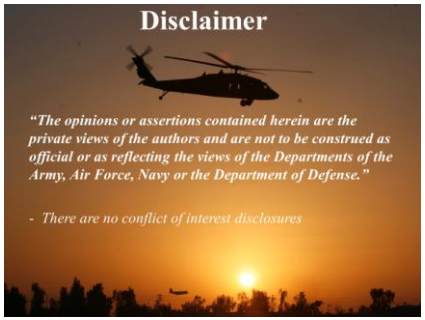
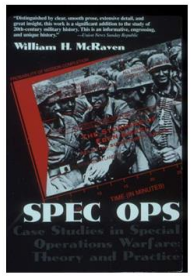
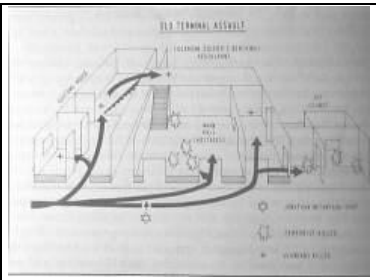
1.	Tactical Combat Casualty Care for Medical Personnel August 2018 (Based on TCCC-MP Guidelines 180801) **Care Under Fire**	**Tactical Combat Casualty Care for Medical Personnel August 2018** **(Based on TCCC-MP Guidelines 170801)** **Care Under Fire**	The first phase of TCCC is Care Under Fire.
2.		**Disclaimer** ***"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."*** - ***There are no conflict of interest disclosures***	Read the text.
3.	**Learning Objectives** • **DESCRIBE the role of firepower supremacy in the prevention of combat trauma.** • **IDENTIFY actions appropriate in caring for casualties in the Care Under Fire phase.** • **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 limb tourniquet to control life-threatening extremity bleeding during Care Under Fire.**	**Learning Objectives** • **DESCRIBE the role of firepower supremacy in the prevention of combat trauma.** • **IDENTIFY actions appropriate in caring for casualties in the Care Under Fire phase.** • **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 limb tourniquet to control life-threatening extremity bleeding during Care Under Fire.**	Read the text.

4.	 **Learning Objectives** • RECOGNIZE life-threatening bleeding in the tactical combat setting. • DEMONSTRATE the appropriate application of a CoTCCC-recommended limb tourniquet to an arm and a leg. • EXPLAIN why immobilization of the cervical spine is not a critical need in combat casualties with penetrating trauma to the neck. • DESCRIBE why spinal immobilization is not a critical need in combat casualties with only penetrating trauma.	**Learning Objectives** • **RECOGNIZE life-threatening bleeding in the tactical combat setting.** • **DEMONSTRATE the appropriate application of a CoTCCC-recommended limb tourniquet to an arm and a leg.** • **EXPLAIN why immobilization of the cervical spine is not a critical need in combat casualties with penetrating trauma to the neck.** • **DESCRIBE why spinal immobilization is not a critical need in combat casualties with only penetrating trauma.**	Read the text.
5.	 **Care Under Fire Guidelines** 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.	**Care Under Fire Guidelines** 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.	Read the guidelines.

6.	**Care Under Fire Guidelines** 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. Stop life-threatening external hemorrhage if tactically feasible: a. Direct casualty to control hemorrhage by self-aid if able. b. Use a CoTCCC-recommended limb tourniquet for hemorrhage that is anatomically amenable to tourniquet use. c. Apply the limb tourniquet over the uniform clearly proximal to the bleeding site(s). If the site of the life-threatening bleeding is not readily apparent, place the tourniquet "high and tight" (as proximal as possible) on the injured limb and move the casualty to cover.	**Care Under Fire Guidelines** 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. Stop life-threatening external hemorrhage if tactically feasible: a. Direct casualty to control hemorrhage by self-aid if able. b. Use a CoTCCC-recommended limb tourniquet for hemorrhage that is anatomically amenable to tourniquet use. c. Apply the limb tourniquet over the uniform clearly proximal to the bleeding site(s). If the site of the life-threatening bleeding is not readily apparent, place the tourniquet "high and tight" (as proximal as possible) on the injured limb and move the casualty to cover.	Read the guidelines.
7.	**Care Under Fire Guidelines** 7. Airway management is generally best deferred until the Tactical Field Care phase. 	**Care Under Fire Guidelines** 7. Airway management is generally best deferred until the Tactical Field Care phase.	Read the guideline.
8.	**Care Under Fire** • 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:	**Care Under Fire** •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:	In the hospital, the casualty **IS** the mission. In TCCC, you have the casualty **AND** the mission.

