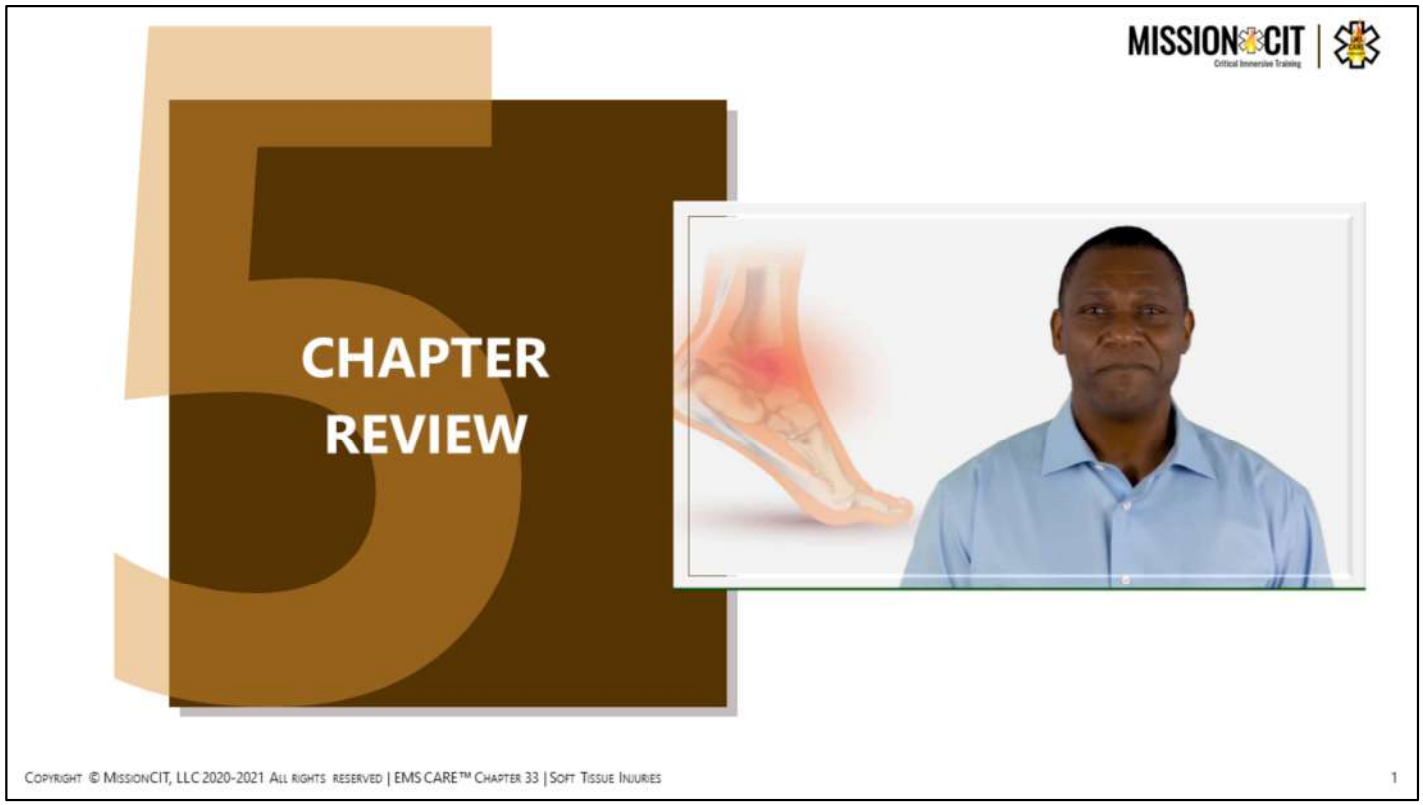
