### TACTICAL EVACUATION CARE

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<th>INSTRUCTIONAL POINTS</th>
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| 1     | **Tactical Evacuation Care** | The Tactical Evacuation phase of care is that phase in which casualties are moved from the hostile and austere tactical environment in which they were injured to a more secure location capable of providing advanced medical care.  
The term “Tactical Evacuation” includes both CASEVAC and MEDEVAC as discussed below.  
This phase may represent the first opportunity to receive additional medical personnel and equipment. |
| 2     | **Objectives**  
* Describe the differences between MEDEVAC and CASEVAC  
* Describe the four evacuation categories  
* Describe the differences between Tactical Field Care and Tactical Evacuation Care  
* List the nine items in a MEDEVAC request | |
| 3     | **Objectives**  
* Describe the additional assets that may be available for airway management, electronic monitoring, and fluid resuscitation  
* List the indications and administrative controls applicable to giving Packed Red Blood Cells (PRBCs) in the field  
* Know the rules of thumb for calling for tactical evacuation and the importance of careful calculation of the risk/benefit ratio prior to initiating the call | |
### Objectives
- State the rules of thumb for calling for Tactical Evacuation and the importance of careful calculation of the risk/benefit ratio prior to initiating the call.

### Tactical Evacuation
- Casualties will need to be evacuated as soon as feasible after significant injuries.
- Evacuation asset may be a ground vehicle, aircraft, or boat.
- Evacuation time is highly variable—evacuations in Afghanistan typically take much longer than those in Iraq.
- Tactical situation and hostile threat to evacuation platforms may differ markedly from casualty scenario to casualty scenario.
- The Tactical Evacuation phase allows for additional medical personnel and equipment to be used.

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<td>Objectives</td>
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<td>5</td>
<td>Tactical Evacuation</td>
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<td>6</td>
<td><strong>Evacuation Terminology</strong>&lt;br&gt;• MEDEVAC: dedicated special medical evacuation assets marked with a Red Cross – MEDEVAC platforms are non-combatant assets&lt;br&gt;• CASEVAC: non-medical casualty evacuation platforms – may carry a Quick-Reaction force and provide fire support as well&lt;br&gt;• Tactical Evacuation (TACEVAC) – this term encompasses both of the above types of evacuation</td>
<td>Any platform can be used to evacuate casualties. You must understand the capabilities and limitations of any vehicle you opt to utilize.&lt;br&gt;&lt;br&gt;MEDEVAC vehicles and aircraft are specifically configured for casualty care and designated with a Red Cross. These assets generally minimally armed. They will often NOT evacuate casualties where there is a high threat of hostile fire.&lt;br&gt;&lt;br&gt;CASEVAC assets are combatant platforms – good firepower, good armor, no Red Cross, designed to go into the fight. You will need CASEVAC assets if you have to evacuate casualties from a tactical situation where the threat level is high.</td>
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<td>7</td>
<td><strong>Aircraft Evacuation Planning</strong>&lt;br&gt;• Flying rules are very different for different aircraft and units&lt;br&gt;• Consider:&lt;br&gt;  • Distances and altitudes involved&lt;br&gt;  • Day versus night&lt;br&gt;  • Hostile threat&lt;br&gt;  • Medical equipment&lt;br&gt;  • Medical personnel&lt;br&gt;  • Icing conditions</td>
<td>In tactical situations where the threat of hostile fire is high, plan to use a CASEVAC asset.&lt;br&gt;&lt;br&gt;However, in general, if the tactical situation will allow for a MEDEVAC asset to be used, it’s best to use that asset and save the CASEVAC assets for other contingencies that may arise later.&lt;br&gt;&lt;br&gt;If you use a tactical CASEVAC asset, you may have to make plans to augment the medical capabilities of the asset. Plan to have extra medical personnel and equipment on the CASEVAC asset.</td>
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| 8     | **Aircraft Evacuation Planning**<br>• Ensure that your evacuation plan includes aircraft capable to fly the missions you need<br>• Primary, secondary, tertiary options | Always have a backup plan. Or two.<br><br>KNOW the flying rules for all of your potential evacuation aircraft.
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| 9     | **CASEVAC vs MEDEVAC: The Battle of the Ia Drang Valley**  
- 1st Bn, 7th Cavalry in Vietnam  
- Surrounded by 2000 NVA - heavy casualties  
- Called for MEDEVAC  
- Request refused because LZ was not secure - unit actually needed CASEVAC  
- Eventual pickup by 229th Assault Helo Squadron after long delay  
- Must get this terminology right | Here’s an example of how preventable deaths can occur from evacuation delays if you don’t understand the difference between a CASEVAC and a MEDEVAC.  
Soldiers died because of this planning error. |
| 10    | **Ground Vehicle Evacuation**  
- More prevalent in urban-centric operations in Iraq than austere environment ops in Afghanistan  
- May also be organic to unit or designated MEDEVAC assets | Ground evac typically takes too long in Afghanistan.  
Also, military vehicles are not designed for comfort. There is usually significant noise and vibration in cargo areas, and overland movement is generally extremely bumpy, which may be hard on the casualty. |
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<td>Tactical Evacuation Care</td>
<td>The Tactical Evacuation phase of care may represent the first opportunity within the tactical operation to bring additional medical equipment and personnel to bear. Equipment and/or personnel that were planned and pre-positioned on board the evacuation vehicles may now be available. Additional medical personnel should arrive with the evacuation asset. This is important because: The unit’s medic/corpsman may be among its casualties The unit’s medic/corpsman may be dehydrated, hypothermic, or otherwise debilitated The unit’s medic/corpsman may need to continue on the unit’s mission and not get on the evacuation platform There may not have been a medic/corpsman at the casualty scene</td>
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<td>12</td>
<td>Airway in TACEVAC</td>
<td>The Nasopharyngeal Airway adjunct was described in the Tactical Field Care section. Once a casualty has been secured aboard an evacuation platform, a wider variety of more definitive airway adjuncts and personnel trained to use them may be available, although the NPA should suffice for most patients. Endotracheal intubation may offer a better airway option for selected patients in the Tactical Evacuation setting. Don’t attempt advanced airways unless you have been trained on them and are proficient in their use.</td>
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**Tactical Evacuation Care**

