



ThinkAskLearn
Health Professional Education

Ankle and Knee Injuries

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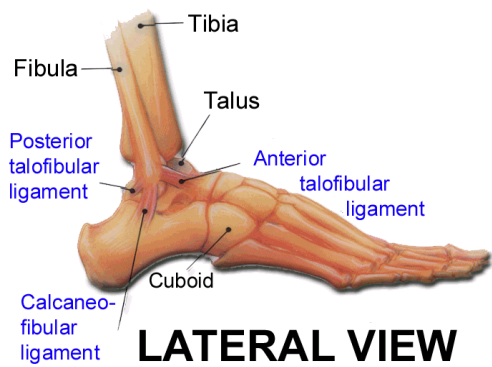
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Ankle Triage

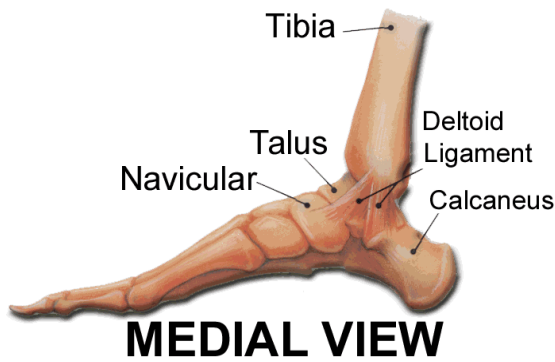
- Assessment as per all injuries
- History/MOI
- Inversion/eversion
- Five P's/ C,W,M,S,
- Ottawa Ankle rules



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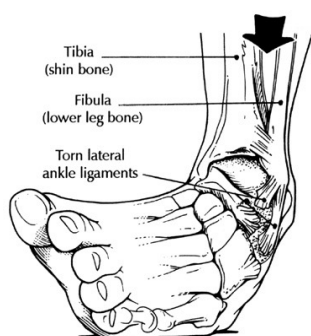
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Inversion Injury

- 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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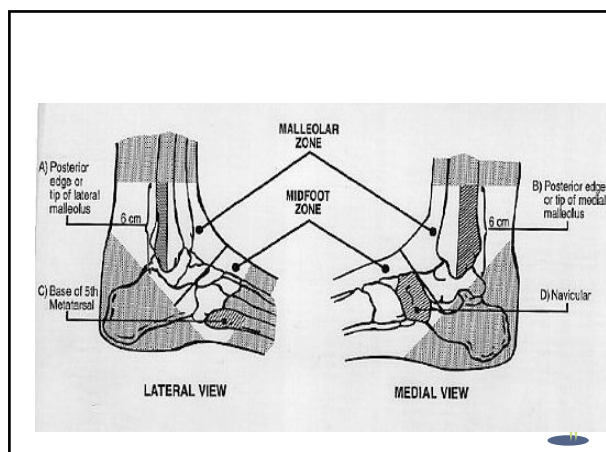
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Ottawa Ankle Rules

- 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 malleolar tip or posterior edge of the lateral malleolus (A)
 - ♦ Bony tenderness on the medial malleolar tip or posterior edge of the medial malleolus (B)



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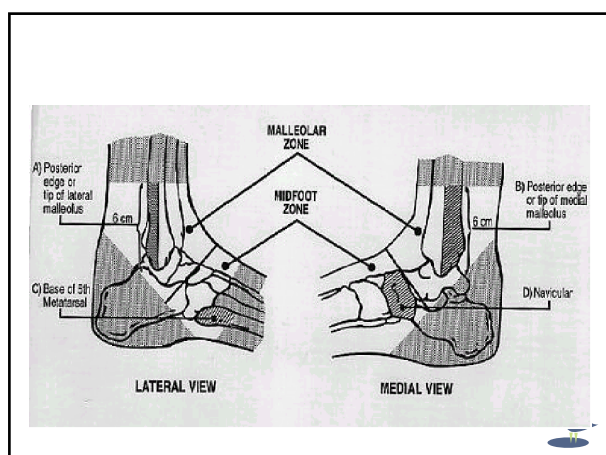
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Ottawa Ankle Rules

