Introduction:

The Spinal Cord System of Care (SCSC) Programme at the National Rehabilitation Hospital (NRH) provides specialised, interdisciplinary, coordinated and outcomes focussed rehabilitation to persons with spinal cord dysfunction. The NRH has developed a continuum of care for people with spinal cord dysfunction, encompassing the inpatient rehabilitation phase, outpatient phase and links to community services.
Spinal cord dysfunction may result from traumatic injury or non-traumatic injury including such disorders as spinal cord tumours, benign or malignant, demyelination, vascular or inflammatory disorders. Patients with any neurological level & ASIA impairment grade spinal cord dysfunction can be considered for admission once he/she can ventilate independently. The SCSC Programme also includes the management of patients with peripheral neuropathies, such as Guillain Barre Syndrome due to the similar principles of the rehabilitation of these conditions.

As a result of these conditions, persons with spinal cord dysfunction may have many needs and face wide-ranging long-term restrictions in their ability to live independently, drive or use public transport, return to work or education, participate in leisure and social activities, fulfil family roles and maintain personal, sexual and family relationships. The SCSC Programme at the NRH is designed to assist patients and their family/carers to manage their impairments and to promote greater levels of functional independence, social participation and community reintegration.

The SCSC Programme interdisciplinary team, in conjunction with persons served and their families, provides individualised, goal-directed treatment plans that are designed to minimise the impact of these deficits and address the unique medical, physical, cognitive, psychological, vocational, educational, cultural, family, spiritual and leisure/recreational needs of people with spinal cord dysfunction including their families and carers.

The SCSC Programme is provided through a case managed approach that addresses:

- Ongoing access to information about services available within a coordinated continuum of care
- Movement through the spinal cord dysfunction continuum of care
- Links with community and stakeholder services
- Family/Carer education and support
- Education of persons served, their families/support systems and the community
- Facilitation of opportunities for interaction with others with similar activity limitations

**Rehabilitation Setting**

The National Rehabilitation Hospital is a publicly financed, voluntary, free-standing 106 bed inpatient, day patient and outpatient rehabilitation hospital located in Dun Laoghaire, County Dublin, Ireland.

The SCSC Programme is a 36 bed inpatient rehabilitation programme that provides 24-hour, seven-day-a-week medical, rehabilitation and nursing care.

Persons admitted to the SCSC Programme receive a minimum of two hours of direct therapy treatment per day, Monday through Friday. Treatment may be delivered on a one to one basis or with more than one person being treated at the same time (known as
concurrent treatment). Patients may also receive group treatment, such as educational sessions. Direct therapy intensity differs on weekends depending on resources available, and to facilitate possible gradual reintegration of person into their home and community environments.

The SCSC Programme service areas are located throughout the hospital. Depending on their assessed need, persons within the SCSC Programme can stay in one of the following wards.

- **St Margaret’s Ward** is a 4 bed high dependency mixed gender ward that consists of 2 individual rooms and 2 other beds.

- **St Joseph’s Ward** is a 12 bed ward male ward.

- **Our Lady’s Ward** is a 19 bed mixed gender ward.

- **St Camillus Ward** has a single room for management of SCSC Programme patient with a pressure ulcer.

As patients progress throughout their admission period and as dependency levels lessen, patients may be moved to another ward.

**The Spinal Cord System of Care Programme Continuum of Care**

The NRH has developed a continuum of care for people with spinal cord dysfunction, encompassing the inpatient rehabilitation phase, outpatient phase and links to community services. This comprehensive interdisciplinary system of care ensures that all individuals can receive the most appropriate programme of care based on their spinal cord dysfunction and their individual rehabilitation needs. For those who have sustained a traumatic spinal cord injury rehabilitation can begin post medical stabilisation including respiratory stabilisation. Currently the SCSC Programme does not admit ventilator dependent patients

Important in this continuum of care is communication and working links with all internal and external stakeholders to facilitate coordination of care and access to information and services.

**Hours of Service**

The SCSC Programme provides 24-hour, seven-day-a-week medical, rehabilitation and nursing care.