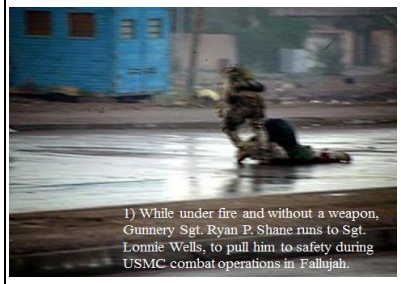
9.		SPEC OPS Case Studies in Special Operations Warfare Theory and Practice	Let's examine a scenario from this book by ADM McRaven. The scenarios in this book are all Special Ops, but the PRINCIPLES discussed apply to all combat units.
10.	**Raid on Entebbe** ***by ADM Bill McRaven*** • 27 June 1976 • 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	**Raid on Entebbe** ***by ADM Bill McRaven*** • 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	This is one of the most famous hostage situations in history.[i]
11.	**Raid on Entebbe** ***by ADM Bill McRaven*** Rescue 4 July 1976 • Exit from C-130 in a Mercedes and 2 Land Rovers to mimic the mode of travel of Idi Amin – the Ugandan dictator at the time. • Israeli commandos were dressed as Ugandan soldiers. • Drove up to the terminal - shot the Ugandan sentry. • Assaulted the terminal through 3 doors.	**Raid on Entebbe** ***by ADM Bill McRaven*** Rescue 4 July 1976 • Exit from C-130 in a Mercedes and 2 Land Rovers to mimic the mode of travel of Idi Amin – the Ugandan dictator at the time. • Israeli commandos were dressed as Ugandan soldiers. • Drove up to the terminal - shot the Ugandan sentry. • Assaulted the terminal through 3 doors.	The tactics used were ingenious: DECEPTION, SURPRISE, and VIOLENCE.

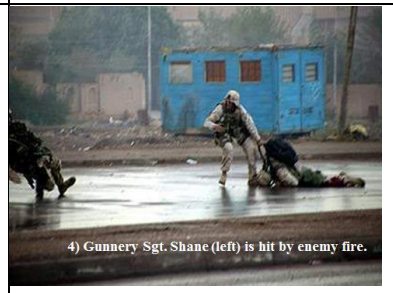
12.			Here's what the layout looked like. Black arrows show the entry paths of the Israeli commandos.
13.	**Raid on Entebbe** ***ADM Bill McRaven*** • **LTC Yoni Netanyahu – the ground commander – shot in the chest at the beginning of the assault** • **What should the medic do?** **– Disengage from the assault?** **– Start an IV?** **– Immediate needle decompression of chest?** 	**Raid on Entebbe** ***ADM Bill McRaven*** • LTC Netanyahu – the ground commander – shot in chest at the beginning of the assault • What should the medic do? –Disengage from the assault? –Start an IV? –Immediate needle decompression of chest?	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.
14.	**Raid on Entebbe** ***by ADM Bill McRaven*** ***As previously ordered, the three assault elements disregarded Netanyahu and stormed the building."*** ***"At this point in the operation, there wasn't time to attend to the wounded."***	**Raid on Entebbe** ***by ADM Bill McRaven*** *"As previously ordered, the three assault elements disregarded Netanyahu and stormed the building."* *"At this point in the operation, there wasn't time to attend to the wounded."*	NO medical care was rendered at this point. Israeli commandoes had to establish control of the tactical situation first.

