











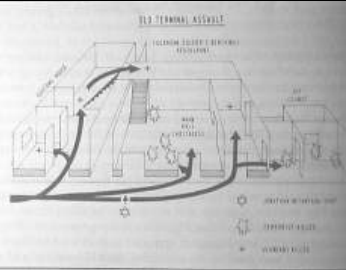





<p>Tactical Combat Casualty Care August 2011</p>  <p>Care Under Fire</p>	<p>Care Under Fire</p>	<p>The first phase of TCCC is Care Under Fire.</p>
 <p>Objectives</p> <ul style="list-style-type: none"> • DESCRIBE the role of firepower supremacy in the prevention of combat trauma. • DEMONSTRATE techniques that can be used to quickly move casualties to cover while the unit is engaged in a firefight. • EXPLAIN the rationale for early use of a tourniquet to control life-threatening extremity bleeding during Care Under Fire. 	<p>Objectives</p> <ul style="list-style-type: none"> • DESCRIBE the role of firepower supremacy in the prevention of combat trauma. • DEMONSTRATE techniques that can be used to quickly move casualties to cover while the unit is engaged in a firefight. • EXPLAIN the rationale for early use of a tourniquet to control life-threatening extremity bleeding during Care Under Fire. 	<p>Read text</p>
 <p>Objectives</p> <ul style="list-style-type: none"> • DEMONSTRATE the appropriate application of the C-A-T to the arm and leg. • EXPLAIN why immobilization of the cervical spine is not a critical need in combat casualties with penetrating trauma to the neck. 	<p>Objectives</p> <ul style="list-style-type: none"> • DEMONSTRATE the appropriate application of the C-A-T to the arm and leg. • EXPLAIN why immobilization of the cervical spine is not a critical need in combat casualties with penetrating trauma to the neck. 	<p>Read text Note that “C-A-T” refers to a Combat Application Tourniquet</p>


 <p>Care Under Fire Guidelines</p> <ol style="list-style-type: none"> 1. Return fire and take cover. 2. Direct or expect casualty to remain engaged as a combatant if appropriate. 3. Direct casualty to move to cover and apply self-aid if able. 4. Try to keep the casualty from sustaining additional wounds. 	<p>Care Under Fire Guidelines</p> <ol style="list-style-type: none"> 1. Return fire and take cover. 2. Direct or expect casualty to remain engaged as a combatant if appropriate. 3. Direct casualty to move to cover and apply self-aid if able. 4. Try to keep the casualty from sustaining additional wounds. 	<p>Read the CUF guidelines.</p>
 <p>Care Under Fire Guidelines</p> <ol style="list-style-type: none"> 5. Casualties should be extricated from burning vehicles or buildings and moved to relative safety. Do what is necessary to stop the burning process. 6. Airway management is generally best deferred until the Tactical Field Care phase. 	<p>Care Under Fire Guidelines</p> <ol style="list-style-type: none"> 5. Casualties should be extricated from burning vehicles or buildings and moved to relative safety. Do what is necessary to stop the burning process. 6. Airway management is generally best deferred until the Tactical Field Care phase. 	<p>Read the CUF Guidelines</p>




 <p>Care Under Fire Guidelines</p> <p>7. Stop <i>life-threatening</i> external hemorrhage if tactically feasible:</p> <ul style="list-style-type: none"> - Direct casualty to control hemorrhage by self-aid if able. - Use a CoTCCC-recommended tourniquet for hemorrhage that is anatomically amenable to tourniquet application. - Apply the tourniquet proximal to the bleeding site, over the uniform, tighten, and move the casualty to cover. 	<p>Care Under Fire Guidelines</p> <p>7. Stop <i>life-threatening</i> external hemorrhage if tactically feasible:</p> <ul style="list-style-type: none"> -Direct casualty to control hemorrhage by self-aid if able. -Use a CoTCCC-recommended tourniquet for hemorrhage that is anatomically amenable to tourniquet application. -Apply the tourniquet proximal to the bleeding site, over the uniform, tighten, and move the casualty to cover. 	<p>Read CUF Guidelines</p>
 <p>Care Under Fire</p> <ul style="list-style-type: none"> • Prosecuting the mission and caring for the casualties may be in direct conflict. • What's best for the casualty may NOT be what's best for the mission. • When there is conflict – which takes precedence? • Scenario dependent • Consider the following example: 	<p>Care Under Fire</p> <ul style="list-style-type: none"> •Prosecuting the mission and caring for the casualties may be in direct conflict. •What's best for the casualty may NOT be what's best for the mission. •When there is conflict – which takes precedence? •Scenario dependent •Consider the following example: 	<p>In the hospital, the casualty IS the mission. In TCCC, you have the casualty AND the mission.</p>
 	<p>Case Studies in Special Operations Warfare Theory and Practice</p>	<p>Let's examine a scenario from this book by ADM McRaven. The scenarios in this book are all Special Ops, but the PRINCIPLES discussed apply to all combat units.</p>






 <p>Raid on Entebbe <i>by ADM Bill McRaven</i></p> <ul style="list-style-type: none"> • 27 June 1976 • Air France Flight 139 hijacked • Flown to Entebbe (Uganda) • 106 hostages held in Old Terminal at airport • 7 terrorists guarding hostages • 100 Ugandan troops perimeter security • Israeli commando rescue planned <p>9</p>	<p>Raid on Entebbe <i>by ADM Bill McRaven</i></p> <ul style="list-style-type: none"> • 27 June 1976 • Air France Flight 139 hijacked • Flown to Entebbe (Uganda) • 106 hostages held in Old Terminal at airport • 7 terrorists guarding hostages • 100 Ugandan troops perimeter security • Israeli commando rescue planned 	<p>This is one of the most famous hostage situations in history.¹</p>
 <p>Raid on Entebbe <i>by ADM Bill McRaven</i></p> <p>Rescue 4 July 1976</p> <ul style="list-style-type: none"> • Exit from C-130 in a Mercedes and 2 Land Rovers to mimic mode of travel of Idi Amin – the Ugandan dictator at the time • Israeli commandos dressed as Ugandan soldiers • Drove up to the terminal - shot the Ugandan sentry • Assaulted the terminal through 3 doors <p>10</p>	<p>Raid on Entebbe</p> <p>Rescue 4 July 1976</p> <ul style="list-style-type: none"> • Exit from C-130 in a Mercedes and 2 Land Rovers to mimic mode of travel of Idi Amin – the Ugandan dictator at the time • Israeli commandos dressed as Ugandan soldiers • Drove up to the terminal - shot the Ugandan sentry • Assaulted the terminal through 3 doors 	<p>The tactics used were ingenious: DECEPTION, SURPRISE, and VIOLENCE</p>
		<p>Here's what the layout looked like. Black arrows show the entry paths of the Israeli commandos.</p>







