

# SPLINTING AND EVACUATION

Wilderness Medicine Elective  
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(thanks to Tiffany Schegg)  
Spring 2015



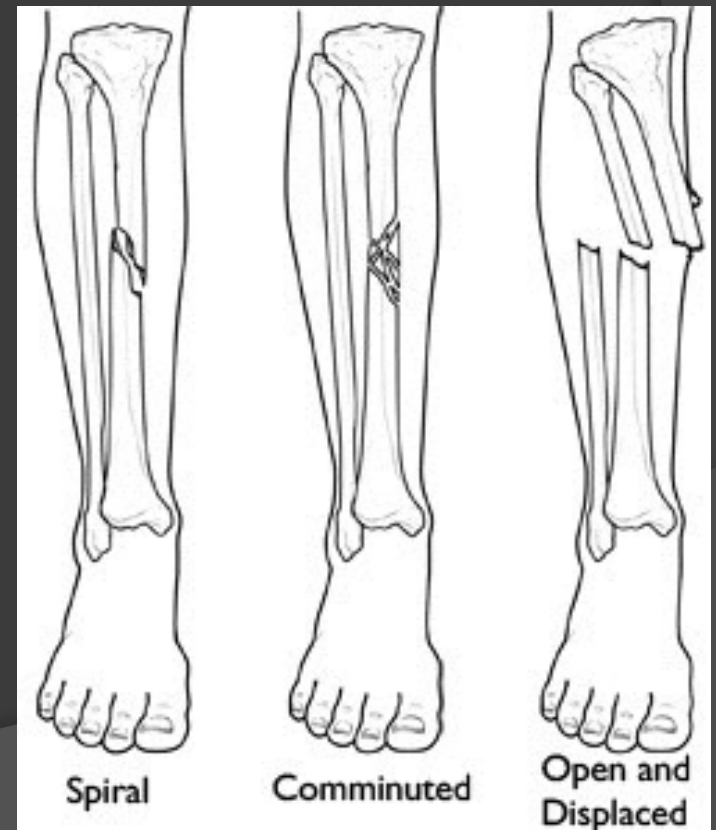
# Objectives

- ◉ Recognizing injuries
- ◉ Upper extremity splinting
- ◉ Lower extremity splinting
- ◉ (Traction splinting)
- ◉ Evacuation techniques

\*What we are not covering today: pelvic fractures, spinal fractures, open fractures

# General types of bony injuries

- Simple vs comminuted
- Closed vs open (compound)
- Dislocations

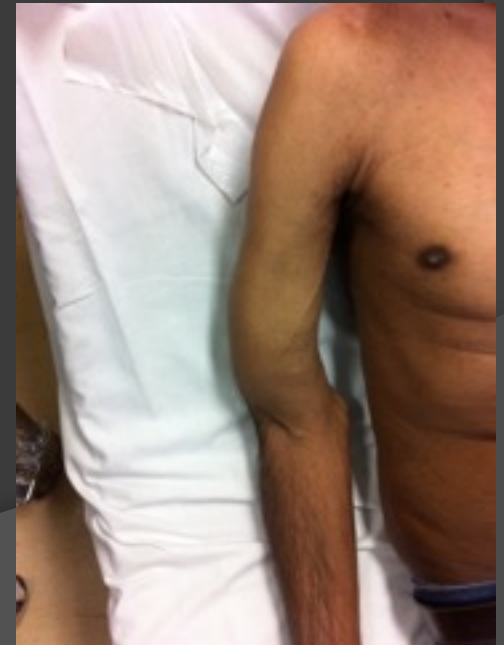


# Evaluating the injury:

1. ABC's
2. Look at the injury:
  1. Pulse
  2. Sensation/motor
3. Reduce if needed
4. Splint/sling/immobilize
5. Elevate if possible
6. Evacuate

# Case #1

- While backcountry skiing on Donner Summit, you come across a 40s yo man lying on ground with a panicked-looking friend with him. While skiing, he had hit an unseen rock that launched him down a small gulley. Now he has pain and an obvious deformity of his R arm



