

Spinal Cord Injury Program Scope of Services

Our Mission

The mission of the Spinal Cord Injury Program is to assist our patients in achieving their highest possible level of independence. This is consistent with the core values and mission of Helen Hayes Hospital in that it promotes independence and health through high quality, cost effective medical rehabilitation care with dignity and respect for all.

Our Patients

The Spinal Cord Injury Program is designed to meet the needs of the adult and adolescent individual recovering from a traumatic or non-traumatic spinal cord injury throughout the life span. We also care for patients with Guillian Barre Syndrome (GBS), Amyotrophic Lateral Sclerosis (ALS), peripheral nervous system disorders, myopathies, muscular dystrophies as well as other demyelinating disorders.

We accept referrals from all over the country, however our top (5) referral sources are Good Samaritan Hospital, Nyack Hospital, Westchester Medical Center, Hospital for Special Surgery, and Columbia Presbyterian Medical Center. Helen Hayes Hospital accepts most insurance but if your insurance is not contracted, fees can be negotiated. Helen Hayes has contracts with most major payer sources but our top (5) are: Medicare, Blue Cross, Aetna, United Healthcare and Medicaid.

Our Approach and Our Rehabilitation Team

This is a unified, interdisciplinary program offering the culturally diverse spinal cord injury population a full range of rehabilitation services. The acute rehabilitation program offers a minimum of (3) hours per day focusing on the return to maximal, functional independence.

Each morning, patients dress in their own clothes and are served breakfast. Patients participate in at least three hours of therapy, following the assigned therapy schedule. Lunch takes place at about 12:00 noon, and therapy generally ends for the day about 4pm. Patients are then free to rest, relax, spend time with visitors or take advantage of any of the amenities or services offered. Dinner is generally served at 4:45pm.

The Attending Physician, is the SCI Medical Director and the patient's primary physician, who is a board certified physiatrist. The physician will perform a physical examination upon admission and a comprehensive review of all medical systems (nervous system,

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cardiopulmonary system, skin integrity, etc.) is completed. This review allows the Attending Physician to discover the patient's general state of health, as well as determining whether the patient has begun to experience bowel/bladder dysfunction, autonomic dysreflexia, dysphagia, infections, respiratory difficulties, skin breakdown, spasticity, impairments of vision, sexual dysfunction, pain, circulatory compromise, lack of appetite, numbness/tingling or weakness, changes in mental function and mood, musculoskeletal complications, neurological changes or signs and symptoms of DVT/PE (deep vein thrombosis/pulmonary embolus) that are potential complications of spinal cord injury.

Laboratory and diagnostic tests are completed based on the needs of the patient. We have lab and radiology services on-site. Therefore, staff have the capability to order a diagnostic test STAT and obtain results promptly so that an informed decision can be rendered for the plan of care. Turnaround time is generally one hour for these diagnostic tests. Consultants are called as indicated and include pulmonologists, psychiatrists, and urologists.

All of the above findings are discussed with the patient. The physician carefully discusses the spinal cord injury, any complications that may have developed and the long-term prognosis. This may also include discussing the relevance of age at the time of the injury as well as the relationship between aging and the spinal cord injury. The anticipated level of recovery and function at the time of discharge is also discussed with the patient and their support system. An individualized treatment plan is developed with each patient and this plan includes the patient's and family's goals

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as well as the rehabilitation teams knowledge and experience in guiding patients towards realistic goals based upon each level of spinal cord injury. Current medications are reviewed and adjusted as our physician and patient feel is warranted. The treatment plan addresses each patient's medical, physical, and psychosocial needs. This plan is reviewed with the patient and family shortly after admission and is modified as necessary based upon the degree of progress seen over time.

