
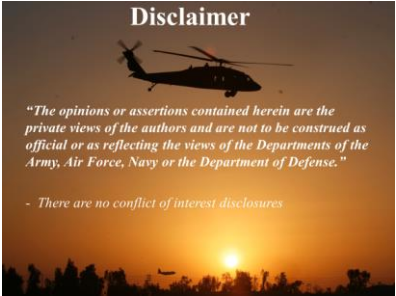























<p>1.</p>	<p><b>Tactical Combat Casualty Care for Medical Personnel</b>  <b>August 2018</b>          (Based on TCCC-MP Guidelines 180801)</p>  <p><b>Tactical Field Care 1b</b>  <b>Massive Hemorrhage</b></p>	<p><b>Tactical Combat Casualty Care for Medical Personnel</b>  <b>August 2018</b>          (Based on TCCC-MP Guidelines 180801)</p> <p><b>Tactical Field Care 1b</b>  <b>Massive Hemorrhage</b></p>	<p>Next, we'll discuss massive hemorrhage.</p>
<p>2.</p>		<p><b>Disclaimer</b></p> <p><i>“The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Departments of the Army, Air Force, Navy or the Department of Defense.”</i></p> <p><i>- There are no conflict of interest disclosures</i></p>	<p>Read the disclaimer.</p>
<p>3.</p>	 <p><b>LEARNING OBJECTIVES</b></p> <p><u>Terminal Learning Objective</u></p> <ul style="list-style-type: none"> <li>• Perform Massive Hemorrhage Control in Tactical Field Care.</li> </ul> <p><u>Enabling Learning Objectives</u></p> <ul style="list-style-type: none"> <li>• Describe the progressive strategies, indications, and limitations of external hemorrhage control techniques in Tactical Field Care.</li> <li>• Demonstrate evaluation of previously applied tourniquets for hemorrhage control effectiveness.</li> <li>• Identify the limitations of direct pressure in controlling external hemorrhage.</li> </ul>	<p><b>LEARNING OBJECTIVES</b></p> <p><u>Terminal Learning Objective</u></p> <ul style="list-style-type: none"> <li>• Perform Massive Hemorrhage Control in Tactical Field Care.</li> </ul> <p><u>Enabling Learning Objectives</u></p> <ul style="list-style-type: none"> <li>• Describe the progressive strategies, indications, and limitations of external hemorrhage control techniques in Tactical Field Care.</li> <li>• Demonstrate evaluation of previously applied tourniquets for hemorrhage control effectiveness.</li> <li>• Identify the limitations of direct pressure in controlling external hemorrhage.</li> </ul>	<p>Read the text.</p>




