



# **SPEAKER NOTES**

# **MODULE 09 – HEMORRHAGE CONTROL IN TFC**

# SLIDE 1 – TITLE SLIDE

Good morning/afternoon, my name is (insert here) and I will be your lead trainer for Module 9:

Circulation/Hemorrhage control in the Tactical Field Care (TFC) environment.

Before we get started are there any questions?



# SLIDE 2 – ROLE 1 CARE

Tactical Combat Casualty Care is broken up into four roles of care. The most basic is taught to All Service Members (ASM), which is designed to instruct in the absolute basics of hemorrhage control and to recognize more serious injuries.

You are in the Combat Lifesaver (CLS) role. This teaches you more advanced care to treat the most common causes of death on the battlefield, and to recognize, prevent, and communicate with medical personnel the life-threatening complications of these injuries.



The Combat Medic/Corpsman (CMC) role includes much more advanced and invasive care requiring significantly more medical knowledge and skills.

Finally, the last role, Combat Paramedic/Provider (CPP) is for Combat paramedics and advanced providers, to provide the most sophisticated care to keep our wounded warriors alive and get them to definitive care. Your role as a CLS is to treat the most common causes of death on the battlefield, which are massive hemorrhage and airway/respiratory problems. Also, you are given the skills to prevent complications and treat other associated but not immediately life-threatening injuries.





# SLIDE 3 – TLO/ELO

The TCCC-CLS course is built on a foundation of learning objectives. These objectives lay out the basic structure of the course and describe the knowledge and skills you are expected to acquire by the end of the course.

The module has **one Terminal Learning Objective**, or TLO. The TLO is supported by a series of Enabling Learning Objectives, or ELOs. This graphic shows how the ELOs are mapped to



STUDENT LEARNING OBJECTIVES

### **TERMINAL LEARNING OBJECTIVE**

Given a combat or noncombat scenario, perform hemorrhage control during Tactical Field Care In accordance with CoTCCC Guidelines
60 lentify the principles of wound packing and applying pressure bandages
61 constrate wound packing and applying a pressure bandage
62 lentify progressive strategies, indications, and limitations of controlling external hemorrhage in Tactical Field Care
63 identify the signs, symptoms, and considerations of a pelvic fracture
64 identify the indications and methods of tourniquet replacement in Tactical Field Care
65 identify the indications and methods of tourniquet conversion in Tactical Field Care
65 identify the indications and methods of tourniquet conversion in Tactical Field Care
65 Demonstrate limb tourniquet replacement in Tactical Field Care
67 Demonstrate limb tourniquet conversion in Tactical Field Care
68 ENABLING LEARNING OBJECTIVES (ELOS)
69 Cognitive ELOS
60 Performance ELOS

the TLOs. The blue dots are cognitive or knowledge learning objectives, and the green dots are performance objectives focused on skills.

# **SLIDE 4 – THREE PHASES OF TCCC**

TCCC is organized into Phases of Care that start at the point of injury. These phases are relevant to combat and noncombat trauma scenarios:

 Care Under Fire or Care Under Threat is the aid rendered at the trauma scene while there is still an active threat. Available medical equipment is limited to that carried by an individual or found in a nearby first aid kit. Massive bleeding is the only medical priority that requires your attention during this phase,



as you are actively dealing with an ongoing threat in a potentially chaotic and dangerous situation.

- 2. **Tactical Field Care** is the care provided once the threat has been neutralized and/or the scene is safe or the casualty has moved/been moved out of the immediate threat situation. During this phase a rapid casualty assessment should be performed. Bleeding control should be assessed/reassessed, and airway/breathing issues addressed. Other injuries such as burns, fractures, eye trauma, and head injuries should now be identified and treated. Medical equipment is still limited. Time to arrival of medical personnel or evacuation may vary considerably, depending on the tactical situation, etc.
- 3. **Tactical Evacuation Care** is the care rendered during and once the casualty has been moved by an aircraft, vehicle, or other mode of transportation for evacuation to a higher level of care. Additional medical personnel and equipment are typically available in this phase of casualty care.





