

Welcome back. We now review the lesson on Spine Injuries. During the lesson, we covered

- The four spinal cord regions
- Classification of spinal cord injuries (SCI)
- The nature of SCI
- Causes of SCI and their results
- Mechanisms of SCI
- Protocols for assessment
- Geriatric considerations

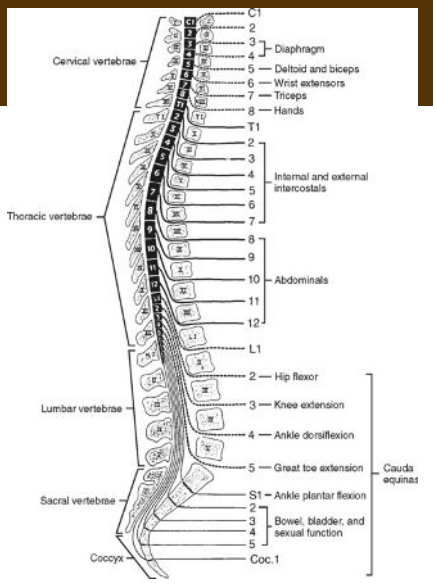
Over the next few slides, we will discuss the key takeaways from these subjects. You then can test your

knowledge with some interactive questions. All helping you to prepare for the final quiz on Head and Spine Injuries.

Good studying

Spinal Cord Injuries (SCI) | Lesson Review | Key Takeaways

- The cervical region: This is the topmost portion, where the brain connects to the spinal cord, and the neck connects to the back.
- The thoracic region: This section forms the middle of the spinal cord.
- The lumbar region: This is a lower region, where the spinal cord begins to bend. And the last region is
- The sacral spine: This is the lower, triangle-shaped region, with five vertebrae.

