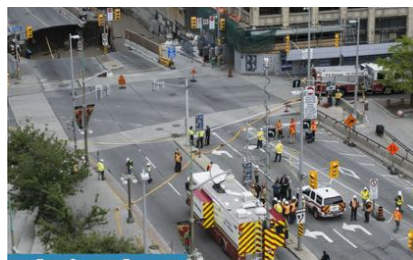


Emergency Medical Responder: A Skills Approach

Fifth Canadian Edition



FIFTH CANADIAN EDITION

EMERGENCY MEDICAL RESPONDER

A SKILLS APPROACH

MEETS PARAMEDIC ASSOCIATION OF CANADA'S
NATIONAL OCCUPATIONAL COMPETENCY PROFILE



DANIEL LIMMER • EDWARD T. DICKINSON
JOHN MACKAY • MICHELLE MACKAY



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26 - 1

Chapter 26

Musculoskeletal Injuries

Objectives (1 of 2)

- Differentiate between an open and a closed musculoskeletal injury and outline the emergency medical care of each.
- State five clear reasons for splinting a musculoskeletal injury.
- Compare the following splints: rigid, traction, circumferential, improvised, and sling and swath.
- List 10 general rules for splinting a musculoskeletal injury.
- List four complications of improper splinting.



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26 - 2

Objectives (2 of 2)

- Describe the type of splint and the method used to splint the following parts of the upper extremities: clavicle, shoulder, shoulder and humerus, elbow, forearm and wrist, hand and fingers.
- Describe each type of splint and the method used to splint the following parts of the lower extremities: pelvis, hip, femur, knee, tibia and fibula, ankle and foot.
- Demonstrate a caring attitude toward the patient and family when dealing with musculoskeletal injuries, while giving priority to the interests of the patient.

Types of Bones and Muscle Injuries

- Fracture
- Strain
- Sprain
- Dislocation

Causes of Bones and Muscle Injuries

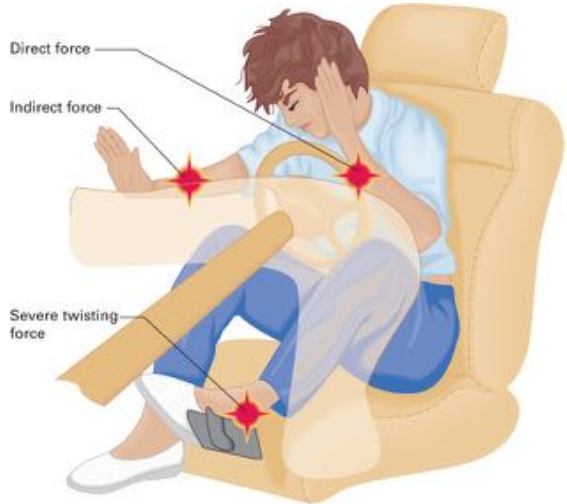


Figure 26-1 Different types of force can cause different types of injury.

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Open Versus Closed Bones and Muscle Injuries



Figure 26-2 A closed injury versus an open one.

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Sign & Symptoms of Bones and Muscle Injuries

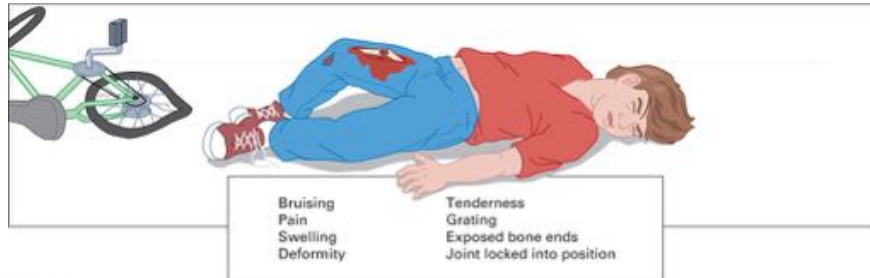


Figure 26-3 Signs and symptoms of bone or joint injuries.

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Emergency Care Procedure

- Take BSI precautions
- Identify and treat immediate life threats
- Stabilize injured extremity
- Expose injury site
- Treat any open wounds
- Allow patient to rest in position of comfort

Reasons for Splinting

- To prevent motion of bone fragments or dislocated joints
- To minimize damage to surrounding tissues, nerves, blood vessels, and bone itself
- To help control bleeding and swelling
- To help prevent shock
- To reduce pain and suffering

Different Types of Splints

- Rigid splints
- Traction splints
- Circumferential splints
- Improvised splints
- Sling and swath



Figure 26-5 Examples of splints.

General Rules for Splinting (1 of 4)

- BSI precautions
- Hold stabilization until immobilized
- Don't replace protruding bones
- Expose injury
- Control bleeding
- Secure joints above and below injury
- Use gentle alignment
- Pad the splint

General Rules for Splinting (2 of 4)



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General Rules for Splinting (3 of 4)



Figure 26-6c After controlling bleeding, place a sterile dressing over any open wounds.

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Figure 26-6d If there is severe deformity, absence of pulse, or cyanosis in the extremity, align it with gentle traction if you are allowed to do so. Maintain it until the limb is completely immobilized.

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General Rules for Splinting (4 of 4)



Figure 26-6e Pad the splint.

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Figure 26-6f Secure the limb to the splint and reassess pulse, movement, and sensation.

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Complications of Improper Splinting

- Compress nerves, tissues, and blood vessels under the splint
- Moves displaced or broken bones
- Reduces blood flow below injury site
- Delays transport of patient who has life threatening problem

Applying a Sling and Swath



Figure 26-7a Place a pad between the injured arm and the chest.

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Figure 26-7b Support the injured arm with a sling.

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Figure 26-7c Immobilize the arm with a swath.

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Splinting the Leg (1 of 3)

- **Hip** - Blanket roll and bind legs together then place on scoop stretcher, padding the hollows.



Figure 26-17 A high femur fracture immobilized in a fixation splint.

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Splinting the Leg (2 of 3)

- **Femur, knee, tibia, fibula** - A long leg splint can be used for the tibia/fibula or when a fracture might be too close to a joint to use a traction splint.



Figure 26-19 Fixation splint of the tibia/fibula using padded boards.

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Splinting the Leg (3 of 3)

- **Ankle** - Blanket roll or pillow.



Figure 26-20 Blanket-roll splint of the ankle and foot.

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Traction Splinting (1 of 3)



Figure 26-16a Assess pulse, movement, and sensation below the injury site.

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Figure 26-16b Manually stabilize the limb.

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Figure 26-16c Apply the ankle hitch.

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Traction Splinting (2 of 3)



Figure 26-16d Apply and maintain manual traction. Position the splint.

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Figure 26-16e Attach the ischial strap.

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Figure 26-16f Fasten the splint to the ankle hitch. Apply mechanical traction.

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Traction Splinting (3 of 3)



Figure 26-16g Fasten leg support straps in place.

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Figure 26-16h Reassess CWCM.

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