

**UNITED STATES MARINE CORPS**  
FIELD MEDICAL TRAINING BATTALION-EAST  
PSC BOX 20042  
CAMP LEJEUNE, NORTH CAROLINA 28542-0042

MCECST

**TACTICAL COMBAT CASUALTY CARE - ALL SERVICE MEMBERS (TCCC-ASM)**

**2401-MED-1002**

**DEFENCE HEALTH AGENCY (TIER 1) TRAINING**

**Defense Health Agency TCCC-ASM Learning Objectives**

The TCCC ASM course is built on a foundation of learning objectives. These objectives lay out the structure for your learning experience, and make it clear what knowledge and skills you can expect to acquire by the end of the course.

There are 10 Terminal Learning Objectives or TLOs. Each TLO is supported by a series of Enabling Learning Objectives or ELOs.

In this graphic, we provided a quick visual way for you to easily see how these ELOs are mapped to the TLOs. The blue dots are cognitive or knowledge learning objectives, and the green dots are performance objectives focused on skills. Using this approach, you can quickly see where the emphasis on learning lies. The more dots, the more emphasis. You should be able to notice right away that TLO 1, 3, 4, and 5 are the priority with the main emphasis on bleeding control.

**POI TERMINAL LEARNING OBJECTIVES**

1. Given a casualty in a tactical environment, perform Tactical Combat Casualty Care, to reduce the risk of further injury or death. (2401-MED-1002)

**POI ENABLING LEARNING OBJECTIVES**

1. Without the aid of reference, identify care under fire, within 80% accuracy, in accordance with references [www.deployedmedicine.com](http://www.deployedmedicine.com) and Pre-Hospital Trauma Life Support (Current Military Edition). (2401-MED-1002a)

2. Given a simulated tactical scenario, demonstrate care under fire, within 80% accuracy, in accordance with references [www.deployedmedicine.com](http://www.deployedmedicine.com) and Pre-Hospital Trauma Life Support (Current Military Edition). (2401-MED-1002b)
3. Without the aid of reference, identify tactical field care, within 80% accuracy, in accordance with references [www.deployedmedicine.com](http://www.deployedmedicine.com) and Pre-Hospital Trauma Life Support (Current Military Edition). (2401-MED-1002c)
4. Given a simulated tactical scenario, demonstrate tactical field care, within 80% accuracy, in accordance with references [www.deployedmedicine.com](http://www.deployedmedicine.com) and Pre-Hospital Trauma Life Support (Current Military Edition). (2401-MED-1002d)
5. Without the aid of reference, identify tactical evacuation care, within 80% accuracy, in accordance with references [www.deployedmedicine.com](http://www.deployedmedicine.com) and Pre-Hospital Trauma Life Support (Current Military Edition). (2401-MED-1002e)
6. Given a simulated tactical scenario, demonstrate tactical evacuation care, within 80% accuracy, in accordance with references [www.deployedmedicine.com](http://www.deployedmedicine.com) and Pre-Hospital Trauma Life Support (Current Military Edition). (2401-MED-1002f)

1. **THREE PHASES OF TCCC:** TCCC is organized into phases of care that start at the point of injury. These phases are relevant to both combat and non-combat trauma scenarios.

a. **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 what could be a chaotic and dangerous situation.

b. **Tactical Field Care** is the care provided once the threat has been neutralized and/or the scene is safe. 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 cared for. Medical equipment is still limited. Time to arrival of medical personnel or evacuation may vary considerably, depending on the situation and location of the event.

c. **Tactical Evacuation Care** is the care rendered during and once the casualty has been moved by an aircraft or other transportation to a higher level of care. Additional medical personnel and equipment that may have been pre-staged or are co-located should be available in this phase of casualty management. This is not something that we cover at the ASM level, but we want you to be familiar with all the phases of care. The goal of TCCC is to give you a structured process by which to identify and care for casualties and help to keep them alive long enough to reach a medical treatment facility.

2. **PHASE 1 – CARE UNDER FIRE OR CARE UNDER THREAT:** In Phase 1 or Care Under Fire (meaning combat scenario) or Care Under Threat, such as during a fire, industrial accident etc. the scene is often chaotic and there are many things that require your immediate attention, as you begin to approach a casualty. There are four major areas for action:

- Scene Safety
- Casualty Movement
- Control of any Massive Bleeding
- Proper Communication

a. What you do first really depends on the scenario, but generally, scene safety is paramount. If the scene is safe, and there is massive life-threatening bleeding, your first step could be tourniquet placement. Each scenario is different, and the ordering of these actions could vary.

