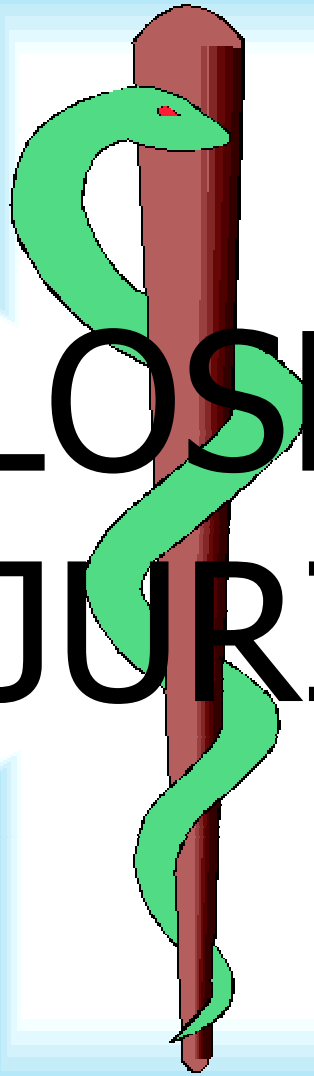
MUSCULOSKELETAL INJURIES



OBJECTIVES

4-2.1 Identify basic facts and terms about orthopedics and why and when to accomplish procedures in the treatment of musculoskeletal injuries with at least 80% accuracy.

OBJECTIVES

- Musculoskeletal Review
- Injuries to Bones
- Splinting

Review of the Musculoskeletal System

- Functions
  - Give body shape
  - Protect vital organs
  - Provide for body movement

Review of the Musculoskeletal System

- Composed of muscles, bone, joints, ligaments, tendons and cartilage

The Skeletal System

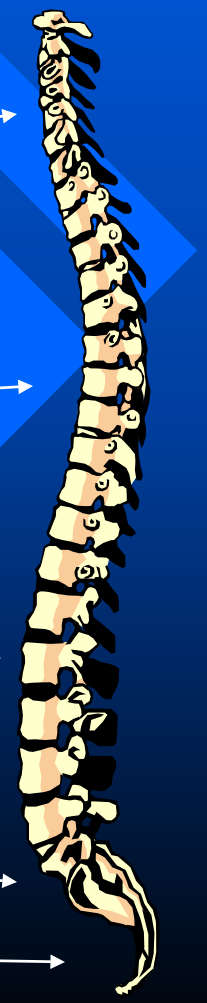
- Components
  - Skull
    - »Houses and protects the brain

The Skeletal System

- Face
  - Orbit
  - Nasal bone
  - Maxilla
  - Mandible (jaw)
  - Zygomatic bones (cheeks)

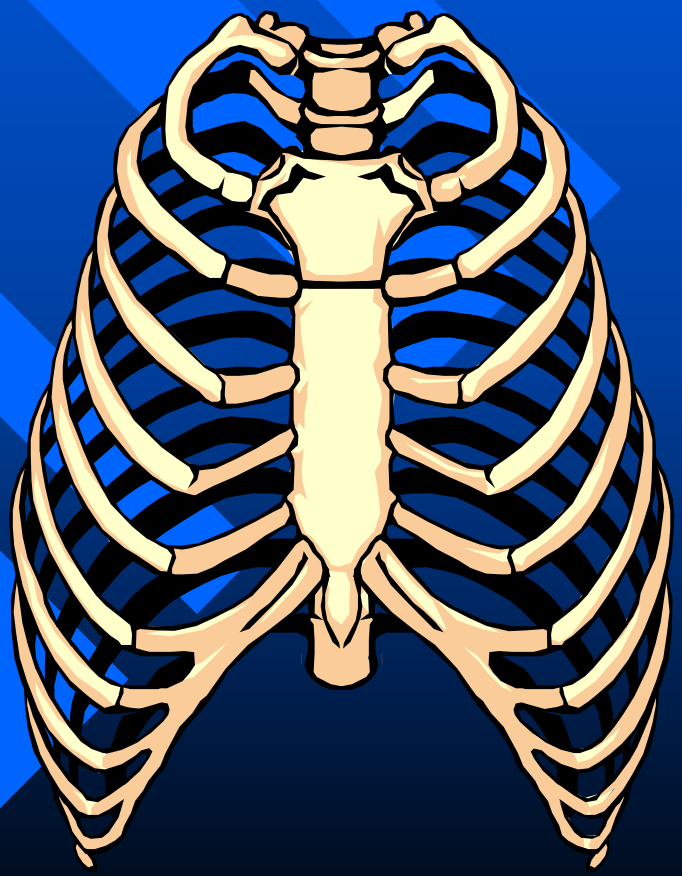
The Skeletal System

- Spinal column
  - Cervical - 7
  - Thoracic - 12
  - Lumbar - 5
  - Sacral - 5
  - Coccyx - 4