 <p>Raid on Entebbe by ADM Bill McRaven</p> <ul style="list-style-type: none"> • LTC Netanyahu – the ground commander – shot in chest at the beginning of the assault • What should the corpsman or medic do? <ul style="list-style-type: none"> – Disengage from the assault? – Start an IV? – Immediate needle decompression of chest? <p>12</p>	<p>Raid on Entebbe</p> <ul style="list-style-type: none"> • LTC Netanyahu – the ground commander – shot in chest at the beginning of the assault • What should the corpsman or medic do? <ul style="list-style-type: none"> – Disengage from the assault? – Start an IV? – Immediate needle decompression of chest? 	<p>Imagine YOU are the combat medic on this operation. What would you do now? (Ask several people in the audience what THEY would do.) Note that LTC Netanyahu was the brother of the future Prime Minister of Israel.</p>
 <p>Raid on Entebbe by ADM Bill McRaven</p> <p><i>As previously ordered, the three assault elements disregarded Netanyahu and stormed the building.</i></p> <p><i><u>“At this point in the operation, there wasn’t time to attend to the wounded.”</u></i></p> <p>13</p>	<p>Raid on Entebbe</p> <p><i>“As previously ordered, the three assault elements disregarded Netanyahu and stormed the building.”</i></p> <p><i><u>“At this point in the operation, there wasn’t time to attend to the wounded.”</u></i></p>	<p>NO medical care at the moment. Have to establish control of the tactical situation first.</p>
 <p>Do seconds really matter in combat?</p> <p>14</p>	<p>Do seconds really matter in combat?</p>	<p>LTC Netanyahu died from his wounds. The assault phase of the operation took 90 seconds. Did the 90-second treatment delay affect his chances of survival? Probably not. Would a 90-second delay in continuing the assault phase of the operation have made a difference? Absolutely.</p>





 <p>Ma'a lot Rescue Attempt <i>by ADM Bill McRaven</i></p> <ul style="list-style-type: none"> • 15 May 1974 • 3 PLO terrorists take 105 hostages • Schoolchildren and teachers • When assault commenced, terrorists began killing hostages • 22 children killed, 56 wounded • The difference between a dramatic success and a disaster may be measured in seconds. <p>15</p>	<p>Ma'a lot Rescue Attempt <i>by ADM Bill McRaven</i></p> <ul style="list-style-type: none"> • 15 May 1974 • 3 PLO terrorists take 105 hostages • Schoolchildren and teachers • When assault commenced, terrorists began killing hostages • 22 children killed, 56 wounded • The difference between a dramatic success and a disaster may be measured in seconds. 	<p>Look what even a momentary delay can mean to a hostage rescue operation OR OTHER TACTICAL ENGAGEMENTS.ⁱⁱ</p>
 <p>Care Under Fire</p> <ul style="list-style-type: none"> • If the firefight is ongoing - don't try to treat your casualty in the Kill Zone! • Suppression of enemy fire and moving casualties to cover are the major concerns.  <p>16</p>	<p>Care Under Fire</p> <ul style="list-style-type: none"> • If the firefight is ongoing - don't try to treat your casualty in the Kill Zone! • Suppression of enemy fire and moving casualties to cover are the major concerns. 	<p>Not every casualty scenario is a hostage rescue, but these basic principles apply. Imperative to get your casualty "Off the X" and behind cover if you can.</p>
 <p>Care Under Fire</p> <ul style="list-style-type: none"> • Suppression of hostile fire will minimize the risk of both new casualties and additional injuries to the existing casualties. • The firepower contributed by medical personnel and the casualties themselves may be essential to tactical fire superiority. • <u>The best medicine on the battlefield is Fire Superiority.</u> <p>17</p>	<p>Care Under Fire</p> <ul style="list-style-type: none"> • Suppression of hostile fire will minimize the risk of both new casualties and additional injuries to the existing casualties. • The firepower contributed by medical personnel and the casualties themselves may be essential to tactical fire superiority. • <u>The best medicine on the battlefield is Fire Superiority.</u> 	<p>Sustaining a minor wound in a firefight does not mean that you should disengage from the fight.</p>





 <p>Moving Casualties in CUF</p> <ul style="list-style-type: none"> • If a casualty is able to move to cover, he should do so to avoid exposing others to enemy fire. • If casualty is unable to move and unresponsive, the casualty is likely beyond help and moving him while under fire may not be worth the risk. • If a casualty is responsive but can't move, a rescue plan should be devised if tactically feasible. • Next sequence of slides shows the hazards of moving casualties before hostile fire is suppressed. 	<p>Moving Casualties in CUF</p> <ul style="list-style-type: none"> • If a casualty is able to move to cover, he should do so to avoid exposing others to enemy fire. • If casualty is unable to move and unresponsive, the casualty is likely beyond help and moving him while under fire may not be worth the risk. • If a casualty is responsive but can't move, a rescue plan should be devised if tactically feasible. • Next sequence of slides shows the hazards of moving casualties before hostile fire is suppressed. 	<p>Unit members should be TRAINED to move themselves to point of first cover if able. Don't put two people at risk if it can be avoided.</p>
 <p>1) While under fire and without a weapon, Gunnery Sgt. Ryan P. Shane runs to Sgt. Lonnie Wells, to pull him to safety during USMC combat operations in Fallujah.</p>	<p>1) While under fire and without a weapon, Gunnery Sgt. Ryan P. Shane runs to Sgt. Lonnie Wells, to pull him to safety during USMC combat operations in Fallujah.</p>	<p>Here is a dramatic example of casualty movement during Care Under Fire. SGT Wells had sustained a fatal gunshot through his leg, which severed his femoral artery. From the moment he was hit, he was unable to conduct self-aid and did not respond to calls from his fellow Marines.</p>
 <p>2) Gunnery Sgt Shane attempts to pull a fatally wounded Sgt Wells to cover.</p>	<p>2) Gunnery Sgt Shane attempts to pull a fatally wounded Sgt Wells to cover.</p>	<p>Read text</p>