The SCI patient receives 24 hour nursing care by licensed, Registered Nurses (R.N.'s) with a majority of our spinal cord nurses having earned specialty certification in rehabilitation (CRRN). In addition we have HCA's (Health Care Assistants) to provide assistance with Activities of Daily Living (ADLs) and transfers. The licensed nursing staff administers all medications, provides wound and skin care and is responsible for bowel and bladder training.

Our occupational therapists evaluate the ADL (Activities of Daily Living) and adaptive equipment needs of our patients. Assistive technology needs - - both immediate (i.e. adapted call bells, phones and TV remotes), as well as long-term requirements are addressed. OT also evaluates the patients' cognitive status, safety needs for current environment as well as for discharge setting, visual functioning and can set up a cognitive remediation program. Our OT staff assesses physical impairments and functional limitations of the upper body, allowing for the development of optimal individualized exercise programs. Upper body orthoses (braces/splints) are made and set up by OT to assist positioning and function for ADL's. Our community outings, adaptive driving program, transitional living unit and home and food management center allow OT to assist our patients in their transition from hospital to community/home. Functional Electrical Stimulation & vibration therapy are some of the evidenced based treatments we offer through our OT discipline.

Our physical therapists address lower body function, seating, mobility, respiratory and circulation issues faced by our spinal cord patients. A therapist with experience in SCI works one-on-one with the patient, providing therapeutic interventions designed to regain and learn new skills and the tools necessary to promote an active life at home, work or school. Physical therapists, who address physical impairments and functional limitations, will assess strength and flexibility and utilize individualized exercises and hands-on techniques to restore the greatest degree of function and mobility. In conjunction with Occupation Therapy, PT will also assess any issues associated with the aging process. PT and OT also help patients and their family members evaluate the home for necessary home modifications. Tilt table activities, standing frames, Functional Electrical Stimulation, vibration therapy and Locomotor Training are some of the tools we use for our patient's specialized needs. Complex seating issues are dealt with in consultation with our Center for Rehabilitation Technology (CRT).

SCI patients with speech, swallowing, cognitive and communication difficulties are also assisted by our speech

therapists. Cognitive remediation programs are provided for those with a combination SCI – TBI (Traumatic Brain Injury). Those patients who are on ventilators and tracheotomy tubes are taught how to use their speaking valves by our therapists. Bedside swallowing evaluations with blue-dye, and a fluoroscopic modified barium swallow &/or Fiber optic Endoscopic Evaluation of Swallow (FEES) are also provided. Diet advancement and the teaching of protective swallowing techniques are also provided. These therapists also have specialized skills in teaching breathing skills and secretion clearance techniques to assist in the ventilator/trach weaning process.

Case managers assist patients and families with entitlement programs, insurance issues and the exploration of community resources. They disseminate information regarding discharge planning, and arrange for home care, outpatient therapy and nursing home services where appropriate as well as hiring of personal care assistants and other available resources. They are available for guidance to both patients and caregivers especially for transition, discharge and long term planning. They facilitate communication between the family and the SCI team throughout the continuum of care to insure a smooth transition from hospital to home.

SCI patients with respiratory impairment are assisted by our Licensed Respiratory Therapists. Post-operative patients may receive supplemental oxygen, bronchodilators, or incentive spirometry to regain lung function. Weaning is a continuous process using the latest techniques proved most effective for SCI patients. Cough Assist machines are available to all trach and ventilator patients to improve the chances of successful weaning. The Respiratory team will provide training necessary for those patients remaining on the ventilator or with a tracheotomy to ensure a smooth transition home.

The Center for Rehabilitation Technology (CRT) specializes in the application of cutting edge, assistive technologies that enable individuals with disabilities to increase control of their lives. CRT's goal is to develop the most highly individualized, integrated assistive technology system for each child and adult it serves, specifically, one that eliminates barriers to independence, improves functioning and quality of life, and makes the home, school, and workplace user friendly. The CRT program includes the following specialty service areas:

- Seating and Wheeled Mobility
- Augmentative Communication
- Computer Access/Environmental Controls
- Job Accommodations
- Assistive Devices for Daily Living
- Rehabilitative Engineering

For the person with SCI, the CRT is a unique resource for the selection and customization of wheelchairs and support mechanisms to maximize posture, comfort and efficient mobility.

