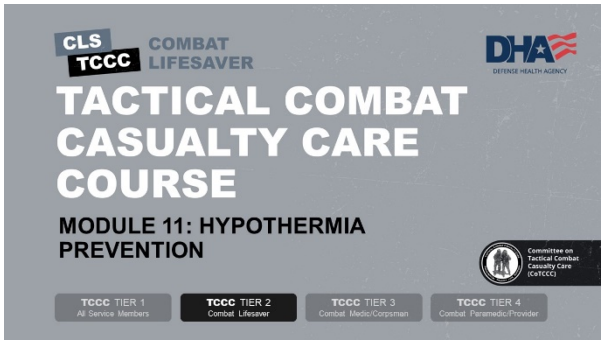
MODULE 11 – HYPOTHERMIA PREVENTION

SLIDE 1 – TITLE SLIDE



SLIDE 2 – TCCC ROLES

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.

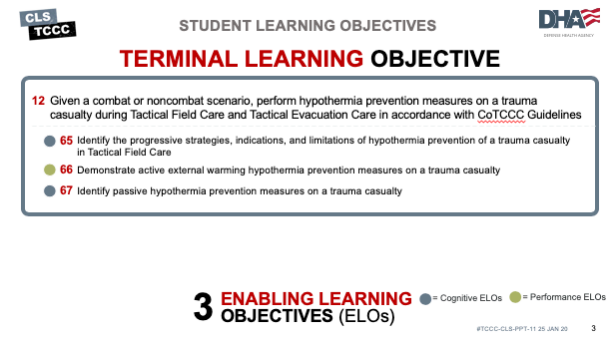
The Combat Medic/Corpsman (CMC) role includes much more advanced and invasive care requiring significantly more medical knowledge and skills.

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

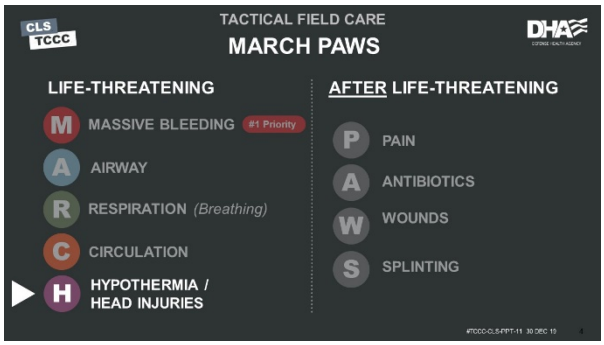
The hypothermia module has **two cognitive learning objectives** and **one performance learning objective**. The cognitive learning objectives are to identify the progressive strategies, indications, and limitations of hypothermia prevention of a trauma casualty in Tactical Field Care, and to identify passive hypothermia prevention measures on a trauma casualty.



The performance learning objective is to demonstrate active external warming hypothermia prevention measures on a trauma casualty.

The critical aspects are to recognize that hypothermia will be a problem, know the possible steps to prevent and treat it, and then be able to perform the necessary skills to successfully prevent and/or treat a casualty who is hypothermic or who is at risk of hypothermia.

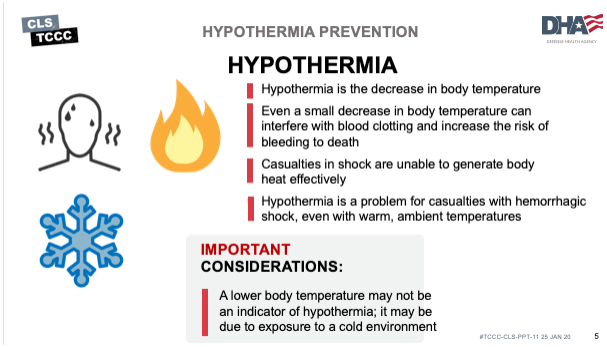
SLIDE 4 – MARCH PAWS



Hypothermia prevention and management is the **"H"** in the MARCH PAWS sequence, as are head injuries.

Remember, you are now in the Tactical Field Care phase of care, and so the focus has shifted from immediate life-threatening hemorrhage control while still under enemy fire in the Care Under Fire phase, to the reassessment of all previous interventions, followed by the prevention and treatment of other injuries and complications such as hypothermia.

