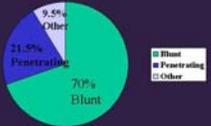
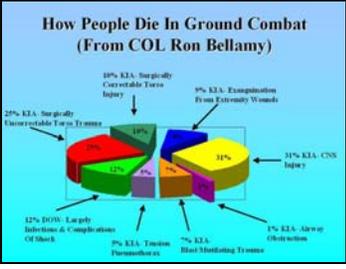
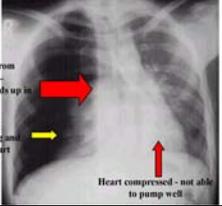


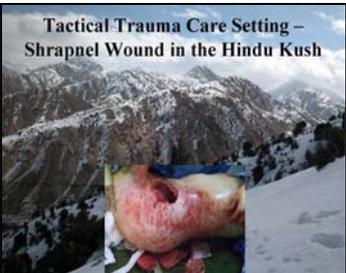
## INTRODUCTION TO TACTICAL COMBAT CASUALTY CARE

SLIDE	INSTRUCTIONAL POINTS	INSTRUCTOR NOTES
<p>1</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p><b>Tactical Combat Casualty Care</b> February 2009</p>  <p><b>Introduction</b></p> </div>	<p>Tactical Combat Casualty Care November 2008</p> <p>Introduction</p>	<p>Tactical Combat Casualty Care is the new standard of care in Prehospital Battlefield Medicine.</p> <p>Previous medical training may not have contained the material presented in the following lessons.</p> <p>Medical care in combat is significantly different than that provided on the streets of Anywhere USA.</p>
<p>2</p> <div style="border: 1px solid black; padding: 5px;"> <p> <b>Pre-Test</b></p>  </div>	<p>Pre-Test</p>	<p>Pass out pre-tests</p> <p>Collect and grade when done</p> <p>Do not take time to review the tests.</p> <p>Tell students the same material will be on the post-test, so now they know what to pay attention to.</p>
<p>3</p> <div style="border: 1px solid black; padding: 5px;"> <p> <b>Objectives</b></p> <ul style="list-style-type: none"> <li>• <b>EXPLAIN</b> the differences between military and civilian prehospital trauma care</li> <li>• <b>DESCRIBE</b> the key factors influencing combat casualty care</li> <li>• <b>UNDERSTAND</b> how TCCC developed</li> <li>• <b>DESCRIBE</b> the phases of care in TCCC</li> </ul> </div>	<p>Objectives</p> <p>As a result of participation in this lesson, participants should be able to:</p> <ul style="list-style-type: none"> <li>• <b>EXPLAIN</b> the differences between military and civilian prehospital trauma care</li> <li>• <b>DESCRIBE</b> the key factors influencing combat casualty care</li> <li>• <b>UNDERSTAND</b> how TCCC developed</li> <li>• <b>DESCRIBE</b> the phases of care in TCCC</li> </ul>	

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<p>4</p> <p><b>Comparison of Statistics for Battle Casualties, 1941-2005</b>  <i>Holcomb et al J Trauma 2006</i></p> <p><b>The U.S. casualty survival rate in the GWOT is the best in our nation's history.</b></p> <table border="1"> <thead> <tr> <th></th> <th>World War II</th> <th>Vietnam</th> <th>OIF/OEF</th> </tr> </thead> <tbody> <tr> <td>% CFR</td> <td>19.1%</td> <td>15.8%</td> <td>9.4%</td> </tr> </tbody> </table> <p>Note: CFR is the Case Fatality Rate – the percent of those wounded who die</p>		World War II	Vietnam	OIF/OEF	% CFR	19.1%	15.8%	9.4%	<p>Comparison of Statistics for Battle Casualties, 1941-2005</p>	<p>TCCC has been one of the big developments in the GWOT.</p> <p>The most important measure is how well TCCC does in helping to keep our wounded warriors alive to come home to their families.</p> <p>This study by Army Trauma Surgeon John Holcomb documents that we are now doing that better than ever before.</p>
	World War II	Vietnam	OIF/OEF							
% CFR	19.1%	15.8%	9.4%							
<p>5</p> <p><b>Why Are We Doing Better in Casualty Survival?</b></p> <ul style="list-style-type: none"> <li>Improved Personal Protective Equipment</li> <li><b>Tactical Combat Casualty Care</b></li> <li>Faster evacuation time</li> <li>Better trained medics</li> </ul> <p><i>Holcomb et al J Trauma 2006</i></p>	<p>Why Are We Doing Better in Casualty Survival?</p> <ul style="list-style-type: none"> <li>Improved Personal Protective Equipment</li> <li>Tactical Combat Casualty Care</li> <li>Faster evacuation time</li> <li>Better trained medics</li> </ul>	<p>COL Holcomb and his co-authors list TCCC as one of the major reasons for that success.</p> <p>Also kudos to the rest of the chain of care, from the Level II and III hospitals in theater, the evac crews, the staff at Landstuhl, all the way back to the staffs at Walter Reed and Bethesda</p>								