<p>4.</p>	 <p><b>LEARNING OBJECTIVES</b></p> <p><u>Enabling Learning Objectives</u></p> <ul style="list-style-type: none"> <li>• Demonstrate the appropriate application of a CoTCCC-recommended limb tourniquet.</li> <li>• Demonstrate the application of a CoTCCC-recommended hemostatic dressing.</li> <li>• Describe the application of a pressure dressing.</li> <li>• Demonstrate the application of XStat.</li> <li>• Demonstrate the application of a CoTCCC-recommended junctional tourniquet.</li> </ul>	<p><b>LEARNING OBJECTIVES</b></p> <p><u>Enabling Learning Objectives</u></p> <ul style="list-style-type: none"> <li>• Demonstrate the appropriate application of a CoTCCC-recommended limb tourniquet.</li> <li>• Demonstrate the application of a CoTCCC-recommended hemostatic dressing.</li> <li>• Describe the application of a pressure dressing.</li> <li>• Demonstrate the application of XStat.</li> <li>• Demonstrate the application of a CoTCCC-recommended junctional tourniquet.</li> </ul>	<p>Read the text.</p>
<p>5.</p>	 <p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage</p> <p>a. Assess for unrecognized hemorrhage and control all sources of bleeding. If not already done, use a CoTCCC-recommended limb tourniquet to control life-threatening external hemorrhage that is anatomically amenable to tourniquet use or for any traumatic amputation. Apply directly to the skin 2-3 inches above the bleeding site. If bleeding is not controlled with the first tourniquet, apply a second tourniquet side-by-side with the first.</p>	<p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage</p> <p>a. Assess for unrecognized hemorrhage and control all sources of bleeding. If not already done, use a CoTCCC-recommended limb tourniquet to control life-threatening external hemorrhage that is anatomically amenable to tourniquet use or for any traumatic amputation. Apply directly to the skin 2-3 inches above the bleeding site. If bleeding is not controlled with the first tourniquet, apply a second tourniquet side-by-side with the first.</p>	<p>Read the guideline.</p>
<p>6.</p>	 <p><b>Tourniquets: Points to Remember</b></p> <ul style="list-style-type: none"> <li>• All unit members should have a CoTCCC-approved tourniquet at a standard location on their battle gear.             <ul style="list-style-type: none"> <li>– It should be easily accessible if wounded – <b>DO NOT bury it at the bottom of your pack</b></li> </ul> </li> <li>• Tourniquets should be left in their protective packaging until needed to treat casualties.             <ul style="list-style-type: none"> <li>– Harsh environments may contribute to tourniquet failure if not left in packaging</li> </ul> </li> </ul>	<p><b>Tourniquets: Points to Remember</b></p> <ul style="list-style-type: none"> <li>• All unit members should have a CoTCCC-approved tourniquet at a standard location on their battle gear.             <ul style="list-style-type: none"> <li>–It should be easily accessible if wounded – <b>DO NOT bury it at the bottom of your pack</b></li> </ul> </li> <li>• Tourniquets should be left in their protective packaging until needed to treat casualties.             <ul style="list-style-type: none"> <li>–Harsh environments may contribute to tourniquet failure if not left in packaging</li> </ul> </li> </ul>	<p>Each soldier having a tourniquet at the unit’s standardized location is critical, and this should be a pre-mission inspection item.</p>







<p>7.</p>	 <p><b>Tourniquets: Points to Remember</b></p> <ul style="list-style-type: none"> <li>• <b>Training tourniquets should never be used as mission tourniquets!</b></li> <li>• <b>Repetitive applications of a tourniquet may cause it to fail.</b></li> </ul>	<p><b>Tourniquets: Points to Remember</b></p> <ul style="list-style-type: none"> <li>• <b>Training tourniquets should never be used as mission tourniquets!</b></li> <li>• <b>Repetitive applications of a tourniquet may cause it to fail.</b></li> </ul>	<p>Only tourniquets within their shelf life and still in their original packaging should be issued for mission use.</p>
<p>8.</p>	 <p><b>Tourniquets: Points to Remember</b></p> <ul style="list-style-type: none"> <li>• <b>When a tourniquet has been applied, DO NOT loosen it intermittently to allow circulation to return to the limb.</b> <ul style="list-style-type: none"> <li>– Causes unacceptable additional blood loss</li> <li>– <b>This HAS happened in the past, and was responsible for at least one near-fatality.</b></li> </ul> </li> </ul>	<p><b>Tourniquets: Points to Remember</b></p> <ul style="list-style-type: none"> <li>• <b>When a tourniquet has been applied, DO NOT loosen it intermittently to allow circulation to return to the limb.</b> <ul style="list-style-type: none"> <li>– Causes unacceptable additional blood loss</li> <li>– <b>This HAS happened in the past, and was responsible for at least one near fatality.</b></li> </ul> </li> </ul>	<p>Periodically loosening the tourniquet to allow intermittent flow to the limb is an unnecessary practice in the first place, and allows further blood loss in a casualty who cannot afford it.</p>
<p>9.</p>	 <p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage (continued)</p> <p>b. For compressible (external) hemorrhage not amenable to limb tourniquet use or as an adjunct to tourniquet removal, use Combat Gauze as the CoTCCC hemostatic dressing of choice.</p> <ul style="list-style-type: none"> <li>• Alternative hemostatic adjuncts:             <ul style="list-style-type: none"> <li>- Celox Gauze or</li> <li>- ChitoGauze or</li> <li>- XStat (Best for deep, narrow-tract junctional wounds)</li> </ul> </li> </ul>	<p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage (continued)</p> <p>b. For compressible (external) hemorrhage not amenable to limb tourniquet use or as an adjunct to tourniquet removal, use Combat Gauze as the CoTCCC hemostatic dressing of choice.</p> <ul style="list-style-type: none"> <li>• <b>Alternative hemostatic adjuncts:</b> <ul style="list-style-type: none"> <li>- Celox Gauze or</li> <li>- ChitoGauze or</li> <li>- XStat (Best for deep, narrow-tract junctional wounds)</li> </ul> </li> </ul>	<p>Read the guideline.</p>