- TCCC guidelines for care are largely the same in TACEVAC as for Tactical Field Care.
- There are some changes that reflect the additional medical equipment and personnel that may be present in the TEC setting.
- This section will focus on those differences.

**Airway in TACEVAC**

- Additional Options for Airway Management
  - Laryngeal Mask Airway
  - CombiTube
  - Endotracheal Intubation (ETT)
  - Confirm ETT placement with CO2 monitoring
  - These airways are advanced skills not taught in TCCC

- The Tactical Evacuation Care
  - TCCC guidelines for care are largely the same in TACEVAC as for Tactical Field Care.
  - There are some changes that reflect the additional medical equipment and personnel that may be present in the TEC setting.
  - This section will focus on those differences.
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<td>13</td>
<td>Breathing in TACEVAC</td>
<td>Consider tension pneumothorax in casualties with penetrating chest injuries and progressive respiratory distress. Decompress with a needle thoracostomy. Although chest tubes may be considered by trained personnel in long or delayed evacuations, they are considerably more difficult and invasive procedures, and there is no evidence that they are more effective than needle decompressions for relieving tension pneumothorax.</td>
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<td>- Watch for tension pneumothorax as casualties with a chest wound ascend to the lower pressure at altitude. - Pulse ox readings will become lower as casualty ascends unless supplemental oxygen is added. - Chest tube placement may be considered if a casualty with suspected tension pneumothorax fails to respond to needle decompression.</td>
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<td>14</td>
<td>Supplemental Oxygen in Tactical Evacuation Care</td>
<td>Oxygen should be pre-positioned on evacuation assets. Oxygen generators/concentrators are preferred over compressed gas cylinders because of the reduced explosive hazard.</td>
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<td>Most casualties do not need supplemental oxygen, but have oxygen available and use for: - Casualties in shock - Casualties with TBI (maintain oxygen saturation &gt; 90%) - Low oxygen sat on pulse ox - Unconscious casualties - Chest wound casualties</td>
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<td>15</td>
<td>Fluid Resuscitation in TACEVAC</td>
<td>Possible to have additional fluids available on evacuation platforms. Concerns about “popping the clot” and diluting blood clotting factors remain as factors when resuscitating casualties with uncontrolled (torso) hemorrhage. In TBI casualties, the need to maintain adequate perfusion to the brain takes precedence over concerns about “popping the clot.”</td>
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<td>- Hextend resuscitation algorithm as before - Further resuscitation with packed red blood cells (PRBCs), Hextend, or Lactated Ringer’s solution (LR) as indicated. - If a casualty with TBI is unconscious and has a weak or absent peripheral pulse, resuscitate as necessary to maintain a systolic blood pressure of 90 mmHg or above.</td>
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| 16    | Packed Red Blood Cells in TACEVAC  
• May be useful on prolonged evacuations when logistically feasible  
• Coordination with blood bank is key  
• Keep refrigerated until used  
• Specific transfusion guidelines in PHTLS Manual  
• Requires special training to do  
• Consider 1:1 PRBC/plasma infusion ratio if used | PRBC’s: Concentrated Red Blood Cells with most of the serum removed. No clotting proteins and very little antibody present.  
Blood type compatibility is considered in transfusing PRBCs. PRBCs must be infused with NORMAL SALINE ONLY (No LR or Hextend).  
Indications and techniques for PRBCs are covered in PHTLS Manual. Special unit training and approval is required to use! |
| 17    | Remember Prevention of Hypothermia in Helicopters!  
Cabin wind + altitude = severe cold stress | Imagine how cold these casualties are. It is always cold at altitude in helos, but much worse in winters.  
Medics and corpsmen in helicopters in winter – bring chemical hand warmers to maintain manual dexterity! |
| 18    | TACEVAC CARE – Hoisting  
Rigid Litters Only When Hoisting! | Stokes or basket-type litters should be used for hoisting casualties into helos.  
Secure the casualty – check and double-check rigging. |
| 19    | Questions? | |
### Standard Evacuation Categories