**The Services Provided For The Person Served:**

Each person receives a preadmission assessment of medical and rehabilitation needs that includes diagnosis, prognosis, morbidity, co-morbidity, premorbid level of function, mental status, ability to tolerate the intensity of the rehabilitation programme and support
systems. If a person meets the programmes admission criteria, (see p7) the person can be offered the service. Persons admitted and their families are offered appropriate information and opportunity for feedback at every stage of the process, and are actively involved in decisions regarding their care. An important aspect of this programme is education of both patient and family in relation to primary prevention to avert reoccurrence of the impairment process and secondary prevention related to potential risks and complications due to impairment.

Following admission the interdisciplinary team members, in collaboration with the patient and family, will develop a comprehensive treatment plan that addresses the identified needs of the person, their family and support network.

Types of services offered in the Spinal Cord System of Care to meet these identified needs could include:

- Activities of daily living training
- Adaptive equipment assessment and training
- Assistive technology assessment and training
- Audiology screening
- Behavioural training
- Bowel and bladder training
- Clinical psychological assessment and intervention
- Communication assessment and intervention
- Coping and adjustment to disability
- Dentistry
- Discharge planning
- Driving and community transport assessments and training
- Dysphagia assessment and intervention treatment
- Emergency preparedness
- Family and caregiver training and education
- Fitness and sports
- Hydrotherapy
- Independent living skills assessment
- Information regarding entitlements and services.
- Medical management of complications of SCI including autonomic dysreflexia
- Mobility training
- Nutritional counselling and management
- Occupational therapy
- Orthopaedic assessment
- Orthotics and splinting
- Pastoral and spiritual services
- Patient Advocacy Service
- Patient and family support system counselling
- Pharmaceutical Care
- Physiotherapy
- Podiatry
- Prosthetics
- Psychosocial assessment and intervention
- Radiology
- Referral to appropriate care pathway supports
- Rehabilitation nursing
- Respiratory therapy
- Safety awareness and training
- Sexuality and fertility counselling
- Skin care training
- Spasticity and pain management
- Specialist Seating Assessment
- Tendon transfer surgery: commencement of assessment
- Urology service including flexible cystoscopies
- Vocational assessment

Spinal Cord System of Care Inpatient Scope of Service

Date Effective: 01/11/2007
Version 1.10 Date: 31/03/2017
• FEES (Fiberoptic endoscopic examination of swallow)

Some persons admitted to more than one programme in the NRH will receive appropriate services from each programme. Depending on the assessed needs, some services cannot be provided on site within the SCSC Programme. If additional services are needed and not available on site, the programme can facilitate referral for certain ancillary services.

Examples of these ancillary services could include:

- Neurology
- Optician
- Substance abuse counselling
- Video fluoroscopic swallowing evaluation

**Palliative Care**
The NRH strives to deliver goal orientated rehabilitation for all patients who require our service. However, it is recognised that in some instances active rehabilitation is not the appropriate or suitable approach for the patient and / or their family. In such cases, the NRH will liaise with all relevant parties to ensure the best possible outcome for all. The NRH will refer to palliative care services where this is medically indicated and in full agreement with the patient and/ or their family. The NRH will support the transition to such services and aim to secure these services in the most suitable location for the patient and/ or their family.

**The Interdisciplinary Team**

Patients with spinal cord dysfunction frequently have complex disabilities which require specialist intervention by professionals with knowledge and experience in this area. The composition of the interdisciplinary team for each person served is determined by the assessment of the person’s individual medical and rehabilitation needs. The individuals who are always on the team are:

- The patient (person served)
- Rehabilitation Physician
- Rehabilitation Nurse
- Healthcare Assistant
- Medical Social Worker
- Pharmacist
- One or more Health and Social Care Professional, such as Clinical Psychologist, Dietitian
- Physiotherapist, Occupational Therapist or Speech and Language Therapist.
- Liaison Nurse

Other team members could include:

- Chaplain
- Dentist
• Dysphagia therapist
• Orthotist
• Prosthetist
• Sports therapist

Consultation with medical specialist could include anaesthetics, orthopaedics, plastic surgery, psychiatry, radiology, respiratory and urology.