In order to better serve its patients and the community, the CRT expanded its services to individuals with disabilities by the creation

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of a Technology Demonstration Center: The Goldman Center. This state of the art showroom allows patients and families the opportunity to explore an extensive selection of state of the art assistive technologies for patients, their families and other health care clinicians. Specialists at the center will provide demonstration of equipment and computer systems designed to improve the daily lives of individuals with special needs with Open houses for consumers, monthly scheduled tours for professionals, specific tours upon request, and open access times to professionals. Consumers visiting the Center will be able to view & access to a comprehensive selection of devices from each specialty area. Demonstrations & educational seminars are available to patients/consumers and their family/friends.

Durable medical equipment needs: are addressed by all team members throughout the continuum of care, whether during an inpatient stay or as an outpatient.

Urology Services: An urologist is on staff and available for consultations and evaluations. Urodynamic testing is performed on-site.

The Prosthetic Orthotic Center specializes in providing a full range of evaluation, fabrication and follow-up services, ensuring accuracy, safety, comfort and appropriateness of a variety of devices through the continuum of care. Our Orthotic specialists create a wide range of accurate, custom designed complex bracing systems to address Spinal Cord Injury (SCI) patients.

Aquatic Therapy: Aquatic Therapy is offered in our beautiful warm water aquatic facility. Both therapeutic and recreational opportunities are available to patients and all community members.

Vocational Rehab: Certified Vocational Rehabilitation Counselors assess and assist our patients throughout the continuum and make referrals to VESID and job retraining programs. They also serve as a liaison between the patient and their employers, and assist in job modifications that may be necessary.

Psychosocial issues are managed in an interdisciplinary manner. Psychiatry, Psychology, physiatry, nursing and our peer provider all assist the patient and family with issues such as sexuality, fertility, substance misuse, and the emotional and psychological burden of dealing with a spinal cord injury. Individual psychotherapy sessions are provided to patients and families. Couples counseling and sexual counseling may be provided as appropriate. Medication and psychotherapy are used to help treat the psychiatric diagnoses that challenge the SCI patient. For those individuals with cognitive impairments interfering with rehabilitation or thought to potentially impact return to function in the community may be referred for comprehensive neuropsychological assessment. Results of these evaluations are incorporated into cognitive & behavioral remediation strategies utilized by the team and specifically the Speech and OT staff providing the cognitive therapies.

Sexuality Services: our team of physicians, psychologists, therapists, trained mentors and nurses provide one-on-one counseling and educational services. Along with the physical issues related to sexuality, the team addresses relationship issues, fertility, and pregnancy options with patients and their loved ones.

Support Groups & Advocacy: Helen Hayes Hospital offers a monthly support group for inpatients, outpatients, and community residents as well as their families and caregivers. These meetings offer opportunities for peer counseling, consultation for accessible travel information, self-advocacy, resources for community re-integration, benefits counseling, and emergency preparedness and accessibility rights. The Support Group is led by our Mentorship Coordinator, a full time employee who is also spinal cord injured.

Helen Hayes Hospital has established a local chapter of the National Spinal Cord Injury Association. Visit its new web site at: <http://www.unitedspinalhudsonvalley.org/> We are now officially the Hudson Valley Chapter of the United Spinal Organization.

Peer Mentorship Program: an individual living with a spinal cord injury shares his or her experiences, knowledge and support with someone newly injured. They may share information on managing physical conditions, tips on daily living skills or ideas on home or vehicle modifications. All mentors receive a comprehensive training program, developed by the United Spinal Association and offered at HHH. These services are organized by our Mentorship Coordinator.