# What to do?

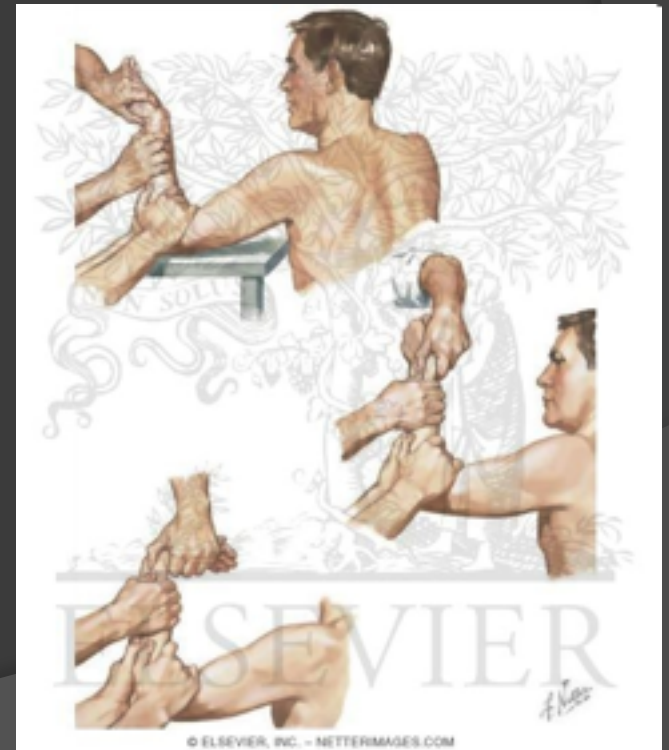
- ◉ ABCs
- ◉ Look at the injury: distal pulses? motor and sensation in the hand?
- ◉ Reduce if necessary
- ◉ Splint, sling and swathe
- ◉ Evacuate

# OK change the scenario...

- ◉ Same fracture, but no radial pulse palpated and patient states that part of his hand feels numb.
- ◉ What now?

# Reduction

- ◉ SLOW and STEADY pressure
- ◉ Re-create the injury forces, then lots of axial traction
- ◉ Stabilize once realigned





# Splinting

- ◉ Why splint?
- ◉ Immobilize the joints ABOVE and BELOW the fracture

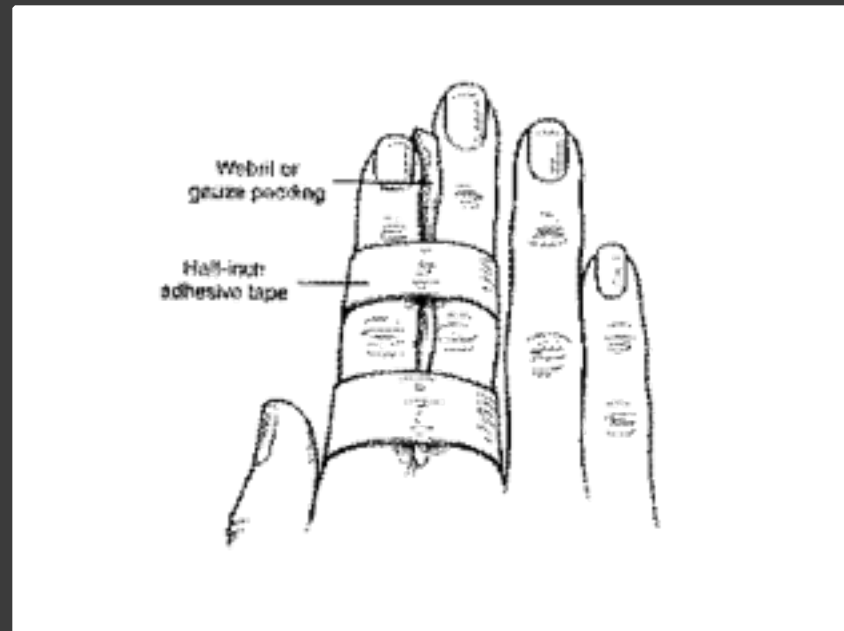
# Splinting

- ⦿ Place limb in a position of comfort
- ⦿ Adequate padding
- ⦿ Keep out the distal part for frequent reassessments
- ⦿ Careful of overzealous wrapping