The Skeletal System

- Thorax
  - 12 pair of ribs
- Sternum
  - Manubrium
  - Body
  - Xiphoid process

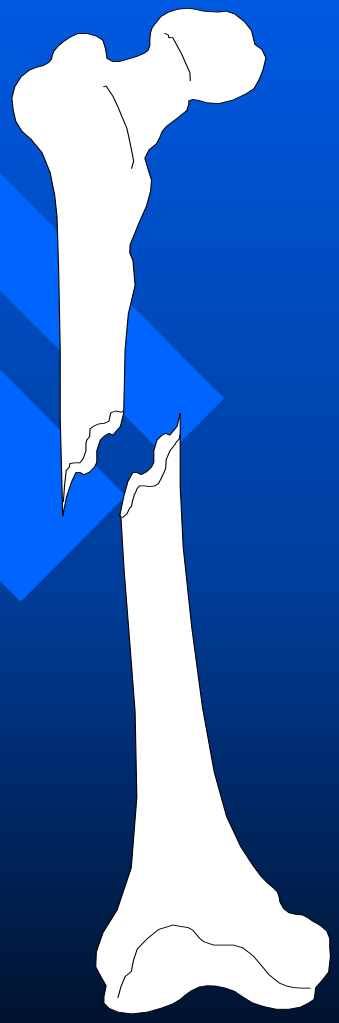


The Skeletal System

- Pelvis
  - Pubis- anterior of pelvis
  - Ischium- inferior of pelvis
- Lower extremities
- Upper extremities

Injuries to Bones

- Mechanism of Injury
  - Direct
  - Indirect force
  - Twisting force

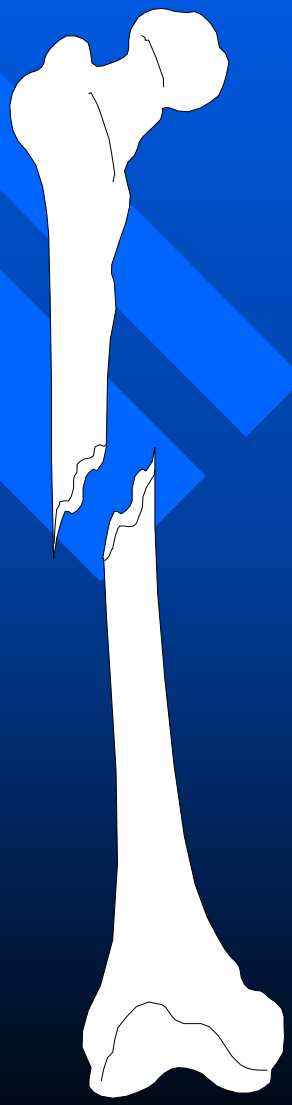


Injuries to Bones

- Types of musculoskeletal injuries
  - Open
    - »Break in skin
  - Closed
    - »No break in skin

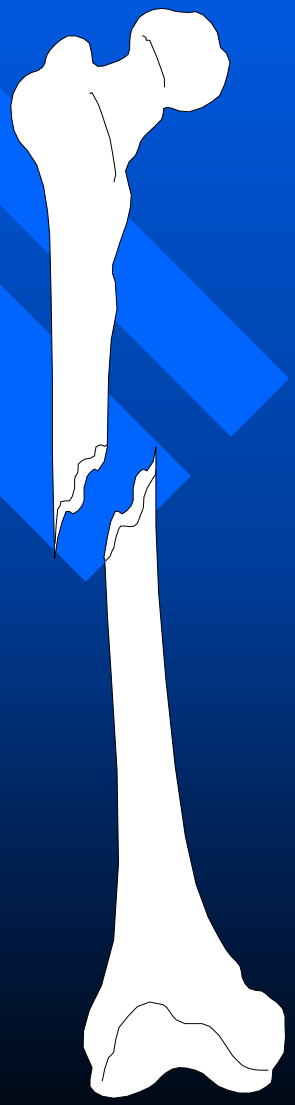
Signs and Symptoms

- Deformity or angulation
- Pain and tenderness
- Crepitus



Signs and Symptoms

- Swelling
- Bruising
- Exposed bone
- Immovable joint



Emergency Care

- Body Substance Isolation
- Oxygen
- Control life threats
- Splint

Emergency Care

- Apply cold pack (local protocol)
- Elevate if no suspicion of spinal injury

Emergency Care

- Our #1 goal is to reduce pain and prevent futher damage

Splinting

- Purpose
  - Prevent motion of bone fragments, bone ends, or angulated joints

Splinting

- Minimize or prevent the following complications
  - Damage to blood vessels/nerves/muscles
  - A closed injury from becoming an open injury
  - Restriction of blood flow

Splinting

- Minimize or prevent the following complications
  - Excessive bleeding
  - Increased pain
  - Paralysis of extremities

