Spinal Cord Injury

The website of the Christopher & Dana Reeve Foundation Paralysis Resource Center (PRC) offers a wealth of information. There is a section specifically for the newly injured (https://www.christopherreeve.org/living-with-paralysis/newly-paralyzed) as well as for those living with SCI (https://www.christopherreeve.org/living-with-paralysis/health/causes-of-paralysis/spinal-cord-injury). You can find valuable links to other organizations as well as information specific to advances in SCI research. Please also ask for a free copy of our Paralysis Resource Guide book.

Spinal cord injury involves damage to the nerves within the spinal canal; most SCIs are caused by trauma to the vertebral column, thereby affecting the spinal cord's ability to
send and receive messages from the brain to the body's systems that control sensory, motor and autonomic function below the level of injury.

The spinal cord and the brain together make up the central nervous system (CNS). The spinal cord coordinates the body's movement and sensation.

The spinal cord includes neurons and long nerve fibers called axons. Axons in the spinal cord carry signals downward from the brain (along descending pathways) and upward toward the brain (along ascending pathways). Many axons in these pathways are covered by sheaths of an insulating substance called myelin, which gives them a whitish appearance; therefore, the region in which they lie is called "white matter."

The nerve cells themselves, with their tree-like branches called dendrites that receive signals from other nerve cells, make up "gray matter." This gray matter lies in a butterfly-shaped region in the center of the spinal cord.

Like the brain, the spinal cord is enclosed in three membranes (meninges): the pia mater, the innermost layer; the arachnoid, a delicate middle layer; and the dura mater, which is a tougher outer layer.

The spinal cord is organized into segments along its length. Nerves from each segment connect to specific regions of the body. The segments in the neck, or cervical region, referred to as C1 through C8, control signals to the neck, arms, and hands. Those in the thoracic or upper back region (T1 through T12) relay signals to the torso and some parts of the arms. Those in the lumbar or mid-back region just below the ribs (L1 through L5) control signals to the hips and legs.

Finally, the sacral segments (S1 through S5) lie just below the lumbar segments in the mid-back and control signals to the groin, toes, and some parts of the legs. The effects of spinal cord injury at different segments along the spine reflect this organization.

Several types of cells carry out spinal cord functions. Large motor neurons have long axons that control skeletal muscles in the neck, torso, and limbs. Sensory neurons called dorsal root ganglion cells, whose axons form the nerves that carry information from the body into the spinal cord, are found immediately outside the spinal cord. Spinal interneurons, which lie completely within the spinal cord, help integrate sensory information and generate coordinated signals that control muscles.

Glia, or supporting cells, far outnumber neurons in the brain and spinal cord and perform many essential functions. One type of glial cell, the oligodendrocyte, creates the myelin sheaths that insulate axons and improve the speed and reliability of nerve signal transmission. Other glia enclose the spinal cord like the rim and spokes of a wheel, providing compartments for the ascending and descending nerve fiber tracts.

Astrocytes, large star-shaped glial cells, regulate the composition of the fluids that surround nerve cells. Some of these cells also form scar tissue after injury. Smaller cells
called microglia also become activated in response to injury and help clean up waste products. All of these glial cells produce substances that support neuron survival and influence axon growth. However, these cells may also impede recovery following injury.

After injury, nerve cells, or neurons, of the peripheral nervous system (PNS), which carry signals to the limbs, torso, and other parts of the body, are able to repair themselves. Injured nerves in the CNS, however, are not able to regenerate.

Nerve cells of the brain and spinal cord respond to trauma and damage differently than most other cells of the body, including those in the PNS. The brain and spinal cord are confined within bony cavities that protect them, but this also renders them vulnerable to compression damage caused by swelling or forceful injury. Cells of the CNS have a very high rate of metabolism and rely upon blood glucose for energy – these cells require a full blood supply for healthy functioning. CNS cells are particularly vulnerable to reductions in blood flow (ischemia).

Other unique features of the CNS are the "blood-brain-barrier" and the "blood-spinal-cord barrier." These barriers, formed by cells lining blood vessels in the CNS, protect nerve cells by restricting entry of potentially harmful substances and cells of the immune system. Trauma may compromise these barriers, perhaps contributing to further damage in the brain and spinal cord. The blood-spinal-cord barrier also prevents entry of some potentially therapeutic drugs. Finally, in the brain and spinal cord, the glia and the extracellular matrix (the material that surrounds cells) differ from those in peripheral nerves. Each of these differences between the PNS and CNS contributes to their different responses to injury.