 <p>3) Another Marine comes to help.</p>	<p>3) Another Marine comes to help.</p>	<p>The third man on the left is Hospital Corpsman Joel Lambott, the platoon's Corpsman.</p>
 <p>4) Gunnery Sgt. Shane (left) is hit by enemy fire.</p>	<p>4) Gunnery Sgt. Shane (left) is hit by enemy fire.</p>	<p>Read text</p>
 <p>5) Gunnery Sgt. Shane, on ground at left, was hit by insurgent sniper fire.</p>	<p>5) Gunnery Sgt. Shane, on ground at left, was hit by insurgent sniper fire.</p>	<p>HM Lambott was struck in the heel just after GySgt Shane was injured. He provided life-saving care to GySgt Shane, directed his evacuation, and dressed his own injury. He stayed with the platoon and continued his duties during the operation. In this rescue attempt, the fate of the first casualty was unchanged and two additional casualties were sustained because effective enemy fire was not suppressed.</p>






 <p>Casualty Movement Rescue Plan</p> <p>If you must move a casualty under fire, consider the following:</p> <ul style="list-style-type: none"> - Location of nearest cover - How best to move him to the cover - The risk to the rescuers - Weight of casualty and rescuer - Distance to be covered - Use suppression fire and smoke to best advantage! - Recover casualty's weapons if possible <p style="text-align: right;">24</p>	<p>Casualty Movement Rescue Plan</p> <p>If you must move a casualty under fire, consider the following:</p> <ul style="list-style-type: none"> -Location of nearest cover -How best to move him to the cover -The risk to the rescuers -Weight of casualty and rescuer -Distance to be covered -Use suppression fire and smoke to best advantage! -Recover casualty's weapons if possible 	<p>DON'T FORGET COVERING FIRE! If possible, let the casualty know what you plan. Consider directing available vehicles to move into a position to provide cover.</p>
 <p>Types of Carries for Care Under Fire</p> <ul style="list-style-type: none"> • One-person drag with/without line • Two-person drag with/without line • SEAL Team Three Carry • Hawes Carry 	<p>Types of Carries for Care Under Fire</p> <ul style="list-style-type: none"> •One-person drag with/without line •Two-person drag with/without line •SEAL Team Three Carry •Hawes Carry 	<p>Read text</p>
 <p>One-Person Drag</p>  <p style="text-align: right;">26</p>	<p>One-Person Drag</p>	<p>Advantages: No equipment required Only one rescuer exposed to fire</p> <p>Disadvantages: Relatively slow Not optimal body position for dragging the casualty</p> <p>(Have other Instructors or students demonstrate)</p>






<p> Two-Person Drag</p> 	<p>Two-Person Drag</p>	<p>Advantage : Gets casualty to cover faster than with one-person drag</p> <p>Disadvantage: Exposes two rescuers to hostile fire instead of one</p> <p>(Have other Instructors or students demonstrate)</p>
<p> Video: Two-Person Drag</p> 	<p>Video: Two-Person Drag</p>	<p>Click on video to play.</p>
<p> Two-Person Drag Using Lines</p> 	<p>Two-Person Drag Using Lines</p>	<p>Advantages: Can shoot while dragging Faster than dragging without lines Faster movement of the casualty to cover</p> <p>Disadvantage: Exposes two rescuers to hostile fire instead of one</p>

 <p>SEAL Team Three Carry (1)</p> 	<p>SEAL Team Three Carry (1)</p>	<p>Advantages: May be useful in situations where drags do not work well Less painful for casualty than dragging</p> <p>Disadvantages: Exposes two rescuers to hostile fire. May be slower than dragging May be difficult in kit and with unconscious casualty.</p>
 <p>SEAL Team Three Carry (2)</p> 	<p>SEAL Team Three Carry (2)</p>	<p>Casualty's arms around shoulders of both rescuers Casualty uses arms to hold onto rescuers if able Rescuers hold casualty's arms around necks if casualty not able to Both rescuers grab casualty's web belt Lift and go</p>

 <p>Hawes Carry</p>  <p>32</p>	<p>Hawes Carry</p>	<p>Technique: Rescuer squats; casualty's arms around rescuer's neck; rescuer lifts with legs</p> <p>Advantages: One rescuer May be useful in situations where a drag is not a good option Works much better than outdated fireman's carry</p> <p>Disadvantages: Hard to accomplish with rescuer and/or casualty's kit in place Difficult when rescuer is small and casualty is large Often slower than dragging High profile for both rescuer and casualty</p>
 <p>Carries Practical</p>  <p>How <u>Not</u> to Do It</p> <p>33</p>	<p>Carries Practical</p> <p>How <u>NOT</u> to Do It.</p>	<p>This is a good example of how NOT to carry your casualty.</p> <p>For practical exercise: Break up into groups of 6 or less students per instructor. Use skill sheets in the TCCC curriculum that apply to each practical exercise. Practice all of the carries covered.</p>

 <p>Burn Prevention in CUF</p>  <ul style="list-style-type: none"> • Remove casualty from burning vehicles or structures ASAP and move to cover. • Stop burning with any non-flammable fluids readily accessible, by smothering, or by rolling on the ground. 	<p>Burn Prevention in CUF</p> <ul style="list-style-type: none"> • Remove casualty from burning vehicles or structures ASAP and move to cover. • Stop burning with any non-flammable fluids readily accessible, by smothering, or by rolling on the ground. 	<p>If flammable liquids like petroleum products cause a fire on the casualty's clothing that you can't put out, then you'll have to cut the burning garments off.</p>
 <p>Burn Prevention in CUF</p> <p>Wear fire-retardant Nomex gloves and uniform!</p>  <p>Right hand of burn casualty spared by fire-resistant glove Fire-Resistant Army Combat Shirt</p>	<p>Burn Prevention in CUF</p> <p>Wear fire-retardant Nomex gloves and uniform!</p>	<p>Flame-resistant clothing can protect you from burn injuries. Your unit needs these clothing items if you don't have them already.</p>
 <p>The Number One Medical Priority in CUF</p> <p>Early control of severe hemorrhage is critical.</p> <ul style="list-style-type: none"> - Extremity hemorrhage is the most frequent cause of preventable battlefield deaths. - Over 2500 deaths occurred in Vietnam secondary to hemorrhage from extremity wounds. - Injury to a major vessel can quickly lead to shock and death. - <i>Only life-threatening bleeding warrants intervention during Care Under Fire.</i> 	<p>The Number One Medical Priority in CUF</p> <p>Early control of severe hemorrhage is critical.</p> <ul style="list-style-type: none"> - Extremity hemorrhage is the frequent cause of preventable battlefield deaths. - Over 2500 deaths occurred in Vietnam secondary to hemorrhage from extremity wounds. - Injury to a major vessel can quickly lead to shock and death. - <i>Only life-threatening bleeding warrants intervention during Care Under Fire.</i> 	<p>If you can only do ONE thing for the casualty – stop him from bleeding to death. Do not treat minor bleeding during Care Under Fire.</p>

