Paralysis/Spinal Cord Injury

Paralysis is the complete or partial loss of function or feeling, involving the motion or sensation in a part of the body.[1] Paralysis can be caused by various types of injuries to the brain or spinal cord or diseases to a person's nervous system, which can affect the body's ability to move or feel.[1,2] During involvement in military operations, service members may be exposed to munitions explosions or other incidents that may cause damage to the brain or spinal cord.

The spinal cord is a bundle of nerve cells and fibers that stretches from the brain to the lower back.[3] The spinal cord is the line of communication between the brain and all parts of the body, sending and receiving messages.[3]

Spinal cord injuries (SCIs) cause a disruption in the communication between the brain and the other parts of the body and prevent messages from flowing past the damaged area of the spinal cord.[3] The severity and location of the injury delineates how much of this communication is affected.[3]

There is a direct relationship between what part(s) of the spinal cord has been damaged and what function(s) in the body will be impaired or lost.[3] The levels of the spinal cord control different things in the body and injury to a particular part of the cord will impact neighboring parts of the body.[2] Changes in movement, feeling, bladder control, etc. vary depending on where and how severely the spinal cord was injured.[3]

> **Prevalence:**
>
> - More than 200,000 individuals in the United States today have spinal cord injuries (SCI)[3]
> - Every year, approximately 10,000 more people sustain SCI from auto, sports and work accidents, falls, or during military service[3]
> - Common causes of spinal cord injury in the United States are:[1]
>   - Motor vehicle accidents (50%)
>   - Acts of violence (15%) - gun and knife wounds
>   - Falls (22%) – most common SCI for people over 65
>   - Sports and recreation injuries (8%) – impact sports and diving into shallow water
>   - Diseases (5%) - Cancer, infections, arthritis and inflammation of the spinal cord
> - Nearly 26,000 veterans with spinal cord injuries and disorders were treated in 2006[5]
> - SCI specialty care was given to about 13,000 of these veterans[5]

Treatment and Recovery

Medical staff will determine if the injury is complete or incomplete.[3] An incomplete injury allows a person to have some sensory or motor function below the level of injury because the spinal cord was not totally damaged and some feelings and movement may come back.[3,4] A complete injury damages nerves and blocks every message coming from the brain to the body parts below the injury.[4] Medical staff will work with the injured service member on a rehabilitation program with strengthening exercises, new styles of movement, and special equipment.[4]

References:

1. Mayo Clinic Staff. "Nervous System: Spinal Cord Injury." Mayo Clinic. 21 Apr. 2007. 15 Oct. 2008. <http://www.mayoclinic.com/health/spinal-cord-injury/DS00460>.

2. "Paralysis and Its Impact." Christopher and Dana Reeve Foundation Paralysis Resource Center. 15 Oct. 2008. <http://www.christopherreeve.org/site/c.geIMLPOpGjF/b.1106839/k.32E/Spinal_Cord_Basics_Tutorial_What_Causes_Paralysis.htm>.

3. "Spinal Cord Injury." Paralyzed Veterans of America. 15 Oct. 2008 <http://www.pva.org/site/pageserver?pagename=injury_main&jservsessionIdr007=uyudzck3x2.app8a>.

4. "Newly Paralyzed." Christopher and Dana Reeve Foundation Paralysis Resource Center. 15 Oct. 2008 <http://www.christopherreeve.org/site/c.mtKZKgMWKwG/b.4514599/k.901E/Newly_Paralyzed.htm >

5. "Fact Sheet: VA and Spinal Cord Injury." U.S. Department of Veteran Affairs. Aug. 2007. 15 Oct. 2008 <http://www1.va.gov/opa/fact/spinalcfs.asp>