








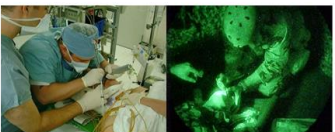
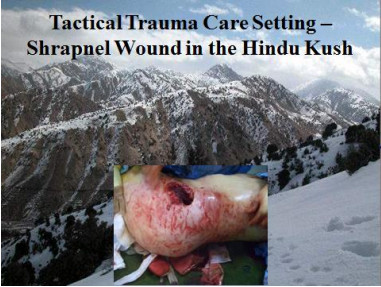







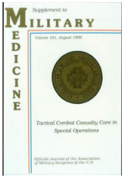







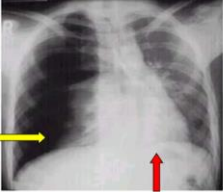
<p>1.</p>	<p>Tactical Combat Casualty Care for Medical Personnel August 2017 (Based on TCCC-MP Guidelines 170131)</p>  <p>Introduction to TCCC</p>	<p><b>Tactical Combat Casualty Care for Medical Personnel August 2017</b>  (Based on TCCC-MP Guidelines 170131)  <b>Introduction to TCCC</b></p>	<p>Tactical Combat Casualty Care is the standard of care in battlefield prehospital medicine. If you have not been trained in TCCC, then your previous medical training may not have contained the material presented in the following lessons. Medical care in combat is significantly different than that provided on the streets of Anywhere, USA.</p>
<p>2.</p>	 <p>Pre-Test</p> 	<p><b>Pre-Test</b></p>	<p>Pass out pre-tests. Collect when done. Do not take time to review the tests.</p>
<p>3.</p>	 <p>TCCC</p> 	<p><b>TCCC</b></p>	<p>Click on the photo to play the video.</p>







<p>4.</p>	 <p><b>What is TCCC and Why Do I Need to Learn about it??</b></p>  <p><small>Military units that have trained all of their members in TCCC have documented the lowest incidence of preventable deaths among their casualties in the history of modern warfare. TCCC is now used by all services in the U.S. Military and many allied nations as well to care for their combat wounded. TCCC-based prehospital trauma training is now becoming widespread in the US civilian sector as well.</small></p>	<p><b>What is TCCC and Why Do I Need to Learn about it??</b></p> <p>Military units that have trained all of their members in TCCC have documented the lowest incidence of preventable deaths among their casualties in the history of modern warfare. TCCC is now used by all services in the U.S. Military and many allied nations as well to care for their combat wounded. TCCC-based prehospital trauma training is now becoming widespread in the US civilian sector as well.</p>	<p>TCCC has been remarkably successful at keeping our wounded warriors alive. Today we are going to teach you how to do it.</p>
<p>5.</p>	 <p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>List the goals of TCCC.</li> <li>DESCRIBE the key factors influencing combat casualty care.</li> <li>UNDERSTAND the evidence that documents the lifesaving impact of TCCC use.</li> <li>List the battlefield objectives of TCCC.</li> <li>DESCRIBE the phases of care in TCCC.</li> </ul>	<p><b>Objectives</b></p> <ul style="list-style-type: none"> <li>List the goals of TCCC.</li> <li>DESCRIBE the key factors influencing combat casualty care.</li> <li>UNDERSTAND the evidence that documents the lifesaving impact of TCCC use.</li> <li>List the battlefield objectives of TCCC.</li> <li>DESCRIBE the phases of care in TCCC.</li> </ul>	<p>Read the text.</p>
<p>6.</p>	 <p><b>Trauma Care Setting</b></p> 	<p><b>Trauma Care Setting</b></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, secure area. What about trauma that occurs in a tactical combat setting?</p>