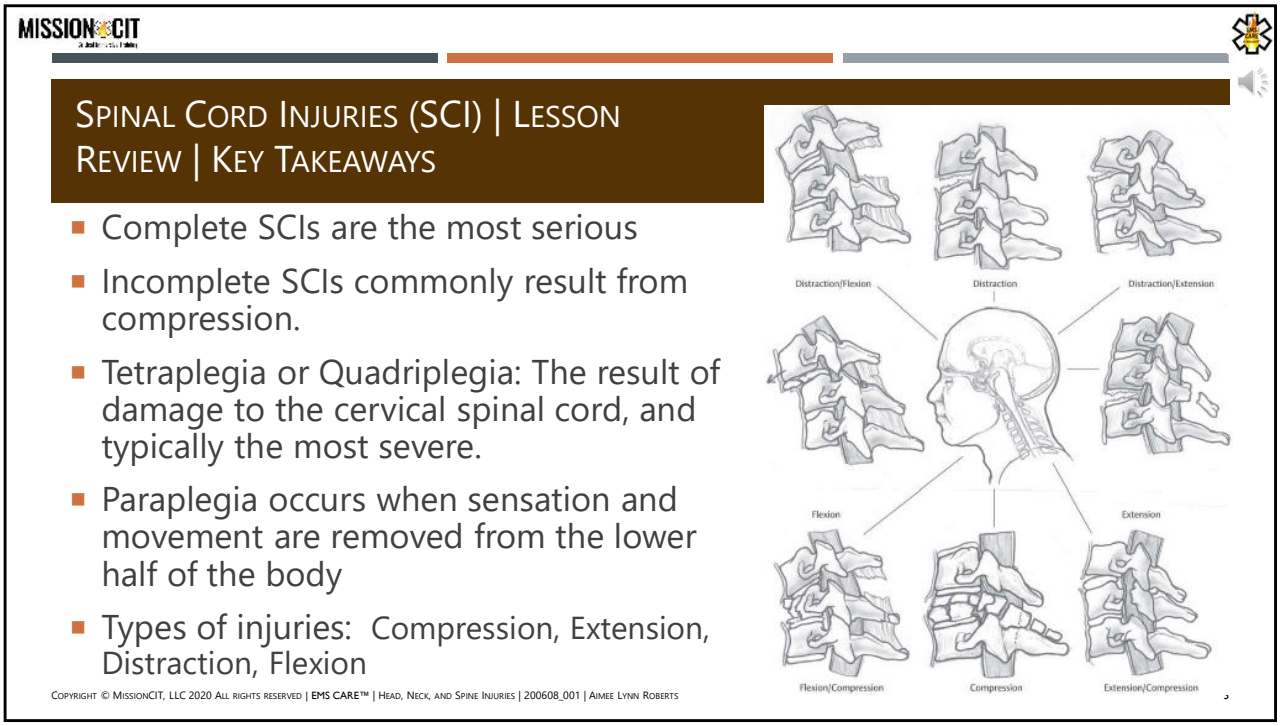


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The first set of takeaways regarding Spine Injuries focuses on the anatomy of the Spine. There are four regions as follows

1. The cervical region: This is the topmost portion, where the brain connects to the spinal cord, and the neck connects to the back. This region consists of eight vertebrae, commonly referred to as C1 to C8.
2. The thoracic region: This section forms the middle of the spinal cord.

3. The lumbar region: This is a lower region, where your spinal cord begins to bend. And the last region is
4. The sacral spine: This is the lower, triangle-shaped region, with five vertebrae. While the lumbar spine's vertebrae bends inward, the vertebrae of the sacral region bend slightly outward. There is no actual spinal cord in this section, it is made up of nerve roots which exit the spine at their respective vertebral levels.



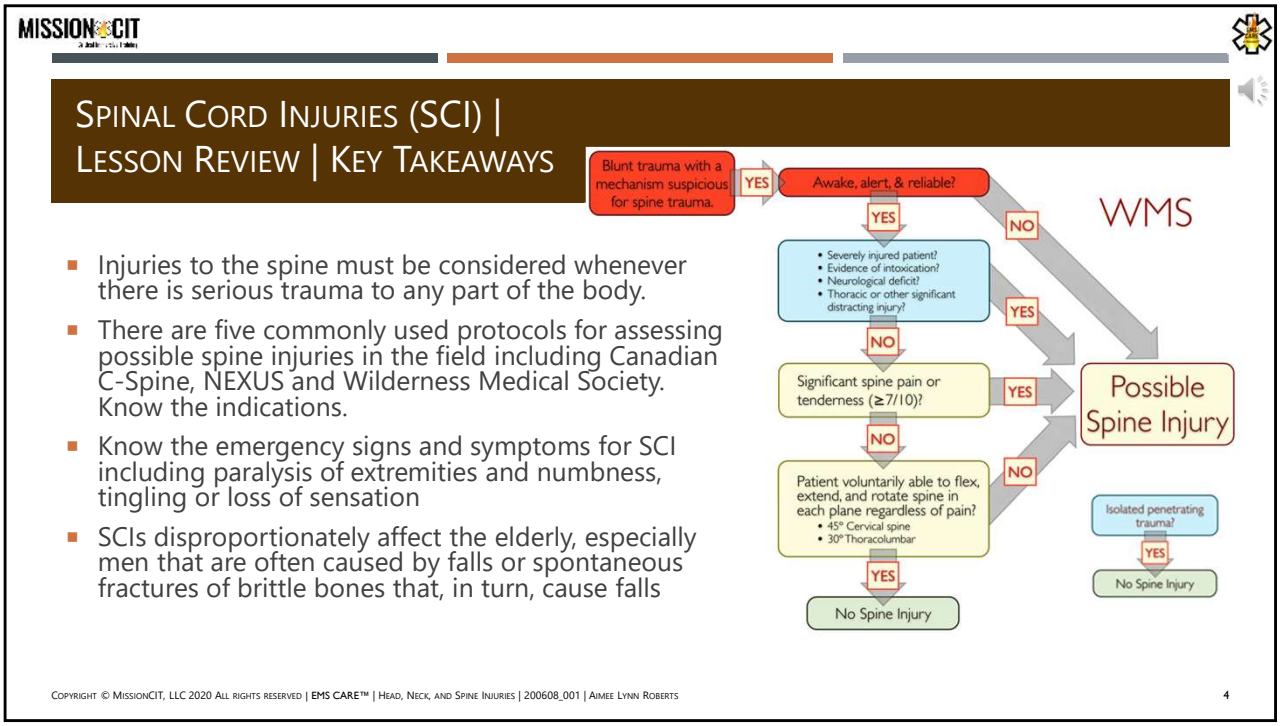
Here are the takeaways regarding the Nature, Types and Causes of SCI:

- Complete SCIs are the most serious and occur when the spinal cord is injured, eliminating the brain's ability to send signals below the injury site.
- Incomplete SCIs commonly result from compression or damage being inflicted that reduces the brain's ability to send signals below the injury site.
- Tetraplegia or Quadriplegia: The result of damage to the cervical spinal cord, and typically the most

severe. Paraplegia occurs when sensation and movement are removed from the lower half of the body.

And there are four types of injuries: Compression, Extension, Distraction, Flexion. They may result from:

1. A fall or a direct blow to the crown of the skull, coccyx, or on the top of the head.
2. Forces that compress the patient's vertebral body can cause herniation of disks, subsequent compression on the spinal cord and nerve roots, and fragmentation into the spinal canal.
3. Motor vehicle crashes or other types of trauma can overextend the cervical spine and damage the ligaments and joints.
4. Rotation-flexion injuries of the spine result from rapid acceleration forces.



And here are some more important takeaways:

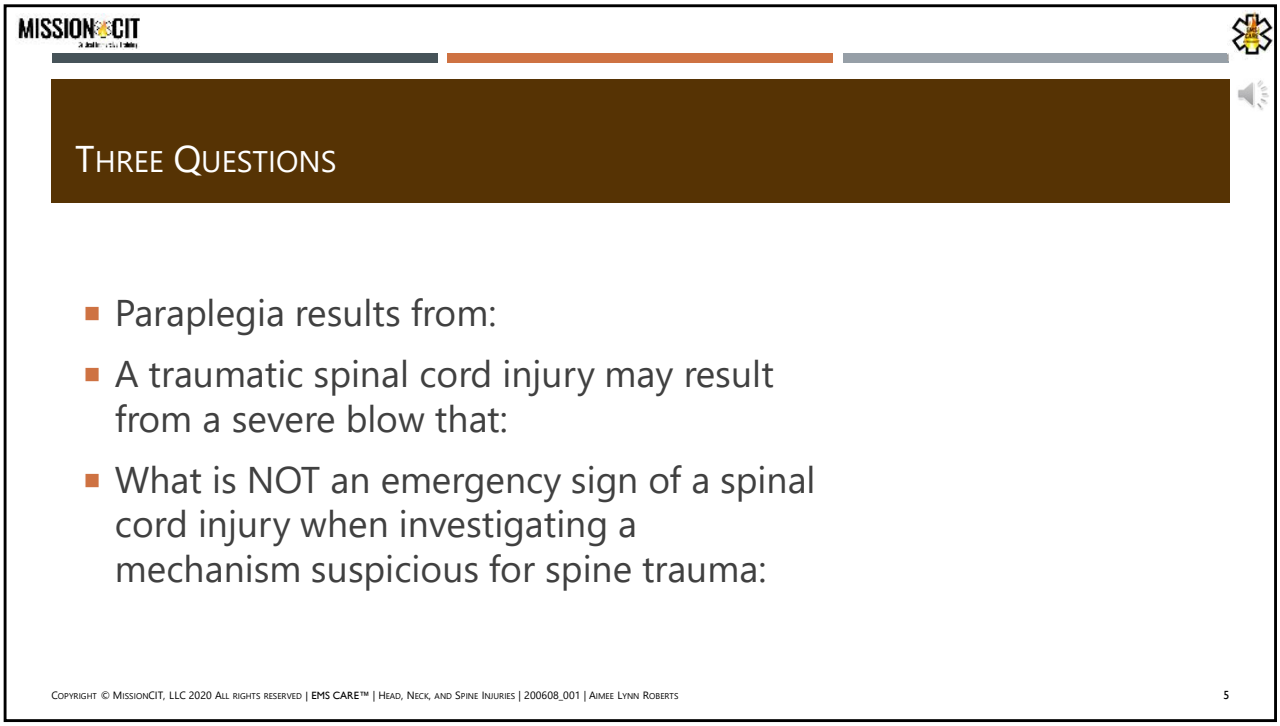
- Injuries to the spine must be considered whenever there is serious trauma to any part of the body. The spine is injured most often by compression or excessive flexion, by extension, or rotation from falls, by diving injuries, and by motor-vehicle collisions
- There are five commonly used protocols for assessing possible spine injuries in the field including Canadian C-Spine, NEXUS and Wilderness Medical Society. Know the indications

