

# National Grand Rounds

---

## Rehab in Motion: The Power of Sport and Water

### The Benefits of Sport and Aquatic Physiotherapy in Rehabilitation

Muireann O’Riordan, Senior Physiotherapist, Sports & Exercise Department NRH

Catherine Sadlier, Senior Physiotherapist, Aquatic Physiotherapy Department NRH

# Overview

---

NRH overall scope

Service overview

Benefits of exercise

Exercise guidelines for our cohort

Aquatic Therapy overview including case studies

Events Showcase

- Annual Sports Championships
- ISUG

Further resources

NRH Education opportunities and future planning

Final Messages

Questions



## Programmes at the NRH:

### Acquired Brain Injury

- (including traumatic brain injury, non-traumatic brain injury, or other neurological conditions)

### Stroke Specialty Programme

### Spinal Cord System of Care

- (including traumatic, and non-traumatic spinal cord injury)

### Prosthetic, Orthotic and Limb Absence Rehabilitation

- (POLAR) – including acquired (amputation) and congenital (present at birth) limb absence

### Paediatric Family-Centred Rehabilitation

### Outpatient Services

# Adult Services available





# Sports and Exercise Department

**The Gym Service** at the NRH offers individualised strength and fitness training programmes to patients from **all programmes** at the NRH, including the Outpatient Department and the Rehabilitative Training Unit.

We monitor the progress of each patient throughout their admission and provide modifications as required.

**These are structured exercise sessions to target specific goals.**



# Group Classes

- TRX
- Pilates
- Cardiovascular training group
- Strength and conditioning training group
- Dance
- Multi-sports