<p>7.</p>	<p><b>Tactical Trauma Care Setting – Shrapnel Wound in the Hindu Kush</b></p> 	<p><b>Tactical Trauma Care Setting – Shrapnel Wound in the Hindu Kush</b></p>	<p>This is a good example of where the combat corpsmen and medics live and practice. This picture was taken at about 10,000 feet altitude in the Hindu Kush mountains in Afghanistan. The wound is a shrapnel wound of the hip. In this setting, care is much more difficult. Common sense tells you that the management plan will need to be different here. TCCC helps to define how it's different.</p>
<p>8.</p>	<p> <b>Battlefield Trauma Care Prior to 9/11</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>– Emergency Medical Technician</li> <li>– Advanced Trauma Life Support</li> </ul> </li> <li>• We trained to the standard of care in non-tactical (civilian) settings.</li> <li>• Tactical factors were not considered.</li> </ul>	<p><b>Battlefield Trauma Care Prior to 9/11</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>– Emergency Medical Technician</li> <li>– Advanced Trauma Life Support</li> </ul> </li> <li>• We trained to the standard of care in non-tactical (civilian) settings.</li> <li>• Tactical factors were not considered.</li> </ul>	<p>These are the training programs that are used to teach trauma care in the civilian community. They are all EXCELLENT training programs. However, they are designed for the civilian trauma setting - the principles they reflect often need to be modified for the tactical setting. Emerging civilian guidelines/programs are only recently beginning to address providing care in conjunction with an ongoing threat.</p>

<p>9.</p>	 <p><b>Battlefield Trauma Care: 2001</b></p> <ul style="list-style-type: none"> <li>• Based on trauma courses NOT developed for combat</li> <li>• Medics taught NOT to use tourniquets</li> <li>• No hemostatic agents</li> <li>• No junctional tourniquets</li> <li>• Large volume crystalloid fluid resuscitation for shock</li> <li>• Civil War-vintage technology for battlefield analgesia (IM morphine)</li> <li>• SOF medics – IV cutdowns for difficult venous access</li> <li>• No tactical context for the care rendered</li> <li>• 2 large bore IVs on <u>all</u> casualties with significant trauma</li> <li>• No focus on prevention of trauma-related coagulopathy</li> <li>• Heavy emphasis on endotracheal intubation</li> </ul>	<p><b>Battlefield Trauma Care: 2001</b></p> <ul style="list-style-type: none"> <li>• Based on trauma courses NOT developed for combat</li> <li>• Medics taught NOT to use tourniquets</li> <li>• No hemostatic agents</li> <li>• No junctional tourniquets</li> <li>• Large volume crystalloid fluid resuscitation for shock</li> <li>• Civil War-vintage technology for battlefield analgesia (IM morphine)</li> <li>• SOF medics – IV cutdowns for difficult venous access</li> <li>• No tactical context for the care rendered</li> <li>• 2 large bore IVs on <u>all</u> casualties with significant trauma</li> <li>• No focus on prevention of trauma-related coagulopathy</li> <li>• Heavy emphasis on endotracheal intubation</li> </ul>	<p>Read the text.</p>
<p>10.</p>	 <p><b>Tourniquets: The Primary Driver for TCCC</b></p> <p>“The striking feature was to see healthy young Americans with a <b>single injury of the distal extremity</b> arrive at the magnificently equipped field hospital, usually within hours, but <b>dead on arrival</b>. In fact there were <b>193 deaths</b> due to wounds of the upper and lower extremities, ..... of the 2600.”</p> <p><i>CAPT J.S. Maughon Mil Med 1970</i></p> <div style="background-color: red; color: white; padding: 2px;"> <p>* Extremity hemorrhage math in Vietnam 193 of 2600 = 7.4% x 46,233 fatalities = 3,421 preventable US deaths from extremity hemorrhage</p> </div>	<p><b>Tourniquets: The Primary Driver for TCCC</b></p> <p>“The striking feature was to see healthy young Americans with a <b>single injury of the distal extremity</b> arrive at the magnificently equipped field hospital, usually within hours, but <b>dead on arrival</b>. In fact, there were <b>193 deaths</b> due to wounds of the upper and lower extremities, ..... of the 2600.”</p> <p><i>CAPT J.S. Maughon Mil Med 1970</i></p> <p>* <u>Extremity hemorrhage math in Vietnam</u>: 193 of 2600 = 7.4% x 46,233 fatalities = 3,421 preventable US deaths from extremity hemorrhage</p>	<p>3,421 is a staggering number when all these deaths were potentially preventable. How would a Medical Center react if you had a meningitis or a pyelonephritis patient come in and you didn't get around to starting antibiotics and the patient died?</p>




