FY 2013 Homeland Security Grant Program (HSGP)

Overview


The FY 2013 HSGP plays an important role in the implementation of the National Preparedness System (NPS) by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal (NPG) of a secure and resilient Nation. HSGP is comprised of three related grant programs: State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and Operation Stonegarden (OPSG). Per the Homeland Security Act of 2002 (Public Law 107–296), Title XX, § 2006, as amended by the 9/11 Act, Title I, §101, August 3, 2007, 121 Stat. 280, 6 U.S.C. § 607, states are required to ensure that at least 25 percent (25%) of the combined HSGP funds allocated under SHSP and UASI are dedicated towards law enforcement terrorism prevention activities (LETPA) linked to one or more core capabilities within the NPG. The LETPA allocation can be from SHSP, UASI or both.

Funding

In FY 2013, total amount of funds distributed under the FY 2013 HSGP will be $968,389,689. Below is the funding distribution across FY 2013 HSGP’s three related grant programs:

<table>
<thead>
<tr>
<th>HSGP Programs</th>
<th>FY 2013 Allocation</th>
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</thead>
<tbody>
<tr>
<td>State Homeland Security Program</td>
<td>$354,644,123</td>
</tr>
<tr>
<td>Urban Areas Security Initiative</td>
<td>$558,745,566</td>
</tr>
<tr>
<td>Operation Stonegarden</td>
<td>$55,000,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$968,389,689</strong></td>
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- **SHSP**: FY 2013 SHSP funds will be allocated based on three factors: minimum amounts as legislatively mandated, DHS’ risk methodology, and anticipated effectiveness based on the strength of the Investment Justification (IJ). Each state and territory will receive a minimum allocation under SHSP using the thresholds established in the 9/11 Act. All 50 States, the
District of Columbia, and Puerto Rico will receive 0.35 percent of the total funds allocated for grants under Section 2003 and Section 2004 of the *Homeland Security Act of 2002*, as amended by the 9/11 Act, for SHSP. Four territories (American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands) will receive a minimum allocation of 0.08 percent of the total funds allocated for grants under Section 2003 and 2004 of the *Homeland Security Act of 2002*, as amended by the 9/11 Act.

- **UASI**: FY 2013 UASI funds will be allocated based on DHS’ risk methodology and anticipated effectiveness based on the strength of the IJ. Eligible candidates for the FY 2013 UASI program have been determined through an analysis of relative risk of terrorism faced by the 100 most populous metropolitan statistical areas in the United States, in accordance with the 9/11 Act.

- **OPSG**: FY 2013 OPSG funds will be allocated based on risk-based prioritization using a U.S. Customs and Border Protection (CBP) sector-specific border risk methodology to include, but not limited to: threat, vulnerability, miles of border, and other border-specific “law enforcement intelligence,” as well as feasibility of FY 2013 Operation Orders to designated localities within the United States border States and territories.

### Eligibility

The FY 2013 HSGP supports a diverse group of state, territorial, tribal, and local governments. Eligible recipients under the three HSGP programs are:

- **SHSP**: All 50 states, the District of Columbia, Puerto Rico, American Samoa, Guam, Northern Mariana Islands and the U.S. Virgin Islands
- **UASI**: The 25 eligible Urban Areas identified in the HSGP Funding Opportunity Announcement (FOA)
- **OPSG**: Local units of government at the county level and federally-recognized tribal governments in the states bordering Canada (including Alaska), states bordering Mexico and states and territories with international water borders

The State Administrative Agency (SAA) is the only entity eligible to submit applications to FEMA for HSGP.

### Funding Guidelines

For FY 2013 HSGP, allowable Investments made in support of the HSGP priorities as well as other capability-enhancing projects must fall into the categories of planning, organization, equipment, training, or exercises. A maximum of up to five percent (5%) of HSGP funds (including OPSG) awarded may be used for paying expenses directly related to the administration of the grant. The period of performance for HSGP is 24 months from the date of award. For additional information regarding allowable costs, please see the FY 2013 HSGP FOA.
Key FY 2013 HSGP Changes

- In response to Congressional direction, the number of eligible UASI Urban Areas has changed from 31 to 25
- In order to strengthen the correlation of projects to the National Preparedness Goal (NPG), HSGP includes a program priority focused on Strengthening Governance Integration. This priority ensures resources are targeted to support the most critical needs of a community based on risk, driven capabilities-based estimations and planning. Strong and inclusive governance systems better ensure that disparate funding streams are coordinated and applied for maximum impact.
- In addition, the following two program priorities have been added under HSGP in FY 2013:
  1. Innovation and Sustained Support for the National Campaign for Preparedness; and
  2. Improve Immediate Emergency Victim Care at Mass Casualty Events.