# Let's start simple... fingers!

- Buddy tape
- Thumb spica/ulnar gutter



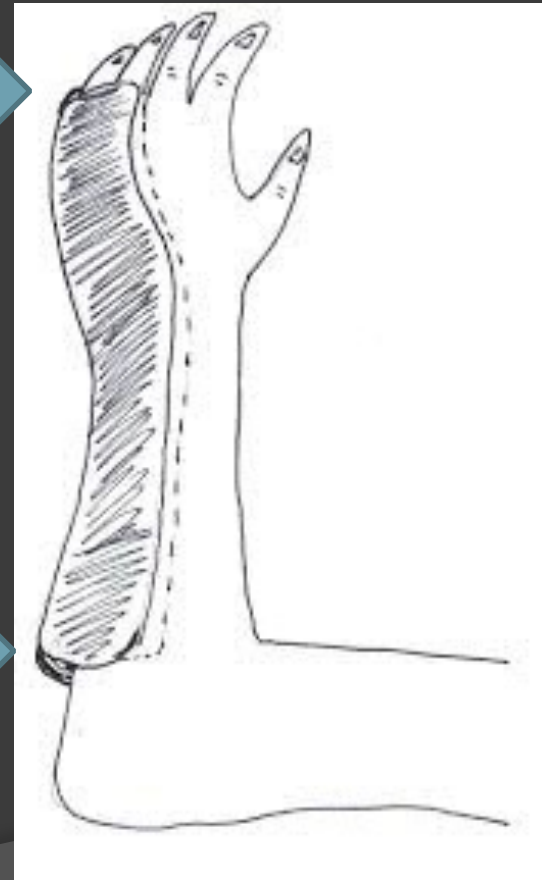
# Hand/Wrist

- Ulnar hand or wrist → ulnar gutter

Above injury