 <p>Question</p> <ul style="list-style-type: none"> • How long does it take to bleed to death from a complete femoral artery and vein disruption? • Answer: <ul style="list-style-type: none"> - Casualties with such an injury can bleed to death in <i>as little as 3 minutes</i>  <p>37</p>	<p>Question</p> <ul style="list-style-type: none"> • How long does it take to bleed to death from a complete femoral artery and vein disruption? • Answer: <ul style="list-style-type: none"> - Casualties with such an injury can bleed to death in <i>as little as 3 minutes</i> 	<p>10% of animals in lab studies died within 3 minutes without hemorrhage control measures.</p>
 <p>Femoral Artery Bleeding</p>  <p>38</p>	<p>Femoral Artery Bleeding</p>	<p>This is FEMORAL ARTERTY bleeding in a pig. It does not take long to die from this.</p>
 <p>Care Under Fire</p> <p>The need for immediate access to a tourniquet in such situations makes it clear that all personnel on combat missions should have a CoTCCC-recommended tourniquet readily available at a standard location on their battle gear and be trained in its use.</p> <ul style="list-style-type: none"> - Casualties should be able to easily and quickly reach their <u>own</u> tourniquet. 	<p>Care Under Fire</p> <p>The need for immediate access to a tourniquet in such situations makes it clear that all personnel on combat missions should have a CoTCCC-recommended tourniquet readily available at a standard location on their battle gear and be trained in its use.</p> <ul style="list-style-type: none"> - Casualties should be able to easily and quickly reach their <u>own</u> tourniquet. 	<p>DO NOT bury your tourniquet at the bottom of your pack.</p>

 <p>Care Under Fire</p> <p>Where a tourniquet can be applied, it is the <i>first</i> choice for control of life-threatening hemorrhage in Care Under Fire.</p>  <p>40</p>	<p>Care Under Fire</p> <p>Where a tourniquet can be applied, it is the <i>first</i> choice for control of life-threatening hemorrhage in Care Under Fire.</p>	<p>Forget about direct pressure, pressure dressings, and anything else if you have severe extremity bleeding in the Care Under Fire phase. Go directly to a tourniquet.</p>
 <p>A Preventable Death</p> <p>Did not have an effective tourniquet applied - bled to death from a leg wound</p>  <p>41</p>	<p>A Preventable Death</p> <p>Did not have an effective tourniquet applied - bled to death from a leg wound</p>	<p>The medic in this Army unit was killed in the battle in which this soldier was wounded. Others in the unit attempted to control the bleeding from this soldier's wound just below his left knee. These improvised tourniquets were ineffective, and the soldier bled to death. DON'T LET THIS HAPPEN TO YOUR BUDDIES!</p>
 <p>Tourniquet Application</p> <ul style="list-style-type: none"> • Apply without delay if indicated. • Both the casualty and the medic are in grave danger while a tourniquet is being applied in this phase – don't use tourniquets for wounds with only minor bleeding. • The decision regarding the relative risk of further injury versus that of bleeding to death must be made by the person rendering care. <p>41</p>	<p>Tourniquet Application</p> <ul style="list-style-type: none"> •Apply without delay if indicated. •Both the casualty and the medic are in grave danger while a tourniquet is being applied in this phase – don't use tourniquets for wounds with only minor bleeding. •The decision regarding the relative risk of further injury versus that of bleeding to death must be made by the person rendering care. 	<p>Read text</p>




Tourniquet Application

- Non-life-threatening bleeding should be **ignored** until the Tactical Field Care phase.
- Apply the tourniquet without removing the uniform – make sure it is clearly proximal to the bleeding site.
- Tighten until bleeding is controlled.
- *May need a second tourniquet applied just above the first to control bleeding.*
- *Don't put a tourniquet directly over the knee or elbow.*
- *Don't put a tourniquet directly over a holster or a cargo pocket that contains bulky items.*


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Here are some key points about applying a tourniquet.



Anatomy of a C-A-T™



















The Combat Application Tourniquet™ (C-A-T™) (Patent Pending) is a small and lightweight one-handed tourniquet that can completely occlude arterial blood flow in an extremity.









Anatomy of a C-A-T™









The Combat Application Tourniquet™ (C-A-T™) (Patent Pending) is a small and lightweight one-handed tourniquet that can completely occlude arterial blood flow in an extremity.









The C-A-T™ uses a Self-Adhering Band and a Friction Adaptor Buckle to fit a wide range of extremities combined with a one-handed windlass system. The windlass uses a free-moving internal band to provide true circumferential pressure to an extremity. The windlass is then locked in place; this requires only one hand, with the Windlass Clip™. The C-A-T™ also has a Hook-and-Loop Windlass Strap™ for further securing of the windlass during patient transport.







 <p>Combat Application Tourniquet™</p>  <p>The C-A-T™ is Delivered in Its One-Handed Configuration</p>	<p>Combat Application Tourniquet™</p> <p>The C-A-T™ is Delivered in Its One-Handed Configuration</p>	<p>In the one-handed configuration, the free-running end of the Self-Adhering Band™ is passed through the buckle forming a loop for the arm to pass through. This is the recommended carrying configuration.</p>
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p>Step 1: Insert the wounded extremity through the C-A-T™</p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p>Step 1: Insert the wounded extremity through the C-A-T™</p>	<p>Note that this application starts with the C-A-T™ in its one-handed configuration.</p>
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p>Step 2: Pull the Self-Adhering Band™ tight and securely fasten it back on itself.</p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p>Step 2: Pull the Self-Adhering Band™ tight and securely fasten it back on itself.</p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p>Step 3: Adhere the band around the arm. Do not adhere the band past the clip.</p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p>Step 3: Adhere the band around the arm. Do not adhere the band past the clip.</p>	







 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><i>Step 4: Twist the rod until the bleeding has stopped.</i></p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p><i>Step 4: Twist the rod until the bleeding has stopped.</i></p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><i>Step 5: Lock the rod in place in the Windlass Clip™.</i></p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p><i>Step 5: Lock the rod in place in the Windlass Clip™.</i></p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><i>Hemorrhage is now controlled.</i></p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p><i>Hemorrhage is now controlled.</i></p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><i>For added security, and always before moving a patient, proceed to secure the Windlass Rod™ with the Windlass Strap™.</i></p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p><i>For added security, and always before moving a patient, proceed to secure the Windlass Rod™ with the Windlass Strap™.</i></p>	<p>For small extremities, you will also secure the Self-Adhering Band™ under the Windlass Strap™.</p>