Application Process and Evaluation Criteria

As part of the FY 2013 HSGP application process for SHSP and UASI funds, applicants must develop a formal IJ that addresses each Investment being proposed for funding. The IJ must demonstrate how proposed projects support sustainment of existing core capabilities or address shortfalls and deficiencies in one or more core capabilities outlined in the NPG and as identified in their most recent State Preparedness Report (SPR). The IJ must also describe engagement with and/or impacts on the general and vulnerable populations, to include children, the elderly, pregnant women, and individuals with disabilities such as those with access and functional needs. Consistent with the purpose of the program, the IJ must demonstrate alignment to Urban Area, state, and regional Threat and Hazard Identification Risk Assessments (THIRAs), SPRs, national priorities, and applicable guidance provided by FEMA.

The following process will be used to evaluate the anticipated effectiveness of the proposed Investments and to make awards under the SHSP and UASI:

- FEMA will verify compliance with all administrative and eligibility criteria identified in the FOA, to include the required submission of the IJ by the established due dates
- IJs will be evaluated for completeness, adherence to programmatic guidelines, and anticipated effectiveness of the proposed Investments. Only the information included in the IJ will be assessed in the review process. State and Urban Area homeland security strategies will be reviewed to ensure overall strategic alignment of the Investments, but will not be scored

As part of the FY 2013 OPSG application process, each eligible local unit of government at the county level or federally-recognized tribal government must develop their Operations Order in coordination with state and federal law enforcement agencies, to include, but not limited to CBP/Border Patrol (BP). Operations Orders that are developed at the county level should be inclusive of city, county, tribal, and other local law enforcement agencies that are eligible to participate in OPSG operational activities, and the Operations Order should address this in the Executive Summary. The details should include the names of the agencies, the points of contact, and the individual funding requests. All applications must be coordinated through the CBP sector office which will forward application to the SAA for review.
Committee for
Tactical Emergency Casualty Care

TECC Principles for Medical Response to Explosive Events

In general, the post blast environment is very dynamic with complex wounding patterns. Organization of the first responders is critical and requires common principles of response shared across law enforcement, EMS and Fire.

**Direct Threat (DT) Phase:**

- Maintain situational awareness and assume the presence of multiple devices targeted at the retreating population and first responders.

- Perform necessary operations to secure and/or evacuate the scene, including addressing any fire that is immediately threatening the wounded or rescuers.

- If the immediate situation allows, apply commercial tourniquets on any extremity with major bleeding or amputation.

**Indirect Threat (IDT) Phase:**

- Identify and secure a casualty collection point (CCP) outside of the DT zone. Consider use of vehicles or other geographic features to create a ballistic barrier for the CCP.

- Begin appropriate assessment and treat injuries according to the TECC principles. Consider need for decontamination and securing of patient clothes for evidence

- Control all remaining major bleeding. Use a combination of:
  - Tourniquets or reassess applied tourniquets
  - Direct Pressure
  - Wound Packing, Hemostatics and Pressure Dressings

- Airway management
  - Positioning
  - Basic adjuncts (NPA) for unconscious or obtunded patients
  - Supplemental oxygen as available

- Breathing
  - Assess for other chest injuries including:
    - Penetrating (bomb material, impaled objects (secondary blast), etc)
    - Flail segment
    - Sucking chest wounds (place occlusive dressings)
    - Inhalation Injuries
  - Maintain High Index of Suspicion for Possible Tension Pneumothorax and Systemic Air Embolism
- Needle chest decompression for signs of tension pneumothorax or respiratory distress
- Primary Blast Injury
  - Use caution when ventilating these patients (rate and volume)