<p>6</p> <p><b>TCCC</b></p> <p>"I am writing to offer my congratulations for the recent dramatic advances in prehospital trauma care delivered by the U.S. military. Multiple recent publications have shown that Tactical Combat Casualty Care is saving lives on the battlefield."</p> <p><i>Dr. Jeff Salomone</i>  <i>American College of Surgeons Committee on Trauma</i>  <i>Chairman of Prehospital Trauma Subcommittee</i>  <i>Letter to ASD Health Affairs</i>  <i>10 June 2008</i></p>	<p>TCCC</p>	<p>This letter is from the Chairman of the Prehospital Subcommittee of the American College of Surgeons Committee on Trauma.</p> <p>The same trauma experts that have established ATLS for managing trauma in the hospital endorses TCCC for battlefield trauma care.</p>								
<p>7</p> <p><b>Mabry and McManus AMEDD Center and School</b></p> <p>"The new concept of Tactical Combat Casualty Care has revolutionized the management of combat casualties in the prehospital tactical setting."</p> <p><i>Critical Care Medicine</i>  <i>July 2008</i></p>	<p>Mabry and McManus AMEDD Center and School</p>	<p>Major Bob Mabry is the Director of Academics for Combat Medic Training at the Army Medical Department Center and School (2008).</p> <p>He used to be an 18D Special Forces medic himself.</p> <p>LTC John McManus is the Director of Predeployment Medical Training for the Army Medical Department Center and School (2008).</p>								

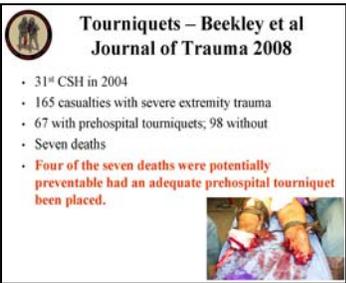
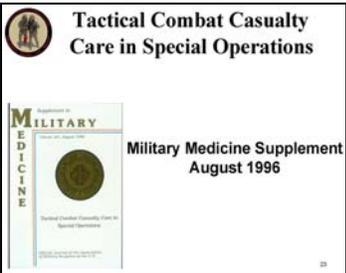
SLIDE	INSTRUCTIONAL POINTS	INSTRUCTOR NOTES
<p>8</p> <div data-bbox="191 258 537 531" style="border: 1px solid black; padding: 5px;">  <p style="text-align: center;"><b>Importance of the First Responder</b></p> <ul style="list-style-type: none"> <li>• Up to 90% of all combat deaths occur before the casualty reaches a Medical Treatment Facility (MTF)</li> <li>• The fate of the injured often lies in the hands of the one who provides the first care to the casualty.</li> <li>• Corpsman, medic, or paramedic (PJ)</li> <li>• Combat Lifesaver or non-medical combatant</li> </ul> </div>	<p>Importance of the First Responder</p> <ul style="list-style-type: none"> <li>• Up to 90% of all combat deaths occur before the casualty reaches a Medical Treatment Facility (MTF)</li> <li>• The fate of the injured often lies in the hands of the one who provides the first care to the casualty.</li> <li>• Corpsman, Medic, or Paramedic (PJ)</li> <li>• Combat Lifesaver or non-medical combatant</li> </ul>	<p>Prehospital care is the most important aspect in ensuring the survival of the casualty.</p> <p>If the casualty does not arrive alive at the Forward Surgical Team or the Combat Support Hospital, then the surgeons' skill can't help.</p> <p>There may not be any combat medical personnel available when the casualty occurs.</p> <p>Care may need to be initially provided by the combatant.</p> <p>The goal of TCCC is to identify and treat those casualties with preventable causes of death and keep them alive long enough to reach the hospital.</p>
<p>9</p> <div data-bbox="191 961 537 1220" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>Differences Between Civilian and Combat Trauma</b></p> <ul style="list-style-type: none"> <li>• The causes of trauma are different.</li> <li>• The setting in which the trauma occurs is different.</li> <li>• The individuals caring for the casualties are different.</li> <li>• Evacuation time is typically much longer in the combat setting.</li> </ul> </div>	<p>Differences Between Civilian and Combat Trauma</p> <ul style="list-style-type: none"> <li>• The causes of trauma are different.</li> <li>• The setting in which the trauma occurs is different.</li> <li>• The individuals caring for the casualties are different.</li> <li>• Evacuation time is typically much longer in the combat setting.</li> </ul>	<p>Civilian trauma and combat trauma are DIFFERENT in many respects.</p>
<p>10</p> <div data-bbox="191 1367 537 1625" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>Epidemiology of Civilian Trauma</b></p>  <p style="font-size: small;">Trauma Patients Treated In Montreal Canada</p> <p style="font-size: x-small; text-align: center;">Tamin H, Jushop L, Muller D, et al. Field triage of trauma patients: Improving on the Prehospital Index. Am J of Emerg Med 17:249-252</p> </div>	<p>Epidemiology of civilian trauma</p>	<p>This graph shows that civilian trauma is mostly blunt trauma - primarily from automobile accidents.</p> <p>In inner-city areas, there is some penetrating trauma, (stabbings, shootings) but these are the exception rather than the norm.</p> <p>Because of this, the trauma principles associated with EMT, PHTLS, ATLS is focused heavily on blunt trauma.</p>