 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><i>Step 6:</i> Adhere the Self-Adhering Band™ Over the Rod and continue around the extremity as far as it will go.</p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p><i>Step 6:</i> Adhere the Self-Adhering Band™ Over the Rod and continue around the extremity as far as it will go.</p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><i>Step 7:</i> Secure the rod and the band with the Windlass Strap™. Grasp the strap, pull it tight, and adhere it to the opposite hook on the Windlass Clip™.</p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p><i>Step 7:</i> Secure the rod and the band with the Windlass Strap™. Grasp the strap, pull it tight, and adhere it to the opposite hook on the Windlass Clip™.</p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p>The casualty is now ready for transport.</p>	<p>C-A-T™ One-Handed Application to an Arm</p> <p>The casualty is now ready for transport.</p>	
 <p>C-A-T™ One-Handed Application to an Arm</p>  <p><small>Video courtesy: North American Rescare</small></p>	<p>C-A-T™ One-Handed Application to an Arm</p>	<p>Click to start video.</p>





 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><i>Step 1:</i> Route the Self-Adhering Band™ Around the leg. Pass the free-running end of the band through the inside slit of the friction adaptor buckle.</p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p><i>Step 1:</i> Route the Self-Adhering Band™ Around the leg. Pass the free-running end of the band through the inside slit of the friction adaptor buckle.</p>	
 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><i>Step 2:</i> Pass the band through the outside slit of the buckle.</p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p><i>Step 2:</i> Pass the band through the outside slit of the buckle.</p>	
 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><i>Step 3:</i> Pull the Self-Adhering Band™ tight and securely fasten the band back on itself.</p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p><i>Step 3:</i> Pull the Self-Adhering Band™ tight and securely fasten the band back on itself.</p>	
 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><i>Step 4:</i> Twist the rod until bright red bleeding has stopped.</p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p><i>Step 4:</i> Twist the rod until bright red bleeding has stopped.</p>	





 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><i>Step 5: Lock the rod in place in the Windlass Clip™.</i></p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p><i>Step 5: Lock the rod in place in the Windlass Clip™.</i></p>	
 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p>Hemorrhage is now controlled.</p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p>Hemorrhage is now controlled.</p>	
 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><i>Step 6: Secure the rod with the strap. Grasp the Windlass Strap™, pull it tight, and adhere it to the opposite hook on the Windlass Clip™.</i></p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p><i>Step 6: Secure the rod with the strap. Grasp the Windlass Strap™, pull it tight, and adhere it to the opposite hook on the Windlass Clip™.</i></p>	
 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p>The casualty is now ready for transport</p>	<p>C-A-T™ Two-Handed Application to a Leg</p> <p>The casualty is now ready for transport</p>	




 <p>C-A-T™ Two-Handed Application to a Leg</p>  <p><small>Video courtesy: North American Rescue</small></p>	<p>C-A-T™ Two-Handed Application to a Leg</p>	<p>Click to start video.</p>
 <p>Other Tourniquets</p>  <p><small>The SOF® Tactical Tourniquet (SOF®TT) by Tactical Medical Solutions, Inc.</small></p> <p><small>Photo courtesy: TMS, Inc.</small></p>	<p>Other Tourniquets</p> <p>The SOF® Tactical Tourniquet (SOF®TT) by Tactical Medical Solutions, Inc.</p>	<p>The SOF®TT is also recommended by ISR and the CoTCCC. It was found to be 100% effective in stopping arterial flow in arms and legs in laboratory testing. Anecdotal reports say the SOF®TT may be more effective than the C-A-T® in individuals with large legs. It is not fielded as widely as the C-A-T® at present, but feedback from medics regarding it's use has been good.</p> <p>(NOTE: Instructional slides for the SOF®TT may be found at the end of this presentation.)</p>
 <p>Other Tourniquets</p>  <p><small>Emergency and Military Tourniquet (EMT™) by Delfi Medical Innovations, Inc.</small></p> <p><small>Photo courtesy: WalTophic/Wikipedia</small></p>	<p>Other Tourniquets</p> <p>Emergency and Military Tourniquet (EMT™) by Delfi Medical Innovations, Inc.</p>	<p>The EMT from Delfi was found to be as effective as the C-A-T in testing at the ISR. It was found to be better than the C-A-T in reports from Military Treatment Facilities in theater. The EMT is a pneumatic device, however, and not well suited for carriage by combat medics because one fragment of shrapnel through it will render it useless.</p>






 <p>Impact of Tourniquet Use Kragh - Annals of Surgery 2009</p>  <ul style="list-style-type: none"> • Ibn Sina Hospital, Baghdad, 2006 • Tourniquets are <u>saving lives</u> on the battlefield • Better survival when tourniquets were applied BEFORE casualties went into shock • <u>31 lives</u> saved in this study by applying tourniquets <u>prehospital</u> rather than in the ED • Estimated 1000-2000 lives saved in war to date by tourniquets (data provided to Army Surgeon General) 	<p>Impact of Tourniquet Use Kragh - Annals of Surgery 2009</p> <ul style="list-style-type: none"> • Ibn Sina Hospital, Baghdad, 2006 • Tourniquets are <u>saving lives</u> on the battlefield • Better survival when tourniquets were applied BEFORE casualties went into shock • <u>31 lives</u> saved in this study by applying tourniquets <u>prehospital</u> rather than in the ED • Estimated 1000-2000 lives saved in war to date by tourniquets (data provided to Army Surgeon General) 	<p>Most important – apply tourniquets ASAP when they are needed. Survival improved if shock prevented.</p>
 <p>Safety of Tourniquet Use Kragh - Journal of Trauma 2008</p>  <ul style="list-style-type: none"> • Combat Support Hospital in Baghdad • 232 patients with tourniquets on 309 limbs • CAT was best field tourniquet • <u>No amputations caused by tourniquet use</u> • Approximately 3% transient nerve palsies 	<p>Safety of Tourniquet Use Kragh - Journal of Trauma 2008</p> <ul style="list-style-type: none"> • Combat Support Hospital in Baghdad • 232 patients with tourniquets on 309 limbs • CAT was best field tourniquet • <u>No</u> amputations caused by tourniquet use • Approximately 3% transient nerve palsies 	<p>Remember at the start of the GWOT, we were still losing casualties to extremity hemorrhage. We're doing much better now. This study documented 232 LIVES SAVED in this ONE hospital in a ONE-YEAR period. MINIMAL complications from tourniquet use.</p>
 <p>Examples of Extremity Wounds That Do NOT Need a Tourniquet</p>  <p>Use a tourniquet ONLY for <u>severe</u> bleeding!</p>	<p>Examples of Extremity Wounds That Do NOT Need a Tourniquet</p> <p>Use a tourniquet ONLY for <u>severe</u> bleeding!</p>	<p>Neither wound is life threatening - bleeding is minimal. A tourniquet should <u>not be used</u> on these two wounds or other wounds like them where the bleeding is not severe.</p>




