

# Tactical Emergency Casualty Care (TECC)

## Guidelines for First Responders with a Duty to Act

### (Law Enforcement, Fire fighters not trained as EMS providers)

Current as of March 2019

#### **DIRECT THREAT CARE (DTC) / HOT ZONE Guidelines:**

1. Mitigate any threat and move to a safer position (e.g. Return fire, utilize less lethal technology, assume an overwhelming force posture, etc.). Recognize that threats are dynamic and require continuous threat assessments.
2. Direct the injured law enforcement/first responder to stay engaged in the operation if able and appropriate.
3. Move casualty to a safer position:
  - a. Instruct the alert, capable casualty to move to a safer position and apply self-aid.
  - b. If the casualty is responsive but cannot move, a rescue plan should be devised.
  - c. If a casualty is unresponsive, weigh the risks and benefits of an immediate rescue attempt in terms of manpower and likelihood of success. Remote medical assessment techniques to assess survivability should be considered.
4. Stop life-threatening external hemorrhage if present and reasonable depending on the immediate threat, severity of the bleeding and the extraction distance to safety. Consider moving to safety prior to application of the tourniquet if the situation warrants.
  - a. Apply direct pressure to wound, or direct capable patient to apply direct pressure to own wound and/or own effective tourniquet.
  - b. Tourniquet application:
    - i. Apply the tourniquet as high on the limb as possible, including over the clothing if present.
    - ii. Tighten until cessation of bleeding and move to safety.
5. Consider quickly placing unresponsive casualty in recovery position to protect airway.

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### INDIRECT THREAT CARE (ITC) / WARM ZONE Guidelines:

1. Any casualty with a weapon should have that weapon made safe and secured once the threat is neutralized and/or if mental status is altered.
2. Perform systematic assessment and intervention. Mnemonics such as MARCH or X-ABCDE to guide priorities may be of assistance.
3. **Massive Hemorrhage (Bleeding):**
  - a. Assess for and control any unrecognized major bleeding.
  - b. Extremity hemorrhage:
    - i. Use a tourniquet or an appropriate pressure dressing with deep wound packing (either plain gauze or, if available, hemostatic gauze) to control life-threatening bleeding in an extremity:
      - Apply the tourniquet over the clothing as proximal (high on the limb) as possible, or if able to fully expose and evaluate the wound, apply directly to the skin at least 2-3 inches above wound (DO NOT APPLY OVER THE JOINT).
      - For any traumatic total or partial amputation, a tourniquet should be applied as high on the extremity as possible regardless of bleeding.
      - A pressure dressing with deep wound packing (either plain gauze or, if available, hemostatic dressing) applied directly to the skin is an acceptable alternative for moderate to severe hemorrhage.
  - c. Junctional hemorrhage
    - i. Use direct pressure and an appropriate pressure dressing with deep wound packing (plain gauze or, if available, hemostatic gauze)
    - ii. If available, immediately apply a junctional tourniquet device for anatomic junctional areas where bleeding cannot be easily controlled by direct pressure and hemostatics/dressings.
  - d. Reassess all tourniquets that were hastily applied during Direct Threat/Hot Zone Care and evaluate the wound for continued bleeding or a distal pulse in the extremity. If there is continued bleeding or a distal pulse is still present:
    - i. Tighten the existing tourniquet further, or
    - ii. Apply a second tourniquet, side-by-side and, if possible, proximal to the first, to eliminate the distal pulse.

- e. If possible, mark all tourniquet sites with the time of tourniquet application.

#### **4. Airway Management:**

- a. If the casualty is unconscious or is conscious but unable to follow commands:
  - i. Clear mouth of any foreign bodies (e.g. vomit, food, teeth, gum, etc.).
  - ii. Apply basic chin lift or jaw thrust maneuver to open airway.
  - iii. Consider placing a nasopharyngeal airway.
  - iv. Place casualty in the recovery position to maintain the open airway.
- b. If the casualty is conscious and able to follow commands:
  - i. Allow casualty to assume position of comfort, including sitting up.
  - ii. Do not force to lie down.