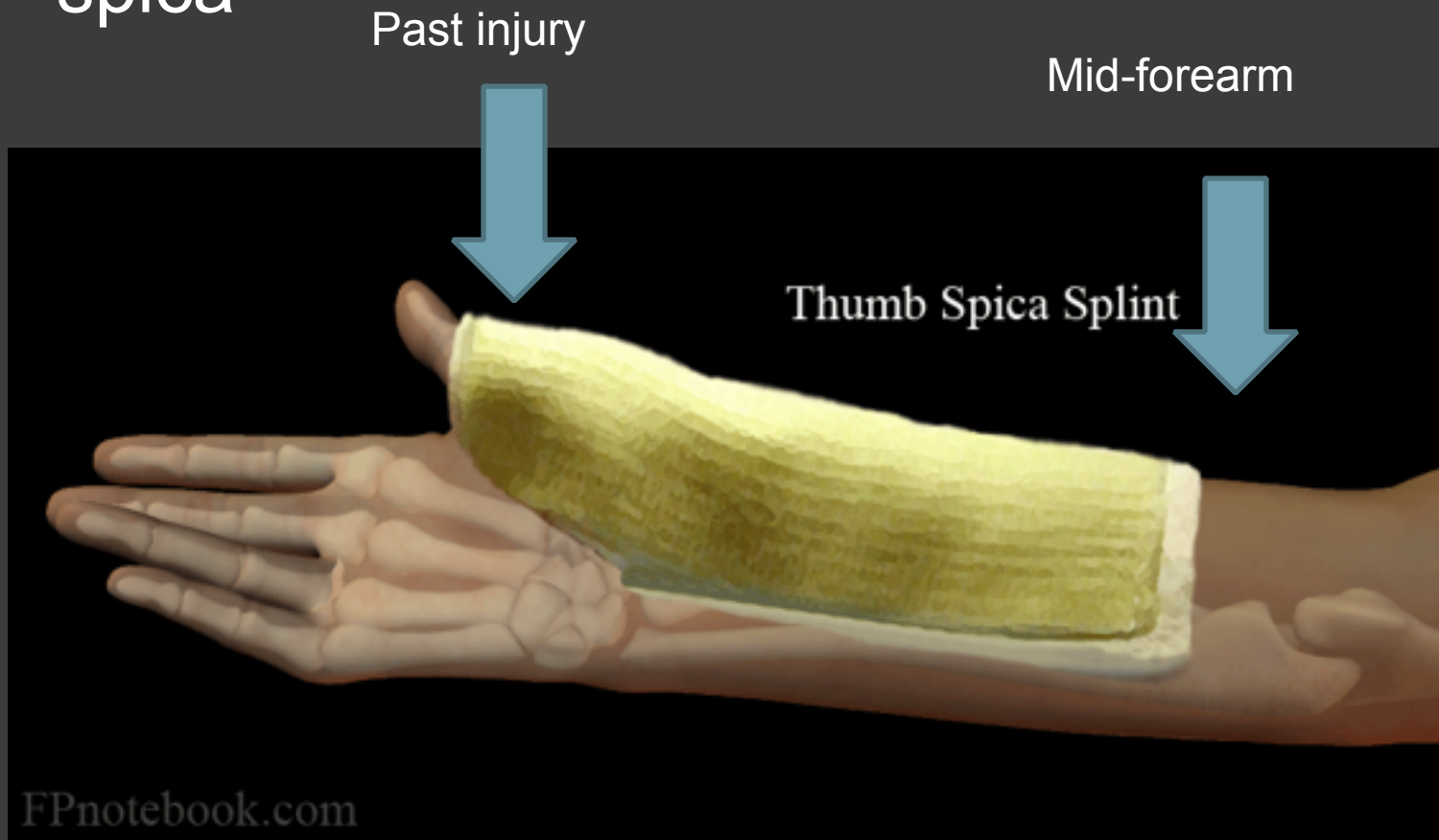


Mid-forearm



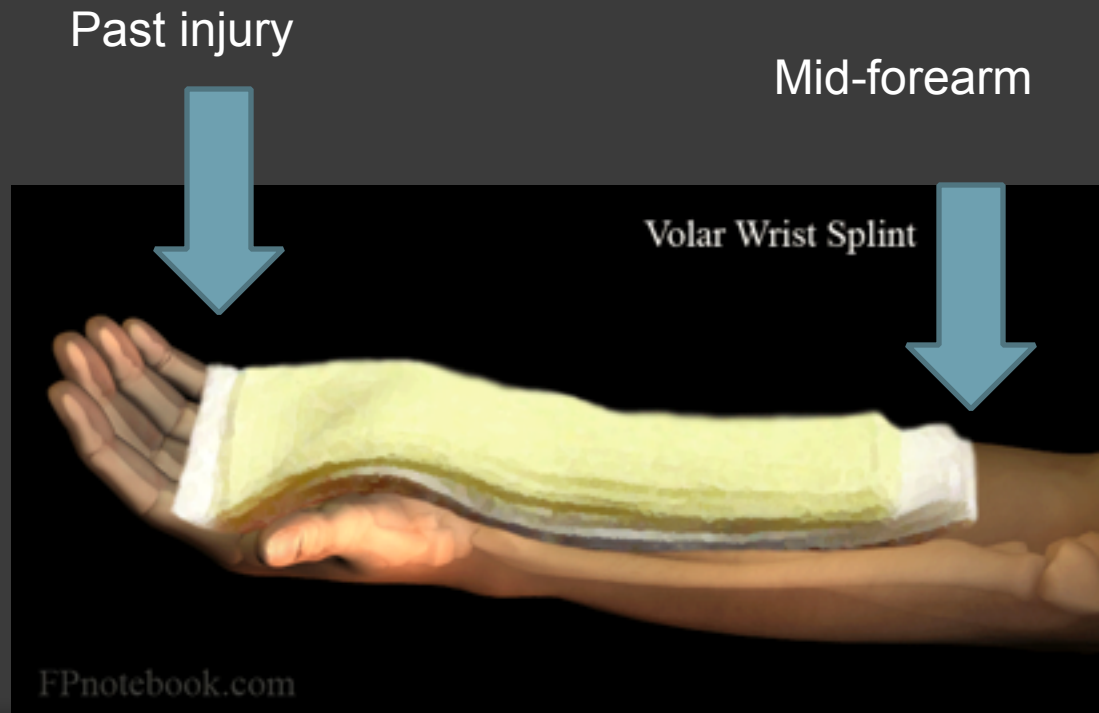
# Hand/Wrist

- Ulnar hand or wrist → ulnar gutter
- Thumb, radial hand, radial wrist → thumb spica



