MCB/OMD

TACTICAL EMERGENCY MEDICAL SERVICES PROTOCOL

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PROTOCOL I.1: Purpose

1. The purpose of the Tactical Emergency Medical Services Unit (TEMS Unit) is to support law enforcement or homeland security operations by facilitating the health and safety of critical public safety personnel inside the perimeter of high risk, large-scale, and extended operations. These events may include, but not be limited to, high-risk search warrants, barricaded persons, hostage situations, extraordinary deployments and Weapons of Mass Destruction events.

2. The Special Operations – Tactical Medical Support (SO-TAC) provider is not directly responsible for any person(s) outside the direct field of operations, whose care may safely be provided by the local EMS Operational Program.

3. These protocols supplement the current version of the Medical Control Board Treatment Protocols for EMS System for Metropolitan Oklahoma City & Tulsa and at the Office of the Medical Director (OMD) discretion, may incorporate other protocol components,

4. The Tactical Emergency Medical Services Protocols shall be used only by OMD credentialed Special Operations – Tactical Medical Support (SO-TAC) who is sponsored by an OMD and EMSA approved law enforcement agency and are operating under law enforcement command.

5. SO-TAC Providers at the ALS levels may administer the medications and perform the procedures listed in these protocols only after receiving specific training on their use and only under the direction of OMD or on-line Medical Control.

6. Once the patient is removed from the law enforcement perimeter of operation, the TEMS protocol will end, the Medical Control Board Treatment Protocols for EMS System for Metropolitan Oklahoma City & Tulsa will be implemented, and the transition of care will be made to the local EMS agency.

    a. An exception may be made when the SO-TAC Provider's specialized training is needed to manage a specific illness/injury.

    b. If the SO-TAC EMS Provider's specialized training is needed to manage the patient's illness/injury, then the highest-trained SO-TAC Provider shall ride to the hospital with the patient to maintain medications that are not specified by the Medical Control Board Treatment Protocols for EMS System for Metropolitan Oklahoma City & Tulsa.

    c. If, during transport, SO-TAC personnel encounter a significant conflict between TEMS protocols and those of the transporting EMS agency, they will contact On-line Medical Control and request a dual consult with the local Base Station Physician.

PROTOCOL I.2: Training Requirements

1. All TEMS Unit members will be certified by a National, State, and/or Local certifying agency in tactical pre-hospital medicine. Currently, the predominant certifying agency is the Counter Narcotics Terrorism Operations Medical Support (CONTOMS) program granted by the Department of Defense in cooperation with the Uniformed Services Health Sciences Division of the United States Government. MCB Credentialing requires NAEMT Tactical Combat Causality Care or NAEMT Tactical Emergency Casualty Care and an EMT-Tactical certification in addition to the current credentialing requirements.

2. In the absence of a CONTOMS/TCCC program, equivalent training may be utilized AFTER approval by the OMD in cooperation with the local law enforcement agencies.

3. OMD has approved the Rescue Training Inc. certified EMT-T class for substitution of the CONTOMS certification. This is ONLY approved substitute course.

4. EMSA will provide for 36 training hours per calendar year for the TEMS Unit members. 24 of these training hours will be tactical in nature. An additional 8 hours will address TEMS specific issues. The remaining four (4) hours needed to meet current EMT-T/TCCC suggested standards will be determined by the TEMS Coordinator in conjunction with the OMD and may come from Continuing Education classes taught throughout the year by other medical components.

5. TEMS Unit members who fail to acquire the required number of training hours per calendar year will be restricted from participation until the required training hours can be successfully completed.

6. Continued failure to acquire the required number of training hours, attend scheduled training days, or respond to call-outs, will result in removal from the Unit.

PROTOCOL I.3: Medical Direction

1. TEMS Unit members will operate under the medical protocols of the MCB.
2. All OMD protocols that are standing orders will also be considered standing orders for TEMS Unit members on assignment.
3. When necessary, TEMS Unit members will consult with on-line medical control physicians regarding patient care and should not hesitate to contact local EMS providers should the need arise.
4. The Chief Medical Officer(s) will approve any additional special policies and procedures specific to the tactical environment.

PROTOCOL I.4: Special Policies and Procedures

The Chief Medical Officer(s) has approved the following special policies and procedures specific to the tactical environment:

A. Oral Hydration

B. IV Hydration

C. Advanced Airway

D. Tourniquets

E. Hemostatic Agents

F. Dental Care

G. Wound Closure

H. Over the Counter Medications

I. Sleep-Wake Cycle Medications

J. Tranexamic Acid Administration

K. Occlusive Dressings for thoracic injuries

PROTOCOL I.4.A: Oral Hydration

1. Ideally, oral hydration should take place on a routine basis. The SO-TAC providers should reference the Fluid Replacement Guidelines for Warm Weather Training chart. (appendix A) These charts will then allow the SO-TAC provider to determine the amount of oral fluids to be administered on an hourly basis in conjunction with recommended work/rest cycles.

PROTOCOL I.4.B: IV Hydration

1. SO-TAC ALS providers, at their discretion, may initiate intravenous access on members of the supported Law Enforcement Special Operations personnel for the purposes of fluid hydration.

2. A total of 10 – 15 mL/kg of normal saline may be administered for the purposes of hydration prior to prolonged incidents and/or incidents during noticeably humid and/or warm weather.