SLIDE	INSTRUCTIONAL POINTS	INSTRUCTOR NOTES
<p>11</p> 	<p>How people die in ground combat</p>	<p>The three most common causes of preventable death on the battlefield are:</p> <ul style="list-style-type: none"> <li>• Hemorrhage from extremity wounds</li> <li>• Tension pneumothorax</li> <li>• Airway problems</li> </ul>
<p>12</p>  <p><b>Point of Wounding Care</b></p> <p>The three most common causes of preventable death on the battlefield are:</p> <ul style="list-style-type: none"> <li>• Hemorrhage from extremity wounds</li> <li>• Tension pneumothorax</li> <li>• Airway problems</li> </ul> 	<p>Point of Wounding Care</p> <p>The three most common causes of preventable death on the battlefield are:</p> <ul style="list-style-type: none"> <li>• Hemorrhage from extremity wounds</li> <li>• Tension pneumothorax</li> <li>• Airway problems</li> </ul>	<p>These are the injuries that we need to focus on for saving lives in combat.</p>
<p>13</p>  <p><b>Extremity Hemorrhage</b></p>  <p>Click on picture to start video</p>	<p>Extremity Hemorrhage</p>	<p>Play Video</p> <p>Here is a classic example of a preventable cause of death - arterial hemorrhage from an leg wound in a pig).</p> <p>If no one controls this type of bleeding in a casualty, that casualty is going to die very quickly.</p>
<p>14</p>  <p><b>Tension Pneumothorax</b></p> 	<p>Tension Pneumothorax</p>	<p>This X-ray show a tension pneumothorax, which in combat is usually secondary to a penetrating injury to the chest.</p> <p>This condition may be quickly fatal if not identified and treated.</p> <p>Tension pneumothorax is the <b>SECOND-LEADING</b> cause of preventable death on the battlefield.</p>

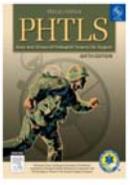
SLIDE	INSTRUCTIONAL POINTS	INSTRUCTOR NOTES
<p>15</p> <div data-bbox="191 258 537 531">  <p>Airway Trauma</p> </div>	<p>Airway Trauma</p>	<p>Deaths from airway trauma are a small percentage of combat fatalities.</p> <p>If the casualty is conscious, he will instinctively protect his own airway.</p> <p>While this patient has a significant injury to his airway, he is able to breath on his own reasonably well if he is sitting up and leaning forward.</p> <p>This casualty survived and did well after reconstructive surgery.</p> <p>Could you lay this casualty down on a littler on his back to transport him? Probably a bad idea - all that blood and mucus would funnel right into his airway.</p>
<p>16</p> <div data-bbox="191 894 537 1167">  <p>Civilian Trauma Care Setting</p> </div>	<p>Civilian Trauma Care Setting</p>	<p>If you are injured and taken to a civilian trauma center, you will be treated by a skilled team of medical professionals using the latest technology and working in a well-lighted, climate-controlled area. What about trauma that occurs in a tactical combat setting?</p>
<p>17</p> <div data-bbox="191 1230 537 1503">  <p>Tactical Trauma Care Setting – Shrapnel Wound in the Hindu Kush</p> </div>	<p>Tactical Trauma Care Setting – Shrapnel Wound in the Hindu Kush</p>	<p>This is a good example of where the combat corpsmen and medics live and practice.</p> <p>This picture was taken at about 10,000 feet altitude in the Hindu Kush mountains in Afghanistan.</p> <p>The wound is a shrapnel wound of the hip.</p> <p>In this setting, care is much more difficult.</p> <p>It is common sense that the management plan is different here.</p> <p>TCCC helps to define how it's different.</p>

