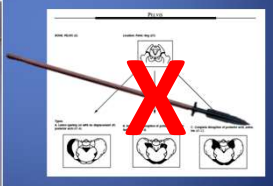

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Cheers!

Questions?

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