<p>11.</p>	 <p><b>Different Trauma Requires Different Care Strategies</b></p> <ul style="list-style-type: none"> <li>• It is intuitive that combat and civilian trauma are different, BUT...</li> <li>• It is difficult to devise and implement needed changes.</li> <li>• No one group of medical professionals has all of the necessary skills and experience.</li> <li>• <i>Trauma docs and combat medical personnel have different skill sets. Both are needed to optimize battlefield trauma care strategies.</i></li> <li>• Tourniquets are one striking example of how battlefield trauma care has sometimes been slow to change.</li> </ul>	<p><b>Different Trauma Requires Different Care Strategies</b></p> <ul style="list-style-type: none"> <li>• It is intuitive that combat and civilian trauma are different, BUT...</li> <li>• It is difficult to devise and implement needed changes.</li> <li>• No one group of medical professionals has all the necessary skills and experience.</li> <li>• Trauma docs and combat medical personnel have different skill sets. <u>Both</u> 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. In the past, the failure of these two groups to communicate well slowed the implementation of critical trauma care measures. We will look at a dramatic example of this.</p>
<p>12.</p>	 <p><b>Prehospital Trauma Care: Military vs. Civilian</b></p>  <ul style="list-style-type: none"> <li>• Hostile fire</li> <li>• Darkness</li> <li>• Environmental extremes</li> <li>• Different wounding epidemiology</li> <li>• Limited equipment</li> <li>• Need for tactical maneuver</li> <li>• Long delays to hospital care</li> <li>• Different medic training and experience</li> </ul>	<p><b>Prehospital Trauma Care: Military vs. Civilian</b></p> <ul style="list-style-type: none"> <li>• Hostile fire</li> <li>• Darkness</li> <li>• Environmental extremes</li> <li>• Different wounding epidemiology</li> <li>• Limited equipment</li> <li>• Need for tactical maneuver</li> <li>• Long delays to hospital care</li> <li>• Different medic training and experience</li> </ul>	<p>What factors must we think about when defining combat trauma care?</p>
<p>13.</p>	 <p><b>Tactical Combat Casualty Care in Special Operations</b></p>  <p><b>Military Medicine Supplement August 1996</b></p> <p><i>Trauma care guidelines customized for the battlefield</i></p>	<p><b>Tactical Combat Casualty Care in Special Operations</b></p> <p>Military Medicine Supplement August 1996</p> <p><i>Trauma care guidelines customized for the battlefield</i></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. TCCC has always focused on the most common causes of preventable death on the battlefield. The common causes of preventable death from combat trauma are shown in the following slides.</p>






<p>14.</p>	 <p><b>Extremity Hemorrhage</b></p> 	<p><b>Extremity Hemorrhage</b></p>	<p>Here is a classic example of a preventable cause of death - arterial hemorrhage from a leg wound, in this case, a pig.  <b>Forget about the “Golden Hour” – bleeding like this will kill you in a few minutes.</b>      If no one controls this type of bleeding in a casualty, that casualty is going to die very quickly.      Click on the photo to play the video.</p>
<p>15.</p>	 <p><b>Junctional Hemorrhage</b></p>  <p>These types of wounds are often caused by IEDs and may result in junctional hemorrhage.</p>	<p><b>Junctional Hemorrhage</b></p> <p>These types of wounds are often caused by IEDs and may result in junctional hemorrhage.</p>	<p>Junctional hemorrhage (bleeding from wounds limbs or neck join the trunk) is another common cause of preventable death on the battlefield.</p>
<p>16.</p>	 <p><b>Tension Pneumothorax</b></p>  <p>Air escapes from injured lung – pressure builds up in chest      Air pressure collapses lung and pushes on heart      Heart compressed - not able to pump well</p>	<p><b>Tension Pneumothorax</b></p>	<p>This X-ray shows a tension pneumothorax, which, in combat, is usually secondary to a penetrating injury to the chest.      This condition may be quickly fatal if not identified and treated.      Tension pneumothorax is the <b>SECOND LEADING</b> cause of preventable death on the battlefield after hemorrhage.</p>