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<p>18</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;"> <p style="text-align: center;"><b>Factors Influencing Battlefield Casualty Care</b></p> <ul style="list-style-type: none"> <li>• Hostile fire</li> <li>• Darkness</li> <li>• Extreme environments               <ul style="list-style-type: none"> <li>• Mountain</li> <li>• Desert</li> </ul> </li> <li>• Limited medical equipment</li> <li>• Possible prolonged evacuation time</li> <li>• Unit's mission</li> <li>• Tactical flow</li> </ul> </div>	<p>Factors Influencing Battlefield Casualty Care</p> <ul style="list-style-type: none"> <li>• Hostile fire</li> <li>• Darkness</li> <li>• Extreme environments           <ul style="list-style-type: none"> <li>• Mountain</li> <li>• Desert</li> </ul> </li> <li>• Limited medical equipment</li> <li>• Possible prolonged evacuation time</li> <li>• Unit's mission</li> <li>• Tactical flow</li> </ul>	<p>These are the factors that may interfere with your ability to provide care in the tactical environment.</p> <p>Enemy fire- this is the number one factor that will determine when and how much care you can provide.</p> <p>Darkness, terrain, and environmental factors also will influence your ability to provide care.</p> <p>Medical equipment is limited to whatever is carried in bags and individual first aid kits.</p> <p>Evacuation times and platforms are based primarily on the tactical situation at the time of the evac. Environmental conditions and cause delays in evac as well.</p> <p>Finally, what's happening on the mission will often determine when and how much care can be provided at a given time.</p>
<p>19</p> <div style="border: 1px solid black; padding: 5px; margin: 5px;">  <p><b>Prior Medical Training</b></p> <ul style="list-style-type: none"> <li>• Combat medical training historically was modeled on civilian courses           <ul style="list-style-type: none"> <li>• EMT, PHTLS</li> <li>• BTLs, ATLS</li> </ul> </li> <li>• Trained to standard of care in non-tactical (civilian) settings</li> <li>• Tactical elements not considered</li> </ul> </div>	<p>Prior Medical Training in the Past</p> <ul style="list-style-type: none"> <li>• Combat medical training historically was modeled on civilian courses           <ul style="list-style-type: none"> <li>• EMT, PHTLS</li> <li>• BTLs, ATLS</li> </ul> </li> <li>• Trained to standard of care in non-tactical (civilian) settings</li> <li>• Tactical elements not considered</li> </ul>	<p>These are the training programs that are used to teach trauma care in the civilian community.</p> <p>They are all EXCELLENT training programs.</p> <p>However, they are designed for the civilian trauma setting - the principles they reflect often need to be modified for the tactical setting.</p>

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<p>20</p> <div data-bbox="191 258 537 527" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;"><b>Different Trauma Requires Different Care Strategies</b></p> <ul style="list-style-type: none"> <li>• Common sense, BUT</li> <li>• Difficult to devise and implement</li> <li>• No one group of medical professionals has all of the skills and experiences necessary.</li> <li>• Trauma docs and combat medical personnel have different skill sets. Both are needed to optimize battlefield trauma care strategies.</li> <li>• Tourniquets are one striking example of how battlefield trauma care has sometimes been slow to change.</li> </ul> </div>	<p>Different Trauma Requires Different Care Strategies</p> <ul style="list-style-type: none"> <li>• Common sense, BUT</li> <li>• Difficult to devise and implement</li> <li>• No one group of medical professionals has all of the skills and experiences necessary.</li> <li>• Trauma docs and combat medical personnel have different skill sets. Both are needed to optimize battlefield trauma care strategies.</li> <li>• Tourniquets are one striking example of how battlefield trauma care has sometimes been slow to change.</li> </ul>	<p>TCCC principles are now determined by physicians and combat medical personnel working as a team.</p> <p>In the past, the failure of these two groups to communicate well slowed the implementation of critical trauma care measures.</p> <p>We will look at a dramatic example of this.</p>