# Hand/Wrist

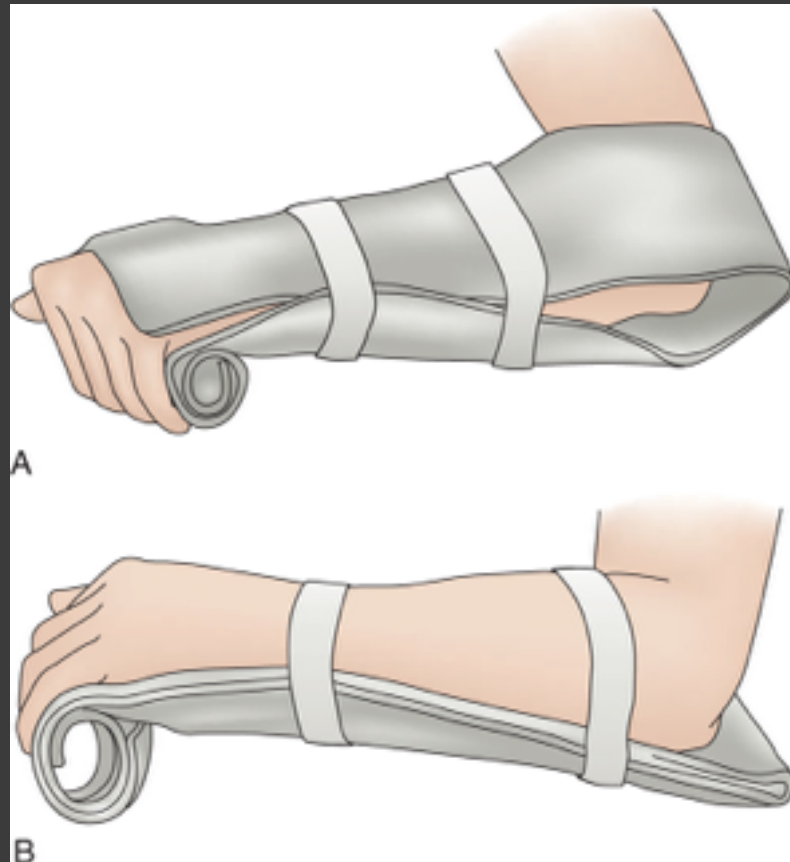
- Ulnar hand or wrist → ulnar gutter
- Thumb, radial hand, radial wrist → thumb spica
- Almost any hand/wrist fracture → volar splint