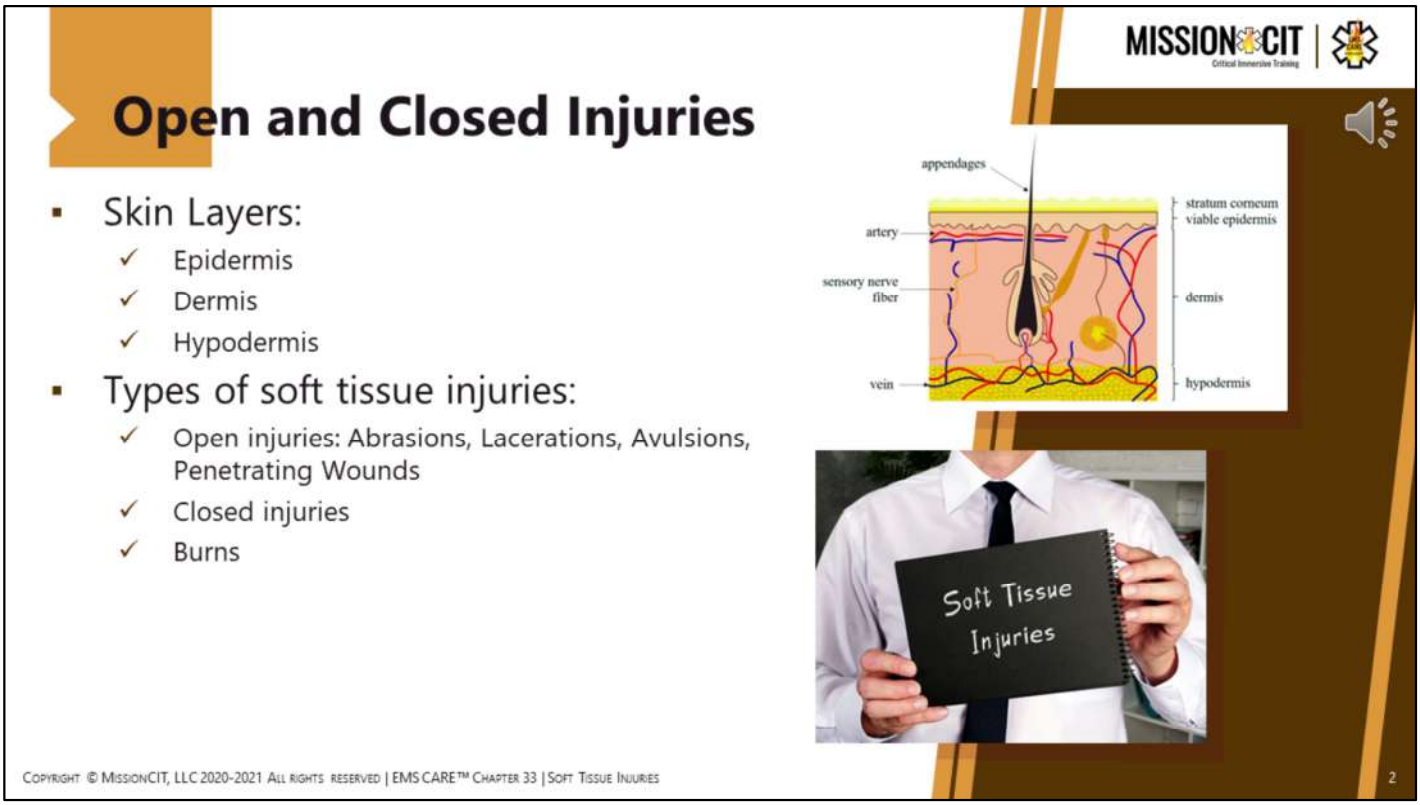