<p>10.</p>	 <p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage b. (continued)</p> <ul style="list-style-type: none"> <li>• Hemostatic dressings should be applied with at least 3 minutes of direct pressure (optional for XStat). Each dressing works differently, so if one fails to control bleeding, it may be removed and a fresh dressing of the same type or a different type applied. (Note: XStat is not to be removed in the field, but additional XStat, other hemostatic adjuncts, or trauma dressings may be applied over it.)</li> </ul>	<p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage b. (continued)</p> <ul style="list-style-type: none"> <li>• Hemostatic dressings should be applied with at least 3 minutes of direct pressure (optional for XStat). Each dressing works differently, so if one fails to control bleeding, it may be removed and a fresh dressing of the same type or a different type applied. (Note: XStat is not to be removed in the field, but additional XStat, other hemostatic adjuncts, or trauma dressings may be applied over it.)</li> </ul>	<p>Read the guideline.</p>
<p>11.</p>	 <p><b>Overview of Hemorrhage Control in TFC</b></p> 	<p><b>Overview of Hemorrhage Control in TFC</b></p>	<p>Click on the photo to play the video.</p>
<p>12.</p>	 <p><b>Direct Pressure without a Hemostatic Dressing</b></p> <ul style="list-style-type: none"> <li>• Can be used as a <u>temporary</u> measure.</li> <li>• It works most of the time for external bleeding.</li> <li>• It can stop even carotid and femoral bleeding.</li> <li>• Bleeding control requires very firm pressure.</li> <li>• <b>Don't let up pressure to check the wound until you are prepared to control bleeding with a hemostatic agent or a tourniquet!</b></li> <li>• It is hard to use direct pressure alone to maintain control of big bleeders while moving the casualty.</li> </ul>	<p><b>Direct Pressure</b></p> <ul style="list-style-type: none"> <li>• Can be used as a <u>temporary</u> measure.</li> <li>• It works most of the time for external bleeding.</li> <li>• It can stop even carotid and femoral bleeding.</li> <li>• Bleeding control requires very firm pressure.</li> <li>• <b>Don't let up pressure to check the wound until you are prepared to control bleeding with a hemostatic agent or a tourniquet!</b></li> <li>• It is hard to use direct pressure alone to maintain control of big bleeders while moving the casualty.</li> </ul>	<p>Even just a firmly applied thumb may work with big bleeders in small wound tracts. One combat medic has used a thumb successfully in two casualties. One had carotid bleeding – the other had femoral bleeding.</p>