#### **5. Respiration (Breathing):**

- a. Immediately apply a vented or non-vented occlusive seal to cover the defect from any open and/or sucking torso wounds.
- b. Monitor any casualty with penetrating torso trauma for the potential development of a tension pneumothorax. Most common presentation will be penetrating chest injury with subsequent increasing shortness of breath, difficulty breathing and/or increasing anxiety/agitation, often after the application of a chest seal.
  - i. If tension pneumothorax appears to be developing, remove the occlusive dressing and “burp” the wound by applying gentle pressure around the wound to allow any air to escape.
  - ii. Casualties with concern for developing tension pneumothorax should be prioritized for evacuation to higher level of care.

#### **6. Circulation (Shock Management/Resuscitation):**

- a. Assess for hemorrhagic shock: Altered mental status (in the absence of head injury) and weak or absent radial pulses are the best austere field indicators of shock.
- b. If in shock:
  - i. Prioritize for rapid evacuation any patient, especially those with penetrating torso injury, displaying signs of shock.
- c. If not in shock:
  - i. Casualty may drink clear liquids if conscious, can swallow, and there is a confirmed delay in evacuation to care.

#### **7. Hypothermia Prevention:**

- a. Minimize casualty’s exposure and subsequent heat loss.
  - i. Place the casualty onto an insulated surface to reduce conductive heat loss as soon as possible
  - ii. For injured public safety personnel, keep equipment on or with casualty if feasible.
- b. Keep casualty covered, warm and dry.
  - i. Replace wet clothing with dry if possible.
  - ii. Cover casualty with commercial warming device, blankets, jackets, or anything that will retain heat and keep the casualty dry.

#### **8. Reassess casualty:**

- a. Perform a rapid blood sweep, front and back, checking for additional injuries.
- b. Expose the wound for further evaluation. Balance this with the goal of preventing

heat loss.

**9. Burns:**

- a. Stop the burning process.
- b. Cover burns with loose dry dressings if available.
- c. Large area burns and signs of significant airway burns or smoke inhalation (e.g. singed facial hair, soot/burns/swelling around the nose or mouth) should be prioritized for rapid evacuation.
- d. Burn patients are more susceptible to hypothermia – minimize heat loss as above.

**10. Analgesia**

- a. If possible, provide analgesia as necessary for the patient. Adequate pain control can reduce physiologic stress, may decrease post-traumatic stress, and may help to prevent chronic pain syndromes.
  - i. Decreasing/limiting movement of a wounded extremity may be effective as the initial intervention.
  - ii. If prolonged evacuation, consider oral acetaminophen if the patient is not vomiting and can swallow.
  - iii. Avoid the use of traditional non-steroidal anti-inflammatory medications (e.g. aspirin, ibuprofen, naproxen) as these medications interfere with platelet functioning and may exacerbate bleeding. Celecoxib, a selective Cox-2 inhibitor, has no effect on platelets and may also be considered as a non-sedating oral analgesic.

**11. Prepare casualty for movement:**

- a. Consider operational and environmental factors for safe and expeditious evacuation.
- b. Secure casualty to a movement assist device when available.
- c. If vertical extraction required, ensure casualty secured appropriately.

**12. Communicate** with the casualty if possible.

- a. Encourage, reassure and explain care.

**13. Cardiopulmonary resuscitation:**

- a. CPR within this phase of care for victims of blast or penetrating trauma who have no pulse, no ventilations, and no other signs of life will likely not be successful and should not be attempted.
- b. In other circumstances, performing CPR *may be* of benefit and may be considered in the context of the operational situation. For example, CPR may be considered if evacuation time is less than 5 minutes from point of injury to first receiving facility.

**14. Documentation of Care:**

- a. Communication of assessments and treatments rendered should be passed along to the next level of care, ideally on a simple standardized medical treatment care card.