- Circulation
  - Assess and treat for shock
  - Remember tenants of damage control resuscitation and permissive hypotension, except with suspected TBI

- Head Injuries/Traumatic Brain Injury (TBI)
  - Keep head of bed/stretcher elevated approximately 30-45°
  - Consider c-collar for obtunded patients to maintain venous alignment (return)
  - Maintain systolic BP >100

- Attempt to maintain normothermia and deploy hypothermia prevention strategies

- Secondary Injuries
  - Musculoskeletal
  - Eyes
  - Tympanic membrane (TM) rupture
  - Burns

- Document/Triage cards

**Evacuation Care**

- Establish and secure staging area, be aware of targeted attacks on first responders

- Re-assess and continue all prior interventions, concentrating on bleeding control, airway, breathing, head injury management and heat loss prevention. Perform constant patient reevaluation due to rapidly changing condition.

- Triage for transport priority AND destination. Utilize “transportation” coordinator to ensure you do not overwhelm medical treatment facilities. Triage by evaluating TM rupture is not effective or recommended.

- Utilize available and appropriate resources to transport to appropriate facilities

- Primary Blast Injury may not be obvious and field clearance of any symptomatic patient is not advised. Maintain a high index of suspicion for other occult injuries.

- Communication with victims may be difficult due to loss of hearing or TBI.
TACTICAL EMERGENCY CASUALTY CARE GUIDELINES

Tactical Emergency Casualty Care (TECC) Guidelines

DIRECT THREAT CARE/CARE UNDER FIRE (DTC/CUF)

Goals:
1. Accomplish the mission with minimal casualties
2. Prevent any casualty from sustaining additional injuries
3. Keep response team maximally engaged in neutralizing the existing threat (e.g. active shooter, unstable building, confined space HAZMAT, etc.)
4. Minimize public harm

Principles:
1. Establish tactical supremacy and defer in depth medical interventions if engaged in ongoing direct threat (e.g. active fire fight, unstable building collapse, dynamic explosive scenario, etc.).
2. Threat mitigation techniques will minimize risk to casualties and the providers. These should include techniques and tools for rapid casualty access and egress.
3. Minimal trauma interventions are warranted.
4. Consider hemorrhage control
   a. TQ application is the primary “medical” intervention to be considered in CUF/ Direct Threat.
   b. Consider instructing casualty to apply direct pressure to the wound if no tourniquet available or application is not tactically feasible.
5. Consider quickly placing or directing casualty to be placed in position to protect airway.

Guidelines:
1. Mitigate any threat and move to a safer position (e.g. Return fire, utilize less lethal technology, assume an overwhelming force posture, extraction from immediate structural collapse, etc.).
2. Direct the casualty to stay engaged in operation if appropriate.
3. Direct the casualty to move to a safer position and apply self aid if able.
4. Casualty Extraction
   a. If a casualty can move to safety, they should be instructed to do so.
   b. If a casualty is unresponsive, the scene commander or team leader should weigh the risks and benefits of a rescue attempt in terms of manpower and likelihood of success. Remote medical assessment techniques should be considered.
   c. If the casualty is responsive but cannot move, a tactically feasible rescue plan should be devised.
   d. Recognize that threats are dynamic and may be ongoing, requiring continuous threat assessments.
5. Stop life threatening external hemorrhage if tactically feasible:
   a. Direct casualty to apply effective tourniquet if able
   b. Apply the tourniquet over the clothing as proximal– high on the limb– as possible.
   c. Tighten until cessation of bleeding and move to safety. Consider moving to safety prior to application of the TQ if the situation warrants.
   d. Tourniquet should be readily available and accessible with either hand
   e. Consider instructing casualty to apply direct pressure to the wound if no tourniquet available or application is not tactically feasible
   f. Consider quickly placing casualty, or directing the casualty to be placed, in position to protect airway if tactically feasible

Skill Sets:
1. Tourniquet application
   a. Consider PACE Methodology- Primary, Alternative, Contingency, Emergency
   b. Commercially available tourniquets
   c. Field expedient tourniquets
2. Tactical casualty extraction
3. Rapid placement in recover position

INDIRECT THREAT CARE/TACTICAL FIELD CARE (ITC/TFC)

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

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).
4. Consider establishing a casualty collection point if multiple casualties are encountered
5. Establish communication with the tactical and/or command element and request or verify initiation of casualty extraction/evacuation.
6. Prepare casualties for extraction and document care rendered for continuity of care purposes.