Thanks again Missah. And, now it's time for the review of this topic on Soft Tissue Injuries. Remember, after this review, there will be a 15 question Quiz. You need to score 75% or better to receive credit for this chapter.

Good studying.



We began this chapter with the physiology of the skin and the open and closed injuries associates with it. Besides protecting the body from heat and injury, the skin also performs various functions. To manage these functions, the physiology of the skin is divided into layers and each layer has a specific role to play. The skin is the body's first level of defense against any form of infection and external injuries. Regardless of the location or age of the person, the skin has three layers:

- Epidermis: It is the thin outer layer of the skin. It contains three kinds of cells. The squamous cells, the basal cells, and the Melanocytes.
- Dermis: It is the middle layer and is responsible for providing flexibility and strength to the skin. It contains blood vessels, lymph vessels, hair follicles, pain receptors, sweat glands, touch receptors, nerves, sebaceous glands, and fibroblasts.
- Hypodermis: It is the last or the deepest layer. It consists of collagen and fat cells, also called adipose tissue, the primary role of the subcutaneous layer is to maintain the body's temperature.

Soft-tissue injuries include any injury to the skin, ligaments, muscles, and tendons. Depending on the mechanism of injury, these soft-tissue injuries can be classified into blunt injury, penetrating injury, barotrauma, and burns. As an EMT, you must locate injuries, if possible, their potential cause, and the best course of treatment for each injury.

Soft-tissue injuries can be classified into three types:

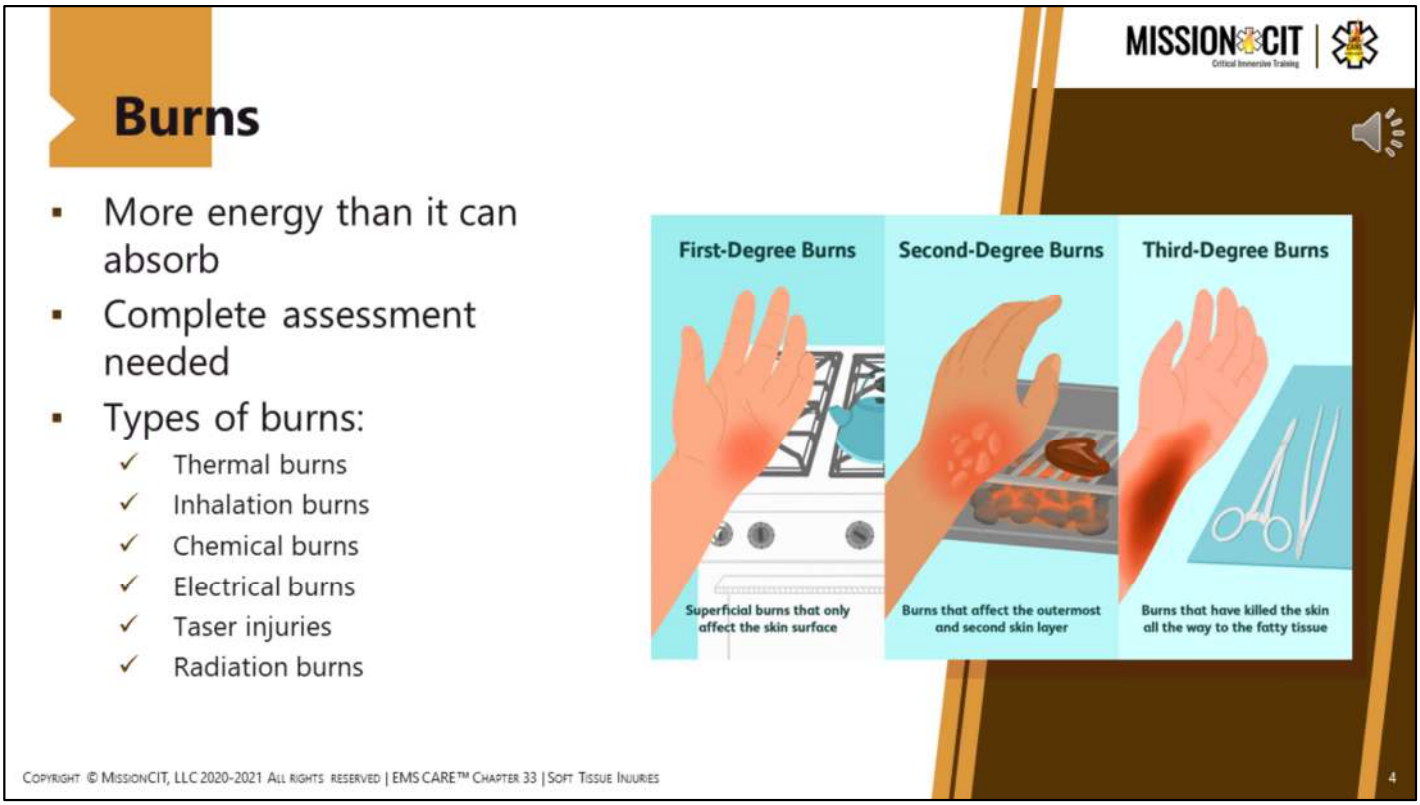
- Open injuries are those that are visible. The four types of open injuries are abrasions, lacerations, avulsions, and penetrating wounds.
- Closed injuries are those where there is no break in the skin.
- And lastly, burns.