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Current as of March 2019

### EVACUATION CARE (EVAC) Guidelines:

1. Reassess all interventions applied in previous phases of care.
2. If multiple wounded, perform primary triage for priority and destination of evacuation to a higher level of care.
3. **Reassess for massive hemorrhage (Bleeding):**
  - a. Fully expose wounds to reassess for and control any unrecognized major bleeding.
  - b. Utilize the appropriate hemorrhage control technique (i.e. tourniquet, pressure dressing, hemostatic wound packing, or junctional device as described in ITC phase).
4. **Reassess airway:**
  - a. The principles of airway management in Evacuation Care / Cold Zone are similar to that in ITC / Warm Zone.
  - b. If the casualty is unconscious or is conscious but unable to follow commands:
    - i. Clear mouth of any foreign bodies (vomit, food, teeth, gum, etc.).
    - ii. Apply basic chin lift or jaw thrust maneuver to open airway.
    - iii. Consider placing a nasopharyngeal airway.
    - iv. Place casualty in the recovery position to maintain the open airway.
  - c. If the casualty is conscious and able to follow commands:
    - i. Allow casualty to assume position of comfort, including sitting up. Do not force to lie down.
5. **Reassess respirations (Breathing):**
  - a. All open and/or sucking chest wounds should be treated immediately by applying a vented or non-vented occlusive seal to cover the defect. Monitor the casualty for the potential development of a subsequent tension pneumothorax.
  - b. Reassess casualties who have had chest seals applied. Any developing tension pneumothorax should be treated as described in ITC / Warm Zone.
  - c. If available, administration of oxygen may be of benefit for all traumatically injured patients, especially for the following types of casualties:
    - Chest injuries
    - Torso injuries associated with shortness of breath
    - Unconscious or altered mental status
    - Post-blast injuries

- Casualty in shock
- Casualty at altitude

## **2. Reassess circulation (Shock Management/Resuscitation):**

- a. Re-assess for developing hemorrhagic shock
  - i. Altered mental status (in the absence of head injury) and weak or absent peripheral pulses are the best field indicators of shock.
  - ii. Utilize additional medical assessment and monitoring equipment that may be available in this phase.
- b. If not in shock:
  - i. No further intervention required. Allow casualty to assume position of comfort.
  - ii. Casualty may drink clear liquids if conscious, can swallow, and there is a confirmed delay in evacuation to care.
- c. If in shock:
  - i. Prioritize for rapid evacuation any penetrating torso injury patient displaying signs of shock.
- d. If altered mental status due to suspected TBI and casualty not in shock, position the casualty supine and raise the casualty's head to 30 degrees.

## **6. Prevention of hypothermia:**

- a. Minimize casualty's exposure and subsequent heat loss as per ITC guidelines.
- b. Keep protective gear on or with law enforcement casualty if feasible.
- c. Move into a vehicle or warmed structure if possible.

## **7. Reassess casualty:**

- a. Complete full front and back re-assessment checking for additional injuries. Inspect and dress known wounds that were previously deferred.
- b. Frequently re-check the casualty for any changes in condition. Worsening status at any point should prompt priority evacuation.
- c. Consider alternative methods of transportation to definitive medical care if traditional methods delayed or unavailable. Ensure coordination of patient distribution to avoid overwhelming any one medical receiving facility.

## **8. Burns:**

- a. Cover burns with loose dry dressings if available. Clean, dry sheets are effective for casualties with large area burns.
- b. Large area burns and signs of significant airway burns or smoke inhalation (e.g. singed facial hair, soot/burns/swelling around the nose or mouth) should be prioritized for rapid evacuation.
- c. Burn patients are more susceptible to hypothermia – minimize heat loss as above.

## **9. Analgesia**

- a. Provide analgesia as necessary for the patient. Adequate pain control can reduce physiologic stress, may decrease post-traumatic stress, and may help to prevent chronic pain syndromes.
  - i. Non-pharmacologic interventions such ice, elevation and immobilization may be effective as the initial intervention.
  - ii. Consider oral non-narcotic medications if the patient is not vomiting and can swallow. Acetaminophen can provide effective pain control.

- 227                   iii.    Avoid the use of traditional non-steroidal anti-inflammatory medications (e.g.  
228                   aspirin, ibuprofen, naproxen) as these medications interfere with platelet  
229                   functioning and may exacerbate bleeding. Celecoxib, a selective Cox-2 inhibitor,  
230                   has no effect on platelets and may be considered as a non-sedating oral  
231                   analgesic.

232   **10. Prepare casualty for movement:**

- 233           a. Consider environmental factors for safe and expeditious evacuation.  
234           b. Secure casualty to a movement assist device when available.  
235           c. If vertical extraction required, ensure casualty secured appropriately.  
236           d. Consider alternative evacuation platforms such as law enforcement vehicles. Ensure  
237           proper communication with EMS and first receiving facilities.

238   **11. Communicate** with the casualty if possible, and with the operational medical provider or  
239   medical facility assuming care of the casualty.