Guidelines:
1. Law Enforcement Casualties should have weapons made safe once the threat is neutralized or if mental status is altered.
2. Bleeding:
   a. Assess for unrecognized hemorrhage and control all sources of major bleeding:
      i. If not already done, use a tourniquet or an appropriate pressure dressing with deep wound packing to control life-threatening external hemorrhage that is anatomically amenable to such treatment.
         - 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 2-3 inches above wound.
         - For any traumatic total or partial amputation, a tourniquet should be applied regardless of bleeding.
   b. For compressible hemorrhage not amenable to tourniquet use, or as an adjunct to tourniquet removal (if evacuation time is anticipated to be longer than two hours), apply a hemostatic agent in accordance with the directions for its use and an appropriate pressure bandage. Before releasing any tourniquet on a casualty who has received IV fluid resuscitation for hemorrhagic shock, ensure a positive response to resuscitation efforts (i.e., a peripheral pulse normal in character and normal mentation).
   c. Reassess all tourniquets that were applied during previous phases of care. Consider exposing the injury and determining if a tourniquet is needed. Tourniquets applied hastily during DTC/CUF phase that are determined to be both necessary and effective in controlling hemorrhage should remain in place if the casualty can be rapidly evacuated to definitive medical care. If ineffective in controlling hemorrhage or if there is any potential delay in evacuation to care, expose the wound fully, identify an appropriate location 2-3 inches above the injury, and apply a new tourniquet directly to the skin. Once properly applied, the prior tourniquet can be loosened. If a tourniquet is not needed, use other techniques to control bleeding and remove the tourniquet.
   d. When time and the tactical situation permit, a distal pulse check should be accomplished on any limb where a tourniquet is applied. If a distal pulse is still present, consider additional tightening of the tourniquet or the use of a second tourniquet, side by side and proximal to the first, to eliminate the distal pulse.
   e. Expose and clearly mark all tourniquet sites with the time of tourniquet application.
3. Airway Management:
   a. Unconscious casualty without airway obstruction:
      i. Chin lift or jaw thrust maneuver
      ii. Nasopharyngeal airway
      iii. Place casualty in the recovery position
   b. Casualty with airway obstruction or impending airway obstruction:
i. Chin lift or jaw thrust maneuver
ii. Nasopharyngeal airway
iii. Allow casualty to assume position that best protects the airway- including sitting up
iv. Place unconscious casualty in the recovery position

c. If previous measures unsuccessful:
   i. Surgical cricothyroidotomy (with lidocaine if conscious)
   ii. Oro/nasotracheal intubation
   iii. Consider Supraglottic Devices (e.g. King LT, CombiTube, or LMA) per protocol.
   a. Consider applying oxygen if available

4. Breathing:
   a. All open and/or sucking chest wounds should be treated by immediately applying an occlusive material to cover the defect and securing it in place. Monitor the casualty for the potential development of a subsequent tension pneumothorax.
   b. If a casualty with progressive respiratory distress and known or suspected torso trauma, consider a tension pneumothorax and decompress the chest on the side of the injury with a 14-gauge, 3.25 inch needle/catheter unit inserted:
      i. In the second intercostal space at the midclavicular line. Ensure that the needle entry into the chest is lateral to the nipple line and is not directed towards the heart.
      ii. If properly trained, consider a lateral decompression, inserting the needle in the 2-4th intercostals space, anterior to the mid-axillary line on the injured side.

5. Intravenous (IV) access:
   a. Start an 18-gauge IV saline lock if indicated
   b. If resuscitation is required and IV access is not obtainable, use the intraosseous (IO) route (per agency protocol).

6. Tranexamic Acid
   If casualty is anticipated to need significant blood transfusion (e.g. presents with hemorrhagic shock, one or more amputations, penetrating torso trauma, or evidence of severe bleeding) consider administration of 1 gram of TXA in 100cc NS or LR IV as soon as possible. Do not administer later than 3 hours after injury. Begin second infusion of 1 gram of TXA after initial resuscitation.