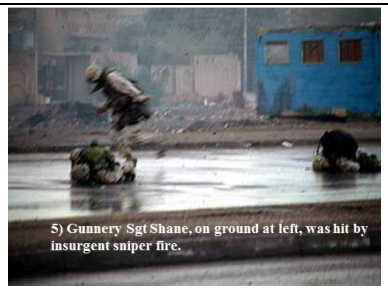
15.	**Do seconds really matter in combat?**	Do seconds really matter in combat?	LTC Netanyahu died from his wounds. The assault phase of the operation took 90 seconds. Did the 90-second treatment delay affect his chances of survival? Probably not. Would a 90-second delay in continuing the assault phase of the operation have made a difference? Absolutely.
16.	**Ma'a lot Rescue Attempt** ***by ADM Bill McRaven*** • 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.	**Ma'a lot Rescue Attempt** ***by ADM Bill McRaven*** • 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.	Look what even a momentary delay can mean to a hostage rescue operation OR OTHER TACTICAL ENGAGEMENTS.[ii]
17.	**Recent Feedback from a TCCC Student** **"I have never even heard of the Raid on Entebbe. Why do we need to learn about military history?"**	**Recent Feedback from a TCCC Student** "I have never even heard of the Raid on Entebbe. Why do we need to learn about military history?"	Read the text.

18.	**History's Lesson** • There are only two times that you can plan for what to do in a tactical casualty situation – – Before it happens or – After it happens	**History's Lesson** • **There are only two times that you can plan for what to do in a tactical casualty situation –** **– Before it happens** **or** **– After it happens**	It's better to be prepared ahead of time, and we do that by studying lessons we have learned in the past.
19.	**SEAL Hostage Rescue Mission – Afghanistan 2012** • **Quick-reaction hostage rescue** • **Helicopter insert** • **4-hour patrol to target** • **Point man shot in the head on building entry** • **Do you stop and treat the casualty?** • **Or do you rescue the hostage and neutralize the terrorists first?**	**SEAL Hostage Rescue Mission – Afghanistan 2012** • Quick-reaction hostage rescue • Helicopter insert • 4-hour patrol to target • Point man shot in the head on building entry • Do you stop and treat the casualty? • Or do you rescue the hostage and neutralize the terrorists first?	Read the text. The questions in the last two bullets here is better decided **BEFORE** the op than in the after-action analysis.
20.	**SEAL Hostage Rescue – Afghanistan 2012** • **Second assaulter killed one hostile** • **Secured the hostage (an American physician)** • **Held a second hostile by the throat until he could be neutralized by another team member** • **Room cleared - hostage passed off** • **THEN the second assaulter, a corpsman, began to treat the casualty**	**SEAL Hostage Rescue – Afghanistan 2012** • Second assaulter killed one hostile • Secured the hostage (an American physician) • Held a second hostile by the throat until he could be neutralized by another team member • Room cleared - hostage passed off • THEN the second assaulter, a corpsman, began to treat the casualty	Read the text. This is Care Under Fire. The second assaulter knew to address the tactical situation first, and then see to the casualty.

21.	**SCPO Ed Byers – The Second Assaulter** 	**SCPO Ed Byers –** **The Second Assaulter**	The second assaulter in this real-life scenario was SCPO Ed Byers. He was awarded the Congressional Medal of Honor for his actions.
22.	**The Tactical Imperative:** ***Senior SOF Leader Quote*** **"I watched with tremendous pain as the (*nation redacted*) failed in a mission because they stopped mid-assault to care for one of their wounded. It ended up costing them three more lives and a failed rescue attempt. We should never forget that you have to secure the target quickly so you don't lose more lives and you can then save the ones that are injured."** 21	**The Tactical Imperative:** ***Senior SOF Leader Quote*** "I watched with tremendous pain as the (*nation redacted*) failed in a mission because they stopped mid-assault to care for one of their wounded. It ended up costing them three more lives and a failed rescue attempt. We should never forget that you have to secure the target quickly so you don't lose more lives and you can then save the ones that are injured."	Read the text.
23.	**Care Under Fire** • **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. 	**Care Under Fire** • 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.	Not every casualty scenario is a hostage rescue, but these basic principles apply. It is imperative to get your casualty "Off the X" and behind cover if you can.

24.	**Care Under Fire** • 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. • **The best medicine on the battlefield is Fire Superiority.**	**Care Under Fire** • 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. • **The best medicine on the battlefield is Fire Superiority.**	Sustaining a minor wound in a firefight does not mean that you should disengage from the fight.
25.	**Moving Casualties in CUF** • 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. • The next sequence of slides shows the hazards of moving casualties before hostile fire is suppressed.	**Moving Casualties in CUF** • 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. • The next sequence of slides shows the hazards of moving casualties before hostile fire is suppressed.	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.
26.	 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.	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.	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.