In the next lesson, we mentioned specific emergency care treatments you can provide for patients with soft tissue injuries. Make sure you examine the injured area closely and specifically, check for the depth and extent of the injury as serious injuries can cause the patient to go into a hypovolemic shock. Shock should always be a primary concern and the onset of shock can be at any time during the call. The treatment for closed injury is done using the RICES mnemonic.

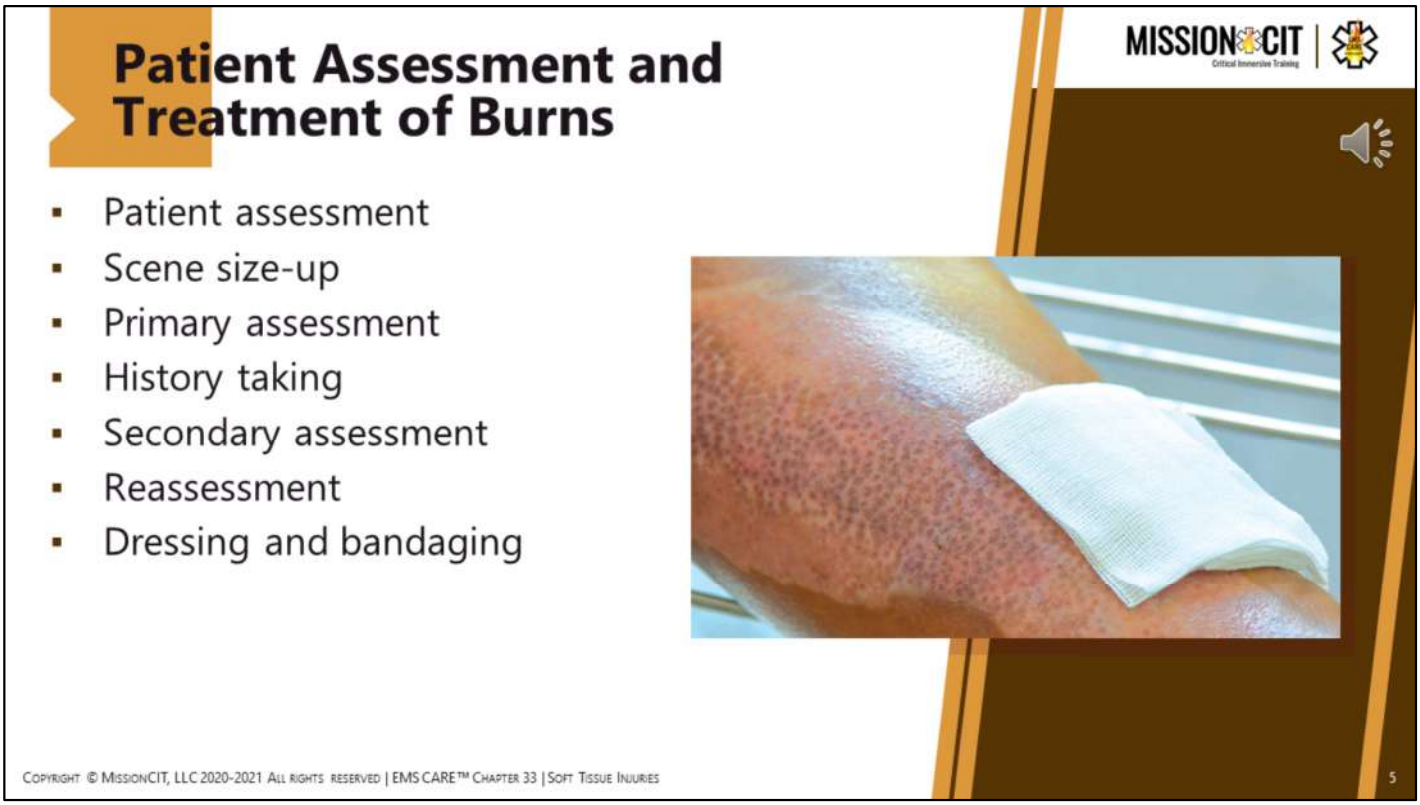
You must follow the standard safety precautions while handling open injuries. Make sure you wear PPE to protect yourself from pathogens and infectious diseases and consider all open wounds to be contaminated.

