



**NATIONAL REHABILITATION HOSPITAL**

**PROSTHETIC, ORTHOTIC & LIMB ABSENCE REHABILITATION  
PROGRAMME**

**SCOPE OF SERVICE**

## **Introduction:**

The Prosthetic, Orthotic & Limb Absence Rehabilitation Programme (POLAR) at the National Rehabilitation Hospital (NRH) in partnership with Ability Matters, provides specialised, interdisciplinary, coordinated and outcomes-focused rehabilitation of persons with amputation or congenital limb absence.

Amputation most commonly occurs as a result of vascular disease, diabetes, trauma, infection, or tumours. Congenital limb absence occurs when the whole or a part of the upper or lower limb fails to form normally when the baby is developing in the uterus. Most congenital limb absences are random events with an unknown cause. Depending on the nature of the limb loss, people can present with a range of impairments and resulting disability that may be physical, psychological, social or vocational.

The POLAR Programme is designed to assist people with limb loss and their family/carers to lessen the impact of these impairments and to promote greater levels of functional independence, social participation, autonomy and community integration. People with amputation or limb absence need to relearn skills, acquire new skills and develop strategies to compensate and manage these impairments.

The POLAR programme links with the Paediatric Programme to provide similar specialist care to children with congenital limb absence or amputation.

## **Strategic Partnership:**

The National Rehabilitation Hospital and Ability Matters entered into a formal strategic partnership in 2000. Ability Matters (formerly Opcare) is a private company that has operated in both Ireland and UK since 1991. Ability Matters manufactures and customises prostheses and orthoses for patients from all over Ireland. Prosthetists employed by both the National Rehabilitation Hospital and Ability Matters provide the prosthetic service to patients within the programme.

## **Rehabilitation Setting:**

The National Rehabilitation Hospital (NRH) is a publicly financed, voluntary, free-standing, 110 bed inpatient and outpatient rehabilitation hospital located in Dun Laoghaire, County Dublin, Ireland.

The POLAR Programme offers In Patient, Day Patient and Out Patient rehabilitation. The plan of care is individualised and patients can move between the services depending on their need.

The POLAR Inpatient Programme is a 10 bed rehabilitation programme that provides 24-hour, seven-day-a-week medical, rehabilitation and nursing care. The 10 beds are located on McAuley ward on the 1st floor. The ward accommodation consists of 2 en-suite rooms, 3 single rooms and a 5 bedded ward. Bed allocation is prioritised on basis of clinical need.

The Day Outpatient programme accommodates up to 7 patients who can access the NRH on a daily basis for a full rehabilitation programme similar to the In Patient programme. It is primarily delivered in the Prosthetic Department with access to therapy departments as necessary.

Outpatient Programme is a consultant led service that provides a national centre in the NRH site in Dublin and a regional centre in Cork. Prosthetist led clinics with option of consultant review are held in a further five satellite clinics. Telemedicine facilities are available between Waterford clinic and the NRH.

### **Prosthetic, Orthotic and Limb Absence Continuum of Care**

The continuum of care for people with amputation or congenital limb absence encompasses the inpatient, day patient and outpatient rehabilitation phases with linkages to community service providers and follow-up care.

Important in this continuum of care is communication and working linkages between the inpatient, day outpatient and outpatient services and with all internal and external stakeholders to facilitate coordination of care and access to information and services.

The programme provides for fluid movement between the services based on assessment of individual clinical need and social circumstances. In broad terms the inpatient and day outpatient programmes are designed to meet the rehabilitation needs of a person with primary amputation. The outpatient programme focussed more on established patients but not exclusively so.

As the National Prosthetic Service the POLAR programme has an important role in promoting best practice standards and providing education in aspects of amputation rehabilitation. The service engages with community services and other hospital based services to provide education days and information about the service available through the programme. The service also advocates for appropriate provision of service to people with limb loss and limb absence.

## **OUTPATIENT PROGRAMME**

### **Overview:**

The Outpatient Programme provides a specialist service for assessment and provision of prostheses for people with limb loss or limb absence.