3. In the event of clinical dehydration in any member of the supported Law Enforcement Special Operations team during an incident, the SO-TAC ALS provider shall recommend that member's removal from duty, initiate intravenous access, and deliver a total of 20 mL/kg normal saline with a maximum volume of two (2) liters. If there is resolution of the member's symptoms, that member may return to duty. If dehydration symptoms persist, the member should be treated per the Medical Control Board Treatment Protocols for EMS System for Metropolitan Oklahoma City & Tulsa.

4. At any time in the assessment and treatment for IV hydration, if contraindications exist to fluid therapy, the SO-TAC ALS provider shall consult the on-line medical control physician for further direction.

PROTOCOL I.4.C: Advanced Airway

1. SO-TAC ALS providers while in the tactical environment may need to place an advanced airway. Due to the unavailability of Capnography in the tactical environment the I-Gel Airway will be the primary tool used for the advanced airway.

2. SO-TAC ALS providers while in the tactical environment may need to perform a surgical cricothyrotomy to manage life-threatening catastrophic airway events when standard tactical airway procedures cannot be performed or have failed.

3. See Supplement Tactical Protocol section for protocol on usage.

PROTOCOL I.4.D: Tourniquets

1. SO-TAC providers while in the tactical environment may need to place a tourniquet to stop bleeding when Life-threatening limb hemorrhage is not controlled with direct pressure or other simple measures.

2. Application in the tactical environment warrants placement of a tourniquet as the first line hemorrhage control device for a life-threatening limb hemorrhage.

3. See Supplement Tactical Protocol section for protocol on usage.

PROTOCOL I.4.E: Hemostatic Agents

1. SO-TAC providers while in the tactical environment may need to apply a hemostatic agent to stop massive life-threatening arterial external extremity or truncal bleeding that is uncontrolled by direct pressure, indirect pressure or tourniquet.

2. Application of hemostatic agents is intended to be used in the tactical environment.

3. See Supplement Tactical Protocol section for protocol on usage.

PROTOCOL I.4.F: Dental Care

1. SO-TAC providers, at their discretion, while in the tactical environment may need to treat general dental pain or minor dental emergencies in the protracted tactical environment.

2. All SO-TAC provider treatment of dental injuries should be considered a TEMPORARY treatment only. Refer the patient to a dentist for follow-up as soon as possible.

3. See Supplement Tactical Protocol section for protocol on usage.

PROTOCOL I.4.G: Wound Closure

1. SO-TAC ALS providers, at their discretion, while in the tactical environment and during prolonged incidents may need to close a wound.

2. The purpose of this policy is NOT to constitute definitive wound closure but to limit blood loss, pain and risk of secondary contamination / infection in an open wound.

3. See Supplement Tactical Protocol section for protocol on usage.

PROTOCOL I.4.H: Over the Counter Medications

1. SO-TAC providers, at their discretion and upon the expressed desire of members of the sponsoring law enforcement Special Operations team, may make available non-sedating OTC medications.

2. SO-TAC providers shall not prescribe OTC medications.

3. If a potentially sedating OTC is taken by a Special Operations team member that member will be considered non-operational as detailed in the Supplement Tactical Protocol section.

4. SO-TAC providers should ensure, to the best of their abilities that no contraindications exist to the Special Operations team member selected OTC medication.

5. In instance where SO-TAC providers deem treatment and evaluation beyond OTC medication, in the best interest of the Special Operations team member, SO-TAC providers shall advise the Special Operations team member to seek such treatment and shall not make available OTC medication.

6. See list of OTC meds permitted by medical direction.

PROTOCOL I.4.I: Sleep-Wake Cycle Meds

1. SO-TAC ALS providers, at their discretion, and during prolonged incidents that disrupt reasonable sleep-wake cycles of Special Operations team members, may dispense sleep-wake cycle medication as prescribed by the team Medical Director.

2. Special Operations team members rotation to promote reasonable sleep-wake cycles is recommended and highly preferred to the use of sleep-wake cycle medication.

PROTOCOL I.4.J: Tranexamic Acid Administration

1. SO-TAC ALS providers while in the tactical environment may need to administer Tranexamic Acid to treat adults in sustained hemorrhagic shock.

2. See Supplement Tactical Protocol section for protocol on usage.

PROTOCOL I.5: Quality Improvement

1. The EMSA quality improvement officer or TEMS coordinator will be responsible for maintaining all appropriate documentation for the TEMS Program.

2. The EMSA quality improvement officer or TEMS coordinator will be responsible for development and maintenance of a TEMS personnel and activity database.

3. Quarterly and annual review of Tactical EMS clinical procedures will be performed by the EMSA quality improvement manager or TEMS coordinator, the System Chief Medical Officer or her/hisrepresentative, and SO-TAC providers to evaluate and improve procedures. A quarterly report will be forwarded to the OMD for the necessary distribution in warranted situations.

4. The EMSA quality improvement officer or TEMS coordinator, along with the System Chief Medical Officer or her/his representative, will be responsible for making recommendations to the Medical Control Board for modifications to training programs, standing orders, etc.

5. All situations involving utilization of skills normally approved by verbal medical control orders shall be reviewed by the OMD. The exception shall be the distribution of approved over-the-counter medications to members of the law enforcement agency supported by the TEMS program.