27.		2) Gunnery Sgt Shane attempts to pull a fatally wounded Sgt Wells to cover.	Read the text.
28.		3) Another man comes to help.	The third man on the left is Hospital Corpsman Joel Lambott, the platoon's Corpsman.
29.		4) Gunnery Sgt. Shane (left) is hit by enemy fire.	Read the text.

30.		5) Gunnery Sgt Shane, on ground at left, was hit by insurgent sniper fire.	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.
31.	**Casualty Movement Rescue Plan** If you must move a casualty under fire, consider the following: – 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	**Casualty Movement Rescue Plan** If you must move a casualty under fire, consider the following: –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	**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.
32.	**C-Spine Stabilization** **Penetrating head and neck injuries do not require C-spine stabilization** – 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.	**C-Spine Stabilization** **Penetrating head and neck injuries do not require C-spine stabilization** – 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.	In studies from the Vietnam conflict, of those casualties with penetrating neck trauma, only 1.4% would have benefited from C-spine stabilization. C-spine stabilization takes 5-6 minutes even for experienced medical providers. This is too much time to spend in Care Under Fire on an intervention that is not proven to be necessary.

33.	**C-Spine Stabilization** **Blunt trauma is different!** – Neck or spine injuries due to falls, fast-roping injuries, or motor vehicle accidents may require C-spine stabilization. – Apply only if the danger of hostile fire does not constitute a greater threat. 	**C-Spine Stabilization** **Blunt trauma is different!** – **Neck or spine injuries due to falls, fast-roping injuries, or motor vehicle accidents may require C-spine stabilization.** – Apply only if the danger of hostile fire does not constitute a greater threat.	Do not provide C-spine stabilization if the danger of hostile fire constitutes a greater threat in the judgment of the medic.
34.	**Types of Carries for Care Under Fire** • One-person drag with/without line • Two-person drag with/without line • SEAL Team Three Carry • Hawes Carry 	**Types of Carries for Care Under Fire** • One-person drag with/without line • Two-person drag with/without line • SEAL Team Three Carry • Hawes Carry	Read the text.
35.	**One-Person Drag** 	**One-Person Drag**	Advantages: No equipment required Only one rescuer exposed to fire Disadvantages: Relatively slow Not optimal body position for dragging the casualty (Have other Instructors or students demonstrate)

36.	Two-Person Drag 	**Two-Person Drag**	Advantage: Gets casualty to cover faster than with one-person drag Disadvantage: Exposes two rescuers to hostile fire instead of one (Have other Instructors or students demonstrate)
37.	Video: Two-Person Drag 	**Video: Two-Person Drag** Courtesy 75th Ranger Regiment	Click on the photo to play the video.
38.	Two-Person Drag Using Lines 	**Two-Person Drag Using Lines**	Advantages: Can shoot while dragging Faster than dragging without lines Faster movement of the casualty to cover Disadvantage: Exposes two rescuers to hostile fire instead of one

39.	**SEAL Team Three Carry (1)**  Also called the Shoulder-Belt carry.	**SEAL Team Three Carry (1)** Also called the Shoulder-Belt carry.	Advantages: May be useful in situations where drags do not work well Less painful for casualty than dragging Disadvantages: Exposes two rescuers to hostile fire. May be slower than dragging May be difficult in kit and with an unconscious casualty
40.	**SEAL Team Three Carry (2)**  Also called the Shoulder-Belt carry.	**SEAL Team Three Carry (2)** Also called the Shoulder-Belt carry.	The casualty's arms are wrapped around the shoulders of both rescuers. The casualty holds onto the rescuers if he's able to. The rescuers will have to hold the casualty's arms around their necks if the casualty can't. Both rescuers grab the casualty's web belt in back. Lift and go.
41.	**Hawes Carry**  Also called the Modified Firemen's carry or Pack Strap Carry.	**Hawes Carry** Also called the Modified Firemen's carry or Pack Strap Carry.	Technique: The rescuer squats; the casualty's arms are wrapped around the rescuer's neck and the rescuer holds one arm locked down under the other; the rescuer lifts with his legs. Advantages: Only one rescuer is exposed to hostile fire. May be useful in situations where a drag is not a good option. Works much better than the fireman's carry. Disadvantages: Hard to accomplish with rescuer's or casualty's kit in place. Difficult when the rescuer is small, and the casualty is large. Often slower than dragging. High profile for both rescuer and casualty.