<p>17.</p>	 <p><b>Airway Trauma</b></p> 	<p><b>Airway Trauma</b></p>	<p>Deaths from airway trauma are a small percentage of combat fatalities, but many of these deaths are preventable.                  If the casualty is conscious, he will instinctively protect his own airway.  <b>While this patient has a significant injury to his airway, he is able to breathe on his own reasonably well if he is sitting up and leaning forward. This casualty survived and did well after reconstructive surgery.</b>                  Could you lay this casualty down on a litter on his back to transport him?                  Probably a bad idea - all that blood and mucus would funnel right into his airway.</p>
<p>18.</p>	 <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> 	<p><b>Three Objectives of TCCC</b></p> <ul style="list-style-type: none"> <li>• <b>Treat the casualty</b></li> <li>• <b>Prevent additional casualties</b></li> <li>• <b>Complete the mission</b></li> </ul>	<p>The ongoing mission does not stop just because there is a casualty.                  The 3 objectives of TCCC are to provide lifesaving care to the injured combatant, to limit the risk of taking further casualties, and to enable the unit to achieve mission success.</p>
<p>19.</p>	 <p><b>Changes in TCCC: How Are They Made?</b></p>  <p><b>The Committee on Tactical Combat Casualty Care</b></p>	<p><b>Changes in TCCC: How Are They Made?</b></p> <p><b>The Committee on Tactical Combat Casualty Care</b></p>	<p>The DoD has a group with a charter to keep the TCCC Guidelines updated.</p>






<p>20.</p>	 <p><b>Committee on Tactical Combat Casualty Care</b></p> <ul style="list-style-type: none"> <li>• The prehospital arm of the Joint Trauma System</li> <li>• 42 members from all services in the DoD and civilian sector</li> <li>• Trauma Surgeons, Emergency Medicine, and Critical Care physicians, combatant unit physicians; medical educators; <u>combat medics, corpsmen, and PJs</u></li> <li>• 100% deployed experience as of 2017</li> <li>• Meet periodically; update TCCC as needed</li> </ul>	<p><b>Committee on Tactical Combat Casualty Care</b></p> <ul style="list-style-type: none"> <li>• The prehospital arm of the Joint Trauma System</li> <li>• 42 members from all services in the DoD and civilian sector</li> <li>• Trauma Surgeons, Emergency Medicine, and Critical Care physicians, combatant unit physicians; medical educators; <u>combat medics, corpsmen, and PJs</u></li> <li>• 100% deployed experience as of 2017</li> <li>• Meet periodically; update TCCC as needed</li> </ul>	<p>Read the text.</p> <p>The CoTCCC continuously updates the TCCC guidelines.</p>
<p>21.</p>	 <p><b>Battlefield Trauma Care: Now</b></p> <ul style="list-style-type: none"> <li>• Phased care in TCCC</li> <li>• Aggressive use of tourniquets in CUF</li> <li>• Combat Gauze as hemostatic agent</li> <li>• Aggressive needle thoracostomy</li> <li>• Sit up and lean forward airway positioning</li> <li>• Surgical airways for maxillofacial trauma</li> <li>• Hypotensive resuscitation</li> <li>• IVs only when needed/IO access if required</li> <li>• PO meds, OTFC, ketamine as “Triple Option” for battlefield analgesia</li> <li>• Hypothermia prevention; avoid NSAIDs</li> <li>• Battlefield antibiotics</li> <li>• Tranexamic acid</li> <li>• Junctional Tourniquets/XStat/Pelvic binders</li> </ul> 	<p><b>Battlefield Trauma Care Today</b></p> <ul style="list-style-type: none"> <li>• <u>Phased</u> care in TCCC</li> <li>• Aggressive use of tourniquets in CUF</li> <li>• Combat Gauze as hemostatic agent</li> <li>• Aggressive needle thoracostomy</li> <li>• Sit up and lean forward airway positioning</li> <li>• Surgical airways for maxillofacial trauma</li> <li>• Hypotensive resuscitation</li> <li>• IVs only when needed/IO access if required</li> <li>• PO meds, OTFC, ketamine as “Triple Option” for battlefield analgesia</li> <li>• Hypothermia prevention; avoid NSAIDs</li> <li>• Battlefield antibiotics</li> <li>• Tranexamic acid</li> <li>• Junctional Tourniquets/XStat/Pelvic binders</li> </ul>	<p>These are the advances made by the CoTCCC since it began updating the TCCC guidelines in 2001.</p>
<p>22.</p>	 <p><b>TCCC: How Do We Know That It's Working?</b></p> 	<p><b>TCCC: How Do We Know That It's Working?</b></p>	<p>One way to assess the impact of TCCC is to examine the results attained when the guidelines are put into practice.</p>