The POLAR Outpatient Programme provides:

- Movement through the limb absence continuum of care including ongoing access to information about services available
- In-reach service to acute hospitals
- Linkages with the community and stakeholders
- Manufacture and fitting of prostheses and orthoses on the NRH site
- Local workshops providing same-day facility for minor repairs and adjustments
- Education on prosthetic use for patients and their family/ carers
- Comprehensive pre-prosthetic assessment by Interdisciplinary team with access to medical social worker and/or psychologist
- Referral for counselling services
- Referrals to psychology services
- Information about support, advocacy resources and assistive technology resources
- Life long prosthetic management and follow up
- Review and re-assessment can be requested by the patient without re-referral
- Physiotherapy gait training

### **Location and Hours of Services:**

<b>Location</b>	<b>Service</b>	<b>Frequency</b>	<b>Times</b>
<b>National Rehabilitation Hospital</b> Dun Laoghaire Co. Dublin	Consultant led MDT: Lower limb	Weekly – Friday	9.00 – 1 pm
	Consultant led MDT: Upper limb	Monthly – Friday	9.30 – 12.30pm
	Prosthetist only lower limb, upper limb; orthotics	Daily –	8.00am – 4.30pm
	Orthotics	3 days /week	9.00 – 5.00

## **The Services Provided For The Person Served**

Referrals are received at the National Rehabilitation Hospital and patients are registered on the hospital Patient Administration System (PAS). Patients are also registered on Ability Matters Clinical Information Management System (REHAPP). The programme provides an In-reach service to persons in the acute phase pre and post amputation. In these instances, following receipt of referral, the consultant and/or prosthetist goes onto the ward in the acute hospital and can commence rehabilitation in liaison with the treating team. Patients with complex medical issues are appointed to a consultant led clinic, which they can attend from the acute hospital. If clinical condition allows patients are appointed to the clinic most convenient to them. Each patient receives an initial assessment by the prosthetists in conjunction with the consultant, and, where appropriate, the interdisciplinary team, to identify their medical, physical and social needs. A discussion of the patient's goals for rehabilitation is carried out to inform the most suitable prescription (if any) for each individual.

Admission to the service is dependent on meeting the admission criteria. The person served 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 prosthetic prescription and care. Once a prescription has been formulated the service links with the HSE (or other appropriate funding source). When funding is confirmed for the prosthesis, manufacture commences and the prosthesis is delivered on completion.

Depending on the needs of the person served rehabilitation is offered as an inpatient, day patient or outpatient.

Each patient is provided with education on all aspects of the prosthesis by the prosthetist, particularly in relation to function of the prosthetic components. The prosthetist will also provide detailed wear advice and explain the fundamentals of donning and doffing the prosthesis appropriately. The patient and their family are offered education regarding prevention of complications and management of risk factors such as diabetes and vascular disease.

Following discharge from the inpatient or day outpatient programme each patient is re-engaged with the outpatient programme. They are first offered a six week review appointment and then follow-up as appropriate for life. Where clinically appropriate, this is provided in the clinic that the patient chooses or is most convenient for the patient.

The orthotic service to the POLAR programme focus is on provision of prescription footwear for amputation rehabilitation patients, with a view to reducing risk factors that may lead to complications in the contralateral limb. The outpatient orthotic service is delivered on the NRH site. The orthotist links with the prosthetist and the appropriate consultant in charge of patient care to ensure a comprehensive understanding of the person served and smooth delivery of care where the orthotist takes responsibility for initial assessment for the orthotic prescription. Patients continue under the care of the

orthotics service with reviews. A new referral has to be generated to allow for provision of a new prescription.

**Admission Criteria:**

To be admitted to the POLAR Outpatient Programme a patient must be referred and:-

1. Have an amputation or congenital limb absence
2. Be medically stable
3. Wish to avail of the service
4. Have the potential to benefit from the rehabilitation process
5. Be receiving a prosthesis through the NRH Ability Matters partnership

Patients who are under 18 years of age are admitted to the outpatient programme and the POLAR programme then links with the Paediatric programme to ensure most appropriate care.

**Discharge Criteria:**

To be discharged from the POLAR Outpatient Programme, one or more of the following conditions must be met:-

1. The person has received a prosthesis from another prosthetic provider.
2. The person no longer wishes to avail of the NRH services.
3. The person has presented with challenging behaviour which is such that it cannot be managed within the programme.

## **INPATIENT PROGRAMME**

### **Overview:**

The POLAR inpatient and day patient interdisciplinary teams, in conjunction with patients and their families, provide individualised, goal directed treatment plans that are designed to minimise impairment, reduce activity limitations and encourage participation and community integration. The team strives to address the unique medical, physical, psychological, cognitive, social, behavioural, vocational, educational, cultural, family, spiritual and leisure/recreational needs of people with limb loss and their families and carers.

