



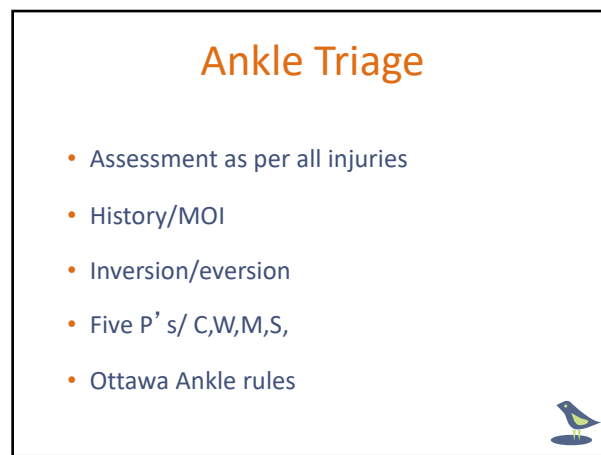
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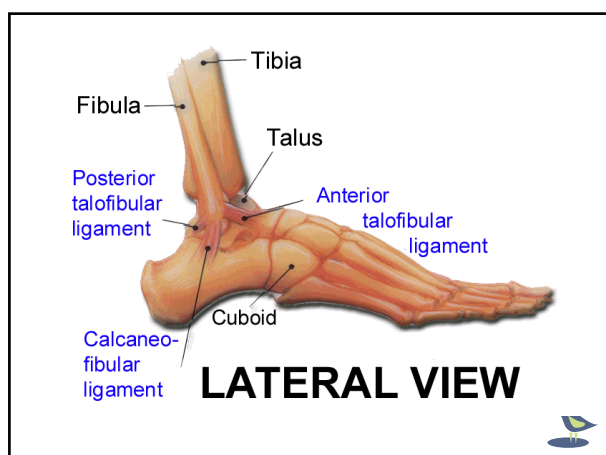
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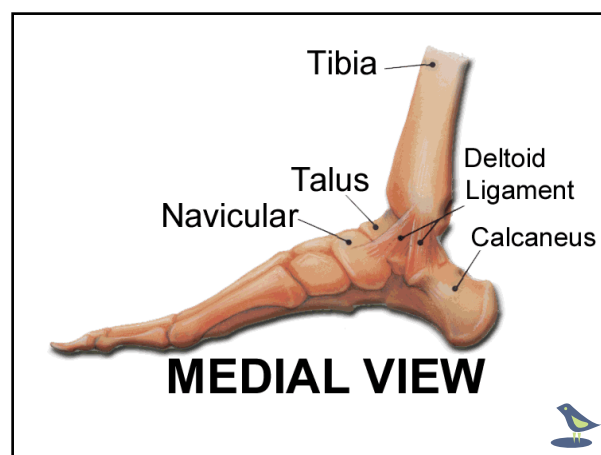
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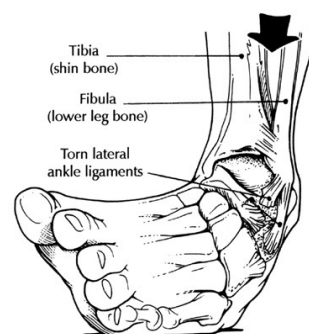
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## Inversion Injury

- Very common Due to broad Medial ligament compared to narrow lateral ligaments
- Running/Slip down stairs
- Damage to the lateral ligament
- Crack may be heard- Not definite #



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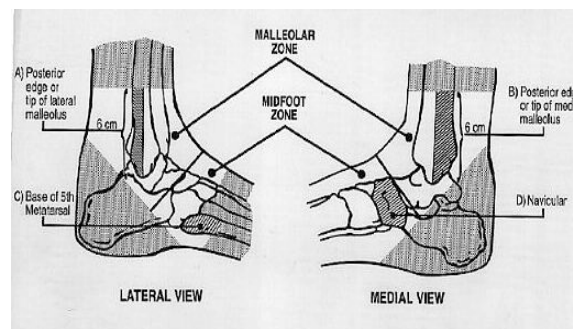
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## Ottawa Ankle Rules

- An ankle X-Ray is required in the event of positive finding of
  - ♦ Inability to bear weight immediately and in the ED (4 steps)
  - ♦ Bony tenderness on the lateral malleolus tip or posterior edge of the lateral malleolus (A)
  - ♦ Bony tenderness on the medial malleolus tip or posterior edge of the medial malleolus (B)



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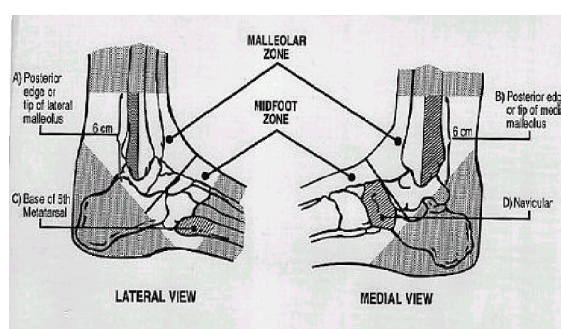
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## Ottawa Ankle Rules