- **Urgent/Urgent Surgical**: 2 hour window to save life, limb, or eyesight
- **Priority**: Can be safely managed for 4 hours
- **Routine**: Can be safely managed for 24 hours
- **Convenience**: Can be safely managed at location and do not hinder ongoing tactical mission

These evacuation categories are established by joint military operations pubs – not TCCC. Must know them when calling on the radio for MEDEVAC/CASEVAC.

### Tactical Evacuation: Eight Rules of Thumb

Here’s something that is particular to TCCC. If you have a casualty – HOW DO YOU KNOW how delays to evac will impact on your casualty? These slides will help in that respect. Not taught anywhere else.

### TACEVAC 8 Rules of Thumb: Assumptions

- Decision is being made 15-30 minutes after wounding
- Care is being rendered per the TCCC guidelines
- There are tactical constraints on evacuation
  - Mission interference
  - High risk for team
  - High risk for TACEVAC platform

Why not just evac all casualties immediately? May be OK for some situations, but others scenarios may have tactical constraints that must be factored in. Here is where you would want to use the Rules of Thumb to help you.

### TACEVAC Rule of Thumb #1

Soft tissue injuries are common and may look bad, but usually don’t kill unless associated with shock.

Casualties do not die acutely from soft tissue wounds alone unless associated with severe bleeding or airway problems.
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<td>24</td>
<td>TACEVAC Rule of Thumb #2</td>
<td>Bleeding from most extremity wounds should be controllable with a tourniquet or hemostatic dressing. CASEVAC delays should not increase mortality if bleeding is fully controlled.</td>
</tr>
<tr>
<td>25</td>
<td>TACEVAC Rule of Thumb #3</td>
<td>Casualties who are in shock should be evacuated as soon as possible.</td>
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<tr>
<td>26</td>
<td>TACEVAC Rule of Thumb #4</td>
<td>Casualties with penetrating wounds of the chest who have respiratory distress unrelieved by needle decompression of the chest should be evacuated as soon as possible.</td>
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<td>27</td>
<td>TACEVAC Rule of Thumb #5</td>
<td>Casualties with blunt or penetrating trauma of the face associated with airway difficulty should have an immediate airway established and be evacuated as soon as possible. REMEMBER to let the casualty sit up and lean forward if that helps him or her to breathe better!</td>
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Tactical Evacuation Care
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<td>28</td>
<td><strong>TACEVAC Rule of Thumb #6</strong>&lt;br&gt;Casualties with blunt or penetrating wounds of the head where there is obvious massive brain damage and unconsciousness are unlikely to survive with or without emergent evacuation.</td>
<td>There are some casualties you can’t help.</td>
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<td>29</td>
<td><strong>TACEVAC Rule of Thumb #7</strong>&lt;br&gt;Casualties with blunt or penetrating wounds to the head - where the skull has been penetrated but the casualty is conscious - should be evacuated emergently.</td>
<td>Some penetrating trauma to the head IS survivable, especially shrapnel injuries</td>
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<td>30</td>
<td><strong>TACEVAC Rule of Thumb #8</strong>&lt;br&gt;Casualties with penetrating wounds of the chest or abdomen who are not in shock at their 15-minute evaluation have a moderate risk of developing late shock from slowly bleeding internal injuries. They should be carefully monitored and evacuated as soon as feasible.</td>
<td>This is a single GSW to the torso that proved fatal. The casualties who will die from internal bleeding do not always do that in the first 15-30 minutes.</td>
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<td>31</td>
<td>Questions?</td>
<td></td>
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<td>32</td>
<td><strong>9-Line Evacuation Request</strong>&lt;br&gt;Required if you want an evacuation from another unit</td>
<td>The requirements for these may not seem to be optimally designed. Get over it – this is the format that you have to use.</td>
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| 33    | 9-Line Evacuation Request  
• Request for resources through tactical aircraft channels.  
• NOT a direct medical communication with medical providers  
• Significance  
  – Determines tactical resource allocation  
  – DOES NOT convey much useful medical information  
| This will help to explain why you are sending what you send on the 9-line. |
| 34    | 9-Line Evacuation Request  
Line 1: Pickup location  
Line 2: Radio frequency, call sign and suffix  
Line 3: Number of casualties by precedence (evacuation category)  
Line 4: Special equipment required  
| |
| 35    | 9-Line Evacuation Request  
Line 5: Number of casualties by type (litter, ambulatory)  
Line 6: Security at pickup site  
Line 7: Method of marking pickup site  
| |
| 36    | 9-Line Evacuation Request  
Line 8: Casualty’s nationality and status  
Line 9: Terrain description at landing site; NBC contamination status if applicable  
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| 37    | **TACEVAC Care for Wounded Hostile Combatants**  
- Principles of care are the same for all wounded combatants after measures described in TFC.  
- Rules of Engagement may dictate evacuation process.  
- Restrain and provide security.  
- Remember that each hostile casualty represents a potential threat to both the provider and the unit and take appropriate measures.  
- They still want to kill you.  
  | Talked about this in TFC.  
  | Maintain proper prisoner handling procedures.  |
| 38    | **Summary of Key Points**  
- Evacuation time is highly variable  
- Thorough planning is key  
- Similar to Tactical Field Care guidelines but some modifications  
  |  |
| 39    | **Summary of Key Points**  
- Tactical Evacuation Rules of Thumb  
- Evacuation Categories  
- 9-Line Evacuation Request  
  |  |
### Recap from TFC