Recreational Therapy: These services are designed to help improve leisure function and independence as well as reduce the effects of injury or illness. The program may include adapted leisure activities, leisure education, community reintegration, leisure time management and community recreation resources. They also offer a daily meditation class. Diversional services offered include: pet therapy; strolling musician; performing arts program; and special events.

Adaptive Sports and Recreation: is incorporated into the rehabilitation program, and continues once patients are discharged back to the community. Exposure to new leisure activities, as well as re-introduction to activities favored prior to being injured, speeds the recovery process and demonstrates that living a full and enjoyable life is within reach. We have an Adapted Sports Coordinator who organizes the program.

Current and former patients, as well as individuals with disabilities living in the community, are given opportunities to participate in a range of recreational activities. All activities are supervised by trained staff, taking into account individual needs and abilities. Activities include the following:

Aquatics	Sailing	Archery
Gardening	Waterskiing	Rock climbing
Kayaking	Hand cycling	Fishing
Rowing	Snow skiing	Golf
Basketball	Softball	Yoga
Glider Planes	Bowling	Paintball

Education: our SCI patients/families and support systems are provided with relevant educational information by our team. Topics include but not limited to: common medical complications of spinal cord injury, safety, equipment, skin care, HEP (home exercise program), aging, bowel and bladder management, sexuality, nutrition, their medications, emergency preparedness, wellness and preventative care. Personal counseling and family training

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are provided one-on-one and patients are provided with our SCI education manual. Each patient is provided with a copy of SCI educational manual and it can also be viewed on a link on the Helen Hayes Hospital SCI webpage. Educational lectures may be viewed on our Helen Hayes Hospital TV station, and this is shown every 2 hrs, 24 hrs per day. On an outpatient basis, lifetime follow-up with our SCI physician reinforces the above.

One critical education topic is prevention of re-injury. Within the population of patients who have traumatic spinal cord injuries, there is a high degree of pre-injury risk taking, self defeating and self destructive behavior patterns. When possible, the team addresses the primary problem, which may have led to the injury (i.e. – drunk driving). We also address family, psychiatric or behavioral issues that may have contributed to or inflamed the primary problem.

In addition, our team is active in community injury prevention programs (i.e. Think First) to education school children in the hopes of decreasing the incidence of spinal cord injury. The “Think First” program is a nationwide initiative focused on brain and spinal cord injury prevention. Therapists and former patients visit with students at local schools, kindergarten through high school. During the presentation, they discuss safety precautions and injury prevention techniques and the medical consequences of injury. Former patients living with SCI/BI share their personal experiences with the students.

We also participate in Car Fit program: where our OTs review driving safety tips for geriatric drivers.

We also offer extensive education to the professional community via symposiums, expos, in-services, and poster presentations at professional conferences.

Transitional Living Program: This program is designed to promote independence in all functional activities within a hospital based home like environment. Patients and their caregivers (who meet the criteria) will be asked to spend a weekend day and night there where they will perform and safely execute all activities necessary to function at home. They are oriented to the area and the team sets interdisciplinary goals for the program, along with the patient/caregivers. Following the weekend stay, feedback will be given to team on Monday morning and any issues identified will be followed up and a plan will be implemented to resolve whatever difficulties were identified during the overnight stay.

Admission Criteria

Patients are admitted from acute care as soon as they are medically stable and can participate in at least 3 hours of individual/group therapies per day. The team will receive a copy of the patient’s medical record inclusive of:

- History and physical, Co-morbidities, Medication list, Nursing discharge summary, recent interdisciplinary progress notes, recent lab & diagnostic test results

Admit Criteria: Traumatic paraplegics and quadriplegic, CIDP, Guillain-Barre Syndrome, ALS, acute and chronic neuropathies, spinal tumors (primary and limited metastatic), spinal fusion,

discectomies, myopathies, muscular dystrophies, dermatomyositis, polymyositis, transverse myelitis, HIV, and other infectious myopathies, multiple trauma, spinal fractures, compression fractures, and cervical fractures with Halo traction. In general, traumatic spinal cord injuries need to be stabilized prior to transfer.