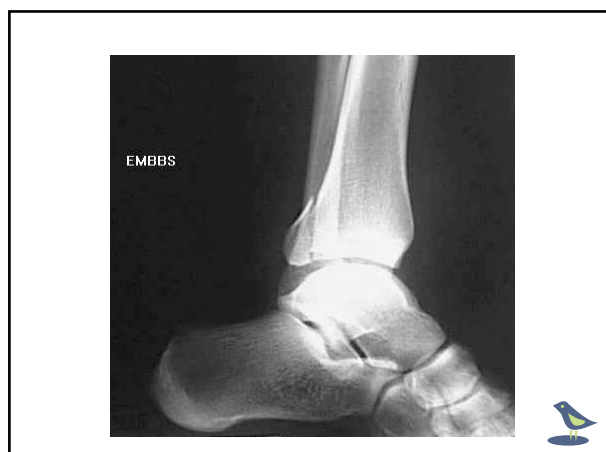
- A foot X-Ray is also required if there is any pain in the midfoot zone and any of the following
  - ♦ Bony tenderness at the base of the fifth metatarsal (C)
  - ♦ Bony tenderness at the navicular
  - ♦ Inability to bear weight immediately and in the ED (4 steps)



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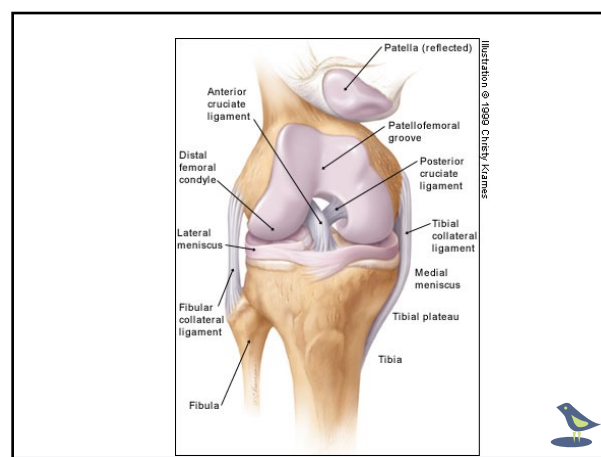


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## Knee Injuries

- Patients with knee trauma in ED's - only 6% have a fracture.
- Data for both adults and children
- Overuse of a low cost/high volume procedure has the same impact as high cost/low volume procedures
- Overcoming the patient's expectations of an x-ray a significant hurdle

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## Knee Fractures

- Patella
- Femoral Condyles
- Tibial Plateau
- Fibular

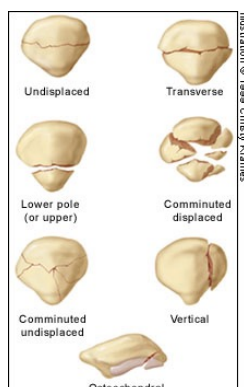
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## # Patella

- Result as a direct blow or fall onto the knee
- Pain
- Swelling
- Restricted movement



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## How would you move them to the clinic?

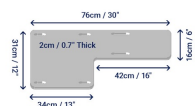


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## Extended Leg Board



Extended Leg Board  
Child (Item 529C)



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## Ottawa Knee Rules

- Stiell et al 1995
- 1967 patients
- 74.1% underwent radiography but only 5.2% were found to have fractures
- 1047 patients seen by ED physicians
- Found rules that predicted #



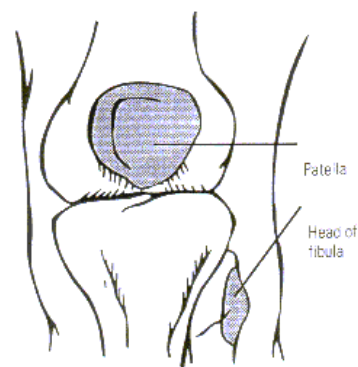
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## Ottawa Knee Rules

- ◆ Age 55 or older
- ◆ Isolated tenderness of the patella (that is, no bone tenderness of the knee other than the patella).



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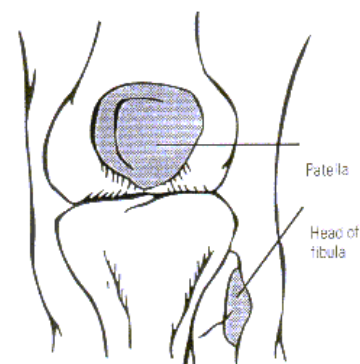
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## Ottawa Knee Rules

- ◆ Age 55 or older
- ◆ Isolated tenderness of the patella (that is, no bone tenderness of the knee other than the patella)
- ◆ Tenderness at the head of the fibula



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## Ottawa Knee Rules

- ◆ Age 55 or older
- ◆ Isolated tenderness of the patella (that is, no bone tenderness of the knee other than the patella).
- ◆ Tenderness at the head of the fibula.
- ◆ Inability to flex to 90 degrees.



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## Ottawa Knee Rules

- ◆ Age 55 or older
- ◆ Isolated tenderness of the patella (that is, no bone tenderness of the knee other than the patella)
- ◆ Tenderness at the head of the fibula
- ◆ Inability to flex to 90 degrees
- ◆ Inability to bear weight both immediately and in the emergency department (4 steps; unable to transfer weight twice onto each lower limb regardless of limping)



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## Conclusion

- Rules are helpful
- Both rules study in Adults
- Ankle rules work in kids >6
- Knee rules seems to work in kids
- Overcoming parental concern
- Clinical follow up should be recommended if symptoms persist



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