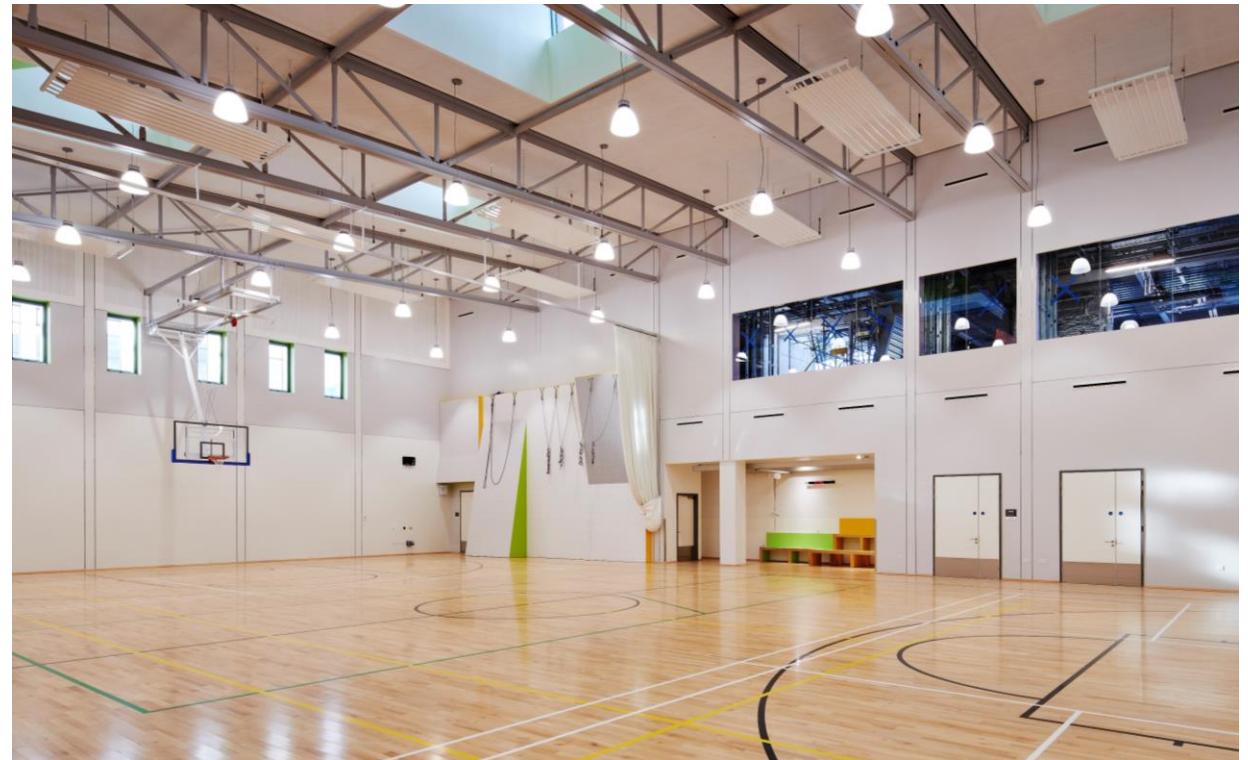


# Sports and Exercise Department

---

**The Sports service** offers a wide variety of sports each week to encourage increased activity levels among all patients.

**There is a huge emphasis on participation, social engagement and having fun in an active way.**



# Sports

- ⊗ Archery
- ⊗ Climbing
- ⊗ Cycling
- ⊗ Shooting
- ⊗ Boccia
- ⊗ \*Golf
- ⊗ \*Table tennis
- ⊗ \*Wheelchair basketball
- ⊗ \*Wheelchair rugby
- ⊗ \*Tennis
- ⊗ \*Badminton

\*Supported by external coaches and volunteers.



# Sports Days and Sports Outings



# Special Equipment

Paramotion Golf Chair





# Sports and Exercise Department

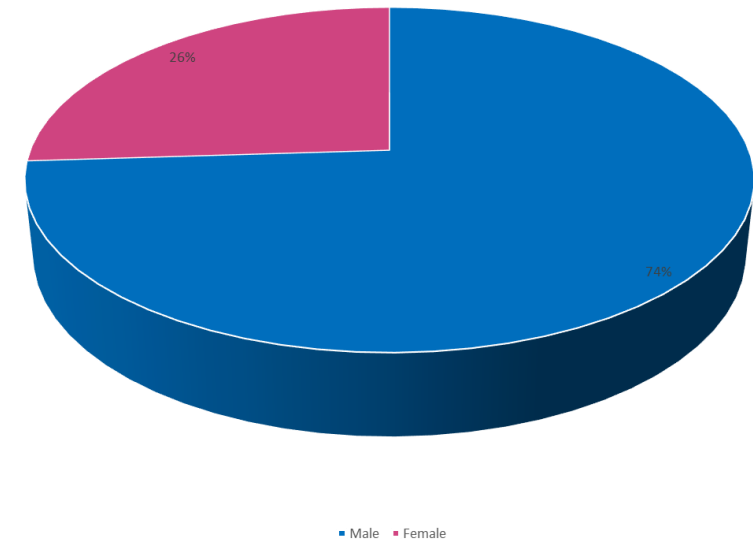
**Both services** are an integral part of the patients rehabilitation journey while at the Hospital. We aim to promote a positive outlook on exercise and encourage participation in exercise and sport or activity after discharge.

**Education Initiatives:** Continued education on the benefits of physical activity, guiding patients to access community gyms, sports clubs and national sports organisations.