<p>23.</p>	 <p><b>TCCC Early in the Iraq and Afghanistan Conflicts</b></p> <ul style="list-style-type: none"> <li>• NOT widely used at the start of the wars</li> <li>• Increased use by both Special Operations and conventional units beginning in 2005</li> </ul> <div style="border: 1px solid black; padding: 5px;"> <p><b>The Drivers:</b></p> <ul style="list-style-type: none"> <li>• Early reports of success with TCCC, especially TQs</li> <li>• Holcomb study: “Causes of SOF Deaths 2001-2004”</li> <li>• USAISR tourniquet study by Walters et al (2005)</li> <li>• USSOCOM TCCC message - March 2005</li> <li>• USCENTCOM tourniquet and hemostatic agents (HemCon) message - 2005</li> </ul> </div>	<p><b>TCCC Early in the Iraq and Afghanistan Conflicts</b></p> <ul style="list-style-type: none"> <li>• NOT widely used at the start of the wars</li> <li>• Increased use by both Special Operations and conventional units beginning in 2005</li> <li>• <u>The Drivers:</u> <ul style="list-style-type: none"> <li>• Early reports of success with TCCC, especially TQs</li> <li>• Holcomb study: “Causes of SOF Deaths 2001-2004”</li> <li>• USAISR tourniquet study by Walters et al (2005)</li> <li>• USSOCOM TCCC message - March 2005</li> <li>• USCENTCOM tourniquet and hemostatic agents (HemCon) message - 2005</li> </ul> </li> </ul>	<p>Even though recommended in the TCCC guidelines, there were few tourniquets on the battlefield before 2005. Some were homemade; some were commercially manufactured. The performance of these tourniquets was variable. Tourniquet implementation was not gradual from the start. It happened through a series of discrete events, starting with an ISR study identifying the best tourniquets.</p>
<p>24.</p>	 <p><b>Preventable Combat Deaths from <u>Not</u> Using Tourniquets</b></p> <ul style="list-style-type: none"> <li>• Maughon – <i>Mil Med 1970: Vietnam</i> <ul style="list-style-type: none"> <li>– 193 of 2,600</li> <li>– 7.4% of total combat fatalities</li> </ul> </li> <li>• Kelly – <i>J Trauma 2008: OEF + OIF (2003/4 and 2006)</i> <ul style="list-style-type: none"> <li>– 77 of 982 (in both cohorts of fatalities)</li> <li>– 7.8% of total fatalities – no better than Vietnam</li> <li>• <b>Tourniquets became widely used in 2005-2006</b></li> </ul> </li> <li>• Eastridge – <i>J Trauma 2012: OEF + OIF (to Jun 2011)</i> <ul style="list-style-type: none"> <li>– 119 of 4,596</li> <li>– <b>2.6% of total fatalities – a 67% decrease</b></li> </ul> </li> </ul>	<p><b>Preventable Combat Deaths from <u>Not</u> Using Tourniquets</b></p>	<p>Once limb tourniquets were broadly trained, distributed, and used, their efficacy became apparent. Before limb tourniquets were widely used on the battlefield, more than 7% of combat fatalities were due to extremity hemorrhage that could have been controlled by a tourniquet. After tourniquets became widely used on the battlefield, deaths due to extremity hemorrhage fell to 2.6%.</p>
<p>25.</p>	 <p><b>Tourniquet Outcomes in TCCC Transition Initiative Report</b></p> <ul style="list-style-type: none"> <li>• <b>Sixty-seven</b> successful tourniquet applications identified in 2005 and 2006</li> <li>• No avoidable loss of limbs due to tourniquet use identified</li> </ul> <p style="text-align: center;"><i>Butler, Greydanus, Holcomb 2006 USAISR Report “TCCC: Combat Evaluation 2005”</i></p>	<p><b>Tourniquet Outcomes in TCCC Transition Initiative Report</b></p> <ul style="list-style-type: none"> <li>• Sixty-seven successful tourniquet applications identified in 2005 and 2006</li> <li>• No avoidable loss of limbs due to tourniquet use identified</li> </ul>	<p>The USSOCOM TCCC Transition Initiative was a program that provided just-in-time TCCC training and equipment to Special Operations forces about to deploy. It included an after-action analysis of trauma care delivered during the unit’s deployment. Early indications were that limb tourniquets were effective at controlling extremity hemorrhage, and were also safe.</p>