**Complete vs. Incomplete**

What is the difference between a "complete injury" and a "incomplete injury?" Persons with an incomplete injury have some spared sensory or motor function below the level of injury – the spinal cord was not totally damaged or disrupted. In a complete injury, nerve damage obstructs every signal coming from the brain to the body parts below the injury.

While there's almost always hope of recovering function after a spinal cord injury, it is generally true that people with incomplete injuries have a better chance of getting some return.

In a large study of all new spinal cord injuries in Colorado, reported by Craig Hospital, only one in seven of those who were completely paralyzed immediately after injury got a significant amount of movement back. But, of those who still had some movement in their legs immediately after injury, three out of four got significantly better.

About 2/3 of those with neck injuries who can feel the sharpness of a pin-stick in their legs eventually get enough muscle strength to be able to walk. Of those with neck injuries who can only feel light touch, about 1 in 8 may eventually walk.
The sooner muscles start working again, the better the chances are of additional recovery. But when muscles come back later - after the first several weeks - they are more likely to be in the arms than in the legs.

As long as there is some improvement and additional muscles recovering function, the chances are better that more improvement is possible.

The longer there is no improvement, the lower the odds it will start to happen on its own.

Statistics

Approximately 1,275,000 people in the United States have sustained traumatic spinal cord injuries. Males account for 61 percent of all SCI’s and females 39 percent.

Spinal cord injuries are most commonly caused by motor vehicle accidents. The next most frequent causes are falls and acts of violence. Sports-related spinal cord injuries occur more commonly in children and teenagers, while work-related injuries (especially from construction work) predominate in adults.

Most spinal cord injury patients are in their teens or twenties. Approximately 77.8% are male. This male preponderance decreases beyond age 65, at which age falls become the most common mechanism of spinal cord injury. More than half of all spinal cord injuries occur in the cervical area, i.e., in the neck. Almost a third occur in the thoracic area (where the ribs attach to the spine). The remainder occur in the lumbar area, i.e., the lower back.

Currently, there is no cure for spinal cord injuries. However, ongoing research to test surgical and drug therapies is progressing rapidly. Injury progression prevention drug treatments, decompression surgery, nerve cell transplantation, nerve regeneration, and complex drug therapies are all being examined as a means to overcome the effects of spinal cord injury.

Sources: American Association of Neurological Surgeons, Craig Hospital, Christopher and Dana Reeve Foundation, The National Institute of Neurological Disorders and Stroke

Web Sites

Websites for Choosing a Rehab Facility:

http://www.carf.org
CARF International (Commission on Accreditation of Rehabilitation Facilities)
6951 East Southpoint Road
Tucson, AZ 85756-9407
Phone: 520-325-1044, 888-281-6531 (Toll-free voice/TTY)
E-mail: medical@carf.org for medical rehabilitation
CARF is an independent, not-for-profit accrediting body promoting quality, value, and optimal outcomes of services through a consultative accreditation process that centers on enhancing the lives of the persons receiving services. CARF establishes customer-focused standards to help providers measure and improve the quality, value, and outcomes of their services. CARF has accredited more than 3,500 organizations in the United States, Canada, and Sweden in the areas of Adult Day Services, Assisted Living, Behavioral Health, Employment and Community Services, and Medical Rehabilitation. CARF develops and maintains practical and relevant standards of quality for such programs.

To locate an accredited rehabilitation facility near you contact CARF. They have information on rehab facilities accredited in spinal cord injury, brain injury, and pain management. The CARF website has a provider search tool at http://carf.org/advancedProviderSearch.aspx where you can look for rehab programs by location (18 countries). You can also narrow the focus by program type, program focus (including Brain Injury Spinal Cord System of Care), and/or age group or special population served.

http://www.msktc.org/

Model Systems Knowledge Translation Center (MSKTC)
MSKTC is a national center that works to put research into practice to serve the needs of people with traumatic brain injuries, spinal cord injuries, and burn injuries. The site lists contact information for the 14 model SCI centers in the U.S. The 14 model centers are currently located in the following states: Alabama, California, Colorado, Florida, Georgia, Illinois, Kentucky, Massachusetts, Michigan, New Jersey, Pennsylvania, and Washington.

http://search.naric.com/research/redesign_record.cfm?search=2&type=all&criteria=choosing%20high%20quality%20medical%20rehabilitation%20program&phrase=no&rec=97986

This guide addresses what medical rehabilitation is, insurance coverage, and how to choose a medical rehabilitation program.