- Know the emergency signs and symptoms for SCI including paralysis of extremities and numbness, tingling or loss of sensation. The list of 13 items is available in the popup. And finally
- SCIs disproportionately affect the elderly, especially men that are often caused by falls or spontaneous fractures of brittle bones that, in turn, cause falls

List of 13 emergency signs for SCI:

Motor vehicle collisions, Pedestrian–motor vehicle collisions, Falls, Blunt trauma, Penetrating trauma to the head, neck, back, or torso, Rapid deceleration injuries

Hangings, Axial loading injuries, Diving & Skiing accidents, Priapism, Loss of bowel or bladder control, Deformity, and Neurogenic shock



And here are 3 questions to test your knowledge on Spine Injuries:

Question 1



- Paraplegia results from:
  1. Damage to the Cervical Spinal Cord
  2. Damage to the Thoracic Spinal Cord
  3. Damage to the Coccyx
  4. Damage to the Cerebellum
- Answer: Damage to the Thoracic Spinal Cord
- Discussion: Paraplegia occurs when sensation and movement are removed from the lower half of the body, including the legs. These injuries result from damage to the thoracic spinal cord.

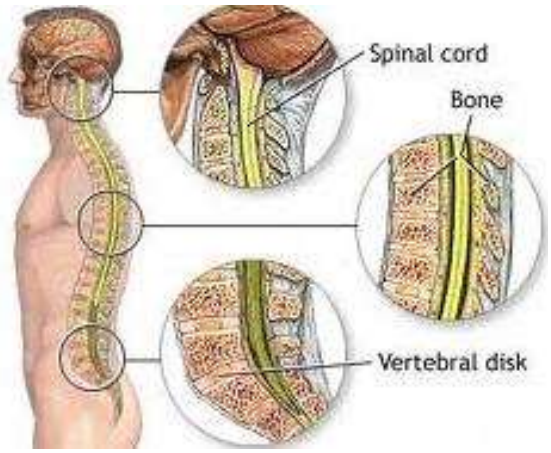
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So, how did you do. Here are the answers to each question.

For the first question, the answer is Damage to the Thoracic Spinal Cord. As we learned, Paraplegia occurs when sensation and movement are removed from the lower half of the body, including the legs. These injuries result from damage to the thoracic spinal cord.