Open injuries can occur anywhere, depending on the mechanism of injury and the area that was exposed to it. Abdominal and neck injuries are some open injuries we discussed. You might also encounter situations where impaled objects have punctured the body's soft tissues and are still embedded. Another possible cause of open injury is bites from animals and even humans. All bites must be evaluated by a physician, so make that recommendation if the situation does not warrant emergency transport.



Moving on, we talked about burns, a common injury in the United States. Burns occur when the body receives more radiant energy than it can absorb. This transfer of radiation can occur from thermal or electrical sources and results in soft tissue injuries. You must do a complete assessment to check the severity of the burn and whether there are any other potential injuries. During a burn injury, the skin that acts as a barrier is destroyed and hence a victim is at high risk for infections, hypothermia, hypovolemia, and shock. Knowing the significance of burns in different locations is important. When it comes to the extent, use the rule of nines to estimate the severity. This rule applies only for second and third-degree burns.
Here are some different types of burns:

- Thermal burns: These are caused by heat sources such as scalds or an open flame.
- Inhalation burns: These burns occur when burning takes place in enclosed spaces without ventilation.
- Chemical burns: These can occur whenever a toxic substance contacts the body.
- Electrical burns: These burns can occur from contact with high or low-voltage electricity.
- Taser injuries: The use of a taser is often associated with dysrhythmia and sudden cardiac arrest and can cause complications in persons with underlying disorders.
- Radiation burns: These burns can occur due to accidental exposure to radioactive isotopes during the use and transportation of radioactive material.



The last topic in this chapter was the treatment for burns. Assess the patient and the severity of burn before beginning treatment. An important part of the assessment is to classify the burns according to their source, depth, and severity, as this will help to determine the appropriate course of action. As a part of scene size-up, look around and observe the scene for hazards and safety threats. Check if there are multiple patients and consider the potential for other injuries as well. After determining the cause of the burn, begin the primary assessment. Next, check the airways and breathing. Based on these evaluations, decide on emergency transport. After the primary assessment is done and transport decisions are made, start documenting the patient's history to better understand the mechanism of injury. Now, do a detailed examination of all the body systems to check for additional injuries or other conditions. Next, reassess the patient's condition and vital signs to evaluate your interventions and to know if the patient's condition has improved or deteriorated.

Lastly, we will recollect the dressing and bandages used for injuries. Bandages control bleeding, protect the wound from further damage, and prevent further contamination and infection. Never use elastic bandages to secure dressings and if the wound continues to bleed, apply tourniquets.

With this, we come to the end of the chapter review. You should now proceed to take the quiz.