The POLAR Inpatient Programme provide:-

- Ongoing access to information about services available within a coordinated continuum of care.
- Movement through the limb absence continuum of care
- Linkages with community and stakeholders
- 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

This comprehensive interdisciplinary system of continuum of care ensures that all individuals receive the most appropriate programme of care based on their rehabilitation requirements. Treatment begins during the post-acute phase and patients may move between the inpatient and day patient programmes depending on need and suitability. Linkages with outpatient services, community support and follow-up services are made to facilitate smooth transition into and from the inpatient and /or day patient programmes.

### **Hours and Intensity of Service**

#### **POLAR Inpatient Programme:**

The Inpatient programme is a 10 bedded rehabilitation programme which provides 24-hour, seven-day-a-week medical, rehabilitation and nursing care.

Persons admitted to the POLAR Inpatient programme receive a minimum of two hours of direct services per day, Monday to Friday. Direct service intensity varies on weekends depending on resources available, and therapeutic weekend leave may be incorporated into the rehabilitation programme to facilitate translation of functional gains into the home environment and the gradual reintegration of the person into their home and community.

## **The Services Provided For The Person Served**

Admission to the service is dependent on meeting the admission criteria. Each patient receives an initial assessment of medical and rehabilitation needs to identify their unique medical, physical, cognitive, psychological, social, behavioural, vocational, educational, cultural, family, spiritual and leisure/recreational needs. The person served 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. The patient and their family are offered education regarding self management of their condition, prevention of complications and management of risk factors such as diabetes and vascular disease.

Following admission the interdisciplinary team members in collaboration with the patient and family, develop a holistic treatment plan incorporating the services that address the identified needs of the person, their family and support network.

The orthotic service to the POLAR programme focus is on provision of prescription footwear for amputation rehabilitation patients, with a view to reducing risk factors that may lead to complications in the contralateral limb. The orthotist links with the interdisciplinary team to ensure a comprehensive understanding of the person served and smooth delivery of care.

### **Services offered in the both the Inpatient and Day Patient programmes to meet these identified needs include:**

- Activities of Daily Living training
- Assistive technology
- Audiology screening
- Cognitive training
- Coping and adjustment to disability
- Dental services
- Discharge Planning
- Driving and community transport assessments and training
- Dysphagia assessment and management
- Family and caregiver training and education
- Exercise Physiotherapy
- Fibreoptic Endoscopic Evaluation of Swallowing (FEES)
- Aquatic Physiotherapy
- Independent living assessment
- Information regarding entitlements & services
- Medical management
- Mobility training
- Nutritional counselling & management
- Orthopaedic assessment
- Orthotics & splinting
- Pastoral and spiritual services
- Patient Advocacy Service
- Patient and family support system counselling
- Pharmaceutical Care
- Plastic surgery assessment



- Podiatry/Chiropody
- Prosthetic assessment and management
- Psychiatric assessment
- Psychological assessment and psychotherapy
- Psychosocial assessment & intervention
- Radiology Services
- Rehabilitation nursing
- Relaxation and stress management
- Respiratory therapy
- Safety awareness and training
- Neuropsychological assessment and advice
- Clinical psychological assessment and intervention
- Seating
- Sexuality counselling
- Skincare training
- Smoking cessation counselling
- Urology service
- Vocational assessment and counselling

Persons admitted with dual diagnoses may receive services from other specialty programmes as required.

If additional services are required and not available on site, the programme facilitates referral to the appropriate ancillary services.

The programme also offers referral to Palliative care, should this be required.

**Examples of these ancillary services include:**

- Endocrinology
- Neurology
- Oncological services
- Optician
- Substance abuse counselling
- Vascular surgery
- Videofluoroscopic swallowing evaluation

**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 person served, the Rehabilitation Physician and the Rehabilitation Nurse and the Prosthetist. Other team members can include:

- Clinical Psychologist
- Dentist
- Dietitian
- Dysphagia Therapist
- Health Care Assistants
- Hydrotherapist
- Medical Social worker
- Occupational Therapist
- Orthotist
- Pastoral Care Worker
- Pharmacist
- Physiotherapist
- Podiatrist/Chiropodist
- Sports Therapist

Medical specialists in anaesthetics, orthopaedics, plastic surgery, psychiatry, radiology, respiratory and urology are consulted as required.