<p>21</p> <div data-bbox="191 863 537 1131" style="border: 1px solid black; padding: 5px;">  <p style="text-align: center;"><b>Tourniquets in WWII</b> Wolff AMEDD J April 1945</p> <p>“We believe that the strap-and-buckle tourniquet in common use is ineffective in most instances under field conditions...it rarely controls bleeding no matter how tightly applied.”</p> </div>	<p>Tourniquets in WWII Wolff AMEDD J April 1945</p> <p>“We believe that the strap-and-buckle tourniquet in common use is ineffective in most instances under field conditions...it rarely controls bleeding no matter how tightly applied.”</p>	<p>This report was written by an Army doctor in World War II.</p> <p>Provided very clear input on tourniquets.</p> <p>A tourniquet would seem to be a simple thing to fix.</p> <p>Now, fast-forward 25 years.</p>
<p>22</p> <div data-bbox="191 1192 537 1461" style="border: 1px solid black; padding: 5px;">  <p style="text-align: center;"><b>Vietnam</b></p> <p>Over 2500 deaths occurred in Vietnam secondary to hemorrhage from extremity wounds. These casualties had no other injuries.</p>  </div>	<p>Vietnam</p> <p>Over 2500 deaths occurred in Vietnam secondary to hemorrhage from extremity wounds. These casualties had no other injuries.</p>	<p>25 years later, we had still not learned the tourniquet lesson in Vietnam.</p> <p>2500 preventable deaths from extremity hemorrhage were the result.</p> <p>Surely, we would have learned the lesson after this experience.</p> <p>Maybe not, fast-forward another 25 years.</p>
<p>23</p> <div data-bbox="191 1560 537 1808" style="border: 1px solid black; padding: 5px;">  <p style="text-align: center;"><b>Tourniquets in U.S Military</b> Mid-1990s</p> <ul style="list-style-type: none"> <li>• Old strap-and-buckle tourniquets were still being issued.</li> <li>• Medics and corpsmen were being trained in courses where they were taught <b>not</b> to use them.</li> </ul> </div>	<p>Tourniquets in U.S Military Mid-1990s</p> <ul style="list-style-type: none"> <li>• Old strap-and-buckle tourniquets were still being issued.</li> <li>• Medics and corpsmen were being trained in courses where they were taught <b>not</b> to use them.</li> </ul>	<p>Amazingly, by the 1990’s, we were still making the same mistakes about tourniquets that we had been in World War II.</p>

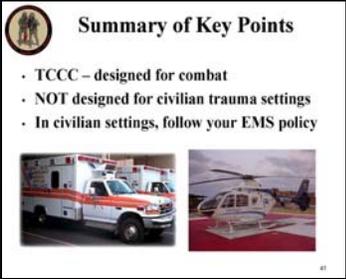
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<p>24</p> 	<p>SOF Deaths in the GWOT Holcomb, et al <i>Annals of Surgery</i> 2007</p> <p>Factors That Might Have Changed Outcomes (82 Fatalities – 12 Potentially Survivable)</p> <ul style="list-style-type: none"> <li>• Hemostatic dressings/direct pressure (2)</li> <li>• Tourniquets (3)</li> <li>• Faster CASEVAC or IV hemorrhage control (7)</li> <li>• Surgical airway vs intubation (1)</li> <li>• Needle thoracostomy (1)</li> <li>• PRBCs on helos (2)</li> <li>• Battlefield antibiotics (1)</li> </ul>	<p>And we paid a price for that when the GWOT started.</p> <p>This paper on Special Ops deaths showed 3 out of 12 potentially preventable deaths were due to extremity hemorrhage.</p> <p>Note the makeshift tourniquets used here.</p>
<p>25</p> 	<p>Tourniquets – Beekley et al <i>Journal of Trauma</i> 2008</p> <ul style="list-style-type: none"> <li>• 31<sup>st</sup> CSH in 2004</li> <li>• 165 casualties with severe extremity trauma</li> <li>• 67 with prehospital tourniquets; 98 without</li> <li>• Seven deaths</li> <li>• Four of the seven deaths were potentially preventable had an adequate prehospital tourniquet been placed.</li> </ul>	<p>We were still losing people to extremity bleeding in 2004.</p> <p>Notice the makeshift tourniquets used here.</p> <p>At about this point, the military had started a very strong effort to push tourniquets forward.</p> <p>Since this study, preventable deaths from extremity hemorrhage have now been minimized.</p>
<p>26</p> 	<p>Tactical Combat Casualty Care in Special Operations</p> <p>Military Medicine Supplement August 1996</p>	<p>In the mid-90s, the Special Operations medical community began looking for some better answers for combat trauma and Tactical Combat Casualty Care was born.</p>