 <p>Tourniquet Mistakes to Avoid!</p> <ul style="list-style-type: none"> • Not using one when you should • Using a tourniquet for minimal bleeding • Putting it on too proximally • Not taking it off when indicated during TFC • Taking it off when the casualty is in shock or has only a short transport time to the hospital • Not making it tight enough – the tourniquet should eliminate the distal pulse • Not using a second tourniquet if needed • <i>Waiting too long to put the tourniquet on</i> • <i>Periodically loosening the tourniquet to allow blood flow to the injured extremity</i> • <i>These lessons learned have been written in blood.</i> 	<p>Tourniquet Mistakes to Avoid!</p> <ul style="list-style-type: none"> • Not using one when you should • Using a tourniquet for minimal bleeding • Putting it on too proximally • Not taking it off when indicated during TFC • Taking it off when the casualty is in shock or has only a short transport time to the hospital • Not making it tight enough – the tourniquet should eliminate the distal pulse • Not using a second tourniquet if needed • Waiting too long to put the tourniquet on • Periodically loosening the tourniquet to allow blood flow to the injured extremity 	<p>These are common mistakes made by first responders applying tourniquets.</p>
 <p>Tourniquet Pain</p> <ul style="list-style-type: none"> • <i>Tourniquets HURT when applied effectively</i> • Does not necessarily indicate a mistake in application • Does not mean you should take it off! • Manage pain per TCCC Guidelines 	<p>Tourniquet Pain</p> <ul style="list-style-type: none"> • Tourniquets HURT when applied effectively • Does not necessarily indicate a mistake in application • Does not mean you should take it off! • Manage pain per TCCC Guidelines 	<p>It is expected that tourniquet application will cause some pain, but it will also save your casualty's life.</p>
 <p>Questions?</p>	<p>Questions?</p>	









 <p>Tourniquet Practical</p>  <p>34</p>	<p>Tourniquet Practical</p>	<p>For practicals: Break up into small groups About 6 or 7 students per instructor Use skill sheets in the TCCC curriculum that go with each practical</p>
 <p>Hemorrhage Control</p> <ul style="list-style-type: none"> • Some wounds are located in places where a tourniquet cannot be applied, such as: <ul style="list-style-type: none"> – Neck – Axilla (armpit) – Groin • The use of a hemostatic agent (e.g., Combat Gauze) is generally not tactically feasible in CUF because of the requirement to hold direct pressure for 3 minutes. <p>35</p>	<p>Hemorrhage Control</p> <ul style="list-style-type: none"> • Some wounds are located in places where a tourniquet cannot be applied, such as: <ul style="list-style-type: none"> – Neck – Axilla (armpit) – Groin • The use of a hemostatic agent (e.g., Combat Gauze) is generally not tactically feasible in CUF because of the requirement to hold direct pressure for 3 minutes. 	<p>BUT the casualty may get to cover and hold direct pressure over his wounds as part of self-aid.</p>
 <p>Airway – Will Cover in TFC</p> <p>No immediate management of the airway is anticipated while in the Care Under Fire phase.</p> <ul style="list-style-type: none"> – Don't take time to establish an airway while under fire. – Defer airway management until you have moved casualty to cover. – Combat deaths from compromised airways are relatively infrequent. – If casualty has no airway in the Care Under Fire phase, chances for survival are minimal. <p>36</p>	<p>Airway – Will Cover in TFC</p> <p>No immediate management of the airway is anticipated while in the Care Under Fire phase.</p> <ul style="list-style-type: none"> – Don't take time to establish an airway while under fire. – Defer airway management until you have moved casualty to cover. – Combat deaths from compromised airways are relatively infrequent. – If casualty has no airway in the Care Under Fire phase, chances for survival are minimal. 	<p>We will address airway in the Tactical Field Care phase.</p>









 <p>C-Spine Stabilization</p> <p>Penetrating head and neck injuries do not require C-spine stabilization</p> <ul style="list-style-type: none"> - Gunshot wounds (GSW), shrapnel - In penetrating trauma, the spinal cord is either already compromised or is in relatively less danger than would be the case with blunt trauma. <p>77</p>	<p>C-Spine Stabilization</p> <p>Penetrating head and neck injuries do not require C-spine stabilization</p> <ul style="list-style-type: none"> - Gunshot wounds (GSW), shrapnel - In penetrating trauma, the spinal cord is either already compromised or is in relatively less danger than would be the case with blunt trauma. 	<p>In studies from the Vietnam conflict, of those casualties with penetrating neck trauma, only 1.4% would have benefited from C-spine stabilization.</p> <p>C-spine stabilization takes 5-6 minutes even for experienced medical providers.</p> <p>This is too much time to spend in the Care Under Fire Phase on an intervention that is not proven to be necessary</p>
 <p>C-Spine Stabilization</p> <p>Blunt trauma is different!</p> <ul style="list-style-type: none"> - Neck or spine injuries due to falls, fast-rope injuries, or motor vehicle accidents may require C-spine stabilization. - Apply only if the danger of hostile fire does not constitute a greater threat.  <p>78</p>	<p>C-Spine Stabilization</p> <p>Blunt trauma is different!</p> <ul style="list-style-type: none"> - Neck or spine injuries due to falls, fast-rope injuries, or motor vehicle accidents may require C-spine stabilization. - Apply only if the danger of hostile fire does not constitute a greater threat. 	<p>Do not provide C-spine stabilization if the danger of hostile fire constitutes a greater threat in the judgment of the medic.</p>
 <p>Summary of Key Points</p> <ul style="list-style-type: none"> • Return fire and take cover! • Direct or expect casualty to remain engaged as a combatant if appropriate. • Direct casualty to move to cover if able. • Try to keep the casualty from sustaining additional wounds. • Get casualties out of burning vehicles or buildings. <p>79</p>	<p>Summary of Key Points</p> <ul style="list-style-type: none"> • Return fire and take cover! • Direct or expect casualty to remain engaged as a combatant if appropriate. • Direct casualty to move to cover if able. • Try to keep the casualty from sustaining additional wounds. • Get casualties out of burning vehicles or buildings. 	<p>Ask questions to cover key points</p>