7. Fluid resuscitation: Assess for hemorrhagic shock; altered mental status (in the absence of head injury) and weak or absent peripheral pulses are the best field indicators of shock.
   a. If not in shock:
      i. No IV fluids necessary
      ii. PO fluids permissible if:
         a. Conscious, can swallow, and has no injury requiring potential surgical intervention
         b. If confirmed long delay in evacuation to care
   b. If in shock:
      i. Administer appropriate IV fluid bolus (500cc NS/LR/Hextend) and re-assess casualty. Repeat bolus once after 30 minutes if still in shock.
      ii. If blood products are available, consider resuscitation with plasma (FFP) and packed red blood cells (PRBCs) in a 1:1 ratio.
      iii. If a casualty with an altered mental status due to suspected TBI has a weak or absent peripheral pulse, resuscitate as necessary to maintain a desired systolic blood pressure of 90mmHg or a palpable radial pulse.

8. Prevention of hypothermia:
   a. Minimize casualty’s exposure to the elements. Keep protective gear on or with the casualty if feasible.
   b. Replace wet clothing with dry if possible. Place the casualty onto an insulated surface as soon as possible.
   c. Cover the casualty with commercial warming device, dry blankets, poncho liners, sleeping bags, or anything that will retain heat and keep the casualty dry.
   d. Warm fluids are preferred if IV fluids are required.

9. Penetrating Eye Trauma: If a penetrating eye injury is noted or suspected:
   a. Perform a rapid field test of visual acuity.
   b. Cover the eye with a rigid eye shield (NOT a pressure patch). If a commercial eye shield is not available, use casualty’s eye protection device or anything that will prevent external pressure from being applied to the injured eye.

10. Reassess casualty:
    a. Complete secondary survey checking for additional injuries. Inspect and dress known wounds that were previously deferred.
    b. Consider splinting known/suspected fracture to include applying pelvic binding techniques for suspected pelvic fractures.
11. Provide analgesia as necessary.
   a. Able to continue mission:
      i. Consider oral non-narcotic medications such as Tylenol
      ii. Avoid the use of non-steroidal anti-inflammatory medications (e.g. aspirin, ibuprofen, naproxen, ketorolac, etc) in the trauma patient as these medications interfere with platelet functioning and may exacerbate bleeding
   b. Unable to continue mission:
      i. Consider oral non-narcotic medications for mild to moderate pain
      ii. Consider use of narcotic medications (hydrocodone, oxycodone, transmucosal fentanyl citrate, etc.) and/or Ketamine (at analgesic dosages) for moderate to severe pain
      iii. Consider adjunct administration of anti-emetic medicines
      Note: Have naloxone readily available whenever administering opiates
      iv. Monitor for adverse effects such as respiratory depression or hypotension.
12. Antibiotics: Consider initiating antibiotic administration for casualties with open wounds and penetrating eye injury when evacuation to definitive care is significantly delayed or infeasible. This is generally determined in the mission planning phase and requires medical oversight.
13. Burns:
   a. Facial burns, especially those that occur in closed spaces, may be associated with inhalation injury. Aggressively monitor airway status and oxygen saturation in such patients and consider early definitive airway management for respiratory distress or oxygen desaturation.
   b. Smoke inhalation, particularly in a confined space, may be associated with significant carbon monoxide and cyanide toxicity. Patients with signs of significant smoke inhalation plus:
      i. Significant symptoms of carbon monoxide toxicity should be treated with high flow oxygen if available
      ii. Significant symptoms of cyanide toxicity should be considered candidates for cyanide antidote administration
   c. Estimate total body surface area (TBSA) burned to the nearest 10% using the appropriate locally approved burn calculation formula.
   d. Cover the burn area with dry, sterile dressings and initiate measures to prevent heat loss and hypothermia.
   e. If burns are greater than 20% of Total Body Surface Area, fluid resuscitation should be initiated under medical control as soon as IV/IO access is established. If hemorrhagic shock is also present, resuscitation for hemorrhagic shock takes precedence over resuscitation for burn shock as per the guidelines.
   f. All previously described casualty care interventions can be performed on or through burned skin in a burn casualty.
   g. Analgesia in accordance with TECC guidelines may be administered.
   h. Aggressively act to prevent hypothermia for burns greater than 20% TBSA.
14. Monitoring: Apply appropriate monitoring devices and/or diagnostic equipment if available. Obtain and record vital signs.
15. Prepare casualty for movement: Consider environmental factors for safe and expeditious evacuation. Secure casualty to a movement assist device when available. If vertical extraction required, ensure casualty secured within appropriate harness, equipment assembled, and anchor points identified.
16. Communicate with the casualty if possible. Encourage, reassure and explain care.
17. Cardiopulmonary resuscitation (CPR) within a tactical environment for victims of blast or penetrating trauma who have no pulse, no ventilations, and no other signs of life will not be successful and should not be attempted. However, consider bilateral needle decompression for victims of torso or polytrauma with no respirations or pulse to ensure tension pneumoathorax is not the cause of cardiac arrest prior to discontinuation of care.
   a. In certain circumstance, such as electrocution, drowning, atraumatic arrest, or hypothermia, performing CPR may be of benefit and should be considered in the context of the tactical situation.
18. Documentation of Care: Document clinical assessments, treatments rendered, and changes in the casualty’s status in accordance with local protocol. Consider implementing a casualty care card that can be quickly and easily completed by non-medical first responders. Forward this information with the casualty to the next level of care.