42.	**Carries Practical**  How Not to Do It	**Carries Practical** How NOT to Do It.	This is a good example of how NOT to carry your casualty. For the practical exercise: Break up into groups of 6 or fewer students per instructor. Practice all the carries covered.
43.	**Burn Prevention in CUF**  • 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.	**Burn Prevention in CUF** • Remove the 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.	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.
44.	**Burn Prevention in CUF** Wear fire-retardant Nomex gloves and uniform!  Right hand of burn casualty spared by fire-resistant glove  Fire-Resistant Army Combat Shirt	**Burn Prevention in CUF** Wear fire-retardant Nomex gloves and uniform!	Flame-resistant clothing can protect you from burn injuries. Your unit should acquire these clothing items if you don't have them already.

45.	**The Number One Medical Priority in CUF** **Early control of severe hemorrhage is critical.** – **In the past, extremity hemorrhage was 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. – ***Only life-threatening bleeding warrants intervention during Care Under Fire.***	**The Number One Medical Priority in CUF** **Early control of severe hemorrhage is critical.** – **In the past, extremity hemorrhage was 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. – ***Only life-threatening bleeding warrants intervention during Care Under Fire.***	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.
46.	**When is bleeding life-threatening?**  1. There is pulsing or steady bleeding from the wound.	**When is bleeding life-threatening?** 1. There is pulsing or steady bleeding from the wound.	Read the text.
47.	**When is bleeding life-threatening?**  2. Blood is pooling on the ground.	**When is bleeding life-threatening?** 2. Blood is pooling on the ground.	Read the text.

48.	**When is bleeding life-threatening?**  3. The overlying clothes are soaked with blood.	**When is bleeding life-threatening?** 3. The overlying clothes are soaked with blood.	Read the text.
49.	**When is bleeding life-threatening?**  4. Bandages or makeshift bandages used to cover the wound are ineffective and steadily becoming soaked with blood.	**When is bleeding life-threatening?** 4. Bandages or makeshift bandages used to cover the wound are ineffective and steadily becoming soaked with blood.	Read the text.
50.	**When is bleeding life-threatening?**  5. There is a traumatic amputation of an arm or leg.	**When is bleeding life-threatening?** 5. There is a traumatic amputation of an arm or leg.	Read the text.

51.	**When is bleeding life-threatening?**  6. There was prior bleeding, and the patient is now in shock (unconscious, confused, pale).	**When is bleeding life-threatening?** 6. There was prior bleeding, and the patient is now in shock (unconscious, confused, pale).	Read the text.
52.	**Question** • How long does it take to bleed to death from a complete femoral artery and vein disruption? • Answer: – Casualties with such an injury can bleed to death in ***as little as 3 minutes*** 	**Question** • How long does it take to bleed to death from a complete femoral artery and vein disruption? • Answer: – Casualties with such an injury can bleed to death in ***as little as 3 minutes***	10% of animals in lab studies died within 3 minutes without hemorrhage control measures.
53.	**Femoral Artery Bleeding** 	**Femoral Artery Bleeding**	This is FEMORAL ARTERTY bleeding in a pig. It does not take long to die from this. Click on the photo to play the video.

54.	**Care Under Fire** 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 limb tourniquet readily available at a standard location on their battle gear, and be trained in its use. - Casualties should be able to easily and quickly reach their ***own*** tourniquets.	**Care Under Fire** **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 limb tourniquet readily available at a standard location on their battle gear and be trained in its use.** **- Casualties should be able to easily and quickly reach their ***own*** tourniquet.**	Read the text. DO NOT bury your tourniquet at the bottom of your pack.
55.	**Care Under Fire** Where a tourniquet can be applied, it is the ***first*** choice for control of life-threatening hemorrhage in Care Under Fire. 	**Care Under Fire** Where a tourniquet can be applied, it is the ***first*** choice for control of life-threatening hemorrhage in Care Under Fire.	If you have severe extremity bleeding in Care Under Fire, forget about direct pressure, pressure dressings, or anything else. Go directly to a tourniquet.
56.	**A Preventable Death** Did not have an effective tourniquet applied - bled to death from a leg wound 	**A Preventable Death** Did not have an effective tourniquet applied - bled to death from a leg wound	The medic in this casualty's unit was killed in the battle in which this casualty 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!