Trach/Vent Admissions: When appropriate, we accept patients who require intermittent or continuous assisted ventilation with mechanical ventilation via tracheostomy, oscillator (high frequency) ventilation to the spinal cord unit. Requiring size, type and vent settings.

Program Description

Upon admission to the program, the patient will receive an individualized, comprehensive medical, physical, occupational and ancillary therapy program specifically designed to increase mobility and independence. As part of the orientation to our facility, they receive an admission’s packet that contains information regarding the services provided at the hospital, the services disclosure statement, pertinent phone numbers, contact information, what to expect while here (See admission’s binder for more details).

The amount of therapy provided, the number of disciplines involved as well as the amount of time per discipline, is individualized. The practice of therapy extends beyond the individual sessions throughout the entire 24 hours when the Rehabilitation Nursing staff reinforces the therapeutic techniques during daily activities.

The length of stay is dependent on patient needs, functional level, cognitive status and discharge priorities but is usually around 4-6 weeks. Patient progress is reviewed on a weekly basis at team rounds. Progress is measured using the Functional Independence Measure Instrument (FIM). Insurance companies monitor patient functional progress over time and they require written updates from the treating team throughout the rehabilitation stay. Each individual insurance policy dictates what that policy covers and this may have a significant impact on the length of stay within an acute rehabilitation program.

The interdisciplinary team along with the patient is goal directed with a focus on functional status in the intended discharge environment. The team and patient work towards preventing, minimizing impairments, reducing disability and achieving predicted outcomes.

The strength of our program is its extensive range of services, offering a smooth continuum of care. Patients are admitted directly into our specially designed and equipped spinal cord injury (SCI) unit, which offers round-the-clock monitoring and the capability to care for patients with feeding tubes and ventilators. Following intensive inpatient rehabilitation, patients can progress into our Outpatient Neurology Rehabilitation Center. In addition, Helen Hayes is one of the only facilities in the region to provide lifelong primary care for common medical conditions associated with SCI. The hospital also has a Wellness Center, specially equipped for wheelchair users, to encourage individuals living with spinal cord injury to stay healthy and prevent future complications from the initial injury and aging.

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Discharge Criteria

Discharge of the patient to the appropriate environment is critical to the success of the Spinal Cord Program. The patient's anticipated discharge whether to home, a sub-acute rehabilitation unit or to a skilled nursing facility dictates some aspects of the individualized plan of care. These issues will be discussed with the patient and family early on in the rehabilitation stay.

This plan begins to be developed the day of admission and an intended discharge date is projected. Plans are modified as necessary and as possible as the patient improves. With safety as the bottom line, discharge occurs when the patient and or family:

- Have accomplished goals
- No longer require an intensive rehabilitation setting
- Could be safely managed in an alternative environment
- Have an acute medical need, prohibiting participation in the rehabilitation program.

Research

Helen Hayes Hospital is not only a provider of superior rehabilitation, but also actively involved in spinal cord research. We currently work in partnership with the New York State Department of Health's Wadsworth Center. In the past year we collaborated on a study titled "Training of Spinal Cord Reflexes", with the goal of developing a new therapeutic treatment to achieve better functional recovery after spinal cord injury, and a study titled "Home Use of an EEG Based Computer Interface for Restoring Communication".

Advocacy

The interdisciplinary Spinal Cord Team is at all times advocating for the patient. This can take many forms and may include educating family, friends and siblings about access to programs and services with activity limitations and participation restrictions, arranging for appropriate counseling and support services; enabling sibling/peer support. We also offer our monthly SCI support group for patients, families, friends and caregivers. We work closely with local Independent Living Centers, United Spinal Association and others, and make referrals to their services as appropriate. We are now the Hudson Valley Chapter of United Spinal.