General Websites:

http://www.aan.com/pressroom/home/getdigitalasset/9284

American Academy of Neurology: Monitoring the Spinal Cord During Surgery
This fact sheet describes spinal cord monitoring procedures and how they may help prevent paralysis related to surgery.

http://www.aan.com/pressroom/home/getdigitalasset/9283

American Academy of Neurology: Intraoperative Spinal Monitoring with Somatosensory and Transcranial Electrical Motor Evoked Potentials
This fact sheet presents a summary of the evidence that intraoperative spinal monitoring with somatosensory and transcranial electrical motor evoked potentials reduce the risk of adverse neurologic outcomes during surgery.


American Association of Neurological Surgeons: Spinal Cord Injury
This page has general information on spinal cord injury, including the number of people in the U.S. with SCI, types and levels, treatment, prevention, safety tips, and mortality.

http://www.asia-spinalinjury.org/

American Spinal Injury Association (ASIA)
2209 Dickens Rd.
Richmond, VA 23230-2005
Phone: 804-565-6396
E-mail: ASIA.office@asia-spinalinjury.org
ASIA’s mission is to promote and establish standards of excellence for all aspects of health care of individuals with SCI; to educate members, other healthcare professionals, patients and their families as well as the public on all aspects of spinal cord injury and its consequences; to foster research; and to facilitate communication among members and other physicians, allied health care professionals, researchers and consumers.

www.BackBonesOnline.com

BackBones
PO Box 7334
Prospect Heights, IL 60070
Phone: 618-SCI-5484
A non-profit organization that provides peer support in person and by phone as well as web support to people with spinal cord injuries.

http://www.brainandspinalcord.org/

Brain and Spinal Cord Injuries
201 South Orange Ave., Suite 1500
Orlando FL 32801
Phone: 855-979-4407 (Toll-free)
This site was created and sponsored by the Newsome Law Firm as a knowledge-base for brain injury and spinal cord injury survivors to help answer questions involving a wide spectrum of issues: health, rehabilitation, hope for recovery, current research, financial, legal, and more. The site includes blogs, in-depth articles, links to resources, and commentary on developments in research and recovery. There is also a video library with basic information that survivors need to know about and videos of other brain injury and spinal cord injury survivors and their families talking about lessons they have learned and telling their personal stories about hope and coping.

http://sci.rutgers.edu

CareCure Community
An online moderated community with some answers from Dr. Wise Young of Rutger’s W.M. Keck Center. Please be sure to register and then post your issues in the appropriate forum. The caregiver forum is specifically designed to provide support for family members. You may receive replies from others in similar situations. You can also post in the Care Forum and the SCI nurses may be able to assist with any specific medical questions. The Cure Forum is excellent in outlining new advances and promising treatments. In contacting any of the moderators, please indicate in the subject line that you were referred by the PRC.

http://fescenter.org/

Cleveland FES Center
10701 East Boulevard
Cleveland, OH 44106
Phone: 216-231-3257
The FES Center is a consortium of three Cleveland-based institutions founded to introduce FES into clinical practice. FES, or functional electrical stimulation, is the application of electrical currents to either generate or suppress activity in the nervous system. It can produce and control the movement of otherwise paralyzed limbs. The Center’s information specialists can provide fact sheets, references, and background on FES and its other applications.

https://craighospital.org/resources/nurse-advice-line
Craig Hospital: Spinal Cord Injury Nurse Advice Line
Phone: 303-789-8508, 800-247-0257 (Toll-free)
The Nurse Advice Line provides a dedicated nurse to answer non-emergent calls from people with SCI, caregivers, and health care professionals. The service is open Monday through Friday from 9 am to 4 pm MST.

https://craighospital.org/resources/topics/spinal-cord-injury-sci
Craig Hospital: Spinal Cord Injury (SCI) Resources

https://craighospital.org/resources/incomplete-spinal-cord-injuries-down-the-road
Craig Hospital: Incomplete Spinal Cord Injuries Down the Road

https://craighospital.org/resources/incomplete-spinal-cord-injuries-the-early-days
Craig Hospital: Incomplete Spinal Cord Injuries the Early Days

Craig Hospital: Diabetes & Spinal Cord Injury Prevention and Treatment

http://www.determined2heal.org/
Determined to Heal
8112 River Falls Dr.
Potomac, MD 20854
Phone: 703-795-5711
E-mail: determined2heal@aol.com
The Determined2heal Foundation offers educational and health related information relevant to persons with spinal cord injuries, their families, and others of interest. The Foundation was created by Josh Basile, injured at C5, to help others with new spinal cord injuries.