# Forearm

- ◉ Sugartong

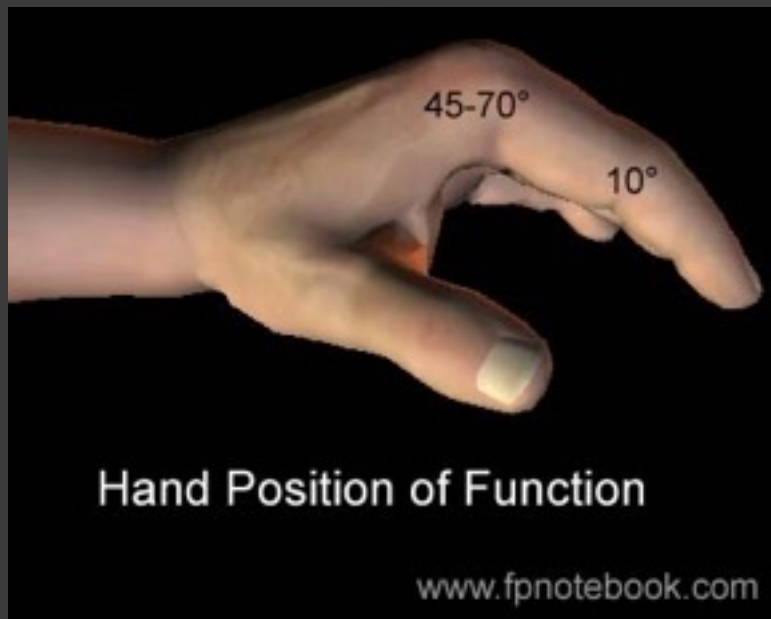
- ◉ (Volar )





# Position of function- Hand/wrist

- Hold padded object in palm

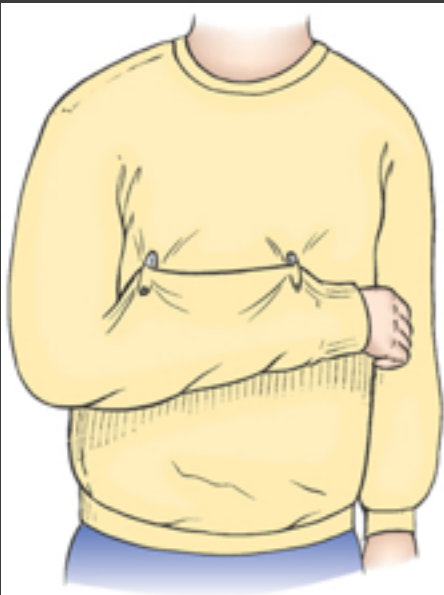


# Humerus/shoulder

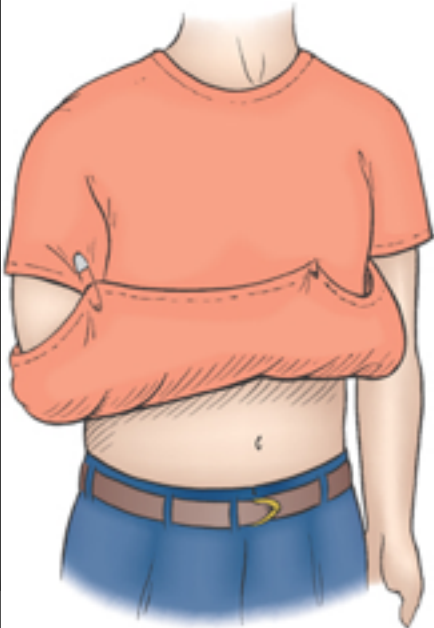
Immobilizes the shoulder and elbow



# Sling and swathe



A



B



# Next case...

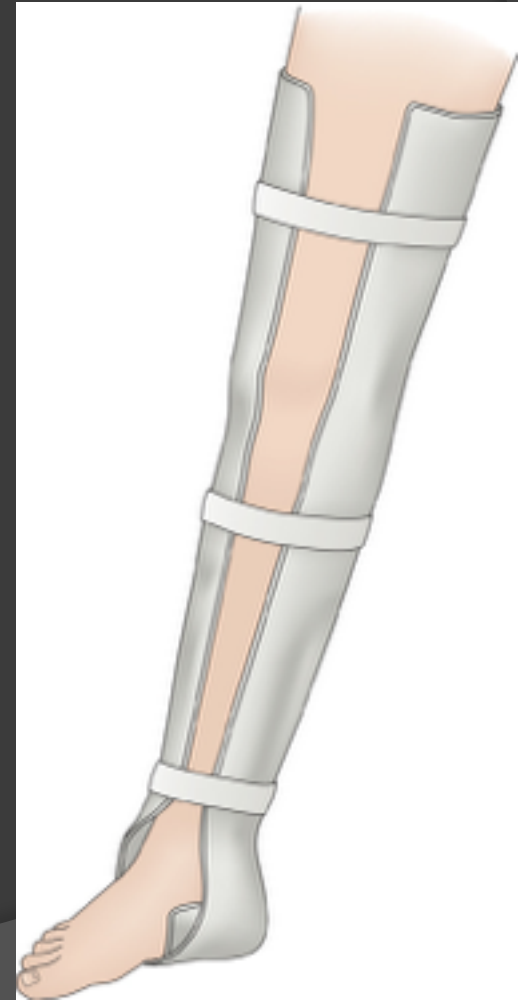
- 20s yo M mountain biking near dusk when he went over his handlebars, doing almost full flip and landing on his left ankle.