Skill set:

1. Hemorrhage Control:
   a. Apply Tourniquet
   b. Apply Direct Pressure
c. Apply Pressure Dressing
d. Apply Wound Packing
e. Apply Hemostatic Agent

2. Airway:
a. Apply Manual Maneuvers (chin lift, jaw thrust, recovery position)
b. Insert Nasal pharyngeal airway
c. Insert Supraglottic Device (LMA, King-LT, Combitube, etc)
d. Perform Tracheal Intubation
e. Perform Surgical Cricothyrotomy

3. Breathing:
a. Application of effective occlusive chest seal
b. Assist Ventilations with Bag Valve Mask
c. Apply Oxygen
d. Apply Occlusive Dressing
e. Perform Needle Chest Decompression

4. Circulation:
a. Gain Intravascular Access
b. Gain Intraosseous Access
c. Apply saline lock
d. Administer IV/IO medications and IV/IO fluids
e. Administer blood products

5. Wound management:
a. Apply Eye Shield
b. Apply Dressing for evisceration
c. Apply Extremity Splint
d. Apply Pelvic Binder
e. Initiate Basic Burn Treatment
f. Initiate Treatment for Traumatic Brain Injury

6. Prepare Casualty for Evacuation:
a. Move Casualty (drags, carries, lifts)
b. Apply Spinal Immobilization Devices
c. Secure casualty to litter
d. Initiate Hypothermia Prevention

7. Other Skills:
a. Perform Hasty Decontamination
b. Initiate Casualty Monitoring
c. Establish Casualty Collection Point
d. Perform Triage

Note: The recommended skill sets are based upon 10 years of ongoing combat. Care provided within the ITC/TFC guidelines is based upon individual first responder training, available equipment, local medical protocols, and medical director approval.

EVACUATION/TACTICAL EVACUATION CARE (EVAC/TACEVAC):

Goals:
1. Maintain any life saving interventions conducted during DTC/CUF and ITC/TFC phases
2. Provide rapid and secure extraction to a appropriate level of care
3. Avoid additional preventable causes of death

Principles:
1. Reassess the casualty or casualties
2. Utilize additional resources to maximize advanced care
3. Avoid hypothermia
4. Communication is critical, especially between tactical and non tactical EMS teams.