 <p>Summary of Key Points</p> <ul style="list-style-type: none"> • Airway management is generally best deferred until the Tactical Field Care phase. • Stop life-threatening external hemorrhage if tactically feasible. <ul style="list-style-type: none"> – Use a tourniquet for hemorrhage that is anatomically amenable to tourniquet application. – Direct casualty to control hemorrhage by self-aid if able. <p>88</p>	<p>Summary of Key Points</p> <ul style="list-style-type: none"> • Airway management is generally best deferred until the Tactical Field Care phase. • Stop life-threatening external hemorrhage if tactically feasible. <ul style="list-style-type: none"> – Use a tourniquet for hemorrhage that is anatomically amenable to tourniquet application. – Direct casualty to control hemorrhage by self-aid if able. 	<p>Ask questions to emphasize</p>
 <p>Questions?</p>	<p>Questions?</p>	
 <p>Scenario Based Planning</p> <ul style="list-style-type: none"> • If the basic TCCC combat trauma management plan for Care Under Fire doesn't work for your specific tactical situation – <i>then it doesn't work.</i> • Scenario-based planning is critical for success. • Incorporate likely casualty scenarios into unit mission planning! • The following is one example. <p>82</p>	<p>Scenario Based Planning</p> <ul style="list-style-type: none"> • If the basic TCCC combat trauma management plan for Care Under Fire doesn't work for your specific tactical situation – <i>then it doesn't work.</i> • Scenario-based planning is critical for success. • Incorporate likely casualty scenarios into unit mission planning! • The following is one example. 	<p>The TCCC guidelines are not a rigid protocol. Nothing in combat is. Think on your feet!</p>

 <p>Convoy IED Scenario</p>  <p>83</p>	<p>Convoy IED Scenario</p>	<p>Let's take a scenario commonly encountered in Iraq and Afghanistan. Improvised Explosive Devices (IEDs) are a very common cause of injury in these two theaters.</p>
 <p>Convoy IED Scenario</p> <ul style="list-style-type: none"> Your element is in a five-vehicle convoy moving through a small Iraqi village. Command detonated IED explodes under second vehicle. Moderate sniper fire. Rest of the convoy is suppressing sniper fire. <p>84</p>	<p>Convoy IED Scenario</p> <ul style="list-style-type: none"> Your element is in a five-vehicle convoy moving through a small Iraqi village. Command detonated IED explodes under second vehicle. Moderate sniper fire. Rest of the convoy is suppressing sniper fire. 	<p>Read text in action sequence</p>
 <p>Convoy IED Scenario</p> <ul style="list-style-type: none"> You are a medic in the disabled vehicle. Person next to you has bilateral mid-thigh amputations. Heavy arterial bleeding from the left stump. Right stump has only mild oozing of blood. <p>85</p>	<p>Convoy IED Scenario</p> <ul style="list-style-type: none"> You are a medic in the disabled vehicle. Person next to you has bilateral mid-thigh amputations. Heavy arterial bleeding from the left stump. Right stump has only mild oozing of blood. 	<p>Read text in action sequence</p>
 <p>Convoy IED Scenario</p> <ul style="list-style-type: none"> Casualty is conscious and in moderate pain. Vehicle is not on fire and is right side up. You are uninjured and able to assist. <p>86</p>	<p>Convoy IED Scenario</p> <ul style="list-style-type: none"> Casualty is conscious and in moderate pain. Vehicle is not on fire and is right side up. You are uninjured and able to assist. 	<p>Read text in action sequence</p>

 <p>Convoy IED Scenario</p> <p>First decision:</p> <ul style="list-style-type: none"> • Return fire or treat casualty? <ul style="list-style-type: none"> – Treat immediate threat to life – Why? <ul style="list-style-type: none"> • Rest of convoy providing suppressive fire • Treatment is effective and QUICK • First action? <ul style="list-style-type: none"> – Tourniquet on stump with arterial bleed <p style="text-align: right;">87</p>	<p>Convoy IED Scenario</p> <p>First decision:</p> <ul style="list-style-type: none"> •Return fire or treat casualty? <ul style="list-style-type: none"> –Treat immediate threat to life –Why? <ul style="list-style-type: none"> •Rest of convoy providing suppressive fire •Treatment is effective and QUICK •First action? <ul style="list-style-type: none"> –Tourniquet on stump with arterial bleed 	<p>Read text in action sequence Ask individuals in audience to answer questions</p>
 <p>Convoy IED Scenario</p> <p>Next action?</p> <ul style="list-style-type: none"> • Tourniquet on second stump? <ul style="list-style-type: none"> – Not until Tactical Field Care Phase – Not bleeding right now <p>Next actions?</p> <ul style="list-style-type: none"> • Drag casualty out of vehicle and move to best cover • Return fire if needed • Communicate info to team leader <p style="text-align: right;">88</p>	<p>Convoy IED Scenario</p> <p>Next action?</p> <ul style="list-style-type: none"> •Tourniquet on second stump? <ul style="list-style-type: none"> –Not until Tactical Field Care Phase –Not bleeding right now <p>Next actions?</p> <ul style="list-style-type: none"> •Drag casualty out of vehicle and move to best cover •Return fire if needed •Communicate info to team leader 	<p>Read text in action sequence Ask individuals in audience to answer questions</p>
 <p>Questions?</p>	<p>Questions?</p>	<p>This is the end of Care Under Fire. The scenario will be continued in Tactical Field Care.</p>

 <p>SOF® Tactical Tourniquet</p> 	<p>SOF® Tactical Tourniquet</p>	<p>Some units use the SOF® Tactical Tourniquet. These slides will demonstrate its use.</p>
 <p>SOF®TT One-Handed Application to an Arm</p>  <p><i>Step 1: Open the tourniquet, exposing the loop of webbing. Grasp the running end of the webbing near the buckle, and slide the tourniquet over the injured extremity.</i></p>	<p>SOF®TT One-Handed Application to an Arm</p> <p><i>Step 1: Open the tourniquet, exposing the loop of webbing. Grasp the running end of the webbing near the buckle, and slide the tourniquet over the injured extremity.</i></p>	
 <p>SOF®TT One-Handed Application to an Arm</p>  <p><i>Step 2: Pull the webbing until the tourniquet is tight around the limb.</i></p>	<p>SOF®TT One-Handed Application to an Arm</p> <p><i>Step 2: Pull the webbing until the tourniquet is tight around the limb.</i></p>	
 <p>SOF®TT One-Handed Application to an Arm</p>  <p><i>Step 3: Twist the windlass until the bleeding stops.</i></p>	<p>SOF®TT One-Handed Application to an Arm</p> <p><i>Step 3: Twist the windlass until the bleeding stops.</i></p>	