### **The Services Provided For The Families/Carers/Support Systems Of the 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/ support system.

Many services are available within the POLAR Inpatient and Day Patient programmes to meet the needs of the patient's family/ support system including:

- Education about limb loss that may include group sessions, printed material, informal instruction and practical skills training in preparation for discharge
- Counselling services
- Psycho-education
- Pastoral services
- Peer support through interaction with other families and through local and international support groups (Amputee Ireland, SEAG, Disability Ireland, REACH, Limbless Association, STEPS, IWA)
- Information about support and advocacy resources, local accommodation and assistive technology resources.

### **Discharge Outcomes and Environments**

The POLAR Inpatient Programme aims at all times to discharge patients to the most appropriate environment taking into consideration the patient's and their family's wishes, their clinical status, functional capacity, home supports and legal restrictions. Alternative discharge destinations such as nursing or convalescent homes and supported housing may be recommended. Discharge to an acute hospital setting may be necessary in the event of medical illness or to await access to local community support services. The majority of patients are prepared for discharge home.

### **Admission Criteria:**

#### **Inpatient Programme:**

To be admitted to the POLAR Inpatient programme the patient must:-

1. Have an amputation or congenital limb absence
2. Be medically stable

3. Be at least 18 years of age
4. Have the potential to benefit from the interdisciplinary rehabilitation process
5. Have medical, nursing or interdisciplinary therapy needs which cannot be met in an alternative setting.

Admission to the POLAR Inpatient Programme is based on the above criteria and the preadmission assessment of level of need of the person served. The timing of admission to the programme will depend on the programme's capacity to meet these specific needs based on levels of service within the programme.

Patients under the age of 16 years requiring the services of the POLAR Programme are admitted under the Paediatric Family Centred Programme. Patients aged between 16 years and 18 years and who require inpatient rehabilitation are assessed in consultation with the paediatric team to determine the most appropriate service under which to admit them. Where it is considered they are best served through the adult programme the POLAR team is alerted to their age and will liaise with the Paediatric team as appropriate.

### **Discharge Criteria:**

To be discharged from the POLAR inpatient 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.
3. The person's rehabilitation needs can best be met 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.

## DAY PATIENT PROGRAMME

The POLAR Day Patient Service is a specialised, comprehensive and customised therapeutic program which reflects that of the inpatient service for patients with amputation or limb absence. The programme accommodates up to 7 patients who can access the NRH on a daily basis for a full rehabilitation programme. Where it is felt appropriate for a patient to attend at a lesser intensity other patients can be accommodated on a reduced intensity programme. The service is primarily delivered in the Prosthetic Department with access to therapy departments as necessary. POLAR Day Patient rehabilitation is delivered alongside the Inpatient programme and patients from both services can be treated in groups as appropriate.

### **Hours of Service:**

The POLAR Day Patient medical, nursing, rehabilitation treatment and care is provided four days-a-week (Monday through Thursday ), 9.00am to 5:00pm. Some services may be available outside these times by pre-arranged appointment.

### **Admission Criteria:**

To be admitted into the POLAR Day Programme at the NRH, the individual must meet Criteria 1 to 6 and either criteria 7 or 8 listed below:

1. Have an amputation or congenital Limb Absence
2. Be under the care of a National Rehabilitation Hospital Medical Rehabilitation Consultant
3. Be medically stable
4. Wish to avail of the service
5. Have the potential to benefit from specialised rehabilitation delivered through the multi-disciplinary team within a specified time-frame.
6. Be able to attend the service for a minimum of three days per week.
7. Be receiving a prosthesis or have received a prosthesis through the NRH/ Ability Matters partnership.
8. Have been determined by the NRH IDT to be suitable for pre-prosthetic amputee rehabilitation

All relevant members of the team are involved in the planning of the admission of patients to the Day Service. If there is a known risk that complicates the programme and/or puts patients or staff at risk, then it may be deemed necessary for additional assessments and/or safety plans to be put in place.

### **Exclusion Criteria:**

Persons with amputation or congenital limb absence are excluded from the Day Service where other needs (e.g. medical/psychiatric/behavioural/drug and substance misuse), predominate over the potential to benefit from specialised rehabilitation care and the physical and psycho-social needs of the patient. In these cases recommendations may be made to the referring agent regarding other more appropriate services or admission to the Day Outpatient Service may be deferred until an appropriate time.