<p>13.</p>	<p> <b>CoTCCC-recommended Hemostatic Agents</b></p> 	<p><b>CoTCCC-recommended Hemostatic Agents</b></p>	<p>Hemostatic dressings can be used to control compressible hemorrhage from wounds in places where a tourniquet cannot be effectively applied, or to control bleeding when a tourniquet must be removed in a prehospital setting because evacuation will take longer than two hours. They can also be used on wounds amenable to the application of a junctional tourniquet when a junctional tourniquet is not available or while a junctional tourniquet is being readied for use.</p>
<p>14.</p>	<p> <b>CoTCCC-Recommended Hemostatic Agents</b></p>  <p>Combat Gauze      Celox Gauze      ChitoGauze</p>	<p><b>CoTCCC-Recommended Hemostatic Agents</b>                  Combat Gauze, Celox Gauze, and ChitoGauze</p>	<p>These are the three hemostatic dressings recommended in the TCCC guidelines.</p>
<p>15.</p>	<p> <b>Combat Gauze</b></p> <ul style="list-style-type: none"> <li>• Tested in the ISR safety model</li> <li>• Widely fielded in the DoD</li> <li>• Case series from the battlefield and the civilian sector:                         <ul style="list-style-type: none"> <li>– CG is effective at stopping bleeding</li> <li>– No safety issues reported</li> </ul> </li> <li>• Recommended by CoTCCC as first choice for hemostatic dressing</li> </ul> 	<p><b>Combat Gauze</b></p> <ul style="list-style-type: none"> <li>• Tested in the ISR safety model</li> <li>• Widely fielded in the DoD</li> <li>• Case series from the battlefield and the civilian sector:                         <ul style="list-style-type: none"> <li>– CG is effective at stopping bleeding</li> <li>– No safety issues reported</li> </ul> </li> <li>• Recommended by CoTCCC as first choice for hemostatic dressing</li> </ul>	<p>The CoTCCC recommends QuikClot Combat Gauze as the hemostatic dressing of choice.</p>




<p>16.</p>	 <p><b>Alternative Hemostatic Agents</b></p> <ul style="list-style-type: none"> <li>• ChitoGauze &amp; Celox Gauze             <ul style="list-style-type: none"> <li>– May be used if Combat Gauze is not available</li> <li>– Active ingredient is chitosan, a mucoadhesive                 <ul style="list-style-type: none"> <li>• Function is independent of coagulation cascade</li> <li>• There are case series that report that chitosan dressings have stopped bleeding in surgical patients with life-threatening bleeding and severe coagulopathy</li> <li>• Does not cause reactions in persons allergic to shellfish</li> </ul> </li> <li>– Are as effective as Combat Gauze at hemorrhage control in laboratory studies</li> </ul> </li> </ul>	<p><b>Alternative Hemostatic Agents</b></p> <ul style="list-style-type: none"> <li>• Celox Gauze &amp; ChitoGauze             <ul style="list-style-type: none"> <li>– May be used if Combat Gauze is not available</li> <li>– Active ingredient is chitosan, a mucoadhesive                 <ul style="list-style-type: none"> <li>• Function is independent of coagulation cascade</li> <li>• There are case series that report that chitosan dressings have stopped bleeding in surgical patients with life-threatening bleeding and severe coagulopathy</li> <li>• Does not cause reactions in persons allergic to shellfish</li> </ul> </li> <li>– Are as effective as Combat Gauze at hemorrhage control in laboratory studies</li> </ul> </li> </ul>	<p>Read the text.</p>
<p>17.</p>	 <p><b>Alternative Hemostatic Agents</b></p> <ul style="list-style-type: none"> <li>• Neither ChitoGauze nor Celox Gauze have been tested in the USAISR safety model, <u>but</u></li> <li>• Chitosan-based hemostatic dressings have been used in combat since 2004 with no safety issues reported.</li> </ul>	<p><b>Alternative Hemostatic Agents</b></p> <ul style="list-style-type: none"> <li>• Neither ChitoGauze nor Celox Gauze have been tested in the USAISR safety model, <u>but</u></li> <li>• Chitosan-based hemostatic dressings have been used in combat since 2004 with no safety issues reported.</li> </ul>	<p>Read the text.</p>
<p>18.</p>	 <p><b>Combat Gauze</b> NSN 6510-01-562-3325</p> <ul style="list-style-type: none"> <li>• Combat Gauze is a 3-inch x 4-yard roll of sterile gauze impregnated with kaolin, a material that causes blood to clot.</li> <li>• Found in lab studies and actual use to be safe and effective in controlling bleeding that would otherwise be fatal.</li> </ul> 	<p><b>Combat Gauze NSN 6510-01-562-3325</b></p> <ul style="list-style-type: none"> <li>• Combat Gauze is a 3-inch x 4-yard roll of sterile gauze impregnated with kaolin, a material that causes blood to clot.</li> <li>• Found in lab studies and actual use to be safe and effective in controlling bleeding that would otherwise be fatal.</li> </ul>	<p>Combat Gauze is a z-folded gauze impregnated with kaolin that helps promote blood clotting.</p>