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<p>27</p> <div data-bbox="191 258 537 516">  <p><b>TCCC</b></p> <ul style="list-style-type: none"> <li>• Originally a Special Operations research effort</li> <li>• Trauma management plans that take into account the unique challenges faced by combat medical personnel</li> <li>• Now used throughout U.S. military and by most allied countries</li> <li>• <b>TCCC has helped U.S. combat forces to achieve the highest casualty survival rate in history.</b></li> </ul> </div>	<p>TCCC</p> <ul style="list-style-type: none"> <li>• Originally a Special Operations research effort</li> <li>• Trauma management plans that take into account the unique challenges faced by combat medical personnel</li> <li>• Now used throughout U.S. military and by most allied countries</li> <li>• TCCC has helped U.S. combat forces to achieve the highest casualty survival rate in history.</li> </ul>	<p>Although TCCC started in Special Ops, it is now used by all services in the U.S. military, conventional as well as Special Ops.</p> <p>It has proved dramatically successful in the Global War on Terrorism.</p> <p>TCCC has been a major factor in U.S. forces having the highest casualty survival rate in our history.</p>
<p>28</p> <div data-bbox="191 726 537 1005">  <p><b>Three Objectives of TCCC</b></p> <ul style="list-style-type: none"> <li>• Treat the casualty</li> <li>• Prevent additional casualties</li> <li>• Complete the mission</li> </ul>  </div>	<p>Three Objectives of TCCC</p> <ul style="list-style-type: none"> <li>• Treat the casualty</li> <li>• Prevent additional casualties</li> <li>• Complete the mission</li> </ul>	<p>The ongoing mission does not stop just because there is a casualty.</p> <p>The 3 objectives of TCCC are to provide lifesaving care to the injured combatant, to limit the risk of further casualties, and to help the unit achieve mission success.</p>
<p>29</p> <div data-bbox="191 1062 537 1341">  <p><b>TCCC Guidelines 1996</b></p> <ul style="list-style-type: none"> <li>• Tourniquets</li> <li>• Aggressive needle thoracostomy</li> <li>• Nasopharyngeal airways</li> <li>• Surgical airways for maxillofacial trauma</li> <li>• Tactically appropriate fluid resuscitation</li> <li>• Battlefield antibiotics</li> <li>• Improved battlefield analgesia</li> <li>• Combine good tactics and good medicine</li> <li>• Scenario-based training</li> <li>• Combat medic input to guidelines</li> </ul> </div>	<p>TCCC Guidelines 1996</p> <ul style="list-style-type: none"> <li>• Tourniquets</li> <li>• Aggressive needle thoracostomy</li> <li>• Nasopharyngeal airways</li> <li>• Surgical airways for maxillofacial trauma</li> <li>• Tactically appropriate fluid resuscitation</li> <li>• Battlefield antibiotics</li> <li>• Improved battlefield analgesia</li> <li>• Combine good tactics and good medicine</li> <li>• Scenario-based training</li> <li>• Combat medic input to guidelines</li> </ul>	<p>Here were the principles of TCCC as they were originally published in 1996.</p> <p>Read the guidelines.</p> <p>There had to be a way to keep these guidelines updated.</p>

SLIDE	INSTRUCTIONAL POINTS	INSTRUCTOR NOTES
<p>30</p> <div data-bbox="191 258 537 527" style="border: 1px solid black; padding: 5px;">  <p><b>Committee on Tactical Combat Casualty Care</b></p> <ul style="list-style-type: none"> <li>• Updates TCCC guidelines as needed</li> <li>• Originally at Naval Operational Medicine Institute (NOMI)</li> <li>• Now at the Defense Health Board</li> <li>• Members from all services and civilian sector</li> <li>• Trauma Surgery, Emergency Medicine, Critical Care, operational physicians; medical educators; combat medics, corpsmen, and PJs</li> </ul> </div>	<p>Committee on Tactical Combat Casualty Care</p> <ul style="list-style-type: none"> <li>• Updates TCCC guidelines as needed</li> <li>• Originally at Naval Operational Medicine Institute (NOMI)</li> <li>• Now at the Defense Health Board</li> <li>• Members from all services and civilian sector</li> <li>• Trauma Surgery, Emergency Medicine, Critical Care, operational physicians; medical educators; combat medics, corpsmen, and PJs</li> </ul>	<p>In 2001, the Committee on TCCC was started to keep the TCCC guidelines up to date.</p> <p>Note that many medical specialties and combat medical personnel are all at the table.</p>