Guidelines:
1. Reassess all interventions applied in previous phases of care. If multiple wounded, perform primary triage.
2. Airway Management:
   a. The principles of airway management in Evacuation Care are similar to that in ITC/TFC with the addition of increased utility of supraglottic devices and endotracheal intubation.
   b. Unconscious casualty without airway obstruction: Same as ITC/TFC
   c. Casualty with airway obstruction or impending airway obstruction:
      i. Initially, same as ITC/TFC Naso/oropharyngeal airway
ii. If previous measures unsuccessful, it is prudent to consider supraglottic Devices (King LT, CombiTube, LMA, etc), endotracheal intubation/Rapid Sequence Intubation or surgical cricothyroidotomy (with lidocaine if conscious).

d. If intubated and attached to a mechanical ventilator, consider lung protective strategies and reassess for respiratory decline in patients with potential pneumothoraces.

e. Consider the mechanism of injury and the need for spinal immobilization. Spinal immobilization is not necessary for casualties with penetrating trauma if the patient is neurologically intact. Maintain high clinical suspicion for casualties over age of 65yo with blunt mechanism. Additionally, patients may be clinically cleared from spinal immobilization under a locally approved protocol if they have none of the following:
   - Midline c-spine tenderness
   - Neurologic impairment
   - Altered mental status
   - Distracting injury
   - Intoxication

3. **Breathing**:

   a. All open and/or sucking chest wounds should be treated by immediately applying an occlusive material to cover the defect and securing it in place. Monitor the casualty for the potential development of a subsequent tension pneumothorax. Tension pneumothoraces should be treated as described in ITC/TFC.

   b. Reassess casualties who have had chest seals applied or had needle decompression. If there are signs of continued or progressive respiratory distress:
      i. Consider repeating the needle decompression. If this results in improved clinical status, the decompression can be repeated multiple times.
      ii. If appropriate provider scope of practice and approved local protocol, consider placing a chest tube if no improvement of respiratory distress after decompression if long duration or air transport is anticipated.

   c. Administration of oxygen may be of benefit for all traumatically injured patients, especially for the following types of casualties:
      - Low oxygen saturation by pulse oximetry
      - Injuries associated with impaired oxygenation
      - Unconscious casualty
      - Casualty with TBI (maintain oxygen saturation > 90%)
      - Casualty in shock
      - Casualty at altitude
      - Casualties with pneumothoraces

4. **Bleeding**:

   a. Fully expose wounds to reassess for unrecognized hemorrhage and control all sources of major bleeding.

   b. If not already done, use a tourniquet or an appropriate pressure dressing with deep wound packing to control life-threatening external hemorrhage that is anatomically amenable to such treatment.
      i. Apply the tourniquet directly to the skin 2-3 inches above wound.
      ii. For any traumatic total or partial amputation, a tourniquet should be applied regardless of bleeding.

   d. Reassess all tourniquets that were applied during previous phases of care. Expose the injury and determine if a tourniquet is needed.
      i. Tourniquets applied in prior phases that are determined to be both necessary and effective in controlling hemorrhage should remain in place if the casualty can be rapidly evacuated to definitive medical care.
      ii. If ineffective in controlling hemorrhage or if there is any potential delay in evacuation to care, identify an appropriate location 2-3 inches above the injury, and apply a new tourniquet directly to the skin. Once properly applied, the prior tourniquet can be loosened.
      iii. If delay to definitive care longer than 2 hours is anticipated and wound for which tourniquet was applied is anatomically amenable, attempt a tourniquet downgrade as described in ITC/TFC.

   e. A distal pulse check should be performed on any limb where a tourniquet is applied. If a distal pulse is still present, consider additional tightening of the tourniquet or the use of a second tourniquet, side by side and proximal to the first, to eliminate the distal pulse.

   f. Expose and clearly mark all tourniquet sites with the time of tourniquet application. Use an indelible marker.

5. **Tranexamic Acid**
If casualty is anticipated to need significant blood transfusion (e.g. presents with hemorrhagic shock, one or more amputations, penetrating torso trauma, or evidence of severe bleeding) consider administration of 1 gram of TXA in 100cc NS or LR IV as soon as possible. Do not administer later than 3 hours after injury. Begin second infusion of 1 gram of TXA after initial resuscitation.