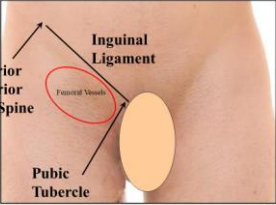
<p>19.</p>	 <p><b>Wound Packing with a Hemostatic Dressing</b></p>	<p><b>Wound Packing with a Hemostatic Dressing</b></p>	<p>Click on the photo to play the video.</p>
<p>20.</p>	 <p><b>Applying a Pressure Dressing</b></p>	<p><b>Applying a Pressure Dressing</b></p>	<p>Click on the photo to play the video.</p>
<p>21.</p>	 <p><b>Questions?</b></p>	<p><b>Questions?</b></p>	

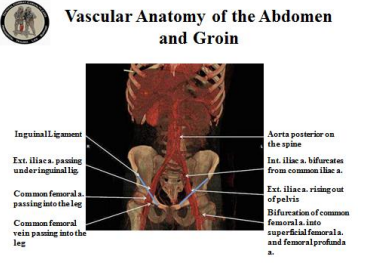


<p>22.</p>	 <p><b>Hemostatic Dressing Practical</b></p> 	<p><b>Hemostatic Dressing Practical</b></p>	<p>Break into small groups for the practical. Use the Supplementary Module for the dressing you are training.</p>
<p>23.</p>	 <p><b>XSTAT</b> NSN 6510-01-657-4737</p> <ul style="list-style-type: none"> <li>• First expanding wound dressing FDA-cleared for life-threatening junctional bleeding.</li> <li>• Syringe-like applicator injects compressed minisponges into deep wounds.</li> <li>• Minisponges rapidly expand on contact with blood – compressing the wound to stop bleeding.</li> <li>• XSTAT 12 and XSTAT 30</li> </ul>  <p><small>RevMedx, 25999 SW Canyon Creek Road, Suite C, Wilsonville, OR 97070 www.revmedx.com</small></p>	<p><b>XSTAT 12</b> NSN 6510-01-657-4737</p> <ul style="list-style-type: none"> <li>• First expanding wound dressing FDA-cleared for life-threatening junctional bleeding.</li> <li>• Syringe-like applicator injects compressed minisponges into deep wounds.</li> <li>• Minisponges rapidly expand on contact with blood – compressing the wound to stop bleeding.</li> <li>• XSTAT 12 And XSTAT 30</li> </ul>	<p>XSTAT is a different kind of hemostatic dressing made by RevMedx.</p>
<p>24.</p>	 <p><b>XSTAT Video</b></p> 	<p><b>XSTAT Video</b></p>	<p>Click on the photo to play the video.</p>