<p>26.</p>	 <p><b>TCCC: Success in Combat 3rd Infantry Division</b></p> <p>“The adoption and implementation of the principles of TCCC by the medical platoon of TF 1-15 IN in OIF 1 resulted in <b>overwhelming success</b>. Over 25 days of continuous combat with 32 friendly casualties, many of them serious, we had 0 KIAs and 0 Died From Wounds, while simultaneously caring for a significant number of Iraqi civilian and military casualties.”</p> <p><i>CPT Michael Tarpey Battalion Surgeon 1-15 IN AMEDD Journal 2005</i></p>	<p><b>TCCC: Success in Combat 3rd Infantry Division</b></p>	<p>Read the text.</p>
<p>27.</p>	 <p><b>Tourniquets – Kragh et al: Two Landmark Papers</b></p>  <ul style="list-style-type: none"> <li>• Published in 2008/2009</li> <li>• Tourniquets are <u>saving lives</u> on the battlefield</li> <li>• <b>31 lives saved in 6 months</b> by tourniquets</li> <li>• <b>Author estimated 2000 lives saved with tourniquets in this conflict up to that date (2009)</b></li> <li>• <b>No arms or legs lost because of tourniquet use</b></li> </ul>	<p><b>Tourniquets – Kragh et al: Two Landmark Papers</b></p> <ul style="list-style-type: none"> <li>• Published in 2008/2009</li> <li>• Tourniquets are <u>saving lives</u> on the battlefield</li> <li>• 31 lives saved in 6 months by tourniquets</li> <li>• Author estimated 2000 lives saved with tourniquets in this conflict up to that date (2009)</li> <li>• No arms or legs lost because of tourniquet use</li> </ul>	<p>COL Kragh and his colleagues examined battlefield limb tourniquet use, and compiled the two most important tourniquet papers ever published. The most important lesson from these papers was that when a tourniquet is needed, it should be applied <b>AS SOON AS POSSIBLE</b> because survival is improved when hemorrhagic shock is <b>prevented</b>.</p> <p>NOBODY is arguing about whether tourniquets save lives any more.</p>
<p>28.</p>	  <ul style="list-style-type: none"> <li>• TCCC in the 75<sup>th</sup> Ranger Regiment</li> <li>• <u>All</u> Rangers and docs trained in TCCC</li> <li>• Ranger preventable death incidence: <b>3%</b></li> <li>• Overall U.S. military preventable deaths: <b>24%</b></li> </ul>	<p><b>Eliminating Preventable Death on the Battlefield</b></p> <ul style="list-style-type: none"> <li>• TCCC in the 75<sup>th</sup> Ranger Regiment</li> <li>• <u>All</u> Rangers and docs trained in TCCC</li> <li>• Ranger preventable death incidence: <b>3%</b></li> <li>• Overall U.S. military preventable deaths: <b>24%</b></li> </ul>	<p>The Army Rangers have achieved the lowest preventable death rate ever reported in a major conflict. They did it by training <b>everyone</b> in TCCC, not just their medics. Their success in eliminating preventable combat deaths is remarkable.</p>