http://www.facingdisability.com
Facing Disability: For Families Facing Spinal Cord Injury
Hill Foundation
737 N. Michigan Avenue, Suite 1560
Chicago, IL 60611
Phone: 312-284-2525
E-mail: info@facingdisability.com
Facing Disability is designed to provide Internet-based information and support for people with spinal cord injuries and the members of their families. The site has over 1,000 videos drawn from personal interviews with people who live with spinal cord injuries and their caregivers and families as well as experts in the field. It also offers a peer counseling service.

http://www.fscirc.com/
Florida Spinal Cord Injury Resource Center
c/o Tampa General Rehabilitation Center
6 Tampa General Circle - Room R212
Tampa, FL 33606
Phone: 813-844-4711, 866-313-2940 (Toll-free)
A resource information clearinghouse that provides ready access to the most recent magazines, books, videos and reference materials related to SCI. It also provides listings of Florida's designated SCI treatment centers, independent living centers and support groups. The center serves spinal cord injured individuals, their families, support groups and rehabilitation professionals. They list some pediatric resources and materials, which can be downloaded. Many of their information sheets are excellent and the information is the same regardless of where you live.

Gaylord Hospital's Spinal Cord Injury Toolkit
The New England SCI Toolkit (NESCIT) is a collaborative effort between facilities providing spinal cord injury (SCI) rehabilitation in New England. This collaboration ensures patients throughout New England and beyond are receiving the same coordinated standard of care wherever they receive rehabilitation. Further, this toolkit will aid in building capacity at facilities that may not treat patients with SCI often enough to have developed expertise. The toolkit focuses on the following areas: patient/family caregiver education, AD, skin care, bladder and bowel management, sexual health and fertility, and spasticity.

http://www.makoa.org/sci.htm
Makoa: Spinal Cord Injury and Disease Resources
This page has links to resources for information, treatment and rehabilitation, research, online discussions, newsletters and magazines, articles and pamphlets, fact sheets, books, and more.

http://www.medicinenet.com/spinal_cord_injury_treatments_and_rehabilitation/article.htm

MedicineNet.com: Spinal Cord Injury Treatments and Rehabilitation
This page has general information on the spinal cord and spinal cord injuries, including treatments, rehabilitation and research.


MedlinePlus: Spinal Cord Injuries
This page has links to general information on spinal cord injuries, including treatments, prevention, rehabilitation and recovery, coping and research.

http://www.msktc.org/sci/factsheets/Understanding_SCI

MSKTC: Understanding Spinal Cord Injury
MSKTC is a national center that works to put research into practice to serve the needs of people with traumatic brain injuries, spinal cord injuries, and burn injuries.

http://www.naric.com

National Rehabilitation Information Center (NARIC)
8400 Corporate Drive, Suite 500
Landover, MD 20785
TTY: 301-459-5984
Toll-free: 800-346-2742
Email: naricinfo@heitechservices.com
NARIC’s site has over 75,000 resources collected and organized according to topic, including organizations, agencies, Internet resources, reports, and research projects. The Center provides a computerized listing of commercially available products for rehabilitation and independent living. In addition, they will provide a computerized listing of rehabilitation literature and materials.

http://www.spinalcord.org

National Spinal Cord Injury Association
120-34 Queens Blvd #320
Kew Gardens, NY 11415
Phone: 718-803-3782
Toll-free: 800-404-2898
Resource Center helpline: 800-962-9629 (Toll-free)
E-mail: info@unitedspinal.org
The NSCIA is the nation’s oldest and largest civilian organization dedicated to improving the quality of life for hundreds of thousands of Americans living with the results of spinal cord injury and disease (SCI/D) and their families. The NSCIA Resource Center provides information and resources to meet the needs of individuals with SCI/D; their families and
friends; the medical and scientific community; service and business professionals; the media; students; government; elected officials; and the public.

National Institute of Neurological Disorders and Stroke: Spinal Cord Injury Information Page
This page has general information on spinal cord injury, including treatment, prognosis, research, and links to other organizations and publications.

National Institute of Neurological Disorders and Stroke: Spinal Cord Injury – Hope Through Research
This page has general information on the spinal cord and spinal cord injury, including anatomy, immediate treatments, effects on the rest of the body, the benefits of rehabilitation, and research.