b. **Scene Safety;** First, you must ensure the scene is safe for you to enter. You can help others who may be working to secure the scene or you may have to do what you can to make the scene safe to enter (return gunfire, firefighting etc.). You can't risk your personal safety or the safety of your casualty.

c. You may need to move the casualty to a safer area due to a real or potential threat that exists in the environment. In that case, you must quickly develop a casualty movement plan that takes into account these important considerations: the location of the nearest cover, how best to move yourself or the casualty, the weight of the casualty, and distance to be covered.

d. **You should also be aware of environment threats in forming a plan such as;** Enemy engagement, active shooters, fire, flood, smoke and toxic gas, energized circuits or other force protection threats when planning a move.

e. One person or two person drags and carries, or other appropriate movement techniques can be used depending on the availability of personnel and physical movement constraints present (e.g. wooded area, tanks, vehicles, ships, aircraft).

f. Special circumstances exist when moving casualties into or around different aircraft, vehicles and ships. You may be required to pull someone out of an aircraft or tank or go up and down ladders and stairways on ships. You should make sure you are familiar with the types of casualty movement specific to your location and circumstance. The following video will show the most common types of drags and carries.

g. In Care under Fire, consider placing one or more hasty tourniquets in a “high and tight” manner to an arm or leg to control massive life-threatening bleeding. This should be accomplished in less than 1 minute. If the casualty is conscious, you make direct the casualty to render self-aid and apply a tourniquet to him/herself, if they have one. Regardless, a tourniquet applied in the CUF/Threat phase must be re-evaluated in Tactical Field Care or Phase II.

h. Once you are able to reach the casualty safely and taken any other precautions, you must communicate with the casualty.

(1) **Responsiveness;** As soon as possible, maybe even before you have moved the casualty to a safe area, communicate with the casualty to determine if they are awake, confused or disoriented. If they are awake, let them know you are there to help.

(2) Request assistance from other first responders or medics, if available. Rarely are you alone in these circumstances.

3. **PHASE 2 – TACTICAL FIELD CARE:** In Phase 2, Tactical Field Care, it’s time to render medical aid. You should initiate a rapid casualty assessment and render care based on your findings. In TCCC, the treatment priorities follow the **MARCH** sequence:

- **M**assive Hemorrhage – Bleeding Control
- **A**irway
- **R**espiration/Breathing
- **C**irculation
- **H**ypothermia

a. Once the MARCH priorities have been addressed, other injuries may be assessed and treated, including head injuries, eye trauma, fractures and burns.

b. **MARCH** is just not an acronym. **These are the treatment priorities.**

4. **MASSIVE HEMORRHAGE – BLEEDING CONTROL:** Casualties with severe injuries can bleed to death in as little as 3 minutes. Signs of uncontrolled bleeding are:

- There is pulsing or steady bleeding from the wound.
- Blood is pooling on the ground.
- The overlying clothes are soaked with blood.
- Bandages or makeshift bandages used to cover the wound are ineffective and steadily becoming soaked with blood.
- There is an amputation of an arm or a leg.
- There was prior bleeding, and the patient is now in shock (i.e., unconscious, confused, pale).

a. There are three supplies in your first aid kit that can be used to control bleeding:

- CAT (tourniquet)
- Hemostatic dressing
- Pressure bandage

(1) Hemostatic dressings and pressure bandages can be used to control bleeding from wounds in places where a tourniquet cannot be effectively applied, like the groin, arm pit, or the neck. Hemostatic dressings should be applied and direct, firm pressure held for three minutes.

(2) Pressure dressings should be used to maintain hemostatic dressings in place; they help keep pressure applied to any source of active bleeding.

b. There are different types of tourniquets, but the most common tourniquet in the military inventory is the Combat Application Tourniquet (CAT). The CAT has several notable parts including:

- Windlass rod (used to twist and tighten the tourniquet)
- Windlass clip (used to secure the rod)
- Windlass safety strap (to keep the rod from becoming unsecured)
- Routing buckle (for routing the tourniquet band after it has been looped around an arm or a leg)

c. **TOURNIQUET APPLICATION:** A tourniquet cuts off the flow of blood to the arm or leg past the application site and is the best method to control massive bleeding from an arm or a leg. Tourniquets can be self-applied or applied to a casualty using either a one-handed or two-handed technique. These application techniques will be demonstrated and practiced at the skills stations. Self-application of a tourniquet might also save your life. A tourniquet will hurt when applied correctly, because it must be tight enough to stop the blood flow.