<p>31</p> <div data-bbox="191 793 537 1062" style="border: 1px solid black; padding: 5px;">  <p><b>TCCC Updates 2003 and 2006</b></p> <ul style="list-style-type: none"> <li>• HemCon and QuikClot</li> <li>• Intraosseous infusion devices</li> <li>• Combat Pill Pack</li> <li>• Hypotensive resuscitation with Hextend</li> <li>• Fentanyl lozenges</li> <li>• Moxifloxacin</li> <li>• Hypothermia prevention</li> <li>• Management of wounded hostile combatants</li> </ul>  <p><small>*Endorsed by ACS COT and NAEMT</small></p> </div>	<p>TCCC Updates 2003 and 2006</p> <ul style="list-style-type: none"> <li>• HemCon and QuikClot</li> <li>• Intraosseous infusion devices</li> <li>• Combat Pill Pack</li> <li>• Hypotensive resuscitation with Hextend</li> <li>• Fentanyl lozenges</li> <li>• Moxifloxacin</li> <li>• Hypothermia prevention</li> <li>• Management of wounded hostile combatants</li> </ul> <p>*Endorsed by ACS COT and NAEMT</p>	<p>These are changes in the TCCC guidelines that were made by the CoTCCC in 2003 and 2006.</p> <p>Note that the updated guidelines are now published with each new version of the Military Edition of Prehospital Trauma Life Support Manual.</p> <p>The recommendations made in this manual have the endorsement of the American College of Surgeons Committee on Trauma and the National Association of EMTs.</p>
<p>32</p> <div data-bbox="191 1297 537 1566" style="border: 1px solid black; padding: 5px;">  <p><b>Timing Is Everything</b></p> <ul style="list-style-type: none"> <li>• Casualty scenarios in combat usually entail both a medical problem as well as a tactical problem.</li> <li>• We want the best possible outcome for both the casualty and the mission.</li> <li>• Good medicine can sometimes be bad tactics; bad tactics can get everyone killed or cause the mission to fail</li> <li>• <b>Doing the RIGHT THING at the RIGHT TIME is critical</b></li> </ul> </div>	<p>Timing Is Everything</p> <ul style="list-style-type: none"> <li>• Casualty scenarios in combat usually entail both a medical problem as well as a tactical problem.</li> <li>• We want the best possible outcome for both the casualty and the mission.</li> <li>• Good medicine can sometimes be bad tactics; bad tactics can get everyone killed or cause the mission to fail</li> <li>• <b>Doing the RIGHT THING at the RIGHT TIME is critical</b></li> </ul>	<p>Most battlefield casualty scenarios involve making both medical and tactical decisions very rapidly.</p> <p>Remember the enemy still wants to kill you.</p> <p>The combat environment does not take a “time-out” just because you have a casualty.</p>

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<p>33</p>	<p>TCCC Phases of Care</p> <ul style="list-style-type: none"> <li>• TCCC divides care into 3 phases based on the tactical situation.</li> <li>• During the gunfight, attention is focused primarily on eliminating the threat.</li> <li>• As the threat decreases, increasing focus is applied to providing the best possible medical care for the casualties.</li> </ul>	<p>Doing the RIGHT thing at the WRONG time can get you and your teammates killed.</p>
<p>34</p>	<p>Phases of Care in TCCC</p> <ul style="list-style-type: none"> <li>• Care Under Fire</li> <li>• Tactical Field Care</li> <li>• Tactical Evacuation Care</li> </ul>	<p>These are our 3 phases of care in TCCC.</p> <p>Next we'll define these three phases of care.</p> <p>The picture is an FA-18 flying by Mt. Fuji.</p>
<p>35</p>	<p>Care Under Fire</p> <p>Care under fire is the care rendered by the first responder or combatant at the scene of the injury while he and the casualty are still under effective hostile fire. Available medical equipment is limited to that carried by the individual or by the medical provider in his or her aid bag.</p>	<p>The key sentence in this statement is that the first responder and the combatant are still under effective hostile fire.</p>
<p>36</p>	<p>Tactical Field Care</p> <p>Tactical Field Care is the care rendered by the first responder or combatant once he and the casualty are no longer under effective hostile fire. It also applies to situations in which an injury has occurred, but there has been no hostile fire. Available medical equipment is still limited to that carried into the field by unit personnel. Time to evacuation to a medical treatment facility may vary considerably.</p>	<p>The tactical situation has now changed.</p> <p>The first responder and the casualty are now no longer under effective hostile fire.</p> <p>This allows more time and a little more safety, to be able to perform more medical care.</p> <p>Remember – effective hostile fire could resume at any time.</p>