This report from a scientific workshop sponsored by the National Institutes of Health on September 30 - October 1, 1996, covers topics related to spinal cord injury including current understanding and treatment, secondary damage, current interventions, and new therapies.

https://www.nscisc.uab.edu/Public_Pages/QuickSearchTools
The NIDILRR-funded National Spinal Cord Injury Statistical Center (NSCISC) has created a Life Expectancy Tool for individuals with SCI, clinicians, practitioners, and caregivers. The tool provides an estimate as to the life expectancy of a person with a spinal cord injury who is at least two years post-injury, has access to good-quality health care, is not on a ventilator, and has not regained all normal feeling and movement. The Life Expectancy Tool was developed from data collected and research conducted by the NIDILRR-funded Spinal Cord Injury Model System Centers.

http://www.neurotechnetwork.org/
NeuroTech Network
P.O. Box 27386
Tampa, FL 33623
Phone: 727-321-0150
E-mail: info@neurotechnetwork.org
Neurotech Network of The Society to Increase Mobility is a non-profit organization focusing on education about and access to neurotechnology devices, therapies and treatments for persons with neurological and psychiatric disorders or impairments.
Neurotechnology is the application of medical electronics to improving and restoring the function of the human nervous system.

http://www.pva.org
Paralyzed Veterans of America (PVA)
National Headquarters
801 18th Street NW
Washington, DC 20006-3517
Phone: 800-424-8200 (Toll-free), 800-795-4327 (TTY)
Health Care Hotline: 800-232-1782 (Toll-free)
E-mail: info@pva.org

PVA is a federally chartered national veterans' service organization. In addition to a strong national presence in the areas of legislation, advocacy, research and education, they have chapter and service offices located throughout the United States. PVA has many excellent publications available in areas of interest to people with spinal cord injury. PVA also publishes two nationally distributed magazines, Paraplegia News and Sports 'n Spokes.

This manual is designed to provide information on the many aspects of spinal cord injury and dysfunction to patients and family members.

http://www.bu.edu/sciguide/
The SCI Guide
The SCI Guide was created to give the SCI community a place to go to get trusted, peer-reviewed information. The site brings together the best websites on SCI as rated by a team of people with SCI on things like quality of information and user-friendliness.

http://www.sci-info-pages.com/
SCI Info Pages
This site is a free and informative resource for those living with a spinal cord injury or other disabling injuries or diseases of the spine. It is meant to be a "best of the web" site for SCI health and caregiver information.

http://www.spinalcord.uab.edu/
Spinal Cord Injury Information Network (SCIIN)
The Spinal Cord Injury Information Network, sponsored by the University of Alabama at Birmingham Spinal Cord Injury Model System, provides a comprehensive and organized source of SCI information and resources from recognized centers, organizations, researchers and educators.
SCIIN: Secondary Conditions of Spinal Cord Injury Health Education Video Series
This series includes 11 videos on functional goals, life with SCI, sexuality and sexual function, bowel management, bladder management, pressure sores, pain management, spastic hypertonia, respiratory management, cardiovascular health, and bone health. Each video can be streamed online or downloaded.

SCIIN: Understanding Spinal Cord Injury & Functional Goals (Basic)
This InfoSheet provides a brief summary of the changes that take place after a spinal cord injury. It tells how the spinal cord works and what some of the realistic expectations are for what a person should eventually be able to do following a spinal cord injury. Included is a chart of functional goals for specific levels of injury as well as additional information resources.

SCIIN: Understanding Spinal Cord Injury & Functional Goals (Advanced)
This InfoSheet provides a brief summary of the anatomy and physiology of the spinal cord as well as additional information resources.

Spinal Cord Injury Rehabilitation Evidence (SCIRE)
The SCIRE Project
Janice Eng PhD BSc (PT/OT)
Department of Physical Therapy
Friedman Building
212-2177 Wesbrook Mall
University of British Columbia
Vancouver, BC
Canada V6T 1Z3
Phone: 604-714-4105
The SCIRE project is a Canadian research collaboration between scientists, clinicians and consumers on best rehabilitation practices following SCI.