6. All patients evaluated and treated by SO-TAC providers require the completion of an incident report, with the exception of self-administered over-the-counter medications. This incident report will be forwarded to the OMD for review. In event of multiple casualties, the SO-TAC provider shall provide an operational overview of the medical situation, subject to editing of potentially classified material by the involved law enforcement agency. Individual patient care reports will be completed by the transporting EMS personnel.

Supplement Tactical Protocols

The Chief Medical Officer(s) has approved the following supplement tactical protocols specific to the tactical environment:

I.6 Tourniquet

I.7 Hemostatic Agent: Combat Gauze

I.8 Hemostatic Agent: Chitosan (HemeCon)

I.9 Dental Injuries

I.10 Wound Closure: Dermabond

I.11 Wound Closure: Staples

I.12 Over the Counter Medications

I.13 Tranexamic Acid Administration

I.14 Surgical Cricothyrotomy

I.15 Junctional Tourniquet

STP: PROTOCOL I.6: Tourniquet

1. **Setting:** Prehospital and hospital

2. **Indications for tourniquet use:** to stop bleeding when Life-threatening limb hemorrhage is not controlled with direct pressure or other simple measures, as may occur with a mangled extremity. Traumatic amputation has occurred.

3. **Application during Care Under Fire:**

    i. Apply the tourniquet proximal to the bleeding site, over the uniform Initial tourniquet placement should be as high as possible on the limb.

    ii. **Combat Application Tourniquet (CAT)**
        i. **Placement**
            i. Route the self-adhering band around the extremity.
            ii. Pass the band through the slit of the buckle.
            iii. Pull the self-adhering band tight.
            iv. Twist the rod until bright red bleeding stops.
            v. Lock the rod in place with the clip.
            vi. Record the date/time of application on the tourniquet.

    iii. **SOF-T Wide**
        i. **Placement**
            i. Route the band around the extremity.
            ii. Clip the buckles together.
            iii. Pull the band tight.
            iv. Twist the rod until bright red bleeding stops.
            v. Lock the rod in place within the Tri-ring.
            vi. Record the time of application on the tourniquet.

4. **Evaluation**
    i. The tourniquet is effectively applied when there is cessation of bleeding from the injured extremity, indicating total occlusion of arterial blood flow.
    ii. Any pre-existing distal pulse should be absent at that time as well.

5. **Application during Tactical Field Care Phase.**
    i. If tourniquet not yet applied to control life-threatening external hemorrhage
        i. place a tourniquet in the Care Under Fire application method
    ii. If Tourniquet already placed and there is a delay in TACEVAC.
        i. Expose the injury location
        ii. Properly place a second tourniquet 2-3 inches above the wound and secure.
        iii. Loosen the original tourniquet and leave in place.

STP: PROTOCOL I.6: Tourniquet (Cont.)

iv. Evaluate the wound for continued hemorrhage control.
v. If hemorrhage control not maintained; re-tighten the original tourniquet and attempt previous steps in sequence.

6. **Tourniquet time and removal**
   i. Tourniquets should be removed as soon as possible under conditions where the hemorrhage can be directly controlled.
   ii. Tourniquet placement must be communicated in patient reports for all pre-hospital to hospital and inter-hospital transfers.
   iii. Tourniquet time > 6 hours is associated with distal tissue loss

7. **Training:**
   i. Appropriate tourniquet use requires initial and annual renewal training with skill demonstration. OMD must approve and evaluate the initial training

STP: PROTOCOL I.7: Hemostatic Agent : Combat Gauze

1. **Setting:** Tactical environment

2. **Indications for Hemostatic agents use:** to stop massive life threatening arterial external extremity or truncal bleeding that is uncontrolled by direct pressure, indirect pressure or tourniquet.

3. **Application:**
   i. Expose the wound by removing clothing in proximity to the injury.
   ii. Blot or scoop away excess blood away from the wound.
   iii. Immediately insert the gauze into the wound directly onto the artery.
   iv. Pack the wound with the gauze. If any excess, pile the gauze on top of the wound.
   v. Apply FIRM pressure to the wound for 5 minutes.
   vi. If bleeding persists, remove gauze and insert a new roll of Combat Gauze as described above.
   vii. Cover the wound with a pressure dressing or equivalent dressing and maintain pressure.
   viii. Document the location and time the hemostatic agent was applied.

4. **Evaluation**
   i. The hemostatic agent is effectively applied when there is cessation of bleeding from the wound indicating total occlusion of arterial blood flow.
   ii. Asses for Hypovolemia and treat accordingly.
   iii. Evaluate for sensitivity to the treatment. Treat according to MCB Prehospital Operating Protocols if sensitivity found.

5. **Training:** Appropriate hemostatic agent use requires initial and annual renewal training with skill demonstration. OMD must approve and evaluate the initial training.

STP: PROTOCOL I.8: Chitosan (HemeCon) dressing

1. **Setting:** Tactical environment

2. **Indications for Hemostatic agents use:** to stop massive life-threatening arterial external extremity or truncal bleeding that is uncontrolled by direct pressure, indirect pressure or tourniquet.

3. **Application:**
   i. Expose the wound by removing clothing in proximity to the injury.
   ii. Blot or scoop away excess blood away from the wound.
   iii. Immediately insert the gauze into the wound directly onto the artery.
   iv. Pack the wound with the gauze. If any excess, pile the gauze on top of the wound.
   v. Apply FIRM pressure to the wound for 5 minutes.
   vi. If bleeding persists, remove gauze and insert a new roll of Hemcon as described above.
   vii. Cover the wound with a pressure dressing or equivalent dressing and maintain pressure.
   viii. Document the location and time the hemostatic agent was applied.