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<p>37</p> <div data-bbox="191 258 537 527" style="border: 1px solid black; padding: 5px;">  <p><b>Tactical Evacuation Care</b></p> <p>Tactical Evacuation Care is the care rendered once the casualty has been picked up by an aircraft, vehicle or boat. Additional medical personnel and equipment that may have been pre-staged should be available in this phase of casualty management.</p> </div>	<p>Tactical Evacuation Care</p> <p>Tactical Evacuation Care is the care rendered once the casualty has been picked up by an aircraft, vehicle or boat. Additional medical personnel and equipment that may have been pre-staged should be available in this phase of casualty management.</p>	<p>Tactical Evacuation Care is similar to TFC in many respects.</p> <p>However, the extra medical personnel and equipment being available on the evacuation asset may enable you to do some additional care.</p> <p>The term “Tactical Evacuation” encompasses both Casualty Evacuation (CASEVAC) and Medical Evacuation (MEDEVAC).</p> <p>More on this later.</p>
<p>38</p> <div data-bbox="191 762 537 1024" style="border: 1px solid black; padding: 5px;">  <p><b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• Prehospital trauma care in tactical settings is markedly different from civilian settings.</li> <li>• Tactical and environmental factors have a profound impact on trauma care rendered on the battlefield.</li> <li>• Good medicine can be bad tactics.</li> <li>• Approximately 18% of combat deaths today are potentially preventable.</li> <li>• Good first responder care is critical.</li> <li>• <b>TCCC will give you the tools you need!</b></li> </ul> </div>	<p>Summary of Key Points</p> <ul style="list-style-type: none"> <li>• Prehospital trauma care in tactical settings is markedly different from civilian settings.</li> <li>• Tactical and environmental factors have a profound impact on trauma care rendered on the battlefield.</li> <li>• Good medicine can be bad tactics.</li> <li>• Approximately 18% of combat deaths today are potentially preventable.</li> <li>• Good first responder care is critical.</li> <li>• TCCC will give you the tools you need!</li> </ul>	<p>TCCC principles are different than the civilian training you may have received in the past.</p> <p>This improvement in how we approach the combat casualty has resulted in significantly lower death rates in combat.</p> <p>Good battlefield care is paramount to avoid preventable causes of death.</p>
<p>39</p> <div data-bbox="191 1367 537 1629" style="border: 1px solid black; padding: 5px;">  <p><b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• Three phases of care in TCCC <ul style="list-style-type: none"> <li>• Care Under Fire</li> <li>• Tactical Field Care</li> <li>• TACEVAC Care</li> </ul> </li> </ul> </div>	<p>Summary of Key Points</p> <ul style="list-style-type: none"> <li>• Three phases of care in TCCC <ul style="list-style-type: none"> <li>• Care Under Fire</li> <li>• Tactical Field Care</li> <li>• TACEVAC Care</li> </ul> </li> </ul>	<p>Summarize key point of each phase.</p>

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<p>40</p> <div data-bbox="191 258 537 537" style="border: 1px solid black; padding: 5px;">  <p><b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• TCCC – designed for combat</li> <li>• NOT designed for civilian trauma settings</li> <li>• In civilian settings, follow your EMS policy</li> </ul> </div>	<p>Summary of Key Points</p> <ul style="list-style-type: none"> <li>• TCCC – designed for combat</li> <li>• NOT designed for civilian trauma settings</li> <li>• In civilian settings, follow your EMS policy</li> </ul>	<p>TCCC is NOT necessarily the standard of care in civilian prehospital settings.</p> <p>In civilian EMS settings, you should follow the guidance established by your Emergency Medical Services Director.</p>
<p>41</p> 	<p>Questions?</p>	