6. Fluid resuscitation: Reassess for hemorrhagic shock (altered mental status in the absence of brain injury, weak or absent peripheral pulses, and/or change in pulse character). If BP monitoring is available, maintain target systolic BP 80-90mmHg.
   a. Establish intravenous or intraosseous access if not performed in ITC/TFC phase
   b. Management of resuscitation as in ITC/TFC with the following additions:
      i. If in shock and blood products are not available or not approved under scope of practice/local protocols resuscitate as in ITC/TFC.
      ii. If in shock and blood products are available with an appropriate provider scope of practice under an approved medical protocol:
         i. Resuscitate with 2 units of plasma (FFP) and 2 units of packed red blood cells (PRBCs) in a 1:1 ratio.
         ii. If blood component therapy is not available, and appropriate training, testing and protocols are in place, consider transfusing fresh whole blood.
         iii. Continue resuscitation as needed to maintain target BP or clinical improvement.
   iii. If a casualty with an altered mental status due to suspected TBI has a weak or absent peripheral pulse, resuscitate as necessary to maintain a desired systolic blood pressure of 90mmHg or a palpable radial pulse.
   iv. If suspected TBI and casualty not in shock, raise the casualty’s head to 30 degrees.

7. Prevention of hypothermia:
   a. Minimize casualty’s exposure to the elements. Move into a medic unit, vehicle, or warmed structure if possible. Keep protective gear on or with the casualty if feasible.
   b. Replace wet clothing with dry if possible. Place the casualty onto an insulated surface as soon as possible.
   c. Cover the casualty with commercial warming device, dry blankets, poncho liners, sleeping bags, or anything that will retain heat and keep the casualty dry.
   d. Warm fluids are preferred if IV fluids are required.

8. Monitoring
   a. Institute electronic monitoring if available, including pulse oximetry, cardiac monitoring, etCO2 (if intubated), and blood pressure.
   b. Obtain and record vital signs.

9. Reassess casualty:
   a. Complete secondary survey checking for additional injuries. Inspect and dress known wounds that were previously deferred.
   b. Determine mode and destination for evacuation to definitive care.
   c. Splint known/suspected fractures and recheck pulses.
   d. Apply pelvic binding techniques for suspected pelvic fractures.

10. Provide analgesia as necessary.
    a. Mild pain:
       i. Consider oral non-narcotic medications
       ii. Avoid the use of non-steroidal anti-inflammatory medications (e.g. aspirin, ibuprofen, naproxen, ketorolac, etc) in the trauma patient as these medications interfere with platelet functioning and may exacerbate bleeding
    b. Moderate to severe pain:
       i. Consider use of narcotic medications (hydrocodone, oxycodone, transmucosal fentanyl citrate, morphine, etc.) and/or Ketamine (at analgesic dosages)
       ii. Consider adjunct administration of anti-emetic medicines
       iii. Have naloxone readily available whenever administering opiates
       iv. Monitor for adverse effects such as respiratory depression, hypotension

11. Burns:
    a. Burn care is consistent with the principles described in ITC/TFC.
    b. Smoke inhalation, particularly in a confined space, may be associated with significant carbon monoxide and cyanide toxicity. Patients with signs of significant smoke inhalation plus:
       i. Significant symptoms of carbon monoxide toxicity should be treated with high flow oxygen if available
       ii. Significant symptoms of cyanide toxicity should be considered candidates for cyanide antidote administration
    c. Be cautious of off-gassing from patient in the evacuation vehicle if there is suspected chemical exposure (e.g. cyanide) from the fire.
d. Consider early airway management if there is a prolonged evacuation period and the patient has signs of significant airway thermal injury (e.g. singed facial hair, oral edema, carbonaceous material in the posterior pharynx and respiratory difficulty.)

12. Prepare casualty for movement: Consider environmental factors for safe and expeditious evacuation. Secure casualty to a movement assist device when available. If vertical extraction required, ensure casualty secured within appropriate harness, equipment assembled, and anchor points identified.

13. Communicate with the casualty if possible and with the accepting facility. Encourage, reassure and explain care.

14. Cardiopulmonary resuscitation (CPR) may have a larger role during the evacuation phase especially for patients with electrocution, hypothermia, non traumatic arrest or near drowning. Consider bilateral needle decompression for victims of torso or polytrauma with no respirations or pulse to ensure tension pneumothorax is not the cause of cardiac arrest prior to discontinuation of care.

15. Documentation of Care: Continue or initiate documentation of clinical assessments, treatments rendered, and changes in the casualty’s status in accordance with local protocol. Forward this information with the casualty to the next level of care.

Skills:
1. Familiarization with advanced monitoring techniques
2. Familiarization with transfusion protocols
3. Ventilator and advanced airway management