<p>29.</p>	 <p><b>What Do the Soldiers Say?</b></p> <p>A recent U.S. Army Training and Doctrine Command survey of Soldiers in combat units found that <b>TCCC is the second most valued element</b> of their training, exceeded only by training in the use of their individual weapons.</p>  <p><i>COL Karen O'Brien TRADOC Surgeon CoTCCC Meeting April 2010</i></p>	<p><b>What Do the Soldiers Say?</b></p> <p>A recent U.S. Army Training and Doctrine Command survey of Soldiers in combat units found that TCCC is the second most valued element of their training, exceeded only by training in the use of their individual weapons.</p>	<p>Medics and doctors are not the only ones who appreciate the life-saving potential of TCCC. Non-medical combatants trained in TCCC recognize the possibility that it may enable them to save their own lives or the lives of their wounded teammates.</p>
<p>30.</p>	 <p><b>TCCC in Canadian Forces</b> Savage et al: Can J Surg 2011</p> <p><b>Conclusion</b> “For the first time in decades, the CF has been involved in a war in which its members have participated in sustained combat operations and have suffered increasingly severe injuries. Despite this, the CF experienced the highest casualty survival rate in history. Though this success is multifactorial, the determination and resolve of CF leadership to develop and deliver comprehensive, multileveled TCCC packages to soldiers and medics is a significant reason for that and has unquestionably saved the lives of Canadian, Coalition and Afghan Security Forces.....”</p>	<p><b>TCCC in Canadian Forces</b> Savage et al: Can J Surg 2011</p> <p><b>Conclusion:</b> “For the first time in decades, the CF has been involved in a war in which its members have participated in sustained combat operations and have suffered increasingly severe injuries. Despite this, the CF experienced the highest casualty survival rate in history. Though this success is multifactorial, the determination and resolve of CF leadership to develop and deliver comprehensive, multileveled TCCC packages to soldiers and medics is a significant reason for that and has unquestionably saved the lives of Canadian, Coalition and Afghan Security Forces.....”</p>	<p>Canadian Forces also train medics and non-medics in TCCC. Savage and others reporting on the implementation of TCCC in the Canadian Forces gave much of the credit for the highest casualty survival rate in their history to TCCC training.</p>
<p>31.</p>	 <p><b>Limb Tourniquets in the U.S. Military</b></p> <p>In 2001, almost nobody in the U.S. Military had a tourniquet.</p> <p><b>In 2017, thanks to TCCC, no American Soldier, Sailor, Airman, or Marine goes onto the battlefield without a tourniquet.</b></p>	<p><b>Limb Tourniquets in the U.S. Military</b></p> <p>In 2001, almost nobody in the U.S. Military had a tourniquet.</p> <p><b>In 2017, thanks to TCCC, no American Soldier, Sailor, Airman, or Marine goes onto the battlefield without a tourniquet.</b></p>	<p>Because limb tourniquets have been so effective at controlling extremity hemorrhage, and because they have proven safe when properly applied and monitored, they have become standard battlefield issue.</p>

<p>32.</p>	 <p><b>Hartford Consensus 2 April 2013</b></p> <ul style="list-style-type: none"> <li>Working group organized by American College of Surgeons Board of Regents and FBI</li> <li>In response to Sandy Hook shootings</li> <li>Excerpt from findings:</li> </ul> <p><small>Life threatening injuries in active shooter incidents such as those in Fort Hood, Tucson, and Aurora are similar to those encountered in combat settings. Military experience has shown that the number one cause of preventable death in victims of penetrating trauma is hemorrhage. Tactical Combat Casualty Care (TCCC) programs, when implemented with strong leadership support, have produced dramatic reductions in preventable death. Recognizing that active shooter incidents can occur in any community, the Hartford Consensus encourages the use of existing techniques and equipment, validated by over a decade of well-documented clinical evidence.</small></p>	<p><b>Hartford Consensus 2 April 2013</b></p> <ul style="list-style-type: none"> <li>Working group organized by American College of Surgeons Board of Regents and FBI</li> <li>In response to Sandy Hook shootings</li> <li>Excerpt from findings:</li> </ul> <p><small>Life threatening injuries in active shooter incidents such as those in Fort Hood, Tucson, and Aurora are similar to those encountered in combat settings. Military experience has shown that the number one cause of preventable death in victims of penetrating trauma is hemorrhage. Tactical Combat Casualty Care (TCCC) programs, when implemented with strong leadership support, have produced dramatic reductions in preventable death. Recognizing that active shooter incidents can occur in any community, the Hartford Consensus encourages the use of existing techniques and equipment, validated by over a decade of well-documented clinical evidence.</small></p>	<p>Read the text.</p> <p>The life-saving lessons learned from TCCC are being adopted into civilian trauma care.</p>
<p>33.</p>	 <p><b>ASDHA TCCC Letter 14 February 2014</b></p> 	<p><b>ASDHA TCCC Letter 14 February 2014</b></p>	<p>In February 2014, the Assistant Secretary of Defense for Health Affairs gave notice that uniform TCCC training would be directed throughout the Department.</p>
<p>34.</p>	 <p><b>Secretary of Defense James Mattis</b></p>  <ul style="list-style-type: none"> <li>General Mattis letter to Service Chiefs</li> <li>Written during his time as CENTOM Commander</li> <li>Highlights Ranger success with TCCC</li> <li>Stresses importance of TCCC training</li> </ul>	<p><b>Secretary of Defense James Mattis</b></p> <ul style="list-style-type: none"> <li>General Mattis letter to Service Chiefs</li> <li>Written during his time as CENTOM Commander</li> <li>Highlights Ranger success with TCCC</li> <li>Stresses importance of TCCC training</li> </ul>	<p>When Secretary Mattis was CENTCOM Commander, he recognized that TCCC as practiced by the Rangers saves lives....</p>

