



# Jackson Hole Fire/EMS Operations Manual

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Title: **Procedure Guidelines:  
Tourniquet**

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## TOURNIQUET (Procedure Guidelines)

**EMR, EMT, EMT-I, Paramedic: NO VOICE ORDER REQUIRED**

### PURPOSE:

- To control **life-threatening** hemorrhage when other hemostatic methods will not be sufficient.

### INDICATIONS:

- Severed or partially amputated extremity with associated hemorrhage
- Uncontrollable life threatening bleeding to any extremity
- MCI, Tactical, or Technical situations where extremity bleeding is occurring, and limited resources or ability to apply direct pressure for initial bleeding control.

### CONTRAINDICATIONS:

- Patients whose bleeding can be controlled by other means (direct pressure or pressure dressing). Well-aimed direct pressure with a gloved hand and bandage will stop most bleeding.
- Tourniquet application is a life-preserving measure. As such it has no true contraindications.

### PRECAUTIONS:

- Tourniquet should be removed by receiving facility as soon as adequate hemorrhage control can be maintained. Ideally within 2 hours from application.
- Tourniquet should not be removed by EMS, **UNLESS** prolonged care (more than 2 hours) is encountered and bleeding has been controlled. **Tourniquets left in place for more than 6 hours should be left in place until definitive care is reached.** Tourniquets placed initially in MCI, technical, or tactical environments where little assessment was performed may be loosened and bleeding assessed – do not remove tourniquet from limb, only loosen in case reapplication is needed. Careful monitoring is necessary to ensure bleeding does not return.
- Ischemic tissue injury under and distal to tourniquet is a secondary concern after the life threat caused by severe hemorrhage.
- If applied tightly enough to occlude venous flow but **not** arterial flow, the tourniquet will not stop hemorrhage and can cause compartment syndrome distal to injury.
- Standing Order- although thorough communication with Medical Control is required as soon as possible to prepare for patient arrival.

## GENERAL PROCEDURE:

- Observe appropriate BSI precautions (gloves and eye protection at a minimum)
- Control ABC's and Spinal Precautions as necessary
- Where life-threatening hemorrhage exists in an extremity, apply immediate direct pressure with a gloved hand and pressure dressing while tourniquet is prepared.
- Place tourniquet around affected limb, as distal as possible, though at least 5 cm (2 inches) proximal to the injury site. If significant bleeding continues, apply 2<sup>nd</sup> tourniquet on proximal thigh or upper arm (if possible).
- Tourniquet should ideally be placed on exposed skin, with all clothing removed. Anything between the tourniquet and the skin will compromise tourniquet performance.
- Avoid application of tourniquet over joints.
- Tourniquet should be tightened sufficiently to completely occlude both venous and arterial blood flow. **If a distal pulse is present, the tourniquet is not tight enough.** Pain will be present from an appropriately applied tourniquet.
- Secure tourniquet windlass to ensure no slippage.
- Reassess for bleeding frequently. Bandage should still be applied over wound(s).
- Document time that tourniquet was applied and communicate that information to Medical Control.
- Mark the tourniquet's time applied with an indelible marker on the tourniquet itself or other conspicuous place (i.e. forehead).
- Do not loosen tourniquet to 'check' blood flow. Tourniquet should be left in place until arrival at destination or with other exceptions as described above.
- Continue with other BLS and ALS procedures for hypovolemia and hypothermia.
- Appropriate pain control may be necessary with appropriately applied tourniquet.

### References:

1) Doyle G, Taillac P. Tourniquets: A Review of current use with proposals for expanded prehospital use. Prehospital Emergency Care. 2008;12:241-256.