SLIDE 5 – HYPOTHERMIA

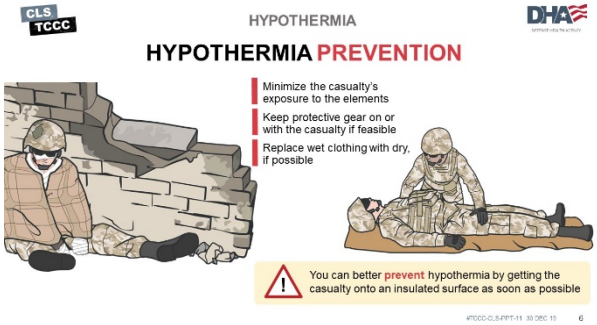


Hypothermia is the decrease in body temperature. Even a small decrease can interfere with blood clotting and increase the risk of bleeding to death.

Casualties in shock are unable to generate body heat effectively.

Hypothermia is a problem for casualties with hemorrhagic shock even with warm ambient temperatures, as hypothermia is not always a body temperature lower than normal due to exposure to a cold environment.

SLIDE 6 – HYPOTHERMIA PREVENTION



Hypothermia prevention will decrease the effects of heat loss and decrease deaths from uncontrolled hemorrhage. Prevention of hypothermia should start as soon as possible after wounding.

If hypothermia **is not prevented**, the potential exists that the casualty may bleed to death from an otherwise survivable wounding. Blood loss can lead to hypothermia, so you must control bleeding and prevent hypothermia through passive or active measures.

The sooner hypothermia is prevented**, the less impact** it will have on bleeding and shock.

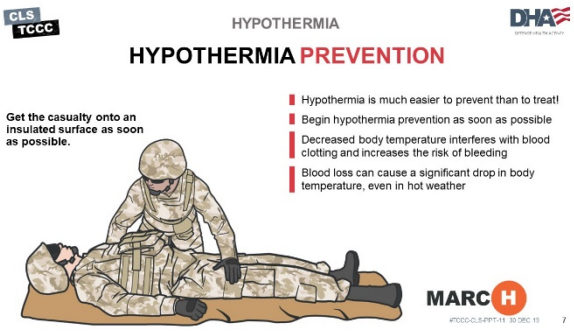
Casualties in shock are unable to generate body heat effectively. It is important to minimize the casualty's exposure to the elements. Wet clothes and helicopter evacuations increase body heat loss, so replace wet clothing with dry if possible. Get the casualty onto an insulated surface as soon as possible. Keep in mind temperature changes throughout the day into the night, altitude, wind, etc.

SLIDE 7 – HYPOTHERMIA PREVENTION (CONT.)

Hypothermia is much easier to prevent than to treat! Begin hypothermia prevention as soon as possible. Decreased body temperature interferes with blood clotting and increases the risk of bleeding.

Blood loss can cause a significant drop in body temperature, even in hot weather.

You must be proactive, assume that every casualty will become hypothermic, and use all the techniques you will learn in this module to prevent it. If they are already hypothermic, then be even more aggressive and treat it as if the casualty's life depends on it.

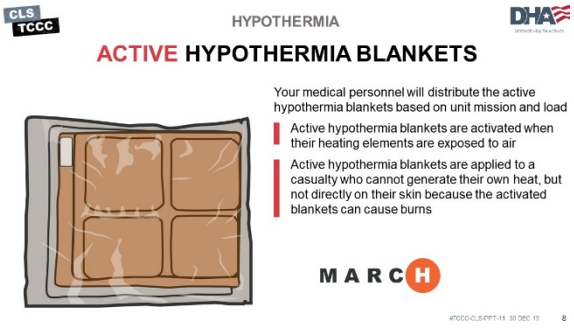


SLIDE 8 – ACTIVE HYPOTHERMIA BLANKETS

Your medical personnel will distribute the active hypothermia blankets based on unit mission and load.

Active hypothermia blankets are activated when their heating elements are exposed to air, and can produce temperatures reaching **104°F for up to 8 hours.**

Active hypothermia blankets are applied to a casualty who cannot generate their own heat, but not directly on their skin, because the activated blankets can cause burns.