The NRH has a Service Level Agreement with Ability Matters for the provision of prosthesis which ensures appropriate clinical governance. All clinicians employed by Ability Matters work in compliance with NRH policies and protocols. Therefore persons with amputation or congenital limb absence are excluded from the Day Service where they have a prosthesis provided by a prosthetic provider other than Ability Matters / NRH partnership as in these circumstances NRH cannot guarantee appropriate clinical governance and oversight.

### **Discharge Criteria for POLAR Day Patient Programme:**

To be discharged from the Day Patient Programme, one or more of the following conditions must be met:

1. The person has received maximum benefit from the day patient programme.
2. The person has improved to the projected functional level
3. The person's rehabilitation needs can best be met in an alternative setting.
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.
6. The person is non-compliant with the day patient programme.
7. The person has the right to make decisions regarding his or her rehabilitative care, and the right to refuse any portion of the day patient programme, up to and including discharge against informed medical advice. Should the person elect to

exercise his or her rights, the rehabilitation team will guide the person and the family through the process.

### **Day patient Therapy Services provided for The Persons Served:**

The timing of admission to the POLAR Day Service will be influenced by the preadmission assessment of the individual's needs and, where relevant, the availability of the prosthesis, in relation to service's capacity to best meet these specific needs at that time.

Priority of admission may be given to patients who have had part of their primary prosthetic rehabilitation in the Inpatient Service and are transferring to the Day service to complete the programme

### **DNA Policy:**

The programme recognises that patients attending the POLAR programme often have several co-morbidities and these can influence the patients' ability to engage with a rehabilitation programme. However, where a patient fails to attend at the times scheduled and fails to contact the service, that patient will be liable to be discharged from the programme.

The patient falls within the **DNA policy** where they have:

- missed 2 consecutive therapy days without notification,
- where they have missed 3 days therapy within their programme without notification

### **Day Patient Therapy Team:**

The Day Patient Therapy Service includes a wide range of disciplines which are outlined below. The needs of the patient are determined during medical and therapy assessment to ascertain which service the patient needs to access.

Day Patient Therapy team includes:

- Consultant in Rehabilitation Medicine
- Rehabilitation nurse
- Prosthetist
- Clinical psychologist
- Social worker
- Occupational Therapist
- Physiotherapist
- Dietitian
- Clinical Nurse Specialist in Sexuality and Disability
- Orthotics

## **Therapy Provision:**

Therapy to the Day Patient service is provided in three formats:

1. Attendance at **Multidisciplinary Clinics** in an advisory/consultative capacity
2. **Single Discipline** assessment and intervention i.e. therapy sessions provided by an individual therapist for a single patient and/or group of patients
3. **Interdisciplinary** assessment and intervention; i.e. joint therapy sessions provided with a therapist from another discipline. Interdisciplinary therapy sessions are conducted when therapists are working on shared therapy goals with an individual patient/s.

The Day Outpatient Therapy Team also refers onto specialist services within the NRH such as vocational or driving assessments if clinically indicated.

## **Patient Pathway:**

Following initial referral patients are usually seen in an Out Patient Assessment clinic. If suitable for a prosthesis, a prescription is raised and sanction for payment is sought. When sanction is received the patient is again seen in an Out Patient clinic for casting and manufacture if the limb is commenced. When the limb is manufactured to fitting stage the patient is listed for admission if appropriate.

Once placed on the waiting list, patients will be contacted by the administration and nursing staff prior to admission. Patients are admitted to the programme on Wednesdays. The waiting list is managed according to

- Primary patients (those receiving their first limb for that level of amputation) will be prioritised over established patients.
- Chronological order
- Interdisciplinary requirement of the patient
- Significant clinical need.

Appointment times are scheduled by the therapy team and patients are provided with a weekly timetable. All attendances are logged onto PAS.

Each person's programme of therapy will differ in length. The duration of the programme will be decided upon and agreed during the Goal Setting Conference and will be reviewed throughout the course of rehabilitation programme.

Persons attending Day Patient Service will be seen for routine medical review and their progress will be reviewed at weekly conference.

On completion of their Day Outpatient programme patients will be referred to the POLAR Out Patient service for review and follow-up. A copy of all relevant correspondence/reports will be sent to the patient's GP

**POLAR Patient pathway**