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Remember: The goal of TCCC and the role of the CLS are to rapidly assess casualties to identify and treat potentially life-threatening injuries and keep the casualty alive long enough to reach a higher level of medical care.

## SLIDE 5 – MARCH PAWS

Hemorrhage control assessment and management in the Tactical Field Care phase falls under the "C," for Circulation, in the MARCH PAWS sequence.



**HEMORRHAGE CONTROL IN TFC** 

COMBAT LIFESAVER

Video can be found on Deploy

**HEMORRHAGE CONTROL** 

**IN TACTICAL FIELD CARE** 

TCCC

CLS TCCC

# SLIDE 6 – HEMORRHAGE CONTROL IN TFC (VIDEO)

### Play video.

- 1. Unrecognized hemorrhage
- 2. Junctional areas
- 3. CoTCCC-recommended tourniquets
- 4. CoTCCC-recommended hemostatic dressings
- 5. Improvised junctional tourniquet
- 6. Pulse(s) checked
- 7. Reassessment
- 8. Pelvic fracture(s)
- 9. Findings reported

# **SLIDE 7 – PELVIC FRACTURES**

In TFC, another key injury for which the casualty should be assessed is a *pelvic fracture*.

Pelvic fractures can be a cause of massive internal bleeding and impact circulation, which is the "C" in the MARCH PAWS sequence.

A pelvic fracture may be suspected if the casualty's injuries are a result of blunt force or blast with ONE OR MORE of the following physical signs suggesting a pelvic fracture:

- Pelvic pain •
- Major lower-limb amputation OR lower-limb near • amputations
- Pelvic deformities, penetrating injuries, or bruising near the pelvis
- Pelvic instability or crepitus, which is a crinkly or grating feeling or sound under the skin •
- Unconsciousness or shock







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If a pelvic fracture is suspected, the casualty **WILL REQUIRE** advanced evaluation by medical personnel, and you should notify medical personnel of the potential for a pelvic fracture as soon as possible.

### **SLIDE 8 – REASSESSMENT**

Hemorrhage control in the TFC phase takes place after massive bleeding control that occurs in the Care Under Fire phase.

It is possible that it **did not occur**, and this may be the first opportunity to address massive bleeding as well, so there is significant urgency.

The first step is to reassess ALL PRIOR hemorrhage control interventions for effectiveness.

Check all TQs and hemostatic dressings that were applied and ensure they are tight and effective.

# SLIDE 9 – REASSESSMENT Cont.

Early control of severe hemorrhage is critical.

In the TFC phase, CoTCCC-recommended TQs should be applied directly to the skin **2–3 inches above the bleeding site**. This is *different* from the high & tight placement over clothing that may have occurred in the CUF phase.

Always remember that the casualty's hemorrhage control interventions must be **FREQUENTLY** 



**REASSESSED** to ensure continued hemorrhage control. This includes reassessments at frequent time intervals and any time the casualty is moved or the casualty's status changes. Watch the casualty for signs of shock.

Your actions will help ensure bleeding control.

### DO NOT EVER APPLY IT AND FORGET IT!

# SLIDE 10 – TOURNIQUET REPLACEMENT

In massive hemorrhage you learned that tourniquets should be applied more deliberately in the TFC setting, to maximize effectiveness and minimize the amount of healthy tissue that might be impacted by a tourniquet placed too high on the limb. So, if a tourniquet is, in fact, necessary, replace high and tight tourniquets or tourniquets applied over the clothing with more



deliberate tourniquets. This is done by placing a replacement tourniquet directly on the skin, 2-3 inches above the wound and tightening it. Then, slowly release the original tourniquet over one minute, while monitoring the casualty for signs of recurrent bleeding or resumption of a distal pulse. Slide originally





# SPEAKER NOTES

placed tourniquet(s) down, but leave in place proximal to the newly placed tourniquet. In cases of recurrent bleeding or pulses, the original tourniquet can be retightened and the replacement tourniquet can be tightened further, or repositioned and tightened further. Afterwards, the original tourniquet is slowly released again to confirm bleeding control. It may require a second tourniquet be placed side-byside with the replacement tourniquet, as well. Occasionally an attempt to replace a tourniquet will not be successful, and reverting back to the prior tourniquet location may be needed.