4. **Evaluation**
   i. The hemostatic agent is effectively applied when there is cessation of bleeding from the wound indicating total occlusion of arterial blood flow.
   ii. Asses for Hypovolemia and treat accordingly.
   iii. Evaluate for sensitivity to the treatment. Treat according to
   iv. MCB Prehospital Operating Protocols if sensitivity found.

5. **Training:** Appropriate hemostatic agent use requires initial and annual renewal training with skill demonstration. OMD must approve and evaluate the initial training.

STP: PROTOCOL I.9: Dental Injuries

1. **Setting:** Tactical environment

2. **Indications for Treatment of Dental Injuries:** to stop intermittent or continuous dental pain or heat / cold sensitivity from a tooth injury.

3. **Application:**
   i. Record the assessment of the injury
   ii. Examine the surrounding tissues for other injury or missing pieces
   iii. Remove the fractured piece.
   iv. Place small rolls of gauze to hold the lip away from the tooth.
   v. Apply Eugenol (Oil of Cloves) on the broken surface to decrease the pain.
   vi. Mix zinc oxide powder and Eugenol into a putty-paste.
   vii. Cover the broken surface with the zinc oxide "cement."
   viii. Keep dry 10 minutes and allow hardening.
   ix. Smooth off any comers as the cement hardens.
   x. Use wax paper or plastic over surface and allow a gentle bite if an occlusive surface is involved.

4. **Evaluation**
   i. All EMS treatment of dental injuries should be considered a TEMPORARY treatment only.
   ii. Refer the patient to a dentist for follow-up as soon as possible.
   iii. Check for sharp edges and proper bite.
   iv. Evaluate for sensitivity to the treatment. Treat according to MCB Prehospital Operations Protocols if sensitivity found.

5. **Training:** Appropriate Dental injury protocol use requires initial and annual renewal training with skill demonstration. OMD must approve and evaluate the initial training.

STP: PROTOCOL I.10: Wound closure (Dermabond)

1. **Setting:** Tactical environment

2. **Indications for Wound Closure:** To limit blood loss, pain, and risk of secondary contamination / injury to an open wound with a delay in transportation to definitive care will be or is anticipated to be several hours.

3. **Application**
   i. Expose the wound by removing clothing.
   ii. Blot away excess blood away from the wound with Kerlex or equivalent gauze.
   iii. Thoroughly clean the wound.
   iv. Hold the edges of the wound together to close the edges. Keep the edges together while applying the adhesive
   v. Crush the vial the Dermabond comes in with the thumb and index finger and turn it upside down.
   vi. Squeeze the vial gently while brushing the vial back and forth on the wound several times taking care not to insert the vial into the wound.
   vii. Allow the area to dry for 30 seconds and then repeat the application again allowing 30 more seconds.

4. **Evaluation**
   i. This is **not** intended to constitute definitive wound closure - this will minimize the potential for increased infection risk and increased retained foreign body risk.
   ii. Advise patient of requirement for further evaluation by physician
   iii. Evaluate for the wound to be completely closed.
   iv. Evaluate for sensitivity to the adhesive. Treat according to MCB Prehospital Operating Protocols if sensitivity found.

5. **Contraindications**
   i. Grossly contaminated wounds
   ii. Greater than two hours since infliction of wound
   iii. Macerated/crushed surrounding tissue

6. **Training:** Appropriate wound closure protocol use requires initial and annual renewal training with skill demonstration. OMD must approve and evaluate the initial training.

STP: PROTOCOL I.11: Wound Closures: Staples

1. **Setting:** Tactical environment

2. **Indications for Wound Closure:** To limit blood loss, pain, and risk of secondary contamination / injury to an open wound with a delay in transportation to definitive care will be or is anticipated to be several hours.

3. **Application**
    i. Expose the wound by removing clothing.
    ii. Blot away excess blood away from the wound with Kerlex or equivalent gauze.
    iii. Thoroughly clean the wound.
    iv. The edges of the wound are aligned and held together with forceps or fingers.
    v. The stapling device is held against the wound at the point at which the staple is to be placed.
    vi. By squeezing the trigger on the stapling device, the staple is automatically placed into the skin.
4. **Evaluation**
    i. This is **not** intended to constitute definitive wound closure - this will minimize the potential for increased infection risk and increased retained foreign body risk.
    ii. Advise patient of requirement for further evaluation by physician
    iii. Evaluate for the wound to be completely closed.
    iv. Evaluate for sensitivity to the staples. Treat according to MCB Prehospital Operating Protocols if sensitivity found.

5. **Contraindications**
    i. Grossly contaminated wounds
    ii. Greater than six hours since infliction of wound
    iii. Macerated/crushed surrounding tissue

6. **Training:** Appropriate wound closure protocol use requires initial and annual renewal training with skill demonstration. OMD must approve and evaluate the initial training.

STP: PROTOCOL I.12: Over the Counter (OTC) Medications

1. **Indications for usage:** Upon the expressed desire of members of the Special Operations team for OTC medications.