Spinalis Tips
Has tips from the people with spinal cord injuries on adapting your environment, self-care, travel, and wheelchair life among others. Spinalistips is run by Spinalis Foundation.
Spine Universe: Spinal Cord Injury
This page has information, articles and videos on spinal cord anatomy and spinal cord injury.

http://www.unitedspinal.org

United Spinal Association
120-34 Queens Blvd #320
Kew Gardens, NY 11415
Phone: 718-803-3782
Toll-free: 800-404-2898
Resource Center helpline: 800-962-9629 (Toll-free)
E-mail: info@unitedspinal.org

United Spinal is dedicated to helping people living with spinal cord injury and disease. The organization provides information, peer support and advocacy that empower individuals to achieve their highest potential in all facets of life.

http://unite2fightparalysis.org/

Unite 2 Fight Paralysis
3078 Eliot Dr.
Hood River, OR 97031
Phone: 888-564-2228
E-mail: unite@u2fp.org

Unite 2 Fight concentrates on advocacy, education and support for research.

Internet Discussion Forums:

http://sci.rutgers.edu

Care Cure Community
The online home of neuroscientist Wise Young, Ph.D., M.D., Professor II and Director at the W. M. Keck Center for Collaborative Neuroscience at Rutgers University. This site offers lively Internet forums with news and comment on spinal cord injury care, caregiving, cure, funding, active living, pain treatment, sexuality, biomedical research, clinical trials and more.

http://www.christopherreeve.org/community

The Reeve Foundation Paralysis Community
Is an online community and social networking website from the Christopher & Dana Reeve Foundation Paralysis Resource Center. The Paralysis Community is a place for dialogue about spinal cord injury or disease, and about all issues related to paralysis. Members of The Paralysis Community will be able to connect with other members who have spinal cord injuries and/or paralysis or care for those who do. You may participate in discussion groups, post personal profiles with an optional photo, invite members to be friends, and build your own online support network.
Please ask for our list of SCI chat rooms if you would like the names of additional online forums, chat rooms and e-mail discussion groups.

**Print Magazines: Consumer**

**www.newmobility.com**
New Mobility
United Spinal Association
120-34 Queens Blvd #320
Kew Gardens, NY 11415
Phone: 800-404-2898 ext. 7203 (Toll-free)
This monthly magazine encourages the integration of active-lifestyle wheelchair users into mainstream society and covers topics such as travel and relationships.

**http://pvamag.com/pn/**
**PN: Paraplegia News**
PVA Publications
2111 East Highland Avenue, Suite 180
Phoenix, AZ 85016-4702
Phone: 602-224-0500, 888-888-2201 (Toll-free)
*PN* (formerly *Paraplegia News*) is a monthly magazine that provides practical news and information to wheelchair users, family members, and medical professionals.

**Print Magazines: Professional**

**http://www.nature.com/sc/index.html**
**Spinal Cord**
The official journal of the International Spinal Cord Society, *Spinal Cord* is a monthly, multi-disciplinary forum covering basic science, clinical and applied studies, and the psychology and epidemiology of spinal injury and disease from around the world.

**http://www.thomasland.com/about-spinalrehab.html**
**Topics in Spinal Cord Injury Rehabilitation**
Quarterly peer-reviewed journal published by Thomas Land that discusses functional approaches and innovative techniques for spinal cord injury rehabilitation. Each issue focuses on research papers with the latest clinical developments as well as an in-depth review of a single key topic.

**E-mail and Online Newsletters:**
Spinal Column

*Spinal Column* is a quarterly magazine from the Shepherd Center in Atlanta, Georgia, that features patient profiles, medical and treatment news, upcoming events, research features, volunteer and donor recognition and more.

http://sci.washington.edu/info/newsletters/index.asp

**Spinal Cord Injury Update**

This is a free publication from the Department of Rehabilitation Medicine at the University of Washington in Seattle, Washington. It is published three times a year and is also available in print.

**On Demand Videos**

The following video can be streamed or downloaded online.

http://www.spinalcord.uab.edu/show.asp?durki=97417

**Spinal Cord Injury Information Network: Secondary Conditions of Spinal Cord Injury Health Education Video Series**

The 26-minute video “Understanding Spinal Cord Impairments and Functional Goals” offers a basic understanding of the normal function of the spinal cord and the impact of impairment at different types and levels of injury. In addition, functional goals are addressed for levels of impairment.

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The information contained in this message is presented for the purpose of educating and informing you about paralysis and its effects. Nothing contained in this message should be construed nor is intended to be used for medical diagnosis or treatment. It should not be used in place of the advice of your physician or other qualified health care provider. Should you have any health care related questions, please call or see your physician or other qualified health care provider promptly. Always consult with your physician or other qualified health care provider before embarking on a new treatment, diet or fitness program. You should never disregard medical advice or delay in seeking it because of something you have read in this message.

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