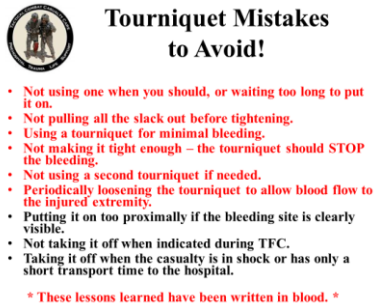
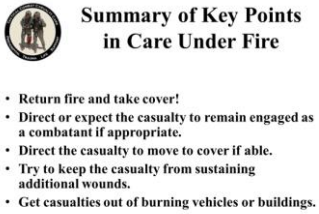
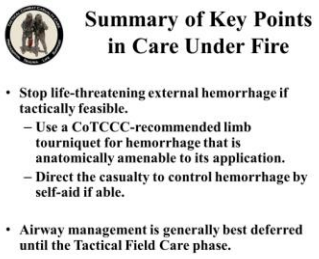
57.	**Tourniquet Application** • Apply without delay if indicated. • Both the casualty and the medic are in grave danger while a tourniquet is being applied in this phase – don't use tourniquets for wounds with only minor bleeding. • The decision regarding the relative risk of further injury versus that of bleeding to death must be made by the person rendering care.	**Limb Tourniquet Application** • 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.	Read the text.
58.	**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. • **If you are uncertain about exactly where the major bleeding site is on the extremity (night operations, multiple wounds), apply the tourniquet "high and tight" (as proximal as possible) on the arm or leg.** 	**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. • **If you are not sure exactly where the major bleeding site is on the extremity (night operations, multiple wounds), apply the tourniquet "high and tight" (as proximal as possible) on the arm or leg.**	Read the text.
59.	**Hemorrhage Control in Care Under Fire - Video** 	• **Hemorrhage Control in Care Under Fire - Video**	Click on the photo to play the video.

60.	**Hemorrhage Control Notes** • The video shows bandages and pressure dressings being applied or replaced during Care Under Fire. Tourniquets are the only CoTCCC-recommended hemostatic intervention in the Care Under Fire phase of care. • The video mentions the use of ketamine to control tourniquet pain. This is an good medication choice, but analgesia should not be undertaken until the Tactical Field Care phase. *Comments on the Video from the CoTCCC Staff*	**Hemorrhage Control Notes** • The video shows bandages and pressure dressings being applied or replaced during Care Under Fire. Tourniquets are the only CoTCCC-recommended hemostatic intervention in Care Under Fire. • The video mentions the use of ketamine to control tourniquet pain. This is a good medication choice, but analgesia should not be undertaken until Tactical Field Care. ***Comments on the Video from the CoTCCC Staff***	Read the text.
61.	**CoTCCC-Recommended Tourniquets** • Combat Application Tourniquet C.A.T. • Special Operations Forces Tourniquet – Tactical SOFT-T • Emergency and Military Tourniquet (EMT) * The EMT is an excellent tourniquet and is recommended by the CoTCCC for use in evacuation platforms and medical treatment facilities, but not for carriage by medics on the battlefield at this point.	**CoTCCC-Recommended Tourniquets** Combat Application Tourniquet – C.A.T. Special Operations Forces Tourniquet – Tactical SOFT-T Emergency and Military Tourniquet (EMT) * The EMT is an excellent tourniquet and is recommended by the CoTCCC for use in evacuation platforms and medical treatment facilities, but not for carriage by medics on the battlefield at this point.	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 significantly more expensive.
62.	**C.A.T. Video 1**  **Buddy-Applied to Arm: Looped**	**C.A.T. Video 1** **Buddy-Applied to Arm: Looped**	Click on the photo to play the video.