2. **List of OTC medications available: (See Appendix B)**
   - i. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)
     1. Ibuprofen (Motrin/Advil)
     2. Naproxen (Aleve/Naprosyn)
     3. Acetaminophen (Tylenol)
   - ii. Antihistamines / Decongestants
     1. Fexofenadine + Pseudoephedrine (Allegra-D)
     2. Pseudoephedrine (Sudafed)
   - iii. Gastrointestinal
     1. Cimetidine (Tagamet or equivalent H2 blocker)
     2. Omeprazole (Prilosec or equivalent Proton Pump Inhibitor)
     3. Loperamide (Imodium)
     4. Dimenhydrinate (Dramamine),
     5. 5-HT3 Antagonist (Zofran)
     6. TUMS (Calcium Carbonate)
   - iv. Ophthalmologics
     1. Proparacaine or Tetracaine (Alcaine) ophthalmic analgesia
   - v. Topical dental analgesia
     1. Clove oil

3. **Evaluation**
   - i. SO-TAC Providers shall **NOT** prescribe OTC medications.
   - ii. If a potentially sedating OTC is taken by a SWAT team member that member will be considered non-operational as detailed in the Supplement Tactical Protocol section
   - iii. Ensure to the best of your abilities that no contraindications exist to SWAT team member selected OTC medication,
   - iv. In instance where it is deemed that the treatment and evaluation is beyond OTC medication, in the best interest of the Special Operations team member, tactical paramedics shall advise the Special Operations team member to seek such treatment and shall not make available OTC medication.

STP: PROTOCOL I.13: Tranexamic Acid Administration

1. **Setting:** Tactical environment

2. **Indications:** In the setting of hemorrhagic shock from trauma less than 3 hours old with suspected need for massive blood transfusion due to marked internal or external blood loss with a sustained tachycardia 110 beats per minute or greater and sustained hypotension systolic BP 90 mmHg or less.

3. **Application:**
   i. 1 GRAM IVPB over 10 minutes.
   ii. Administer in 100mL or 250mL NS.

4. **Evaluation:**
   i. Evaluate for sensitivity
   ii. Evaluate for infiltrated IV site

5. **Contraindications:**
   i. Non-hemorrhagic shock
   ii. Non-traumatic hemorrhagic shock
   iii. Hemorrhagic shock stabilized with other hemostatic agents/measures

STP: PROTOCOL I.14: Surgical Cricothyrotomy

1. **Setting:** Tactical environment

2. **Indications for Surgical Cricothyrotomy:** To manage life-threatening catastrophic airway events when standard tactical airway procedures cannot be performed or have failed

3. **Contraindications:**
   i. Under the age of 12 y/o

4. **Application:**
   i. Place the patient into a supine position
   ii. Have all supplies (including suction and BVM) available and ready
   iii. Locate the cricothyroid membrane utilizing correct anatomical landmarks
   iv. and prep the area
   v. With scalpel, make a 1.0 to 2.0 cm shallow, vertical incision over the skin from the thyroid cartilage to the cricoid cartilage
   vi. puncture the membrane by placing the scalpel in the middle of the membrane against the thyroid cartilage
   vii. Enlarge the incision by cutting the membrane with the scalpel to the left and then back to the right approximately ¼ inch in either direction
   viii. Using a tracheal hook to maintain the surgical opening, insert the cuffed tube into the trachea
   ix. Inflate the cuff with 5-10cc of air and ventilate the patient while manually stabilizing the tube
   x. Assess tube placement
   xi. Secure the tube

5. **Evaluation:**
   i. Evaluate for the wound for uncontrolled hemorrhage
   ii. Evaluate for proper ventilation support
   iii. Evaluate for the below stated complications

6. **Complications:**
   i. Soft tissue damage around the surgical site and to trachea
   ii. Failure to place tube into trachea
   iii. Placing the distal end of the tube in a superior direction.

7. **Training:**
   i. Appropriate surgical cricothyrotomy protocol use requires initial and annual renewal training with skill demonstration.
   ii. OMD must approve and evaluate the initial training.

STP: PROTOCOL I.15: Junctional Tourniquet

1. **Indication(s):**
   i. Axillary and/or inguinal hemorrhage unable to be effectively controlled by other hemostatic measures. The junctional tourniquet may be first line hemorrhage control if indicated by clinical assessment.

2. **Application:**

ii. Axillary hemorrhage:

a. Apply tourniquet in the axilla as high as possible.
b. Place D-ring on injured side, aligning it with side of the neck.
c. Connect buckle and secure strap in place by pulling the BROWN handles part until click is heard.
d. Maintain tension and secure strap by pressing it down on Velcro.
e. Attach extender to the Target Compression Device (TCD) prior to application and place strap on brown Velcro.
f. Connect strap using large clip to D-ring on front of the tourniquet.
g. Connect accessory strap to cord on back of the tourniquet using a small clip, as close as possible to the patient's mid-line.
h. Position TCD with extender directly under and parallel to the clavicle.
i. Tighten strap as much as possible using the BROWN handle.
j. Use hand pump to inflate the TCD while maintaining the correct position of the TCD until hemorrhage stops.
k. TO REMOVE, unbuckle the belt. (Removal prior to ED arrival is NOT recommended.)
l. Monitor and adjust as necessary.

iii. Inguinal hemorrhage:

a. Remove objects from patient clothing pockets and pelvic area. Ideally, quickly remove clothing to fully expose bleeding area.
b. Slide belt underneath the patient, positioning TCD over area to be compressed. **Note:** The belt may attach on the patient's left or right, depending on location of injury.
c. Use sterile gauze or hemostatic dressing (if available) targeting directly over the wound.
d. For bi-lateral application, use a second TCD.
e. Hold TCD in place and connect belt using the buckle.
f. Pull the BROWN handles away from each other until buckle secures and click is heard.
g. Fasten any excess belt in place by pressing it down on velcro. A second click may be heard.
h. Use hand pump to inflate TCD(s) until hemorrhage stops.
i. TO REMOVE, unbuckle the belt. (Removal prior to ED arrival is NOT recommended.)
j. Monitor and adjust as necessary.

