

Extremity Trauma/External Hemorrhage Management

Aliases

None noted

Patient Care Goals

1. Minimize blood loss from extremity hemorrhage
2. Avoid hemorrhagic shock due to extremity hemorrhage
3. Minimize pain and further injury due to fractures, dislocations, or soft-tissue injuries

Patient Presentation

Inclusion Criteria [Refer to [Crush Injury and Crush Syndrome Guideline](#)]

1. Traumatic extremity hemorrhage (external hemorrhage) due to blunt or penetrating injury
2. Known or suspected extremity fractures or dislocations

Exclusion Criteria

None noted

Patient Management

Assessment

1. Assess degree of extremity/external bleeding/blood loss
2. Vascular status of extremity:
 - a. Pallor
 - b. Pulse
 - c. Capillary refill and skin temperature
3. Evaluate for obvious deformity, shortening, rotation, or instability
4. Neurologic status of extremity:
 - a. Sensation to light touch
 - b. Distal movement of extremity

Treatments and Interventions

1. Manage bleeding:
 - a. Expose the wound and apply direct pressure to bleeding site, followed by a pressure dressing
 - b. If direct pressure/pressure dressing is ineffective or impractical:
 - i. If the bleeding site is amenable to tourniquet placement, apply a commercial tourniquet to extremity:
 1. Tourniquet should be placed 2–3 inches proximal to wound, not over a joint, and tightened until bleeding stops and distal pulse is eliminated
 2. If bleeding continues, place a second tourniquet proximal to the first
 3. For thigh wounds, consider placement of two tourniquets, side-by-side, and tighten sequentially
 - c. **Wound packing:**
 - i. **Indications:** Groin/axillary (“junctional”) injury or any limb wound with persistent bleeding despite direct pressure and/or application of commercial tourniquet(s)