<p>35.</p>	 <p><b>Secretary of Defense James Mattis</b></p> <p>3. In November 2012 my Command Surgeon and pre-hospital trauma experts from the JTS traveled to Afghanistan to survey pre-hospital medical teams from both the conventional and SOF perspective. Findings on the difference between the Ranger experience and DoD at large appear attributable to the Ranger Casualty Response System, which is a command-directed program that aggressively teaches the Tactical Combat Casualty Care (TCCC) curriculum to all unit personnel, integrates TCCC into small unit tactics and basic drills, and uses a unit-based trauma registry for performance improvement and directed procurement. This system was in place prior to the onset of hostilities. It has undergone continuous updates throughout the current conflict via a unit-based trauma registry and by the expert recommendations from the Committee on TCCC. The unprecedented low incidence of preventable deaths achieved by the Ranger Casualty Response System may serve as a model for improving pre-hospital trauma care and saving lives on the battlefield.</p> <p>4. My Command Surgeon and the JTS team will be contacting your staff personally to share more information about this promising program. I urge each of you to take their briefing, outlining the importance of TCCC training for your combat troops, the criticality of command ownership of this process, and other aspects of this response system.</p>  <p>JAMES N. MATTIS General, U.S. Marines</p>	<p><b>Secretary of Defense James Mattis</b></p>	<p>.... and supported its adoption.</p>
<p>36.</p>	 <p><b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• Prehospital trauma care in tactical settings is very 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>• Up to 24% 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>	<p><b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• Prehospital trauma care in tactical settings is very 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>• Up to 24% 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>	<p><b>TCCC is different from civilian trauma care training you may have received in the past.</b> This improvement in how we approach the combat casualty has resulted in significantly lower death rates in combat. Good battlefield care is paramount in avoiding preventable deaths.</p>
<p>37.</p>	 <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>	<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>	<p>Care Under Fire is the very limited care that can be provided while the casualty and the provider are under effective enemy fire. Tactical Field Care is performed on the battlefield, but not under effective enemy fire. TACEVAC Care is rendered during transport off the battlefield on the way to more definitive care.</p>

<p>38.</p>	<p> <b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• TCCC was designed for combat.</li> <li>• BUT many of these concepts have excellent applicability in civilian prehospital settings, too.</li> </ul> 	<p><b>Summary of Key Points</b></p> <ul style="list-style-type: none"> <li>• TCCC was designed for combat.</li> <li>• BUT many of these concepts have excellent applicability in civilian prehospital settings, too.</li> </ul>	<p>TCCC is NOT necessarily the standard of care in civilian prehospital settings. For those of you who practice in civilian EMS settings, you should follow the guidance established by your Emergency Medical Services Director.</p>
<p>39.</p>	<p> <b>Official TCCC Education Sites</b></p> 	<p><b>Official TCCC Education Sites</b></p> <p><a href="http://www.cotccc.com">www.cotccc.com</a> or <a href="http://www.deployedmedicine.com">www.deployedmedicine.com</a></p>	<p>You can download TCCC training materials from these websites.</p>
<p>40.</p>	<p> <b>Follow TCCC on Social Media</b></p> 	<p><b>Follow TCCC on Social Media</b></p>	<p>TCCC is also available via social media venues.</p>
<p>41.</p>	<p> <b>Before You Leave Today!</b></p> <ul style="list-style-type: none"> <li>• Look at one or more of the TCCC curriculum websites</li> </ul>  <ul style="list-style-type: none"> <li>• Sign up for the TCCC Distribution List at: <a href="mailto:cotccc@cox.net">cotccc@cox.net</a></li> <li>• Get your electronic copy of the TCCC Quick Reference Guide</li> </ul>	<p><b>Before You Leave Today!</b></p> <ul style="list-style-type: none"> <li>• Look at one or more of the TCCC curriculum websites.</li> <li>• Sign up for the TCCC Distribution List at <a href="mailto:cotccc@cox.net">cotccc@cox.net</a></li> <li>• Get your electronic copy of the TCCC Quick Reference Guide.</li> </ul>	<p>Read the text.</p>

42.	 <p>Questions?</p>	Questions?	
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