Appendix A

Fluid Replacement Guidelines for Warm Weather Training

HEAT INDEX

Heat Category	WBGT Index F°	Easy Work		Moderate Work		Hard Work	
		Work/ Rest	Water Intake, QT/HR	Work/ Rest	Water Intake, QT/HR	Work/ Rest	Water Intake, QT/HR
1	78-81.9	NL	½	NL	¾	40/20	¾
2 Green	82-84.9	NL	½	50/10	¾	30/30	1
3 Yellow	85-87.9	NL	¾	40/20	¾	30/30	1
4 Red	88-89.9	NL	¾	30/30	¾	20/40	1
5 Black	>90	50/10	1	20/40	1	10/50	1

- NL= no limit to work time per hour.
- Rest means minimal physical activity (sitting or standing) accomplished in shade, if possible.
- CAUTION: Hourly fluid intake should not exceed 11/4 quarts.
- Daily fluid intake should NOT exceed 12 liters.
- Wearing body armor adds 5° F to WBGT Index.

You may obtain your WBGT from online calculators using data from a weather site (i.e. wunderground.com, weather.com, etc.…), APPs (i.e. weatherFX), or using a WBGT thermometer.

Appendix B:
List of OTC and Authorized Medications

The Chief Medical Officer(s) has approved the following OTC and prescribed medications specific to the tactical environment:

Acetaminophen (Tylenol)

Calcium Carbonate (TUMS)

Cimetidine (Tagamet or equivalent H2 blocker)

Clove oil

Combat Gauze
Cyanoacrylate Tissue Adhesive (Dermabond)

Dimenhydrinate (Dramamine)

Diphenhydramine (Benadryl)
Fexofenadine + Pseudoephedrine (Allegra-D)

Hemcon

Ibuprofen (Motrin/Advil)

Loperamide (Imodium)

Naproxen (Aleve/Naprosyn)

Omeprazole (Prilosec or equivalent Proton Pump Inhibitor)

Ondansetron (Zofran)

Pseudoephedrine (Sudafed)
Proparacaine or Tetracaine (Alcaine) ophthetic

Tranexamic Acid

Appendix B.1
Definitions of Operational vs. Non-operational

OPERATIONAL:

The medication when taken by a Law Enforcement member who may continue to perform his/her assigned duties.

NON-OPERATIONAL:

Once the medication has been administered, the Law Enforcement member is removed from his/her assigned duties since the medication or the associated medical/traumatic complaint may impair his/her ability to perform critical Law Enforcement tasks and duties.

Appendix B.2
Operational Medications

The Chief Medical Officer(s)r has approved the following Over the Counter Medications specific to the tactical environment to be considered an Operational Medication:

Acetaminophen (Tylenol) Calcium Carbonate (TUMS) Cimetidine (Tagamet) Clove Oil
Cyanoacrylate Tissue Adhesive (Dermabond) Fexofenadine / Pseudoephedrine (Allegra-D) Ibuprofen (Motrin / Advil)
Loperamide (Imodium) Naproxen (Aleve / Naprosyn) Omeprazole (Prilosec)
Proparacaine / Tetracaine (Alcaine) Pseudoephedrine (Sudafed)

Appendix B.3
Acetaminophen (Tylenol)

AVAILABILITY:
i. 325mg Tablet
ii. 500mg Tablet

ACTION:
i. Pain medication

INDICATIONS:
i. Mild to moderate pain

CONTRAINDICATIONS:
i. Known hypersensitivity
ii. Liver disease
iii. PUD/GERD/GI bleed

PRECAUTIONS:
i. Sensitivity
ii. Passes through Breast Milk

OPERATIONAL STATUS:
i. **Operational**

SIDE EFFECTS:
i. GI upset

INTERACTIONS:

DOSAGE:
i. 650-1000mg Q4 to 6 hours PO

Appendix B.4
Calcium Carbonate (TUMS)

AVAILABILITY:

i. 500mg (Tums Regular, Tums Freshers)
ii. 750mg (Tums Extra, Tums Kids, Tums Smoothies)
iii. 1000mg (Tums Ultra)
iv. 1177mg (Tums Chewy Delights)

ACTION:

i. neutralizes hydrochloric acid in gastric secretions

INDICATIONS:

i. PUD / GERD

CONTRAINDICATIONS:

i. Known hypersensitivity
ii. Ceftriaxone administration

PRECAUTIONS:

i. Renal calculi

OPERATIONAL STATUS:

i. **Operational**

SIDE EFFECTS:

INTERACTIONS:

DOSAGE:

i. 2 to 3 tablets chewed as symptoms occur; not to exceed 7 tablets per day

Appendix B.5:
Cimetidine (Tagamet)

AVAILABILITY:

i. 200, 300, 400mg tablet
ii. 300mg IV/IM

ACTION:

I. Proton pump inhibitor

INDICATIONS:

i. PUD / GERD
ii. Esophagitis
iii. Gastritis

CONTRAINDICATIONS:

i. Known hypersensitivity
ii. Concomitant H-2 blocker use

PRECAUTIONS:

OPERATIONAL STATUS:

I. Operational

SIDE EFFECTS:

INTERACTIONS:

DOSAGE:

i. 200mg IV/IM/PO every 6-8 hours
ii. 300mg IV/IM/PO every 6-8 hours
iii. 400mg twice daily

Appendix B.6
Clove Oil

AVAILABILITY:
I. Topical Liquid (OTC)

ACTION:
I. Topical (dental) anesthetic

INDICATIONS:
I. Dental pain / injury

CONTRAINDICATIONS:
I. Known hypersensitivity

PRECAUTIONS:
I. Penetrating/open intra-oral wounds

OPERATIONAL STATUS:
I. Operational

SIDE EFFECTS:

INTERACTIONS:

DOSAGE:
i. 0.1cc Topically

Appendix B.7
Cyanoacrylate Tissue Adhesive (Dermabond)

AVAILABILITY:
I. Single use ampoules

ACTION:
I. Tissue adhesive

INDICATIONS:
I. Minor trauma

CONTRAINDICATIONS:
I. Known hypersensitivity

PRECAUTIONS:
I. Avoid near eyes

OPERATIONAL STATUS:
I. Operational

SIDE EFFECTS:
I. Transient local discomfort

INTERACTIONS:
i. N/A

DOSAGE:
i. As required for wound closure, 2-4 layered applications

Appendix B.8
Fexofenadine & Pseudoephedrine (Allegra-D)

AVAILABILITY:

i. Fexofenadine HCL 60mg / Pseudoephedrine HCL 120mg Tablet

ACTION:

i. Non-sedating antihistamine with decongestant

INDICATIONS:

i. Allergy symptoms with nasal congestion / symptoms

CONTRAINDICATIONS:

i. Known hypersensitivity
ii. Current MAOI use

PRECAUTIONS:

i. Hypertension history
ii. Cardiac History

OPERATIONAL STATUS:

I. Operational

SIDE EFFECTS:

INTERACTIONS:

DOSAGE:

i. 1 Tablet q12hrs PO

Appendix B.9
Ibuprofen (Motrin/Advil)

AVAILABILITY:
- i. Tablet: 200mg (OTC)
- ii. 100mg/5ml suspension

ACTION:
- i. Non-steroidal anti-inflammatory pain medication

INDICATIONS:
- I. Mild to moderate pain

CONTRAINDICATIONS:
- i. Known hypersensitivity
- ii. Renal insufficiency (not failure)
- iii. PUD/GERD/GI bleed history

PRECAUTIONS:
- i. Do not use with other NSAIDs
- ii. Caution with concomitant steroid use.
- iii. Avoid use in third trimester pregnancy

OPERATIONAL STATUS:
- I. Operational

SIDE EFFECTS:
- i. GI upset / nausea
- ii. GI bleeding risk

INTERACTIONS:

DOSAGE:
- i. 400-600mg PO

Appendix B.10
Loperamide (Imodium)

AVAILABILITY:
I. Tablet: 2mg (OTC) and 1mg/5ml suspension

ACTION:
I. Anti-diarrheal

INDICATIONS:
i. Diarrhea

CONTRAINDICATIONS:
i. Known hypersensitivity
ii. Hypertension
iii. Bloody diarrhea

PRECAUTIONS:

OPERATIONAL STATUS:
I. Operational

SIDE EFFECTS:
i. ENT-dryness

INTERACTIONS:

DOSAGE:
ii. 4mg first dose
iii. 2mg each subsequent episode until stool formed; maximum 16mg per day

Appendix B.11
Naproxen (Aleve/Naprosyn)

AVAILABILITY:
i. 220 / 375 / 500mg Tablet

ACTION:
i. Non-steroidal anti-inflammatory pain medication

INDICATIONS:
I. Mild to moderate pain

CONTRAINDICATIONS:
i. Known hypersensitivity
ii. Renal insufficiency (not failure)
iii. PUD/GERD/GI bleed history

PRECAUTIONS:
i. Do not use with other NSAIDs
ii. Caution with concomitant steroid use.
iii. Avoid use in third trimester pregnancy

OPERATIONAL STATUS:
I. Operational

SIDE EFFECTS:
i. GI upset / nausea
ii. GI bleeding risk

INTERACTIONS:

DOSAGE:
i. 220-500mg q12 hrs.

Appendix B.12
Omeprazole (Prilosec)

AVAILABILITY:

i. 20mg, 40mg (OTC) Capsule

ACTION:

I. Proton pump inhibitor

INDICATIONS:

i. PUD / GERD
ii. Esophagitis
iii. Gastritis

CONTRAINDICATIONS:

i. Known hypersensitivity
ii. Concomitant H-2 blocker use

PRECAUTIONS:

OPERATIONAL STATUS:

I. Operational

SIDE EFFECTS:

INTERACTIONS:

DOSAGE:

i. 40mg q day PO

Appendix B.13
Proparacaine / Tetracaine (Alcaine)