# Lower leg/ankle

- Posterior leg splint
- Stirrup splint





# Now... get out

- ⦿ Evacuation Techniques
  - Backpack carry
  - 3 person wheelbarrow
  - Skis/ski poles/tent poles/oars
    - Blanket litter
    - Tree pole litter
    - Parka litter
    - Life jacket litter
    - Rope litter
    - Continuous loop or mummy litter



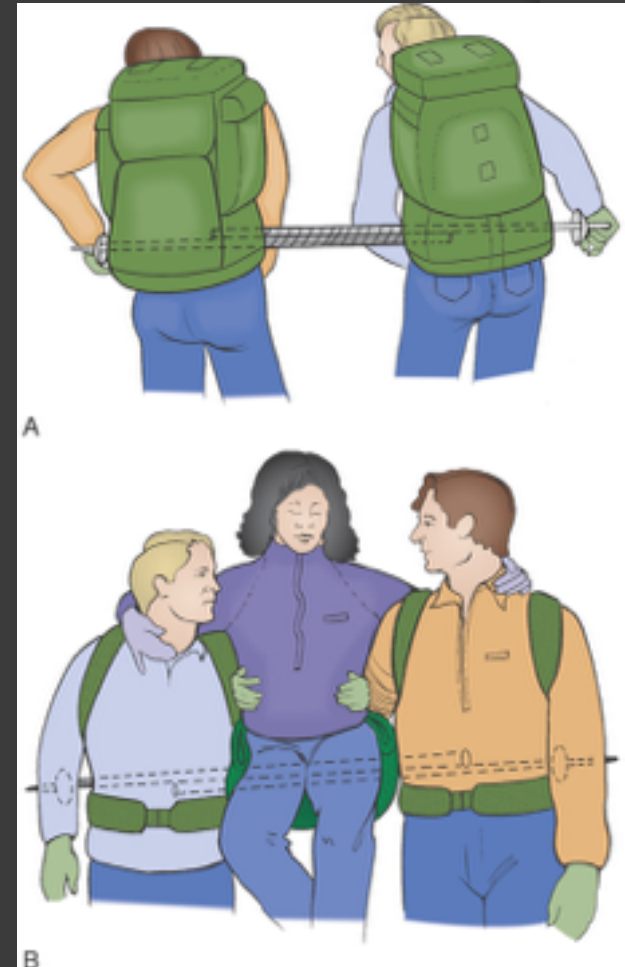
# Now... get out

- ◉ Evacuation Techniques
  - Backpack carry



# Now... get out

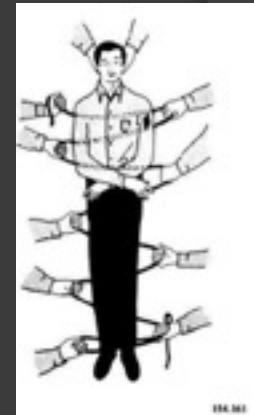
- ◉ Evacuation Techniques
  - 3 person wheelbarrow