The Services Provided For The Families/Carers/ Support Systems Of Person Served:
Families and carers are partners in the rehabilitation process and are encouraged to participate in all phases of the programme. Information, counselling, emotional and psychological support can reduce the emotional sequelae experienced by the family/carer. This support may help them to adapt and come to terms with the life changes, and so result in better long-term outcomes for both the patient and the family. Many services are available within the SCSC Programme to meet the needs of the patient’s family to include:

• Education about spinal cord dysfunction.
• Education on what typically happens for families / carers who have been affected by spinal cord dysfunction
• Annual joint presentations with the voluntary agency Spinal Injuries Ireland.
• Psychological support
• Pastoral services
• Peer support through interaction with other families
• Psychosocial assessment and intervention
• Family / support system counselling
• Information about support and advocacy resources, local accommodation and assistive technology resources.
• Short stay on site facility for family / carers to trial living independently with patient (Villa Maria)

Discharge Outcomes and Environments
Rehabilitation is a continuous process, and often a lifelong process. The effects of spinal cord dysfunction are long lasting and patients and their families require continued care and support, often for the rest of their lives. The carry-over of skills gained in treatment into daily activities and into home environments is critical to the success of any rehabilitation programme.

Monitoring of outcomes from the programme is important to determine the extent to which the interventions and services have achieved their aims. An assessment of the attainment of rehabilitation goals and discharge outcomes is essential.

The majority of persons are prepared for discharge home and are discharged to home. The NRH Discharge Liaison Occupational Therapist or Community Occupational Therapist will complete home assessments and provide recommendations about any adaptations or equipment required for safe discharge. Some persons at discharge are referred to others
services within the continuum of care or to external disability support services. Alternative discharge destinations such as long-term care facilities, assisted living residences, group home or post acute rehabilitation programmes may be recommended based on level of functional independence and services available. Discharge to an acute hospital setting may be necessary in the event of medical illness or to await access to local community support services.

**Admission Criteria for Inpatient Program**

The patient must -

1. Have a spinal cord dysfunction due to trauma or other cause. The SCSC Programme is capable of caring for those with respiratory insufficiencies including those with tracheostomies but does not accept ventilator dependent patients. Patients with any neurological level & ASIA impairment grade spinal cord dysfunction can be considered for admission once he/she can ventilate independently.

2. Have a peripheral neuropathy resulting in a physical impairment.

3. Be at least 16 years of age

4. Be medically stable and fit to participate in a rehabilitation programme

5. Be willing and able to participate

Patients under the age of 16 years requiring the services of the Spinal Cord System of Care are admitted under the Paediatric Family Centred Programme.

Admission to the Spinal Cord System of Care Programme is based on the preadmission assessment of level of need and the meeting of the programme’s admission criteria. However, the timing of admission to the programme may be influenced by the preadmission assessment of the intensity of the individual’s needs and the level of dependency in relation to the Spinal Cord System of Care Programme’s capacity to best meet these specific needs at that time.

**Continuing Stay Criteria:**

1. Demonstrate measurable progress towards their goals/targets

2. Demonstrate the willingness and ability to participate in the prescribed programme

3. Continue to have the potential to benefit from the interdisciplinary programme prescribed

4. Medical necessity for the 24 hour medical and rehabilitation nursing care.

**Discharge / Transition Criteria for Inpatient Programme**
To be discharged from the Spinal Cord System of Care programme, one or more of the following conditions must be met:-

1. The person has received maximum benefit from the inpatient programme.
2. The person has improved to the projected functional level that will allow discharge to a specified environment with or without personal assistance.
3. The person’s rehabilitation needs can be met equally well in an alternative environment.
4. The person has experienced a major intervening surgical, medical or psychiatric problem that precludes benefit from a continued intensive rehabilitation programme.
5. The person is no longer willing to be an active participant in the rehabilitation process.

**Exclusion Criteria:**

Patients are excluded from the service where other needs e.g. medical or psychiatric or behavioural or drug and substance misuse predominates over the physical, psychosocial and cognitive needs of the patient. In these cases recommendations may be made to the referring agent regarding appropriate services.