AVAILABILITY:
I. Ocular anesthetic solution

ACTION:
I. Topical anesthetic

INDICATIONS:
i. To facilitate eye exam
ii. Relieve eye pain
iii. per MD/DO

CONTRAINDICATIONS:
I. Known hypersensitivity

PRECAUTIONS:
I. Insure eye protection from foreign objects after exam

OPERATIONAL STATUS:
I. Operational

SIDE EFFECTS:
I. Eye pain

INTERACTIONS:

DOSAGE:
i. 1-2 drops per eye Topically
ii. per MD/DO

Appendix B.14
Pseudoephedrine (Sudafed)

AVAILABILITY:

i. 30mg; 60mg (OTC) Tablet

ACTION:

I. Decongestant

INDICATIONS:

i. Nasal congestion
ii. Rhinorrhea

CONTRAINDICATIONS:

i. Known hypersensitivity
ii. Hypertension

PRECAUTIONS:

OPERATIONAL STATUS:

I. Operational

SIDE EFFECTS:

I. Insomnia

INTERACTIONS

DOSAGE:

i. 30mg to 60mg q4 to 6 hrs or PRN, PO

Appendix B.15
Non-Operational Medications

The Medical Director has approved the following Over the Counter Medications specific to the tactical environment to be considered a Non-Operational Medication:

Dimenhydrinate (Dramamine)
Diphenhydramine (Benadryl)
Ondansetron (Zofran) Combat Gauze
HemeCon
Tranexamic Acid

Appendix B.16
Dimenhydrinate (Dramamine)

AVAILABILITY:
- i. IM/IV injectable
- ii. 50mg tablet

ACTION:
- i. Anti-emetic
- ii. Anti-motion sickness

INDICATIONS:
- I. Nausea / vomiting

CONTRAINDICATIONS:
- I. Known hypersensitivity

PRECAUTIONS:
- I. May see sedation

OPERATIONAL STATUS:
- i. NON-OPERATIONAL 4 hrs

SIDE EFFECTS:
- I. Sedation

INTERACTIONS:

DOSAGE:
- i. 50-100mg IM/IV/PO q4 hours or PRN
- ii. Per MD/DO

Appendix B.17
Diphenhydramine (Benadryl)

AVAILABILITY:
- i. IM/IV injectable
- ii. 25mg tablet

ACTION:
- i. H_1-receptor antagonist
- ii. antihistamine

INDICATIONS
- i. Allergic conditions
- ii. Motion sickness
- iii. Vertigo,
- iv. Drug induced extra pyramidal reactions

CONTRAINDICATIONS:
- i. Known hypersensitivity
- ii. Asthma

PRECAUTIONS:
- i. May see sedation
- ii. Disturbed coordination
- iii. Tremors
- iv. Thickened bronchial secretions
- v. Wheezing

OPERATIONAL STATUS:
- i. NON-OPERATIONAL 6 hrs

SIDE EFFECTS:
- I. Sedation

INTERACTIONS:
- I. Other CNS depressants and MAOIs compound CNS depression

DOSAGE:
- i. 25-50mg IM/IV/PO q4-6 hrs or PRN
- ii. Per MD/DO

Appendix B.18
Ondansetron (Zofran)

AVAILABILITY:
- i. IM/IV injectable
- ii. 4mg tablets

ACTION:
- i. Anti-emetic
- ii. Anti-motion sickness

INDICATIONS:
- I. Nausea / vomiting

CONTRAINDICATIONS:
- I. Known hypersensitivity

PRECAUTIONS:
- i. May see sedation
- ii. Dizziness
- iii. Light-headedness,
- iv. Headache
- v. Diarrhea
- vi. Constipation
- vii. Dry mouth

OPERATIONAL STATUS:
- i. NON-OPERATIONAL 8 hrs

SIDE EFFECTS:
- i. Sedation

INTERACTIONS:
- i. Rifampin may decrease Ondansetron levels

DOSAGE:
- i. 4mg slow IVP or IM Q q hrs 8-16 mg
- ii. 4mg PO q 8hrs
- iii. Per MD/DO

Appendix B.19

Hemostatic Agent or Impregnated Dressing (Combat Gauze / HemeCon)

AVAILABILITY:

i. Gauze
ii. Single use packets

ACTION:

I. Blood clotting aid

INDICATIONS:

I. Massive Hemorrhage

CONTRAINDICATIONS:

I. Known hypersensitivity

PRECAUTIONS:

I. Standard / Universal precautions for wound care

OPERATIONAL STATUS:

i. **NON-OPERATIONAL NO END TIME**

SIDE EFFECTS:

INTERACTIONS:

DOSAGE:

I. Single or multiple packet(s) applied into bleeding wound

Appendix B.20

Tranexamic Acid (TXA, Cyclokapron)

AVAILABILITY:

i. 1 gram/10mL vial or ampule (100mg/mL)

ACTION:

I. Promotes clot formation in the setting of massive hemorrhage.

INDICATIONS:

I. Adults in hemorrhagic shock

CONTRAINDICATIONS:

i. Non-hemorrhagic shock
ii. Non-traumatic hemorrhagic shock
iii. Hemorrhagic shock stabilized with other hemostatic agents/measures

PRECAUTIONS:

OPERATIONAL STATUS:

i. NON-OPERATIONAL No End Time

SIDE EFFECTS:

i. While a theoretical concern, TXA has not been shown to cause significant increase in deep venous thrombosis, pulmonary embolism, myocardial infarction, or stroke in published trials to date.

DOSAGE:

i. 1 GRAM IVPB over 10 minutes. Administer in 100mL or 250mL NS.