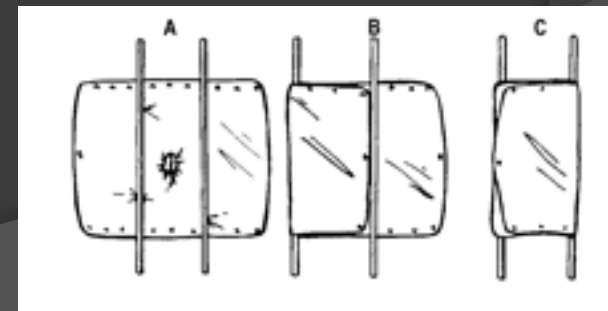
# Now... get out

## Evacuation Techniques

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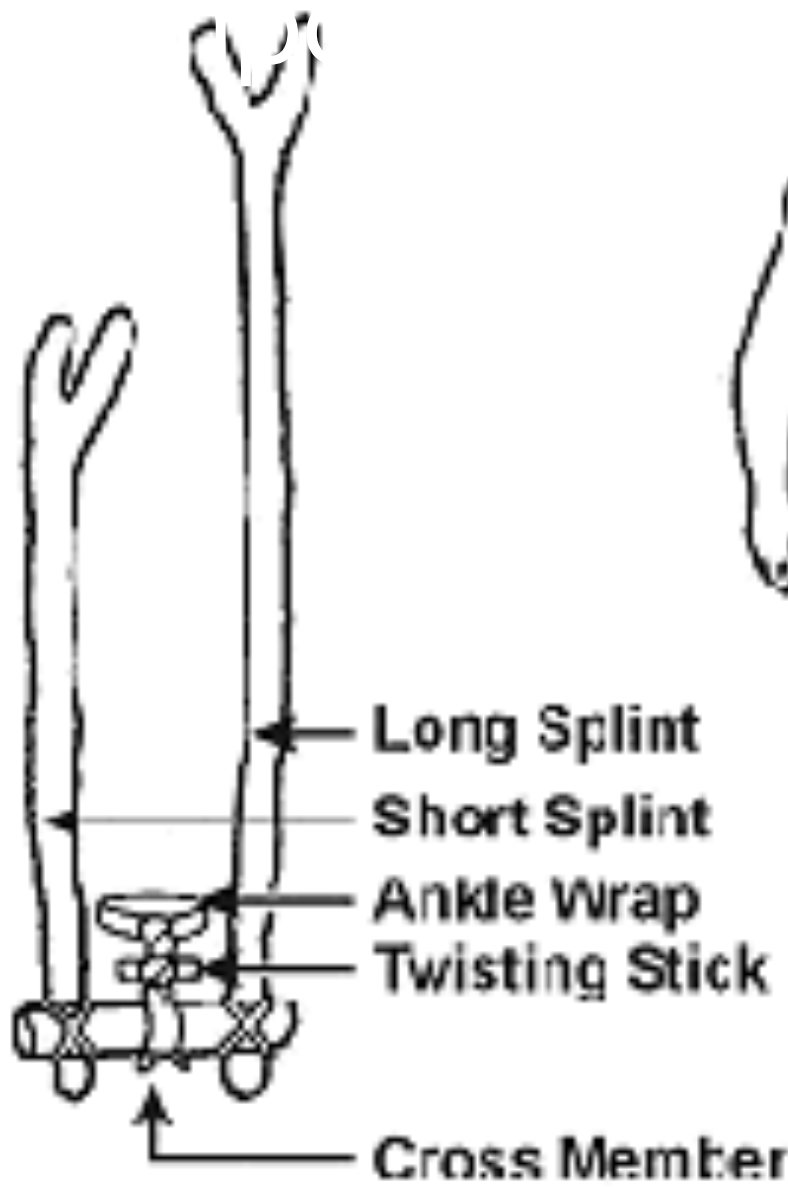
Простейшие носилки из лыж или шестов и двух курток



# Traction splint

- ⦿ Femur fractures can kill
  - Can bleed up to 2L
  - High potential for neurovascular compromise
  - No distal pulse? Realigning limits ischemia
  - Painful!

no int



OK, let's play!