Remember to tell the casualty that pain is expected and is an indicator that the tourniquet is being applied properly (tight enough). The application of a tourniquet to a massive bleed is time-sensitive! The tourniquet should be applied to stop bleeding within 1 minute and be fully secured within 3 minutes. A casualty with massive bleeding that is not controlled can die within 3 minutes!!! Again, a hasty tourniquet is applied during Care Under Fire/Threat. This type of tourniquet is placed “high and tight” on a casualty’s extremity.

Once the casualty is in a safer position, you should reassess the source of bleeding and the effectiveness of the hasty tourniquet, and reapply if necessary, 2-3 inches above the wound. This is called a “deliberate tourniquet” since its placement is more targeted. You may need to apply a second tourniquet, if the bleeding is not controlled. Severe bleeding to leg/thigh wounds frequently requires a second tourniquet.

Tourniquet duration: Optimal time is less than 2 hours (considered safe duration), after 3 hours, tissues begin to die. After 6 hours of application, limb loss can occur.

d. **COMMON ERRORS:** when applying a tourniquet:

- The self-adhering strap is NOT pulled tight enough. There is slack in the strap.
- The windlass rod is NOT twisted tight enough to stop the bleeding. **Note:** *It typically takes several twists to stop the bleeding.*
- The tourniquet is NOT applied, and bleeding is NOT stopped within 1 minute.

Tourniquets can loosen over time; keep a close eye on even after the tourniquet has been fully applied.

e. **IMPROVISED TOURNIQUET:** Using one of the CoTCCC recommended tourniquets is a safe procedure. Improvised tourniquets are much less effective than commercially available tourniquets such as the CAT, and they are difficult to make and apply without extensive practice. Caution should always be used when using an improvised tourniquet due to the associated risks. The risks include:

- Damage to the skin if the band is too narrow.
- The improvised tourniquet may worsen bleeding.
- The improvised tourniquet may not completely control the bleeding.
- Like CAT tourniquets, improvised tourniquets can also loosen over time from not being properly secured.

If a tourniquet is not available, pack the wound and hold direct pressure over the source of the heaviest bleed, **FIRST**. If this fails to control the bleeding in an arm or leg, only then consider an improvised tourniquet.

An improvised tourniquet uses other materials on hand. In constructing one, it is recommended that you roll or fold a cravat (or other fairly pliable material) to a width of approximately 1.5 – 2 inches and tighten it with some sort of windlass rod (a straight rod that can be used to twist the material tighter).

f. **WOUND PACKING AND PRESSURE BANDAGE:** Depending on the type of injuries, you may also need to pack wounds and apply a pressure bandage. Wounds should be packed with a hemostatic dressing, which contains a special, chemical agent that promotes blood clotting. If you don't have access to a hemostatic dressing, you can use a clean cloth to pack wounds. Do not pack wounds to the chest or abdomen. Remember, pressure is a form of treatment. In those cases, holding firm direct pressure will be the best option until a medic arrives.

Generally, you should apply a pressure bandage over a packed wound. Use short tugs as you wrap the bandage and continue to wrap using tension. Be careful not to wrap too tight and always check below the dressing to ensure the skin is still pink and warm to the touch. Ensure that a pulse is still present.

5. **AIRWAY:** After Massive Bleeding is controlled, you move on to “A” in MARCH for Airway.

a. **CLEARING THE AIRWAY:** You must ensure a casualty's airway is open. If they are awake and talking to you, this means their airway is open. However, the casualty may still have difficulty breathing. If the casualty is unconscious, you need to inspect the airway for any obvious blockages. The signs and symptoms of airway obstruction include:

- Severe trauma to the face.
- Blood or foreign objects in the airway.
- Casualty is indicating that they can't breathe.
- Casualty making snoring or gurgling sounds.

If a foreign body is seen in the airway, you can attempt to remove it; but, do not put your fingers in the mouth to try to find or remove any unseen objects that might be causing an obstruction. Do not do a blind finger sweep!

b. **AIRWAY MANEUVERS:** In a casualty without a complete airway obstruction there are things you can do to assist with breathing, such as:

- Perform a head-tilt/chin-lift or jaw-thrust maneuver.
- Place the casualty in the recovery position.

A jaw-thrust maneuver should be used if there is a suspected neck injury. For example, the casualty fell hitting their head on the ground.

A conscious casualty should be allowed to assume ANY position that allows them to breathe better. The best position may be sitting up. Generally, lying on the back is associated with a loss of airway patency when compared to other positions,

If the casualty is unconscious but breathing, the casualty should be placed in the recovery position.

6. **RESPIRATION / BREATHING:** After the airway is open, you move to the "R" in MARCH to assess for Respiration and Breathing.

a. **RESPIRATION AND BREATHING:** Exposure to smoke or toxic inhalants can cause difficulty breathing, but other injuries can also lead to respiratory distress. Signs of respiratory distress include:

- Difficulty breathing.
- Struggling to get air in and out.
- Breathing too weak to be effective (breathing less than 6 times per minute)
- Rapid breathing (greater than 20 times per minute).