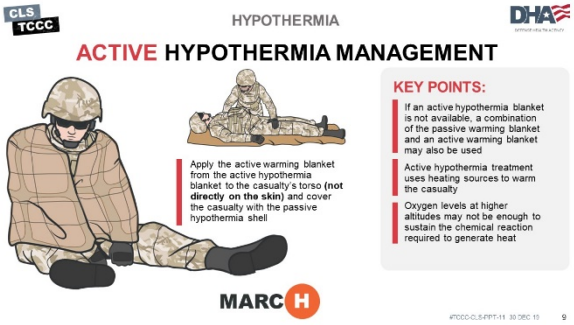


Continue to reassess to determine if additional methods are needed to prevent or treat hypothermia.

SLIDE 9 – ACTIVE HYPOTHERMIA MANAGEMENT

REMEMBER: Apply the active warming blanket from the active hypothermia materials to the casualty's torso, **not directly on the skin,** and cover the casualty with the passive hypothermia shell.

THE KEY POINTS ARE: 1) If an active hypothermia device is not available, a combination of the passive warming blanket and an active warming blanket may also be used. 2) Active hypothermia treatment uses heating sources such as the ready-heat blanket to warm the casualty. This requires a chemical reaction with oxygen, so at higher altitudes there may not be enough oxygen to sustain the chemical reaction required to generate heat.

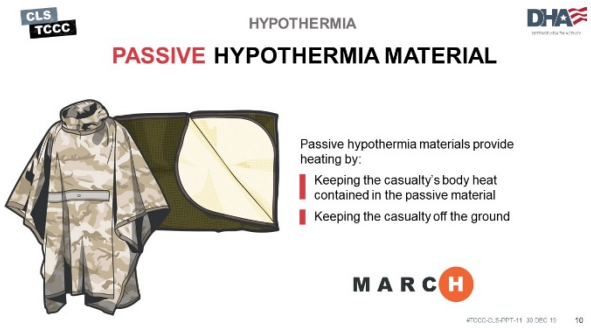


You must determine based on the environmental conditions whether your casualty needs both the outer shell and the heating blanket or whether it is sufficient to just keep them covered with the shell, because it is already hot outside.

SLIDE 10 – PASSIVE HYPOTHERMIA MATERIAL

Passive hypothermia blankets provide heating passively by keeping the casualty's body heat contained in the passive blanket, and keeping the casualty off the ground.

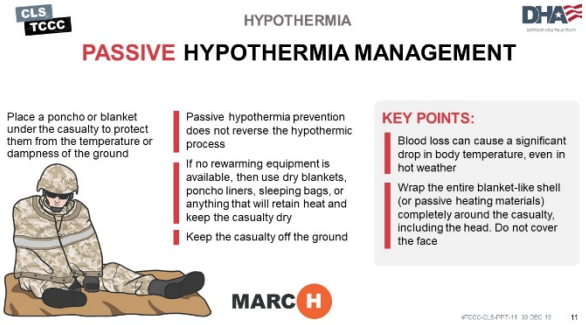
The heat reflective shell will help to retain the heat produced by the ready-heat blanket. It has an incorporated hood and Velcro closures down each side to allow exposure of an arm or a leg. Such exposure allows the medic to attend to IVs and TQs.



SLIDE 11 – PASSIVE HYPOTHERMIA MANAGEMENT

Passive hypothermia strategies will keep the casualty from getting colder, but essentially will not warm the casualty. Do not place the casualty on the cold/wet/damp ground; place a blanket or poncho underneath. **Passive hypothermia prevention WILL NOT reverse the hypothermic process.**

If no rewarming equipment is available, then use dry blankets, poncho liners, sleeping bags, or anything that will retain heat and keep the casualty dry, and keep the casualty off the ground.



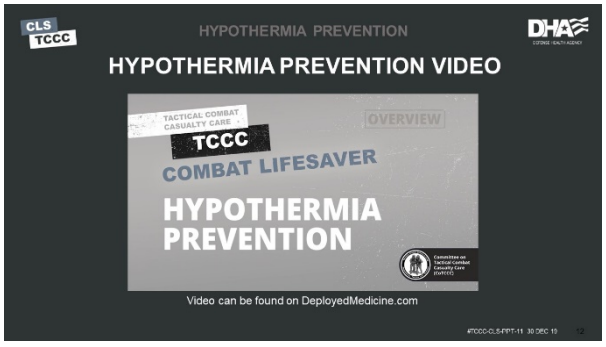
Key points to remember are that blood loss can cause a significant drop in body temperature, even in hot weather. It is also important to wrap the entire blanket-like shell (or passive heating materials) completely around the casualty, including the head, but do not cover the face. Any exposed areas can lead to heat loss and worsening hypothermia.

