



What is a Spinal Cord Injury?

Spinal cord injury (SCI) is damage to the spinal cord that results in the communication between the brain and other parts of the body becoming disrupted. This results in a loss of function such as movement or feeling. A person can 'break their back or neck' yet not sustain a spinal cord injury if the vertebrae are damaged, but the spinal cord is not affected. The spinal cord is surrounded by rings of bone which are called vertebrae. The major nerves, which form the spinal cord, carry nerve impulses to and from the brain to the rest of the body. The cord is protected by the backbone, which is made up of 33 individual vertebrae that have different names depending on their location.

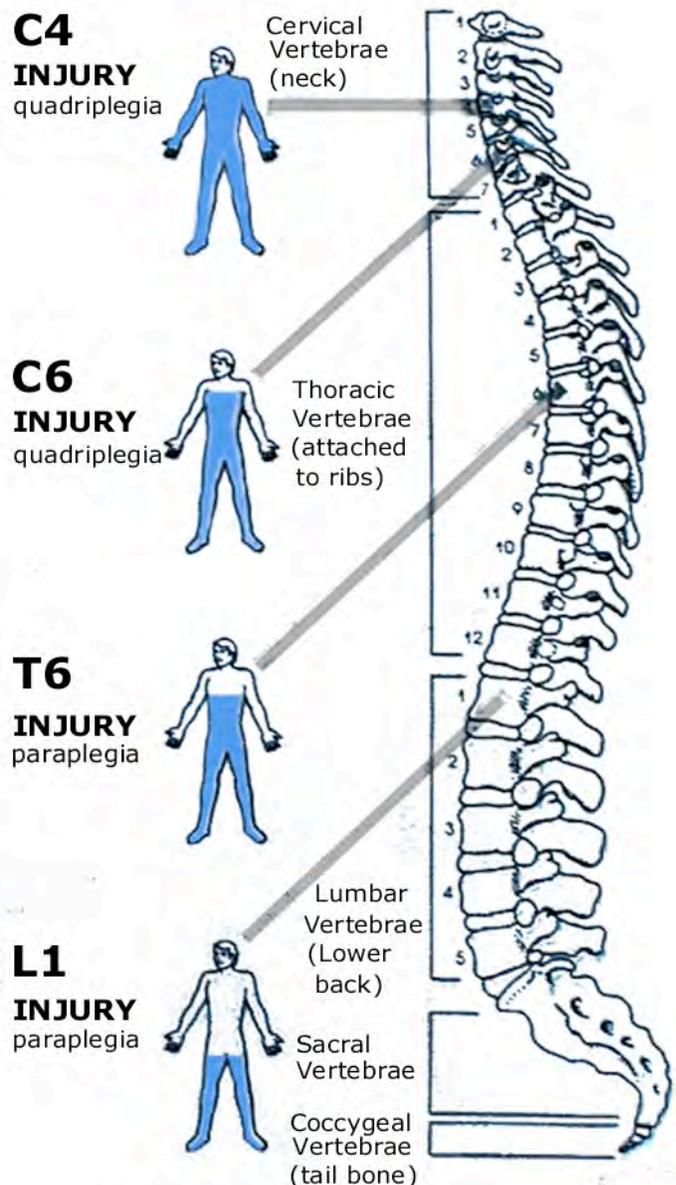
There are:

- 7 cervical vertebrae located in the neck,
- 12 thoracic vertebrae in the upper back
- 5 lumbar vertebrae in the lower back
- 5 fused sacral vertebrae in the hip area, and
- 4 fused vertebrae in your coccyx (tailbone).



Level of injury and extent of paralysis

The higher the spinal injury, the more muscles become paralysed



Spinal cord injuries can occur at any level of the spinal cord, and the level of the injury, will dictate which bodily functions are altered or lost.



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Level of injury at C:
Functions affected

What follows serves as illustrations only.

Level C3 to C4: signifies a total loss of motor function and sensation in all 4 limbs in a complete SCI. Muscles of the neck have a certain amount of motor function.

Level C5: This level of SCI allows a person to undertake certain day to day activities partially.

Level C6: at this level some persons with SCI can transfer from wheelchair to bed and car, also to dress.

Level C7: transfers; dressing; eating; and many other self-care activities are achievable by persons at this level of SCI.

Level C8: at this level flexing, extending and spreading of fingers are possible.

Level T1 to T6: hands are unaffected and breathing is easier but balance poor.

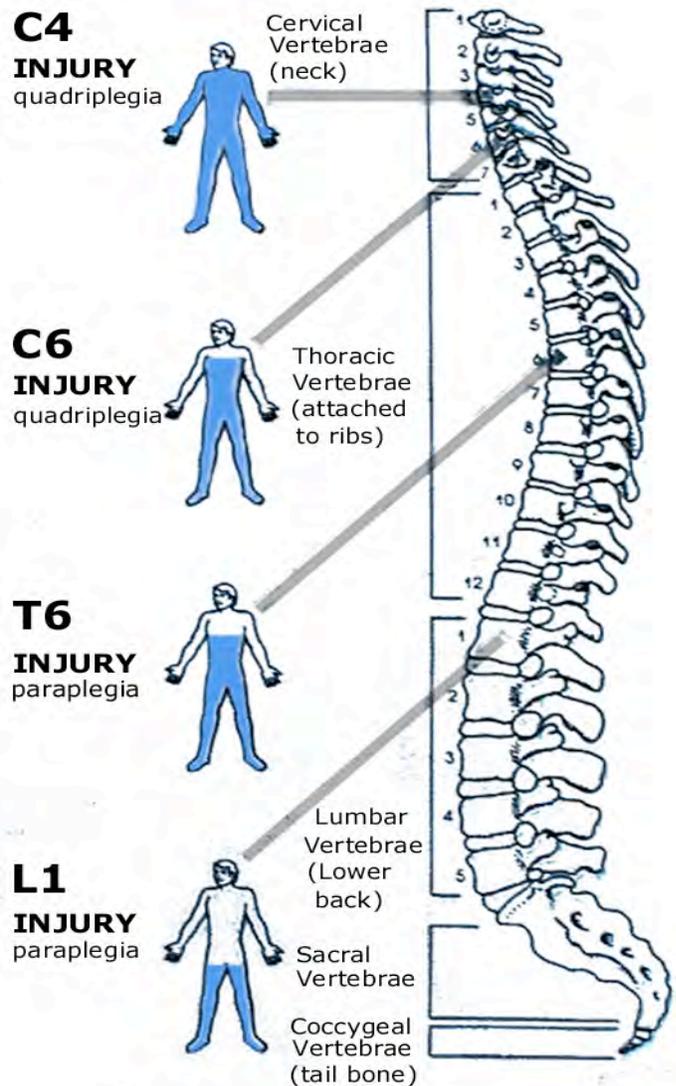
Level T12: at this level the person has good balance and control of movement of the trunk as well as good abdominal muscles.

Level L4: the SCI person can flex feet and extend knees. Walking is possible with forearm crutches and/or with short braces and walking stick. The lack of bladder function may cause incontinence.



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