

## K-100 Care of the Client with Spinal Cord Injury

### *Level of Injury*

Refers to the location of the injury on the spinal cord. The letter is the first initial of the section of the spinal cord. The number is the number of the vertebra in that section.

*There are four sections in the spinal column: cervical, thoracic, lumbar, and sacral. The spinal cord nerves enter and leave the spinal cord within these sections. When the cord is injured and nerves are damaged, the particular parts of the body that send and receive messages from those nerves cannot function. Knowing the level of injury determines how to best maximize the client's abilities. The actions of all the nerves located below the injury are weakened, interrupted or stopped. The higher the injury the less muscle function is available to the person.*

### *Severity of Injury*

Determines the extent of a spinal cord injury. *The level of injury to the cord may be different from the level of injury to the vertebral column. Lying within the vertebrae, the cord can be compressed, bruised, severed, or partially cut. Both voluntary and involuntary muscles may be affected, depending on the level and severity of injury.*

### *Voluntary Muscles*

Move when directed by the brain to perform intended actions such as raising an arm to lift a fork.

### *Involuntary Muscles*

Receive messages from the brain and spinal cord, but these muscles produce movements such as bladder and bowel activities and sexual function.

### *Paraplegia*

The injury occurred in the lower part of the back. The client loses use of legs and torso. He/she can use voluntary muscles to move head, hands, arms and for breathing. He/she can use his arms to propel his wheelchair, transfer self, and perform many of the activities of daily living. *Care is directed toward skin care, bowel and bladder, and loss of sensation below the level of injury.*

### *Quadriplegia*

The injury damaged the spinal cord near the upper back or neck. There is no feeling or voluntary movement below the neck. Loss of control for both arms, both legs, and likely the neck and breathing muscles. *Care is directed toward preventing complications and maintaining the individual at the highest level of functioning.*

### **Applies To**

Registered Nurses

Licensed Practical/Vocational Nurses

Other (*Identify*): \_\_\_\_\_

### **Principles**

Understand the use of and maintenance of equipment and assistive devices.

Encourage client to direct own care.

Encourage good health maintenance activities.

Provide good nutrition.

Provide rigorous skin care program that includes proper positioning and correct body alignment.

Establish and follow bowel and bladder programs.

Maintain mobility and range of motion.

Assist with respiratory programs as needed.

Keep a safe clean environment.

Treat as a competent individual and encourage independence.

### **Special Considerations**

#### *Loss of Sensation and Position*

This group of losses includes loss of sensation, touch, temperature, awareness and position of body parts. The client cannot experience how his body feels, and he cannot feel what he touches. The client cannot feel temperatures of hot or cold cannot feel pain and cannot feel pressure on his skin.

*Be observant and anticipate problems.*

#### *Bowel and Bladder Programs*

Clients who have lost voluntary control over their bowel and bladder functions can have successful regulatory programs for these functions.

#### *Importance of Skin Care*

The individual has lost communication between the brain, spinal nerve cords, and the skin below the level of injury. When feelings are not communicated, the skin's job is more difficult to carry out.

#### *Pressure Ulcers*

An area where the skin has broken down. May appear as a reddened area, may be breaks in the skin ranging from cracks to large open wounds. Any kind of pressure on the skin for an extended period of time can cause pressure ulcers.

**Spasticity**

Involuntary and uncontrolled muscle movements. This is a response to increased muscle tone. There may be tremors and rigidity. Spasticity can affect arms, legs or areas of the trunk. This problem can be triggered by such things as changing position, stimulation of heat, cold or pain, and by tight fitting shoes or clothing. *a general rule is to move muscles slowly when working with a client who has spasticity.*

**Postural Hypotension**

Decrease in blood pressure that occurs when client sits or stands up. The part of the nervous system that regulates the blood pressure during these movement changes is not fully operational due to the spinal cord injury. These clients have low blood pressure readings and reduced urinary output while sitting.

Signs and symptoms of postural hypotension are:

- Sweating.
- Pale color.
- Weakness.
- Fainting.
- Blood pressure lower than baseline.
- Weak rapid pulse.

**Resources for Spinal Cord Injury**

Hoeman, Shirley P., *Rehabilitation/Restorative Care in the Community*, C.V. Mosby Publishing 1990.

Consortium for spinal cord medicine “neurogenic bowel management in adult with spinal cord injury.

Clinical Practice Guidelines for pressure ulcers and treatment, Consortium for spinal cord medicine. Copyright 2000, paralyzed veterans of America [www.pva.org](http://www.pva.org).

**Related Procedures**

None

**Policy History**

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