63.	C.A.T. Video 2  Buddy-Applied to Leg: Routed	**C.A.T. Video 2** **Buddy-Applied to Leg: Routed**	Click on the photo to play the video.
64.	C.A.T. Video 3  Self-Applied to Arm: Looped	**C.A.T. Video 3** **Self-Applied to Arm: Looped**	Click on the photo to play the video.
65.	C.A.T. Video 4  Self-Applied to Leg: Routed	**C.A.T. Video 4** **Self-Applied to Leg: Routed**	Click on the photo to play the video.
66.	SOFT-T Video 1  Buddy-Applied to Arm: Looped	**SOFT-T Video 1** **Buddy-Applied to Arm: Looped**	Click on the photo to play the video.

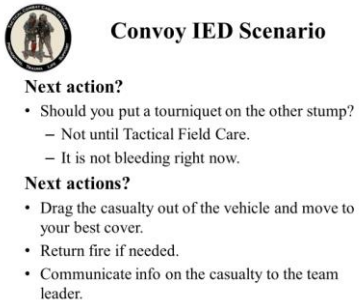
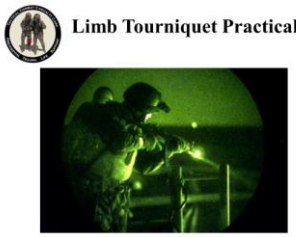
67.	SOFT-T Video 2  Buddy-Applied to Leg: Routed	**SOFT-T Video 2** **Buddy-Applied to Leg: Routed**	Click on the photo to play the video.
68.	SOFT-T Video 3  Self-Applied to Arm: Looped	**SOFT-T Video 3** **Self-Applied to Arm: Looped**	Click on the photo to play the video.
69.	SOFT-T Video 4  Self-Applied to Leg: Routed	**SOFT-T Video 4**	Click on the photo to play the video.

70.	**Tourniquet Use Notes** • Checking a distal pulse and marking time of application are not recommended during Care Under Fire. Simply tighten the tourniquet until the bleeding stops. Add a second tourniquet if necessary to control bleeding. • Tourniquets should be applied at the "High-and-Tight" location only when the bleeding site cannot be clearly identified. Otherwise, they should be placed 2-3 inches above the bleeding site. *Comments on the Videos from the CoTCCC Staff*	**Tourniquet Use Notes** • Checking a distal pulse and marking time of application are not recommended during Care Under Fire. Simply tighten the tourniquet until the bleeding stops. Add a second tourniquet if necessary to control bleeding. • Tourniquets should be applied at the "High-and-Tight" location only when the bleeding site cannot be clearly identified. Otherwise, they should be placed 2-3 inches above the bleeding site. *Comments on the Videos from the CoTCCC Staff*	Read the text.
71.	**Impact of Tourniquet Use** **Kragh - Annals of Surgery 2009**  • Ibn Sina Hospital, Baghdad, 2006 • Tourniquets are saving lives on the battlefield. • **Survival was better when tourniquets were applied BEFORE casualties went into shock.** • 31 lives were saved in this study by applying tourniquets in prehospital settings rather than in the Emergency Department. • An **estimated 1000-2000 lives had been saved by tourniquets as of 2008 (data provided to Army Surgeon General via an internal communication)**	**Impact of Tourniquet Use** **Kragh - Annals of Surgery 2009** • Ibn Sina Hospital, Baghdad, 2006 • Tourniquets are saving lives on the battlefield. • **Survival was better when tourniquets were applied BEFORE casualties went into shock.** • 31 lives were saved in this study by applying tourniquets in prehospital settings rather than in the Emergency Department. • **An estimated 1000-2000 lives had been saved by tourniquets as of 2008 (data provided to Army Surgeon General via an internal communication)**	Most importantly – apply tourniquets **ASAP** when they are needed. Survival is improved if shock is ***prevented.***
72.	**Safety of Tourniquet Use** **Kragh - Journal of Trauma 2008**  • Combat Support Hospital in Baghdad • 232 patients with tourniquets on 309 limbs • CAT was the best field tourniquet • No amputations were caused by tourniquet use • Approximately 3% had transient nerve palsies	**Safety of Tourniquet Use** **Kragh - Journal of Trauma 2008** • Combat Support Hospital in Baghdad • 232 patients with tourniquets on 309 limbs • CAT was the best field tourniquet • No amputations were caused by tourniquet use • Approximately 3% had transient nerve palsies	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. There were MINIMAL complications from tourniquet use.

