

Severe Hemorrhage Control: HemCon ChitoGauze / Tourniquet

Supersedes: 12-13-10

Effective: 10-28-13

PURPOSE

Hemorrhage remains a leading cause of death in civilian trauma. Recent advancements on the battlefield have led to both a better understanding of tourniquet use as well as new hemostatic control agents which have been deployed into civilian EMS agencies. **HemCon® ChitoGauze** is a *prescription* hemostatic dressing for the external, temporary control of severely bleeding wounds. HemCon® has been shown to be an effective tool in controlling severe hemorrhage when standard methods (direct pressure, pressure bandage, elevation, etc) are not effective. This protocol also incorporates the SOP for the proper use of tourniquets.

Boston EMS has recognized the importance of tourniquets in the pre-hospital setting for over a decade. Recent events, including the marathon bombings and other active shooter events continue to demonstrate the importance of early control of exsanguinating hemorrhage. Additionally, these events have highlighted the importance of having appropriate equipment available immediately for application. As a result, the Department will issue one Combat Application Tourniquet (CAT) to each department member to be kept on their person. This will ensure that in the event of another mass casualty incident (MCI) with potential threat to self and other responders, every department member will have on hand a tourniquet ready for use.

A few key points on the issuance of the CAT:

- The purpose of the individual issued CAT is primarily for self-aid or buddy-aid of another department member or emergency responder.
- The current BEMS Hemorrhage Control Kits utilizing rubber tubing/hemostat should be the primary kit used for severe hemorrhage control, when available.
- Alternatively, the CAT can be used if a rubber tubing/hemostat tourniquet is not immediately available, or is ineffective in stopping hemorrhage.
- Providers should consider the preferred use of a rubber tubing/hemostat tourniquet for upper thigh/high groin hemorrhage where CAT placement may not be as effective.
- The supplies of CAT are limited. As such, individual issue CATs will be replaced after a documented use or contamination when possible.

INDICATIONS:

Tourniquet

- Placed for traumatic injury when required to prevent death due to life-threatening hemorrhage in wounds amenable to treatment with a tourniquet (e.g. extremity trauma, amputation)
- Life-threatening venous or arterial hemorrhage which is uncontrolled by standard treatment

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- Severe venous or arterial hemorrhage which is uncontrolled by standard treatment

- Life-threatening bleeding not amenable to tourniquet use (e.g. head, neck, torso injury)
- In conjunction with tourniquet use

CONTRAINDICATIONS:

- Bleeding controlled by standard treatment
- HemCon ChitoGauze should NOT be applied over eyes.
- Seafood allergy is NOT a contraindication for using HemCon ChitoGauze

PROCEDURE:

Tourniquet

- Place the tourniquet as distal as possible on the limb, but 2-3 inches above the wound. Do not apply directly over a joint.
- Place tourniquet directly on skin whenever possible to avoid slippage
- Place tubing over top of the injured limb, pull tubing outward prior to folding under the limb. Cross the tubing over itself.
- Pull tubing outward again and then cross tubing on top of the injured limb crossing tubing over itself again
- Secure the tubing with hemostats to avoid tubing from releasing
- Document use and time of placement in SafetyPad
- Notify and advise receiving hospital staff of use and area of placement of tourniquet
- Tourniquets placed in the field should not be removed unless advised to do so with medical direction

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- Identify source of bleeding.
- Open foil pouch and remove ChitoGauze, unfold bandage.
- Pack ChitoGauze into wound using enough ChitoGauze to fill wound. Ensure that the surface of the ChitoGauze is in contact with the bleeding surfaces of the wound.
- In the case of bleeding dialysis fistula/graft, place HemCon directly over maximal site of bleeding.
- Apply standard 4x4 gauze over ChitoGauze to apply pressure to wound for at least 3 minutes, and if possible secure with Kerlex or similar bandage.
- HemCon ChitoGauze is a *prescription* item, it will be deployed to each ambulance and Supervisor vehicle- not to the individual. Like all other medications, it should be accounted for at the beginning of each shift. It will be distributed as part of a severe hemorrhage kit, including a HemCon ChitoGauze, tourniquet, hemostats, and standard gauze. Par level of 2 per vehicle.
- Document use in SafetyPad.
- Notify and advise receiving hospital staff that HemCon ChitoGauze use has been administered. In order for hospital staff to remove HemCon ChitoGauze, advise them to use saline irrigation for removal.