Casualties having a hard time breathing may also have penetrating chest wounds. It is critically important to report findings of **RESPIRATORY DISTRESS** to medical personnel at the scene.

b. **LIFE-THREATENING CHEST INJURY:** Life-threatening chest injuries can also result in respiratory distress. There are two types of chest injuries that can potentially be life threatening. Penetrating injuries, like those seen in gunshot wounds or shrapnel, or blunt trauma from blasts or vehicular accidents.

At this stage in MARCH, it's time to roll the casualty to examine the front and back of the torso to check for chest trauma. If you notice any holes, do not pack these chest wounds with a hemostatic or other dressing as highlighted earlier. Your role is to recognize that a casualty has a potentially life-threatening chest injury with respiratory distress and communicate those findings to responding medical personnel.

7. **CIRCULATION:** The "C" in MARCH is for Circulation, as you want to make sure your casualty has good blood flow throughout the body and is not going into a condition called "shock.

a. **CIRCULATION AND SHOCK:** The best way to prevent shock is to control bleeding! You should continuously monitor and reassess the effectiveness of bleeding control measures to ensure they are working: tourniquet application, wound packing with a hemostatic dressing and/or a pressure dressing or a combination of these. Signs and symptom of shock include:

- Rapid breathing.
- Losing focus and having difficulty engaging.
- Having sweaty, cool, clammy skin, pale or gray skin.

In addition to these signs and symptoms, you can check for a weak or absent radial pulse.

8. **HYPOTHERMIA:** Finally, the "H" in MARCH is for hypothermia prevention.

a. **HYPOTHERMIA:** Massive bleeding leads to hypothermia and, in turn, hypothermia leads to MORE bleeding because the blood cannot clot when the casualty is cold. This can occur even in hot environments. You must break this vicious cycle!

It is important to identify the signs of hypothermia. Some easily recognizable signs of hypothermia are: slurred speech or mumbling, slow breathing and drowsiness, and shivering.

This is not hypothermia due to cold weather, but you can prevent it by:

- Keep clothing/uniform on the casualty.
- Replace extremely wet clothing if possible and keep the casualty dry.
- Keep the casualty off the ground, by placing a barrier between the casualty and the ground...or lifting them off the ground, if possible. **NOTE:** Contact with the ground increases loss of body heat.
- Use dry blankets, poncho liners, sleeping bags, or anything that will retain heat.
- Minimize the casualty's exposure to the environment.



b. By following the MARCH sequence to perform a Rapid Casualty Assessment, you can save a life!

9. **TACTICAL EVACUATION:** Upon immediate completion of TCCC-ASM Phases 1 and 2, you must be able to perform the proper radio procedures for requesting a medical evacuation. The 9-Line/Z-MIST Report is covered in-depth within the MCECST Radio Communication Class.

a. TACTICAL EVACUATION CARE: is covered in the more advanced classes of TCCC.

b. To learn more about the advance levels of TCCC, visit [www.deployedmedicine.com](http://www.deployedmedicine.com) .

10. **OTHER INJURIES:** Beyond MARCH, there are additional injuries that you should identify and may need your attention.

a. SECONDARY INJURIES: After you have addressed the priorities using the MARCH protocol, identify and provide care as needed for the following injuries:

- Eye Trauma.
- Head Injury.
- Burns.
- Fractures.

b. EYE TRAUMA: If a penetrating eye injury is seen or suspected, you must shield the injured eye. Cover the eye with a rigid eye shield, not a pressure patch!

Place a concave shield over the injured eye, not both eyes, and tape in place. If there is a protruding object in the eye, bandage in place—do NOT remove. Tactical eyewear can be used to protect the eye if a rigid eye shield is not available.

c. BURN CARE: Burn care in TCCC is very basic. Cover the burn area with dry, sterile dressings. Prevent hypothermia by removing and replacing wet clothing, move to a dry or insulated surface, and cover with anything that will retain heat and keep the casualty dry.

One potential cause of burns is electrical injury. In the case of an electrical injury, secure the power, if possible. Otherwise, remove the casualty from the electrical source using a nonconductive object. Move the casualty to a safe place and begin your rapid casualty assessment as previously discussed.

Pay close attention to their airway, breathing, and always assess for secondary injuries and shock.

d. ASSESS FOR FRACTURES: Fractures can be closed or open as seen here in the pictures. Open means that there is a break in the skin in conjunction with the fracture, often with protruding bone. Closed means that there is no external wound associated with the fracture.