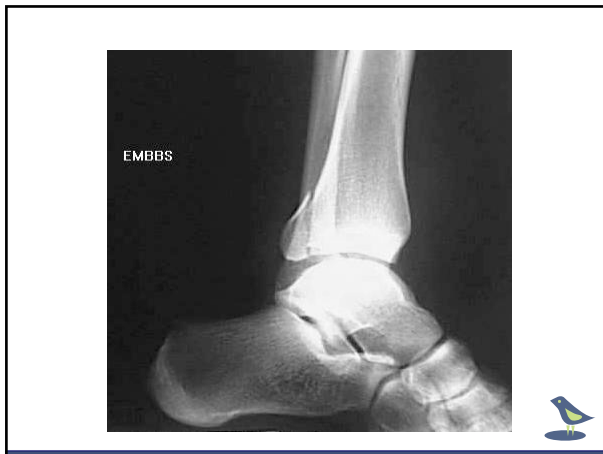
- A foot X-Ray is also required if there is any pain in the midfoot zone and any of the following
 - ♦ Bony tenderness at the base of the fifth metatarsal (C)
 - ♦ Bony tenderness at the navicular
 - ♦ Inability to bear weight immediately and in the ED (4 steps)



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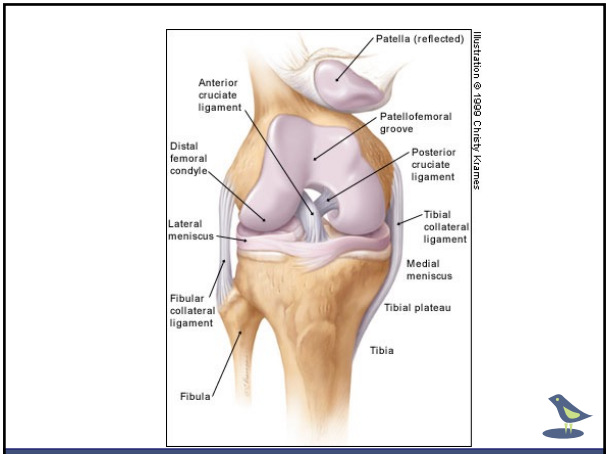


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Knee Injuries

- 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

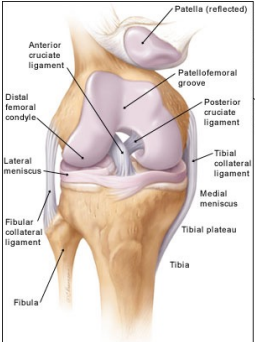
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Knee Fractures

- Patella
- Femoral Condyles
- Tibial Plateau
- Fibular



An anatomical diagram of the knee joint in a sagittal view, identical to the one in slide 16. It shows the bones and ligaments of the knee, with the patella reflected. Labels include: Anterior cruciate ligament, Distal femoral condyle, Lateral meniscus, Fibular collateral ligament, Fibula, Patella (reflected), Patellofemoral groove, Posterior cruciate ligament, Tibial collateral ligament, Medial meniscus, Tibial plateau, and Tibia. A small blue bird logo is in the bottom right corner.

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Patella

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

Diagram illustrating various types of patella fractures:

- Undisplaced
- Transverse
- Lower pole (or upper)
- Comminuted displaced
- Comminuted undisplaced
- Vertical
- Osteochondral

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How would you move them to the clinic?

Two photographs showing patella fractures on a person's knee.

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Extended Leg Board

A person in a wheelchair using an extended leg board.

Extended Leg Board
Child (Item 529C)

Diagram of the Extended Leg Board with dimensions:

- Length: 76cm / 30"
- Thickness: 2cm / 0.7"
- Width: 34cm / 13"
- Footrest width: 42cm / 16"

Two white pillows.

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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 #



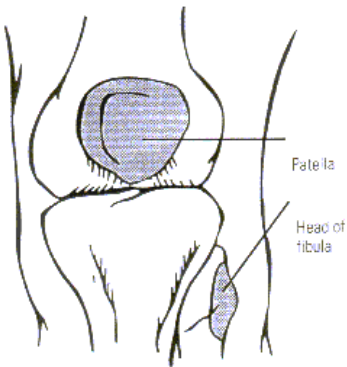
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Ottawa Knee Rules

- ◆ 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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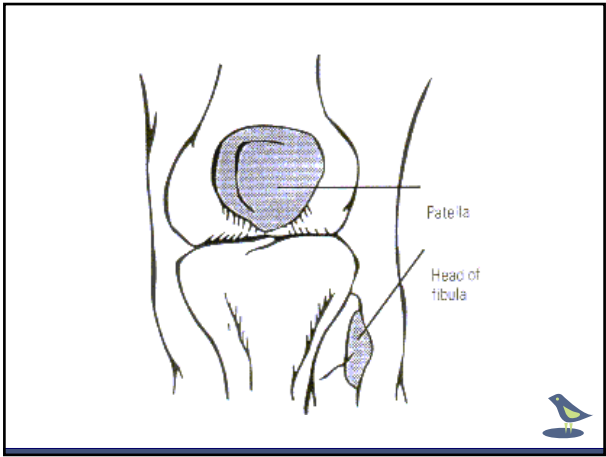
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Ottawa Knee Rules

- ◆ 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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