73.		**Tourniquet Mistakes to Avoid!** • Not using one when you should or waiting too long to put it on. • Not pulling all the slack out before tightening. • Using a tourniquet for minimal bleeding. • Not making it tight enough – the tourniquet should STOP the bleeding. • Not using a second tourniquet if needed. • Periodically loosening the tourniquet to allow blood flow to the injured extremity. • Putting it on too proximally if the bleeding site is clearly visible. • 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. *** These lessons learned have been written in blood. ***	These are common mistakes made by first responders applying tourniquets.
74.		**Summary of Key Points in Care Under Fire** • Return fire and take cover! • Direct or expect the casualty to remain engaged as a combatant if appropriate. • Direct the casualty to move to cover if able. • Try to keep the casualty from sustaining additional wounds. • Get casualties out of burning vehicles or buildings.	Ask questions to cover key points.
75.		**Summary of Key Points in Care Under Fire** • Stop life-threatening external hemorrhage if tactically feasible. – Use a CoTCCC-recommended limb tourniquet for hemorrhage that is anatomically amenable to its application. – Direct the casualty to control hemorrhage by self-aid if able. • Airway management is generally best deferred until the Tactical Field Care phase.	Ask questions to cover key points.

76.		**Questions?**	
77.	**Convoy IED Scenario** 	**Convoy IED Scenario**	Let's consider a scenario commonly encountered in Iraq and Afghanistan. Improvised Explosive Devices (IEDs) are a very common cause of injury in these two theaters.
78.	**Convoy IED Scenario** • Your element is in a five-vehicle convoy moving through a small Iraqi village. • A command-detonated IED explodes under the second vehicle. • There is incoming sniper fire. • The rest of the convoy is suppressing the sniper fire.	**Convoy IED Scenario** • Your element is in a five-vehicle convoy moving through a small Iraqi village. • A command-detonated IED explodes under the second vehicle. • There is incoming sniper fire. • The rest of the convoy is suppressing sniper fire.	Read the text in the action sequence.

79.	**Convoy IED Scenario** • You are a medic in the disabled vehicle. • The person next to you has sustained bilateral mid-thigh amputations. • There is heavy arterial bleeding from the left stump. • The right stump exhibits only mild oozing of blood.	**Convoy IED Scenario** • You are a medic in the disabled vehicle. • The person next to you has sustained bilateral mid-thigh amputations. • There is heavy arterial bleeding from the left stump. • The right stump exhibits only mild oozing of blood.	Read the text in the action sequence.
80.	**Convoy IED Scenario** • The casualty is conscious and in moderate pain. • Your vehicle is not on fire, and is right side up. • You are uninjured and able to assist.	**Convoy IED Scenario** • The casualty is conscious and in moderate pain. • Your vehicle is not on fire, and is right side up. • You are uninjured and able to assist.	Read the text in the action sequence.
81.	**Convoy IED Scenario** **First decision**: • Return fire or treat the casualty? – Treat the immediate threat to life. – Why? • The rest of convoy is providing suppressive fire. • The treatment is effective and QUICK. • First action? – You put a tourniquet on the stump with the arterial bleeding.	**Convoy IED Scenario** **First decision**: •Return fire or treat the casualty? –Treat the immediate threat to life. –Why? •The rest of the convoy is providing suppressive fire. •The treatment is effective and QUICK. •First action? –You put a tourniquet on the stump with arterial bleeding.	Read the text in the action sequence. Ask individuals in the audience to answer the questions.

82.		**Convoy IED Scenario** **Next action?** •Should you put a tourniquet on the other stump? –Not until Tactical Field Care. –It is not bleeding right now. **Next actions?** •Drag the casualty out of the vehicle and move to your best cover. •Return fire if needed. •Communicate info on the casualty to the team leader.	Read the text in the action sequence. Ask individuals in the audience to answer the questions.
83.		**Questions?**	The scenario will be continued in Tactical Field Care.
84.		**Limb Tourniquet Practical**	For practicals: Break up into small groups of 6 or fewer students per instructor. Use the skill sheet for the tourniquet you are teaching.

[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 Thunderbolt** 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.