SLIDE 12 – HYPOTHERMIA PREVENTION (VIDEO)

Play video.

Remember, hypothermia is not just about keeping the casualty warm; it may also save their life.

You must minimize exposure to the elements by keeping their protective gear on and keep them dry and on an insulated surface.



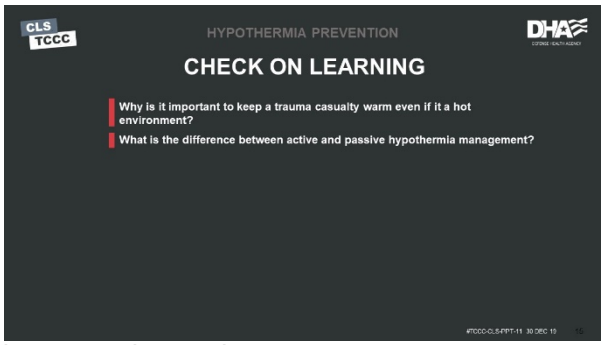
Use the ready-heat blanket and cover them with a heat-reflective shell if you have it.

If you have nothing else, use anything that will retain heat and keep them dry.

SLIDE 13 – SKILL STATION

In the skills station we will practice the active and passive hypothermia prevention skills.

This will include the use of the passive hypothermia prevention with the blanket-like shell and the use of an active warming blanket. Alternatives will also be discussed and demonstrated in case active heating blankets are not available.

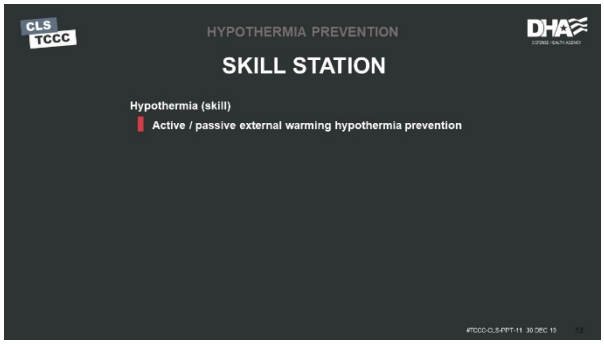


SLIDE 14 – SUMMARY

In summary, you should now be able to define hypothermia and discuss active and passive hypothermia prevention and management.

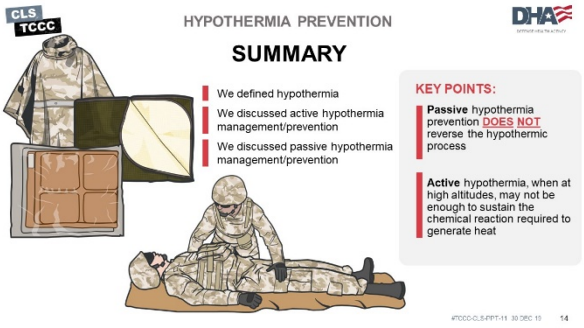
Passive hypothermia prevention includes using ponchos and keeping them off the ground, but it DOES NOT reverse the hypothermic process.

Active hypothermia, such as warming blankets, may still not be enough to sustain the chemical reaction required to generate heat when at high altitudes.



Hypothermia is not about it being cold outside, but about not letting the casualty get cold, as even a small decrease in body temperature can worsen bleeding and lead to death.

You will have to decide which active and passive warming measures to use depending on the situation. Warm environments might not require as much active warming as colder environments. The active blankets should not be placed directly on the skin as they can cause burns. Don't forget that transport, particularly in aircraft, can lessen the effectiveness of all the hypothermia measures.



Above all else, remember that hypothermia is easier to prevent than treat, so don't let your casualty get cold!

SLIDE 15 – CHECK ON LEARNING

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

Now for a check on learning.

1. Why is it important to keep a trauma casualty warm even in a hot environment?
   - Even a small decrease in body temperature can interfere with blood clotting and increase the risk of bleeding to death.
   - Casualties in shock are unable to generate body heat effectively.

2. What is the difference between active and passive hypothermia management?
   - Active hypothermia treatment uses heating sources to warm the casualty.

- Passive hypothermia strategies will keep the casualty from getting colder, but essentially will not warm the casualty.

SLIDE 16 – QUESTIONS