General Rules

- Expose area according to environment and severity of situation
- Check circulation,sensory, motor function

General Rules

- Cover open wounds with sterile dressing
- If extremity has no pulse, align with gentle traction
  - Must call medical direction for permission

General Rules

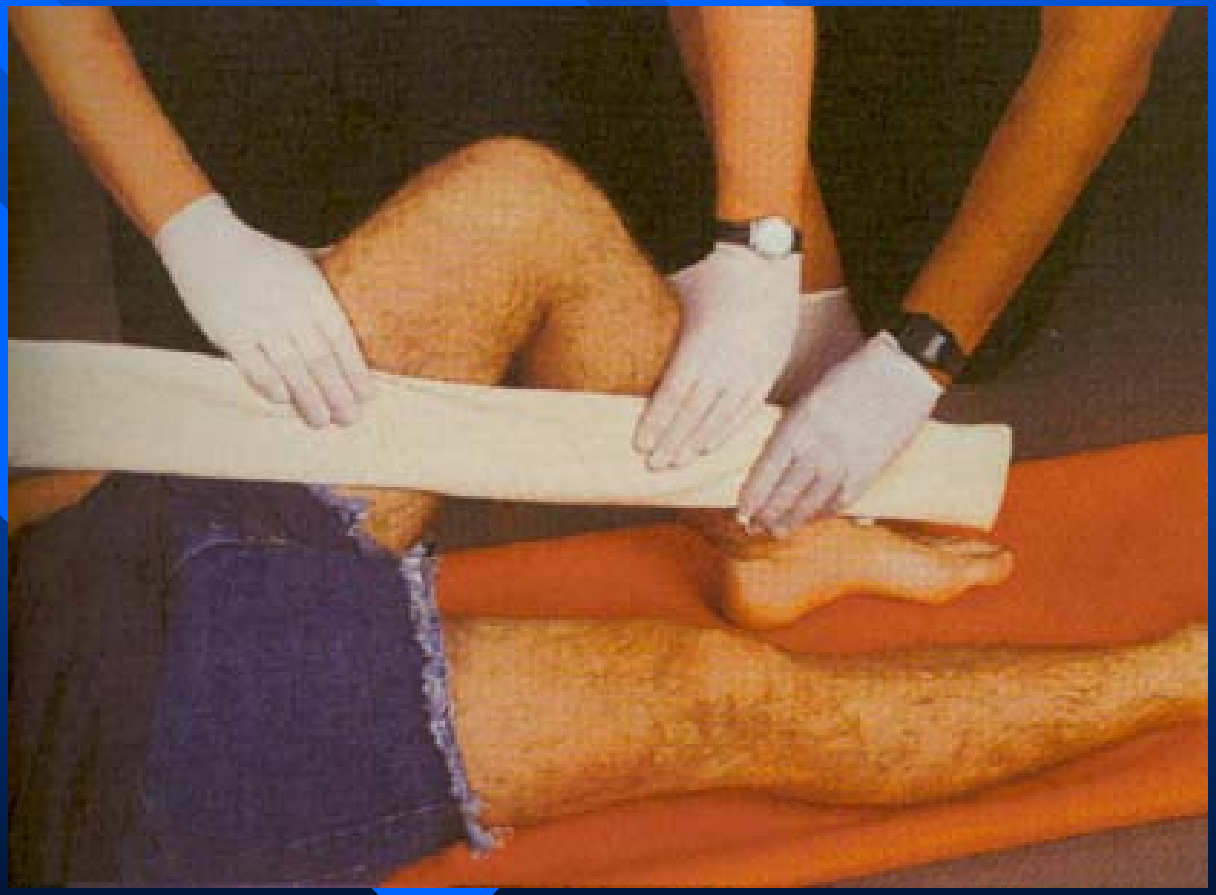
- Do not intentionally replace protruding bones
- If extremity has no pulse, align with gentle traction
  - Must call medical direction for permission

General Rules

- Splint before moving
- When in doubt splint
- Watch for shock

Equipment

- Rigid splints
  - SAM splints
  - Rigid Splints



Equipment

- Traction splints
  - Indications
  - Contra-indications

Equipment

- Pneumatic splints
  - Air
  - Vacuum
  - Pneumatic Anti-Shock Garment

Equipment

- Improvised
  - –Pillows
  - –Tree branches
  - –Books

Hazards of Improper Splinting

- Compression of nerves, tissues, and blood vessels
- Delay in transport of patient with life threatening

Hazards of Improper Splinting

- Splint applied too tight reducing distal circulation
- Aggravation of the injury

Review

4-2.1 Identify basic facts and terms about orthopedics and why and when to accomplish procedures in the treatment of musculoskeletal injuries with at least 80% accuracy.

Review

- Musculoskeletal Review
- Injuries to Bones
- Splinting