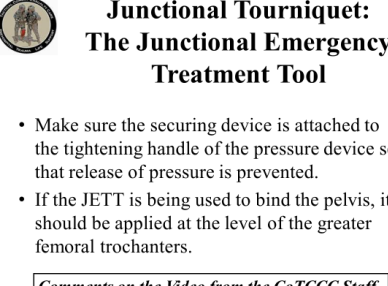







<p>25.</p>	 <p><b>XSTAT Removal Instructions</b></p> <ul style="list-style-type: none"> <li>The manufacturer includes a casualty card inside the XSTAT package.</li> <li>Instructions to the surgeon for removing the sponges from the wound are included on the back of the card.</li> <li>Record the use of XSTAT on the DD 1380, and forward the XSTAT instructions along with the DD 1380 to the Medical Treatment Facility.</li> </ul> 	<p><b>XSTAT Removal Instructions</b></p> <ul style="list-style-type: none"> <li>The manufacturer includes a casualty card inside the XSTAT package.</li> <li>Instructions to the surgeon for removing the sponges from the wound are included on the back of the card.</li> <li>Record the use of XSTAT on the DD 1380, and forward the XSTAT instructions along with the DD 1380 to the Medical Treatment Facility.</li> </ul>	<p>Read the text. NOTE: DD Form 1380 is the TCCC Casualty Card.</p>
<p>26.</p>	 <p><b>XSTAT 12 WARNINGS</b></p> <p><b>WARNINGS/CAUTIONS:</b></p> <ul style="list-style-type: none"> <li>XSTAT 12 has not been tested for use in extremity wounds that are amenable to tourniquet application.</li> <li>XSTAT 12 use in conjunction with tourniquet application has not been assessed for use in extremity wounds that are amenable to tourniquet application.</li> <li>Sterility not guaranteed if the package is damaged.</li> <li>Larger wounds may require more than one applicator. Having at least three (3) XSTAT 12 devices available at all points of care is recommended.</li> <li>Injuries with significant cavitation, such as those from a high-velocity gunshot wound, may require more than 3 applicators to appropriately pack the wound.</li> </ul> <p>TRAINING WEBSITE: <a href="http://WWW.REVMEDX.COM">WWW.REVMEDX.COM</a></p>	<p><b>XSTAT 12 WARNINGS</b></p> <p><b>WARNINGS/CAUTIONS:</b></p> <ul style="list-style-type: none"> <li>XSTAT 12 has not been tested for use in extremity wounds that are amenable to tourniquet application.</li> <li>XSTAT 12 use in conjunction with tourniquet application has not been assessed for use in extremity wounds that are amenable to tourniquet application.</li> <li>Sterility not guaranteed if the package is damaged.</li> <li>Larger wounds may require more than one applicator. Having at least three (3) XSTAT 12 devices available at all points of care is recommended.</li> <li>Injuries with significant cavitation, such as those from a high-velocity gunshot wound, may require more than 3 applicators to appropriately pack the wound.</li> </ul> <p>TRAINING WEBSITE: <a href="http://WWW.REVMEDX.COM">WWW.REVMEDX.COM</a></p>	<p>Read the text.</p>
<p>27.</p>	 <p><b>Questions?</b></p> 	<p><b>Questions?</b></p>	

<p>28.</p>	 <p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage (continued)</p> <p>c. If the bleeding site is amenable to use of a junctional tourniquet, immediately apply a CoTCCC-recommended junctional tourniquet. Do not delay in the application of the junctional tourniquet once it is ready for use. Apply hemostatic dressings with direct pressure if a junctional tourniquet is not available or while the junctional tourniquet is being readied for use.</p>	<p><b>Tactical Field Care Guidelines</b></p> <p>3. Massive Hemorrhage (continued)</p> <p>c. If the bleeding site is amenable to use of a junctional tourniquet, immediately apply a CoTCCC-recommended junctional tourniquet. Do not delay in the application of the junctional tourniquet once it is ready for use. Apply hemostatic dressings with direct pressure if a junctional tourniquet is not available or while the junctional tourniquet is being readied for use.</p>	<p>Read the guideline.</p>
<p>29.</p>	 <p><b>Junctional Hemorrhage</b></p> <p>This term refers to bleeding from wounds to the:</p> <ul style="list-style-type: none"> <li>- Groin</li> <li>- Buttocks</li> <li>- Perineum</li> <li>- Axillae</li> <li>- Base of the neck</li> <li>- Extremities at sites too proximal for a limb tourniquet</li> </ul>	<p><b>Junctional Hemorrhage</b></p> <p>This term refers to bleeding from wounds to the:</p> <ul style="list-style-type: none"> <li>- Groin</li> <li>- Buttocks</li> <li>- Perineum</li> <li>- Axillae</li> <li>- Base of the neck</li> <li>- Extremities at sites too proximal for a limb tourniquet</li> </ul>	<p>The areas where the neck and the limbs join the torso are “junctional” areas. Hemorrhage from wounds in these areas cannot be controlled by application of limb tourniquets like the C.A.T.</p>
<p>30.</p>	 <p><b>Improvised Explosive Devices (IEDs)</b></p> <ul style="list-style-type: none"> <li>• <b>Vehicle Targeting (Iraq)</b> <ul style="list-style-type: none"> <li>- Large amount of explosives – recycled 155 shells</li> <li>- Command or vehicle-detonated</li> <li>- Designed to destroy vehicles – created more blunt trauma and polytrauma from vehicle rollovers</li> </ul> </li> <li>• <b>Personnel Targeting (Afghanistan)</b> <ul style="list-style-type: none"> <li>- Smaller amount of explosives</li> <li>- Homemade explosives</li> <li>- Personnel pressure-detonated</li> <li>- Designed to maim – lead to lower extremity junctional injury</li> </ul> </li> </ul>	<p><b>Improvised Explosive Devices (IEDs)</b></p> <ul style="list-style-type: none"> <li>• <b>Vehicle Targeting (Iraq)</b> <ul style="list-style-type: none"> <li>- Large amount of explosives – recycled 155 shells</li> <li>- Command or vehicle-detonated</li> <li>- Designed to destroy vehicles – created more blunt trauma and polytrauma from vehicle rollovers</li> </ul> </li> <li>• <b>Personnel Targeting (Afghanistan)</b> <ul style="list-style-type: none"> <li>- Smaller amount of explosives</li> <li>- Homemade explosives</li> <li>- Personnel pressure-detonated</li> <li>- Designed to maim – lead to lower extremity junctional injury</li> </ul> </li> </ul>	<p>IEDs were configured and used differently in the two theaters. In Afghanistan, they were aimed at soldiers on dismounted patrol.</p>