If the initial tourniquet remains tightened in its original position, there is a risk of a compartment syndrome developing between the two tourniquets. But rather than removing the original tourniquet completely, it can be slid down the extremity and positioned just proximal to the replacement tourniquet, but only partially tightened by having the slack of the tourniquet removed and the strap secured to prevent it from catching or being in the way during casualty assessments or movements.

# CLS TCCC TOURNIQUET REPLACEMENT

# **SLIDE 12 – TOURNIQUET CONVERSION**

SLIDE 11 – TOURNIQUET

**REPLACEMENT VIDEO** 

Every effort should be made to convert tourniquets in less than 2 hours if bleeding can be controlled by other means, unless the casualty is in shock, you cannot closely monitor the wound for re-bleeding, or there has been an amputation; however, do not attempt tourniquet conversion if the tourniquet has been on for six or more hours. Also, consider leaving the tourniquet in place if the tactical or medical considerations make transition to other hemorrhage control methods inadvisable.



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While the original tourniquet is still in place controlling the bleeding, pack the wound with hemostatic gauze, if available, and hold pressure for three minutes. Then apply a pressure bandage over the dressing, maintaining pressure. Afterwards, slowly release the tourniquet (over at least one minute) while closely observing for bleeding. If the wound packing and pressure bandage do not control the bleeding, retighten the tourniquet or follow the steps to replace the tourniquet if it is above the clothing, like a high and tight tourniquet. In cases where the conversion has failed, it is appropriate to try again within the next two hours, as long as it hasn't been more than six hours since the original tourniquet was applied.

If the conversion is successful, loosen the tourniquet and move it down to just above the pressure dressing, loose but with the no slack in the strap, in case it is needed later, and annotate the time of





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tourniquet removal on the DD Form 1380, TCCC Casualty Card. Periodically reassess the wound for recurrent bleeding and reassess after any casualty movements.

# SLIDE 13 – TOURNIQUET CONVERSION VIDEO

This video will go over the process of converting a tourniquet using wound packing and pressure bandages in TFC.



# **SLIDE 14 – SKILL STATION**

During this skill station, you will practice replacing tourniquets and practice converting tourniquets with wound packing and pressure bandages.





# SLIDE 15 – WOUND PACKING and PRESSURE DRESSING

The proper technique for applying a hemostatic dressing with a pressure bandage is to first identify the exact source of bleeding and pack the wound.

You should pack the wound with the hemostatic dressing while maintaining CONSTANT direct pressure at the source of bleeding.

After the wound is packed, you must hold direct pressure to the packing over the wound for 3 minutes. Do not check for bleeding control during these 3 minutes.

After 3 minutes, if bleeding is controlled, you should secure the wound packing with a pressure bandage. If the bandage has a pressure bar, pull the bandage TIGHT, and reverse it back over the top of the pressure bar, forcing it down onto the pad. If there is no pressure bar, make sure to keep tension while wrapping the elastic bandage, which is best done with short pulls and tugs of the bandage as you wrap it around the wound.

# SLIDE 16 – WOUND PACKING

While packing a wound, maintain constant, direct pressure at the source of bleeding.

Once the dressing is applied, hold direct pressure on the gauze over the wound for at least 3 minutes. Then, carefully observe for blood continuing to flow from under the gauze to determine if bleeding has been controlled. Once you are sure the bleeding has stopped, apply a pressure bandage over the hemostatic dressing.



HEMORRHAGE CONTROL

PRESSURE BANDAGE REASSESSMENT

Key Points:

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If you placed a tourniquet above a casualty's elbow, for instance, you should expect to find no pulse at the wrist below that elbow if the tourniquet was properly applied, and there should be no continued bleeding from the wound.