The warning signs that an arm or leg might be fractured include:

- Significant pain along with marked swelling.
- An audible or perceived “snap”.
- Different length or shape of limb.
- Loss of pulse or sensation in the injured arm or leg.
- Crepitus (a crackling/popping sound under the skin when pressure is applied).

e. **APPLICATION OF A SPLINT:** If possible, you should splint all fractures. A splint is used to prevent movement while holding an injured arm/leg in place when a fracture is suspected.

If a semi-rigid splint (like a SAM Splint) is not available, create an improvised splint, using rigid or bulky materials such as boards, boxes, tree limbs and even weapons. Incorporate the joint above and below the fracture. Secure the splint with an ace wrap, cravat(s), belt(s), or duct tape, if available.

Try to splint before moving the casualty to minimize movement of the fracture. Arm fractures can be easily stabilized using a shirt as a sling.

Make sure not to wrap the splint too tight. It may cut off circulation below the splint. If there is numbness, tingling or increased pain or if the finger/toes turn pale or bluish, loosen the bandage. Increased swelling may occur, so continue to monitor closely.

f. **ASSESS FOR HEAD INJURY:** It is critically important to report findings of a head injury to medical personnel at the scene, since a lack of rapid and appropriate medical care can worsen the head injury and the eventual outcome. Head trauma can be either blunt or penetrating.

Blunt head trauma is a result of blunt force, acceleration, or deceleration forces such as in an explosion or blast event, motor vehicle crashes or roll-overs, falls or sports injuries. Penetrating trauma is usually from gunshot wounds, stabbings or fragmentation from explosives. Signs and symptoms of a head injury include:

- Altered consciousness.
- Disorientation or dizziness.
- Headache.
- Ringing in the ears.
- Nausea and/or vomiting.
- Amnesia (meaning they don't remember where they are or what happened).
- Double vision.

Head injuries must be reported and documented, so any information you can collect about the potential mechanisms of injury or observations after interacting with the casualty is very important.

g. **COMMUNICATION AND DOCUMENTATION:** It is important to communicate at all levels, including with the casualty, with your leadership, and with on-scene medical personnel once they arrive. At a minimum documentation should include the following:

- Name, gender.
- Time.
- How the injury occurred (e.g., explosion, vehicle accident, burn, fall, gunshot wound, etc.).
- Findings from the rapid casualty assessment, including all identified injuries.
- medical aid provided (e.g., tourniquets, hemostatic dressing, pressure bandage, burn dressing, hypothermia prevention, eye-shield, splints/slings, etc.) changes in the casualty's status or any other information deemed important.

Make sure to secure this information on the casualty by attaching it to the casualty's belt loop or placing it in their upper left sleeve or the trouser cargo pocket. Forward the card with the casualty to the next level of care. This information is critical to the continuing care of the casualty. If a DD Form 1380 or a TCCC Casualty Card is not available, you can also write directly on the casualty, such as on their forehead or body (T for tourniquet).

11. **FIRST AID KITS:** The equipment and supplies you will need to provide medical aid in Tactical Field Care can be found in your personal or Service-specific first aid kit. It is important that you know the contents of your provided first aid kits, where they are located, and understand any maintenance procedures for trauma supplies required by your unit.

a. **FIRST AID KITS:** As non-medical NEC/MOS personnel, the two most common first aid kits you will have access to are;

- An Individual First Aid Kit (IFAC) – carried on each individual military person.
- A Service Specific or Shipboard First Aid Box – displayed and easily accessible.

b. **UNIQUE FIRST AID KIT ITEMS:** The following are unique military first aid kit items. If you have any questions on the below items, ask your instructor to show or explain them to you.

- Combat Application Tourniquet (CAT).
- Hemostatic Dressing.
- Pressure Bandage/Emergency Trauma Dressing.
- DD Form 1380 TCCC Card or other Service-specific card for documentation.

c. Your job as a First Responder is to take action:

- Provide TCCC Lifesaving Skills until medical personnel arrive.
- Document medical aid.
- Assist with evacuation.

TCCC is the standard of care in prehospital battlefield medicine. By following the MARCH sequence to perform a rapid casualty assessment and by using the lifesaving skills you will be taught in this course... YOU CAN SAVE A LIFE!

Your job is to act! Provide lifesaving skills. Document the medical aid you provide so it can be passed along to ensure continuity of medical care. Assist with the evacuation to help get the casualty to the best medical care as soon as possible.

**REFERENCE (S) :**

(PHTLS) Pre-Hospital Trauma Life Support (Current Edition)  
Chapter 21, Page 542