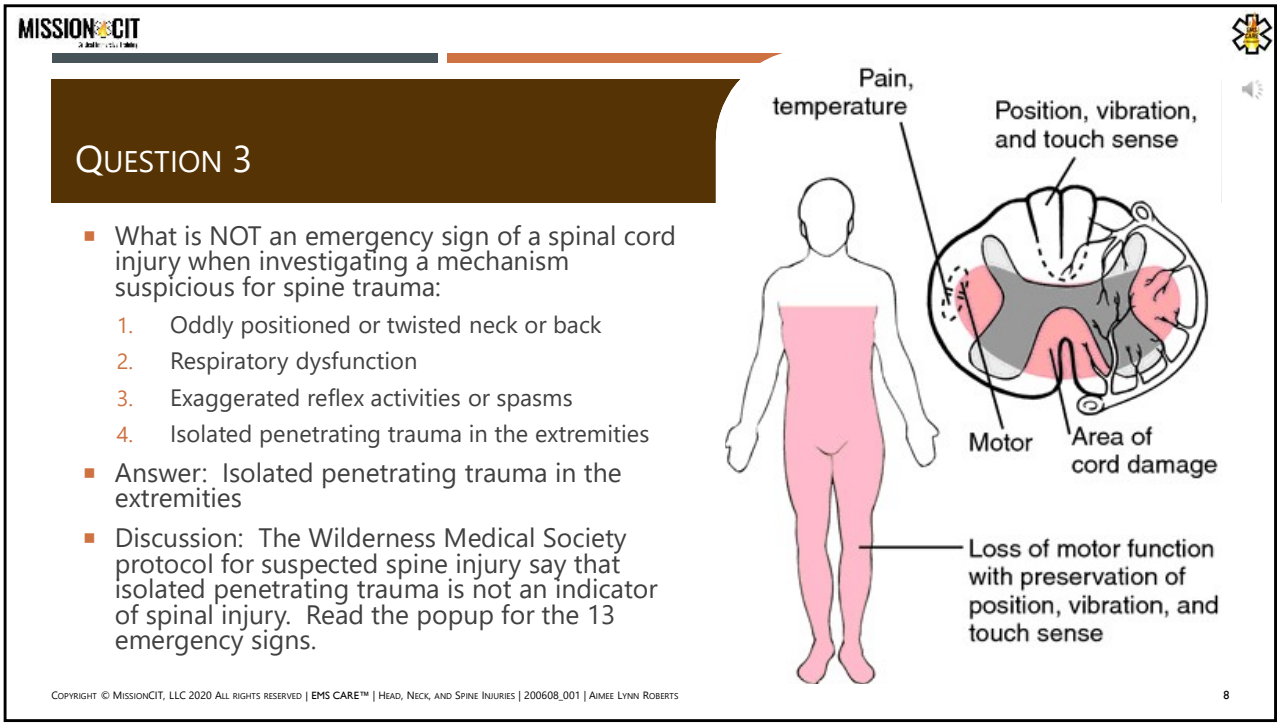
QUESTION 2

- A traumatic spinal cord injury may result from a severe blow that:
  1. Fractures the spine
  2. Dislocates the spine
  3. Compresses or crushes one or more vertebrae
  4. All are correct
- Answer: All are correct
- Discussion: A traumatic spinal cord injury may stem from a sudden, traumatic blow to your spine that fractures, dislocates, crushes or compresses one or more of your vertebrae. It may also result from a gunshot or knife wound that penetrates and cuts the spinal cord.



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For the second question, the answer is that all are correct. Recall that a traumatic spinal cord injury may stem from a sudden, traumatic blow to your spine that fractures, dislocates, crushes or compresses one or more of your vertebrae. It may also result from a gunshot or knife wound that penetrates and cuts the spinal cord.



For the third question, the answer is Isolated penetrating trauma in the extremities. As we learned, The Wilderness Medical Society protocol for suspected spine injury say that isolated penetrating trauma is not an indicator of spinal injury. Read the popup for the 13 emergency signs from slide 4.

So, this is not your final quiz, which will be available after the last review lesson. Keep in mind, you will need to pass with a score of 75% or greater to get credit for this Topic on Head and Spine Injuries.

Good Studying