- 240           a. Encourage, reassure and explain care and expectations to patient, family and/or  
241           caregivers.  
242           b. Notify receiving provider or facility of wounds, patient condition, and treatments  
243           applied.

244   **12. Cardiopulmonary resuscitation:**

- 245           a. CPR may have a *larger role* during the evacuation phase especially for patients with  
246           electrocution, hypothermia, non-traumatic arrest or near drowning.  
247           b. CPR may be considered if evacuation time is less than 5 minutes from point of injury  
248           to first receiving facility.

249   **13. Documentation of Care:**

- 250           a. Continue or initiate documentation of clinical assessments, treatments rendered,  
251           and changes in the casualty's status in accordance with local protocol.  
252           b. Forward this information with the casualty to the next level of care.

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## II. Indirect Threat Care (ITC) / Warm Zone

### Primary Goals:

1. Goals 1-4 as above with DTC / Hot Zone care
2. Stabilize the casualty as required to permit safe extraction to dedicated treatment sector or medical evacuation assets.

### Operational Principles:

1. Maintain *tactical supremacy* and complete the overall mission.
2. As applicable, ensure safety of both first responders and casualties by *rendering weapons safe* and/or rendering any adjunct tactical gear safe for handling (flash bangs, gas canisters, etc.).
3. Conduct *dedicated patient assessment* and initiate appropriate life-saving interventions as outlined in the ITC / Warm Zone guidelines. DO NOT DELAY casualty extraction/evacuation for non-lifesaving interventions.
4. Consider establishing a *casualty collection point* if multiple casualties are encountered.
5. Unless in a fixed casualty collection point, triage in this phase of care should be limited to the following categories:
  - a. Uninjured and/or capable of ambulation or self-extraction
  - b. Deceased / expectant
  - c. All others
6. Establish *communication* with the tactical and/or unified command and request or verify initiation of casualty extraction/evacuation.
7. Prepare casualties for extraction and document care rendered for continuity of care purposes.

### ITC/Warm Zone Required Skill Set (applied per approved SOP/protocol only):

1. Hemorrhage Control:
  - a. Application of direct pressure
  - b. Application of tourniquet
    - i. Consider PACE Methodology- Primary, Alternative, Contingency, Emergency
    - ii. Commercially available tourniquets
    - iii. Field expedient tourniquets
  - c. Perform wound packing with gauze or hemostatic agent
  - d. Application of pressure dressing
2. Airway:
  - a. Perform manual maneuvers (chin lift, jaw thrust, recovery position)
  - b. Insert nasal pharyngeal airway
3. Breathing:
  - a. Application of effective occlusive or non-occlusive (vented/channeled) chest seal
  - b. Apply oxygen if available
  - c. Recognize the symptoms of tension pneumothorax
  - d. "Burp" occlusive dressing
4. Circulation:
  - a. Recognize the symptoms of hemorrhagic shock

- 332 5. Hypothermia prevention:
- 333 a. Apply available materials to prevent heat loss
- 334 6. Wound management:
- 335 a. Initiate basic burn treatment
- 336 7. Casualty evacuation:
- 337 a. Move casualty (drags, carries, lifts)
- 338 b. Secure casualty to litter
- 339 8. Other Skills:
- 340 a. Monitor casualty
- 341 b. Recognize need and requirements for, and establish Casualty Collection Point.

### III. Evacuation Care (Evac)

#### Primary Goals:

1. Maintain any lifesaving interventions applied during DTC and ITC phases.
2. Provide rapid and secure evacuation to an appropriate medical receiving facility.
3. Provide good communication and patient care data between field medical providers and fixed receiving facility.
4. Avoid additional preventable causes of death.

#### Operational Principles:

1. Reassess the casualty or casualties for efficacy of all applied medical interventions.
2. Utilize a triage system/criteria per local policy that considers priority AND destination to ensure proper distribution of patients.
3. Utilize additional available resources to maximize advanced care.
4. Avoid hypothermia.
5. Communication is critical, especially between tactical elements and non-tactical EMS teams.
6. Maintain situational awareness: in dynamic events, there are NO threat free areas.

#### Evacuation Care Required Skill Set (applied per approved SOP/protocol only):

1. Same as ITC/Warm Zone
2. Apply triage prioritization of casualties
3. Communicate effectively between non-medical, pre-hospital and hospital medical assets