Your last medical decisions during TFC enroute to HLZ:
- Placed tourniquet on the second bleeding stump
- Disarmed
- Placed NPA
- Established IV
- Administered 500 ml Hextend®
- IV antibiotics
- Provided hypothermia prevention
- Your convoy has now arrived at the HLZ

### What is your 9-line?

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<thead>
<tr>
<th>Line 1</th>
<th>Grid NS 12345678</th>
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<tbody>
<tr>
<td>Line 2</td>
<td>38.90, Convoy 6</td>
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<tr>
<td>Line 3</td>
<td>1 Urgent</td>
</tr>
<tr>
<td>Line 4</td>
<td>PRBCs, oxygen, advanced airway</td>
</tr>
<tr>
<td>Line 5</td>
<td>1 litter</td>
</tr>
<tr>
<td>Line 6</td>
<td>Secure</td>
</tr>
<tr>
<td>Line 7</td>
<td>VS-17 (Orange Panel)</td>
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<tr>
<td>Line 8</td>
<td>U.S. Military</td>
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<tr>
<td>Line 9</td>
<td>Flat field</td>
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**Line 1:** Pickup location  
**Line 2:** Radio frequency, call sign and suffix  
**Line 3:** Number of casualties by precedence (evacuation) category  
**Line 4:** Special equipment required  
**Line 5:** Number of casualties by type (ambulatory vs. litter)  
**Line 6:** Security of pickup site (wartime) or number/type  
**Line 7:** Method of marking pickup site  
**Line 8:** Casualty’s nationality and status  
**Line 9:** Terrain description at Landing Site; NBC contamination if applicable
### Convoy IED Scenario

#### Next steps?
- Continue to reassess casualty and prep for helo transfer
  - Search casualty for any remaining weapons before boarding helo
  - Secure casualty’s personal effects
  - Document casualty status and treatment
  - Helicopter arrives. Casualty is transferred to helo and regains consciousness
  - Corpsman stays with convoy

### Convoy IED Scenario

#### What’s Next?
- Casualty is now conscious but confused
  - Reassess casualty for ABCs
  - NPA still in place
  - First Hextend bolus completed 30 minutes ago
  - Tourniquets in place, no significant bleeding
  - Attach electronic monitoring to casualty
    - Heart rate 140; systolic BP 70
    - O2 sat = 90%

### Convoy IED Scenario

#### What’s next?
- Supplemental Oxygen
  - Why?
  - Casualty is in shock

**What’s next?**
- 2nd bolus of Hextend® 500ml
  - Why?
  - Casualty is still in shock
### Convoy IED Scenario

**What’s next?**
- Inspect and dress known wounds and search for additional wounds.
- Try to remove tourniquets and use hemostatic agents?

**Why not?** THREE reasons:
- Short transport time - less than 2 hours from application of tourniquets.
- No distal extremities to lose.
- Casualty is in shock.

---

**Convoy IED Scenario**

**What’s next?**
- Inspect and dress known wounds and search for additional wounds.

**What’s next?**
- Try to remove tourniquets and use hemostatic agents?
- No

**Why not?** THREE reasons:
- Short transport time - less than 2 hours from application of tourniquets.
- No distal extremities to lose.
- Casualty is in shock.

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**Questions?**

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