<p>31.</p>	<p> <b>In 2010, there was a dramatic increase in lower extremity amputation rates in Afghanistan.</b></p> 	<p><b>In 2010, there was a dramatic increase in lower extremity amputation rates in Afghanistan.</b></p>	<p>In the last months of 2010, US Forces in Afghanistan experienced an increase in limb amputations. This led to a new injury pattern described as Dismounted Complex Blast Injury (DCBI), and the emergence of junctional hemorrhage as a leading cause of mortality.</p>
<p>32.</p>	<p> <b>Dismounted Complex Blast Injury (DCBI)</b></p>  <ul style="list-style-type: none"> <li>• DCBI causes junctional hemorrhage.</li> <li>• By 2011, junctional hemorrhage was the leading cause of death from external hemorrhage.</li> <li>• The proximal thigh and the groin were the most common sites of junctional hemorrhage</li> </ul>	<p><b>Dismounted Complex Blast Injury (DCBI)</b></p> <ul style="list-style-type: none"> <li>• DCBI causes junctional hemorrhage.</li> <li>• By 2011, junctional hemorrhage was the leading cause of death from external hemorrhage.</li> <li>• The proximal thigh and the groin were the most common sites of junctional hemorrhage</li> </ul>	<p>DCBI is characterized by a combination of high thigh amputations with genital injury associated with dismounted patrolling. DCBI may also include abdominal and upper extremity injuries and traumatic. The junctional hemorrhage attending DCBI illuminated the need for junctional tourniquets.</p>
<p>33.</p>	<p> <b>Superficial Anatomy of the Groin</b></p> 	<p><b>Superficial Anatomy of the Groin</b></p>	<p>A review of the anatomy of the groin helps to show where you should place a junctional tourniquet in this area.</p>

