



Tourniquets/Bleeding Control

APPROVED:

A handwritten signature in blue ink, appearing to be "G. T.", written over a horizontal line.

EMS Medical Director

A handwritten signature in blue ink, appearing to be "V. Lopez", written over a horizontal line.

EMS Administrator

1. Goals/Introduction
 - 1.1. Use of a tourniquet device can assist in the care of patients with uncontrollable bleeding in the extremities safely and effectively
2. Indications
 - 2.1. The use of a San Mateo County approved tourniquet device is a BLS skill, appropriate when extremity hemorrhage cannot be controlled by direct pressure.
 - 2.1.1. Injuries in which pressure dressings do not control bleeding
 - 2.1.2. Injuries with impaled foreign body and uncontrolled extremity bleeding
 - 2.1.3. Multi-casualty incident (MCI) where immediate bleeding control is needed so you can move on to the next patient
 - 2.2. Significant extremity hemorrhage accompanied by:
 - 2.2.1.1. Need for airway management.
 - 2.2.1.2. Circulatory shock.
 - 2.2.1.3. Need for other emergent interventions or assessment.
 - 2.2.1.4. Significant bleeding from multiple locations
 - 2.3. Traumatic amputation
3. Procedure
 - 3.1. Tourniquet Placement: The Combat Application Tourniquet (CAT) is an approved device and is the only commercially approved device for use in n San Mateo County
 - 3.2. The Combat Application Tourniquet (CAT)
 - 3.2.1. Visually inspect injured extremity and assess and document circulation, motor and sensation distal to injury site
 - 3.2.2. Apply tourniquet proximal to wound (usually two to four [2-4] inches). Do not place tourniquet over joint

Issue Date: 11/2014

Effective Date: 11/5/2014

Review Date: 11/2017



Apply tourniquet proximal to the bleeding site. Route the band around the limb and pass the tip through the inside slit of the buckle. Pull the band tight.

3.2.3. Pass the band through the outside slit



Pass the tip through the outside slit of the buckle. The friction buckle will lock the band in place.

3.2.4. Pull band tight



Pull the band very tight and securely fasten the band back on itself.

3.2.5. Twist the windlass rod until bleeding stops



Twist the rod **until bright red bleeding has stopped and /or distal pulse is eliminated.**

3.2.6. Lock the rod with the clip



Place the rod inside the clip; locking it in place.
Check for bleeding and distal pulse. If bleeding is not controlled, consider additional tightening or applying a second tourniquet proximal side by side to the first and reassess.

3.2.7. Secure the rod with the strap



Secure the rod inside the clip with the strap.
Prepare the patient for transport and reassess. Record the time of application.

3.2.8. If placing around the upper extremity, adhere the band over the rod then secure both rod and the band with the strap



3.2.9. Re-assess and document circulation, motor and sensation distal to tourniquet and time and date the tourniquet is placed. (Tourniquet placement date and time must be documented on the tourniquet device/patient). Mark a "T" on the patient's forehead if possible

3.2.10. Ensure receiving facility staff is aware of tourniquet placement and time tourniquet was placed

3.3. Tourniquet Removal:

3.3.1. The tourniquet may be removed only after base hospital physician consultation

4. Comments

- 4.1. During MCIs a patient requiring a tourniquet is triaged as a 'Red' or 'Immediate'. Start/Jump START triage priority to facilitate transport and minimize tourniquet time
- 4.2. Apply pressure only until bleeding is controlled
- 4.3. Notify transporting EMS personnel and receiving hospital staff that a tourniquet is present

Skill Sheet 020502

Combat Application Tourniquet (C-A-T)

Objective: Demonstrate the proper application of a Combat Application Tourniquet

References:

PHTLS (Military Edition) Seventh Edition Elsevier, Mosby

Evaluation: Students will be evaluated as a Pass/Fail (P/F). The instructor will verify the student's ability to quickly and effectively apply a Combat Application Tourniquet to an extremity of him/herself or a fellow student by observing the student's procedure and technique.

Materials:

Student Checklists

Combat Application Tourniquets 24

Students perform on each other

Instructor Guidelines:

1. Provide each instructor with Student Checklists.
2. Ensure each student has all required materials.
3. Read the Learning Objective and the evaluation method to the student.
4. Explain the grading of the exercise.

Performance Steps:

1. Remove the C-A-T from the carrying pouch.
2. Slide the extremity through the loop of the Self-Adhering Band or wrap Self-Adhering Band around the extremity and reattach to friction adapter buckle.
3. Position the C-A-T above the wound; leave at least 2 inches of uninjured skin between the C-A-T and the wound.
4. Secure the C-A-T.
 - Pull the free running end of the Self-Adhering Band tight and securely fasten it back on itself (if applying to an arm wound). Do not adhere the band past the Windlass Clip.
 - If applying to a leg wound, the Self-Adhering Band must be routed through both sides of the friction adapter buckle and fastened back on itself. This will prevent it from loosening when twisting the Windlass Clip.
5. Twist the Windlass Rod until the bleeding stops. When the tactical situation permits insure the distal pulse is no longer palpable.

***INSTRUCTOR:** Monitor the distal pulse, and prompt the student when it is no longer palpable. Use care to not let the student over-tighten the C-A-T. If pain becomes too severe, discontinue the tourniquet application.*

6. Lock the rod in place with the Windlass Clip.

***NOTE:** For added security (and always before moving the casualty), secure the Windlass Rod with the Windlass Strap. For smaller extremities, continue to wind the Self-Adhering Band across the Windlass Clip and secure it under the Windlass Strap.*

7. Grasp the Windlass Strap, pull it tight and adhere it to the Velcro on the Windlass Clip.

8. Release and remove the tourniquet.
9. Note that on a real casualty, the date and time the C-A-T was applied would be recorded when tactically feasible.
10. Note that a wound to a real casualty would be dressed, and the casualty would be transported to definitive treatment as dictated by the tactical situation and TCCC guidelines.

Control Bleeding using a Combat Application Tourniquet

Task	Completed		
	1st	2nd	3 rd
Removed the C-A-T from the carrying pouch.	P / F	P / F	P / F
Slide the wounded extremity through the loop of the Self-Adhering Band or wrap around extremity.	P / F	P / F	P / F
Positioned the C-A-T above simulated wound site; left at least 2 inches of uninjured skin between the C-A-T and the wound site.	P / F	P / F	P / F
Twisted the Windlass Rod until the distal pulse was no longer palpable.	P / F	P / F	P / F
Locked the rod in place with the Windlass Clip.	P / F	P / F	P / F
Grasped the Windlass Strap, pulled it tight and adhered it to the Velcro on the Windlass Clip.	P / F	P / F	P / F
Verbalized using a marker to draw a "T" on the casualty's forehead and recorded the date and time the C-A-T was applied.	P / F	P / F	P / F

Critical Criteria:

_____ Did not place the C-A-T 2-3 inches above the wound.

_____ Did not twist the Windlass Rod sufficiently to control the bleeding.

_____ Did not secure the CAT properly for an arm/leg wound.

Evaluator's Comment

Student Name: _____ Date: _____

Evaluator: _____ Pass: _____ Fail: _____