 <p>SOF®TT One-Handed Application to an Arm</p>  <p><i>Step 4:</i> To secure the windlass, latch either of its notched ends into one of the triangular rings on the tourniquet base.</p> <p>54</p>	<p>SOF®TT One-Handed Application to an Arm</p> <p><i>Step 4:</i> To secure the windlass, latch either of its notched ends into one of the triangular rings on the tourniquet base.</p>	
 <p>SOF®TT One-Handed Application to an Arm</p>  <p><i>Step 5:</i> Tighten the safety screw to prevent accidental loosening of the tourniquet while moving the casualty. The casualty is now ready for transport.</p> <p>55</p>	<p>SOF®TT One-Handed Application to an Arm</p> <p><i>Step 5:</i> Tighten the safety screw to prevent accidental loosening of the tourniquet while moving the casualty. The casualty is now ready for transport.</p>	
 <p>SOF®TT Two-Handed Application to a Leg</p>  <p><i>Step 1:</i> Remove the webbing from the buckle.</p> <p>56</p>	<p>SOF®TT Two-Handed Application to a Leg</p> <p><i>Step 1:</i> Remove the webbing from the buckle.</p>	
 <p>SOF®TT Two-Handed Application to a Leg</p>  <p><i>Step 2:</i> Position the tourniquet base on the injured limb above the wound. Route the webbing around the limb.</p> <p>57</p>	<p>SOF®TT Two-Handed Application to a Leg</p> <p><i>Step 2:</i> Position the tourniquet base on the injured limb above the wound. Route the webbing around the limb.</p>	

 <p>SOF®TT Two-Handed Application to a Leg</p>  <p><i>Step 3:</i> Route the webbing through the buckle and pull until the tourniquet is tight.</p> <p>99</p>	<p>SOF®TT Two-Handed Application to a Leg</p> <p><i>Step 3:</i> Route the webbing through the buckle and pull until the tourniquet is tight.</p>	
 <p>SOF®TT Two-Handed Application to a Leg</p>  <p><i>Step 4:</i> Tighten the windlass until the bleeding stops.</p> <p>100</p>	<p>SOF®TT Two-Handed Application to a Leg</p> <p><i>Step 4:</i> Tighten the windlass until the bleeding stops.</p>	
 <p>SOF®TT Two-Handed Application to a Leg</p>  <p><i>Step 5:</i> To secure the windlass, lock either of its notched ends into one of the triangular rings on the tourniquet base.</p> <p>101</p>	<p>SOF®TT Two-Handed Application to a Leg</p> <p><i>Step 5:</i> To secure the windlass, lock either of its notched ends into one of the triangular rings on the tourniquet base.</p>	
 <p>SOF®TT Two-Handed Application to a Leg</p>  <p><i>Step 6:</i> Tighten the safety screw to prevent accidental loosening of the tourniquet while moving the casualty. The casualty is now ready for transport.</p> <p>101</p>	<p>SOF®TT Two-Handed Application to a Leg</p> <p><i>Step 6:</i> Tighten the safety screw to prevent accidental loosening of the tourniquet while moving the casualty. The casualty is now ready for transport.</p>	

i **Raid on Entebbe**

This is one of the most famous hostage situations in history.

Background information for Instructors (excerpt from Wikipedia article “Operation Thunderbolt”): **Operation Entebbe** was a counter-terrorist hostage-rescue mission carried out by the Special Forces of the Israel Defense Forces (IDF) at Entebbe Airport in Uganda on 4 July 1976. A week earlier, on 27 June, an Air France plane with 248 passengers was hijacked by Palestinian and German terrorists and flown to Entebbe, near Kampala, the capital of Uganda. Shortly after landing, all non-Israeli passengers, except one French citizen, were released. The IDF acted on intelligence provided by the Israeli intelligence agency Mossad. In the wake of the hijacking by members of the militant organizations Revolutionary Cells and the Popular Front for the Liberation of Palestine, along with the hijackers' threats to kill the hostages if their prisoner release demands were not met, the rescue operation was planned. These plans included preparation for armed resistance from Ugandan military troops. The operation took place at night, as Israeli transport planes carried 100 commandos over 2,500 miles (4,000 km) to Uganda for the rescue operation. The operation, which took a week of planning, lasted 90 minutes and 102 hostages were rescued. Five Israeli commandos were wounded and one, the commander, Lt. Col. Yonatan Netanyahu, was killed. All the hijackers, three hostages and 45 Ugandan soldiers were killed, and thirty Soviet-built MiG-17s and MiG-21s of Uganda's air force were destroyed. Ugandan army officers at a nearby hospital killed a fourth hostage. The rescue, named **Operation Thunderbolt**, is sometimes referred to retroactively as **Operation Jonathan** in memory of the unit's leader, Yonatan Netanyahu. He was the older brother of Benjamin Netanyahu, who served as the two-time Prime Minister of Israel from 1996 to 1999 and from 2009- the present. The operation is widely considered one of the greatest and daring Special Forces operations in history considering the high-risk nature of the commando raid, distance from home territory, and casualty and hostage rescue ratio.

ii **Ma'a lot Rescue Attempt**

Background information for Instructors (Excerpt from Wikipedia article “Ma'a lot Massacre”): The Ma'a lot massacre was a terrorist attack, which included a two-day hostage taking of 115 people, which ended in the deaths of over 25 hostages. It began when three armed Palestinian terrorists of the Democratic Front for the Liberation of Palestine entered Israel from Lebanon. Soon afterwards they attacked a van, killing two Israeli Arab women and entered an apartment building in the town of Ma'alot, where they killed a couple and their four-year-old son. From there, they headed for the Netiv Meir elementary school, where they took more than 115 people (including 105 children) hostage on 15 May 1974, in Ma'alot. The hostage-takers soon issued demands for the release of 23 Palestinian militants from Israeli prisons, or else they would kill the students.

On the second day of the standoff, a unit of the Golani Brigade stormed the building. During the takeover, the hostage-takers killed the children with grenades and automatic weapons. Ultimately, 25 hostages, including 22 children, were killed and 68 more were injured.