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Make sure there is no continued bleeding from any prior hemostatic dressings that were placed.

# SLIDE 17 – PRESSURE BANDAGE REASSESSMENT

It is also necessary to reassess any previously applied pressure bandages.

First, make sure there is no continued bleeding from the wound.

Then, check for circulation **BELOW** the pressure bandage by feeling for the distal pulse (a pulse below the bandage).

If the skin **BELOW** the pressure bandage becomes cool to the touch, bluish, or numb, or if the pulse

below the pressure dressing is no longer present, the pressure bandage may be too tight.

If circulation is **BLOCKED** or STOPPED, loosen and retie the bandage.

Dressings and bandages should be reassessed and checked routinely and EVERY TIME a casualty is moved.

Check for circulation BELOW the pressure bandage by feeling for distal pulse (a pulse below

he pressure dressing is no longer pre ssure bandage may be too tight

on is BLOCKED or STOPPED,

HEMORRHAGE CONTROL CORG. WOUND PACKING and PRESSURE BANDAGE





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# SLIDE 18 – IF PRESSURE BANDAGE **IS INEFFECTIVE**

You must make sure the pressure bandage is still effective and bleeding is still controlled.

If the pressure bandage or hemostatic dressing is ineffective, APPLY A TOURNIQUET 2-3 inches above the bleeding site, if possible.

If unable to place a tourniquet and the pressure bandage is ineffective AND/OR blood soaked, REPLACE the pressure dressing with a new hemostatic dressing.

CLS TCCC DHAF HEMORRHAGE CONTROL IF THE PRESSURE BANDAGE IS INEFFECTIVE If the pressure bandage or hemostatic dressing is ineffective, APPLY a hemostatic dressing 2-3 inches above the bleeding site If the pressure bandage is ineffective AND/OR blood soaked, REPLACE pressure dressing with ing CONSTANT d

Pack the wound with the hemostatic dressing, maintaining CONSTANT direct pressure at the source of bleeding within 90 SECONDS, to be effective.

CLS TCCC

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# SLIDE 19 – PRESSURE BANDAGE (VIDEO)

### Play video

- 1. Properly apply pressure dressing
- 2. Use the sterile side on top of hemostatic dressing
- 3. Wrap properly and secure
- 4. Assess circulation
- 5. Document treatment



At this time, we will break into skill stations to practice the following skills:

Wound Packing with Hemostatic Dressing and **Pressure Bandage** 





# SLIDE 21 – SUMMARY

You should now understand the need to reassess all hemorrhage control interventions that may have been applied previously.

You should also understand the need to replace or reapply any ineffective hemorrhage control intervention. HEMORRHAGE CONTROL SUMMARY If not already done, clearly mark ALL tourniquets with the time of tourniquet application and docum that on the DD Form 1380 TCCC Casualty Card Check for radial pulse Assess for shock



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All of these interventions are designed to eliminate further bleeding and prevent the casualty from going into shock or worsening shock.

You should frequently reassess for shock by checking for a radial pulse and other signs of inadequate hemorrhage control.

Of course, if not already done, clearly mark ALL tourniquets with the time of tourniquet application and document all findings and treatment on the DD Form 1380 TCCC Casualty Card.

# **SLIDE 22 – CHECK ON LEARNING**

Ask questions of the learners, referring to key concepts from the module.

Now for a check on learning.

- 1. During Circulation in the MARCH PAWS sequence, what interventions should be reassessed?
  - Previously applied tourniquets and hemostatic dressings
- 2. What are the signs and symptoms of a pelvic fracture?
  - Severe blunt force or blast injury with one or more of the following:
  - $\circ$  Pelvic pain
  - o Major lower-limb amputation OR lower near amputations
  - $\circ~$  Deformities, penetrating injuries, bruising near the pelvis
  - o Pelvic instability or crepitus (crinkly, or grating feeling or sound under the skin)
  - o Unconsciousness or shock





# **SLIDE 23 – QUESTIONS**