Extremity Trauma/Hemorrhage Control

Signs and Symptoms

- Pain
- Swelling
- Deformity
- Altered sensation/motor function
- Diminished pulse
- Pale, delayed capillary refill
- Decreased extremity temperature

History

- Type of injury
- Mechanism
  - Blunt
  - Crush
  - Penetrating
  - Amputation
- Time of injury
- Open vs. Closed Fracture
- Wound contamination

Differential

- Abrasion
- Contusion
- Laceration
- Sprain
- Dislocation
- Fracture
- Amputation

WARNINGS

! In some cases, uncontrolled hemorrhage from a neck or torso injury may benefit from use of hemostatic gauze. However, deeply packing hemostatic gauze into chest/abdominal cavities or into cranium is not recommended. Consult Medical Control for unclear circumstances.

Care: Adult and Pediatric Patients

B E I P

Follow general directive #3, Orders for all Patients.

If uncontrolled bleeding, initiate immediate hemorrhage control in step-wise fashion:

Constant direct pressure is the primary method of bleeding control.*

If direct pressure fails to promptly control bleeding from extremity, use a tourniquet placed as proximal as possible. Tighten the tourniquet until the bleeding stops.

For life-threatening hemorrhage that can't be controlled by a tourniquet, consider use of a hemostatic gauze dressing. Place in direct contact with the source of bleeding and apply direct pressure followed by a pressure dressing.

Isolated extremity injury?

YES

Bandage wounds and splint extremity as indicated. Elevate and apply ice to reduce swelling.
If poor distal pulse, loss of movement or sensation, contact Medical Control for direction.

If amputation, gently clean amputated part with saline, wrap in moist sterile dressing and place part in container. Place container on ice.

E I P

Initiate **IV access** if life or limb threatening event

E I P

Consider medication for pain management. Go to **Non Cardiac Emergency Protocol #8 Pain and Nausea Management**

NO

Go to **Trauma Protocol #4 Major Trauma**

Pearls

- Control of life-threatening external hemorrhage generally takes priority over any other treatment.
- Commercial tourniquets such as the M.E.T. are recommended.
- *In a multiple casualty incident or obvious life threatening extremity hemorrhage, consider tourniquet application first.
- If no commercial tourniquet available, only use wide, flat materials such as cravats or BP cuffs as improvised tourniquets.
- Document time and location of tourniquet and notify hospital staff upon transfer.
- Wound packing with hemostatic gauze requires direct pressure to start control of bleeding.
- Significant blood loss may be concealed within extremity (particularly thigh).
- Finger/toe amputations are generally transported to closest emergency department for initial evaluation and treatment.
- Open fractures should generally be transported to a hospital-based (not free-standing) emergency department.

Performance Indicators

- Assess and document circulation, movement and sensation before and after immobilizing extremity.
- Prompt escalation of hemorrhage control techniques if severe bleeding.