<p>34.</p>	 <p><b>Vascular Anatomy of the Abdomen and Groin</b></p> <p>Inguinal Ligament Ext. iliac a. passing under inguinal lig. Common femoral a. passing into the leg Common femoral vein passing into the leg</p> <p>Aorta posterior on the spine Int. iliac a. bifurcates from common iliac a. Ext. iliac a. rising out of pelvis Bifurcation of common femoral a. into superficial femoral a. and femoral profunda a.</p>	<p><b>Vascular Anatomy of the Abdomen and Groin</b></p>	<p>For a piece of shrapnel, the high thigh and groin are target rich environments not covered by body armor. The aorta can be compressed near the umbilicus. The femoral arteries can be compressed in the groin.</p>
<p>35.</p>	 <p><b>TCCC Management of Junctional Hemorrhage</b></p> <ul style="list-style-type: none"> <li>• The three CoTCCC-recommended junctional tourniquets are:             <ul style="list-style-type: none"> <li>– The Combat Ready Clamp (CRoC)</li> <li>– The Junctional Emergency Treatment Tool (JETT)</li> <li>– The SAM Junctional Tourniquet (SJT)</li> </ul> </li> </ul>	<p><b>TCCC Management of Junctional Hemorrhage</b></p> <ul style="list-style-type: none"> <li>• The three CoTCCC-recommended junctional tourniquets are:             <ul style="list-style-type: none"> <li>– The Combat Ready Clamp (CRoC)</li> <li>– The Junctional Emergency Treatment Tool (JETT)</li> <li>– The SAM Junctional Tourniquet (SJT)</li> </ul> </li> </ul>	<p>Read the text.</p>
<p>36.</p>	 <p><b>TCCC Management of Junctional Hemorrhage</b></p> <p>Combat Ready Clamp      Junctional Emergency Treatment Tool      SAM Junctional Tourniquet</p> <p>Training materials for all 3 devices are contained in separate modules in the following slides. Use the one that corresponds to your unit's junctional tourniquets.</p>	<p><b>TCCC Management of Junctional Hemorrhage</b></p> <ul style="list-style-type: none"> <li>• Combat Ready Clamp</li> <li>• Junctional Emergency Treatment Tool</li> <li>• SAM Junctional Tourniquet</li> </ul> <p>Training materials for all 3 devices are contained in separate modules in the following slides. Use the one that corresponds to your unit's junctional tourniquets.</p>	<p>Any of the three recommended devices can be taught in the Junctional Tourniquet Practical.</p>

<p>37.</p>	 <p><b>Junctional Tourniquet: The Combat Ready Clamp</b></p>	<p><b>Junctional Tourniquet: The Combat Ready Clamp</b></p>	<p>Click on the photo to play the video.</p>
<p>38.</p>	 <p><b>Junctional Tourniquet: The Junctional Emergency Treatment Tool</b></p>	<p><b>Junctional Tourniquet: The Junctional Emergency Treatment Tool</b></p>	<p>Click on the photo to play the video.</p>
<p>39.</p>	 <p><b>Junctional Tourniquet: The Junctional Emergency Treatment Tool</b></p> <ul style="list-style-type: none"> <li>• Make sure the securing device is attached to the tightening handle of the pressure device so that release of pressure is prevented.</li> <li>• If the JETT is being used to bind the pelvis, it should be applied at the level of the greater femoral trochanters.</li> </ul> <p><i>Comments on the Video from the CoTCCC Staff</i></p>	<p><b>Junctional Tourniquet: The Junctional Emergency Treatment Tool</b></p> <ul style="list-style-type: none"> <li>• Make sure the securing device is attached to the tightening handle of the pressure device so that release of pressure is prevented.</li> <li>• If the JETT is being used to bind the pelvis, it should be applied at the level of the greater femoral trochanters.</li> </ul> <p><i>Comments on the Video from the CoTCCC Staff</i></p>	<p>The securing device should be attached to the tightening handle in such a way that it prevents the tightening handle from backing off.</p>

40.	 <p><b>Junctional Tourniquet: The SAM Junctional Tourniquet</b></p> 	<p><b>Junctional Tourniquet: The SAM Junctional Tourniquet</b></p>	<p>Click on the photo to play the video.</p>
41.	 <p><b>Continued Reassessment!</b></p> <ul style="list-style-type: none"> <li>Once applied, the junctional tourniquet, as well as the casualty's other hemorrhage control interventions, must be frequently reassessed to assure continued hemorrhage control.</li> </ul> <p><b>- DO NOT EVER APPLY IT AND FORGET IT!</b></p>	<p><b>Continued Reassessment!</b></p> <ul style="list-style-type: none"> <li>Once applied, the junctional tourniquet, as well as the casualty's other hemorrhage control interventions, must be frequently reassessed to assure continued hemorrhage control.</li> </ul> <p><b>- DO NOT EVER APPLY IT AND FORGET IT!</b></p>	<p>Read the text.</p>
42.	 <p><b>Junctional Tourniquet Practical</b></p> 	<p><b>Junctional Tourniquet Practical</b></p>	<p>Break into small groups for the practical. Use the Supplementary Module for the device being trained.</p>