# Sports and Exercise Department

Male/Female Ratio

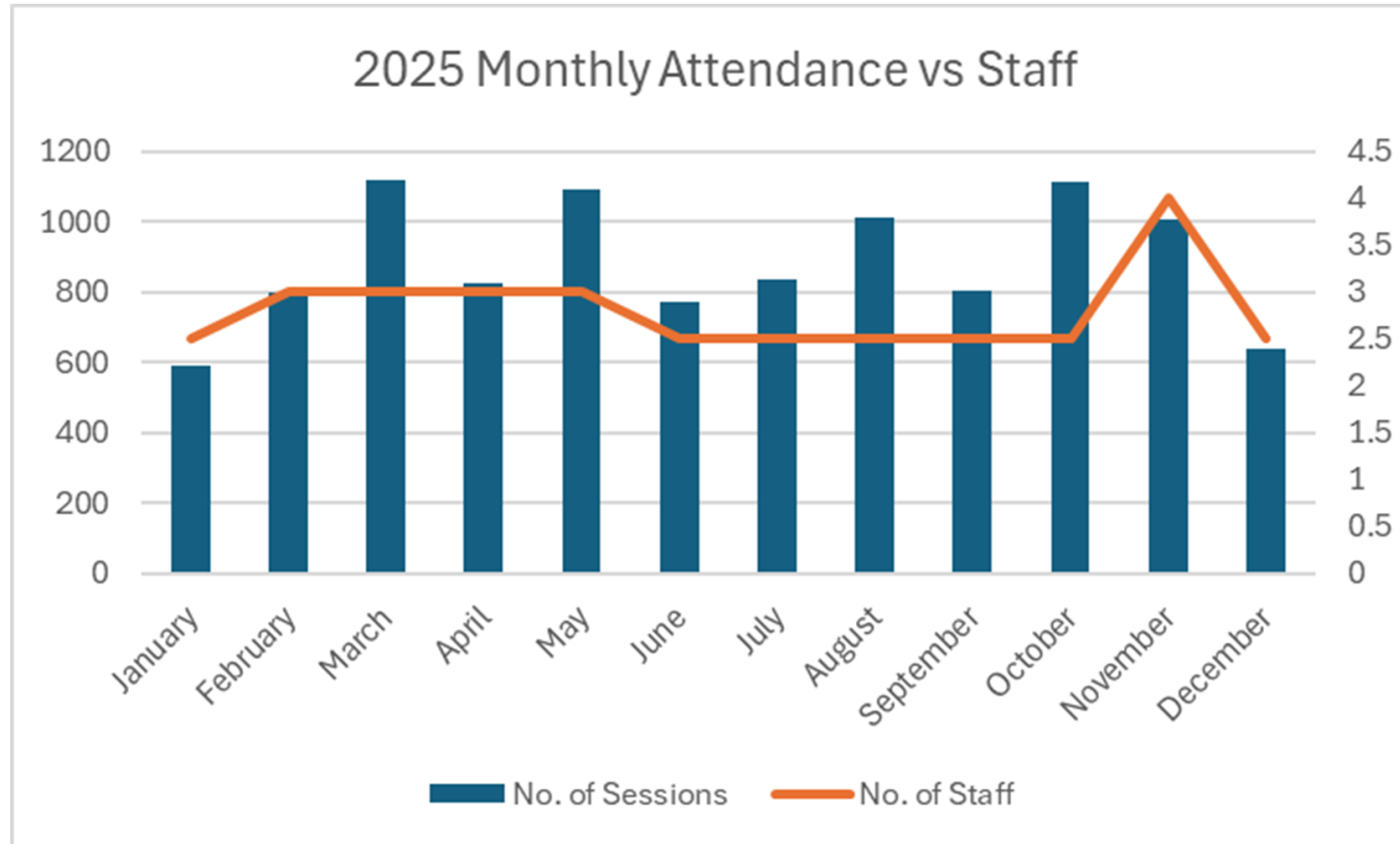


Figures from 2025:

74% of patients attending the gym and sports service were male compared to 26% female. (Reflective of hospital wide admissions).

Age of patients ranged from 7-91 years of age.

# Sports and Exercise Dept



# Benefits of Exercise

---

## Reduced

- Cardiometabolic disease and risk factors: coronary heart disease, high blood pressure, stroke, type 2 diabetes, high cholesterol
- Cancers: colon and breast cancer
- Depression and anxiety
- Cognitive decline
- \*Weight gain

## Improved

- Cardiac condition
- Respiratory capacity
- Muscle strength
- Bone density
- Balance
- Flexibility
- Coordination
- Social interaction
- Relaxation and sleep
- Mood
- Self-confidence

# Benefits of Exercise

---

Increased exercise levels associated with:

- Higher functional capacity and improved functional independence.
- Improved gait and walking speed (implication on community access, socialisation)
- Reduced falls (consider reduced hospitalisation)
- Secondary prevention (Stroke, amputations)
- Long-term management (BI, SCI, chronic health conditions)

# FITT Principle

## **F**requency

- Aerobic: 3-5 times per week
- Strength: 2-3 times per week

## **I**ntensity

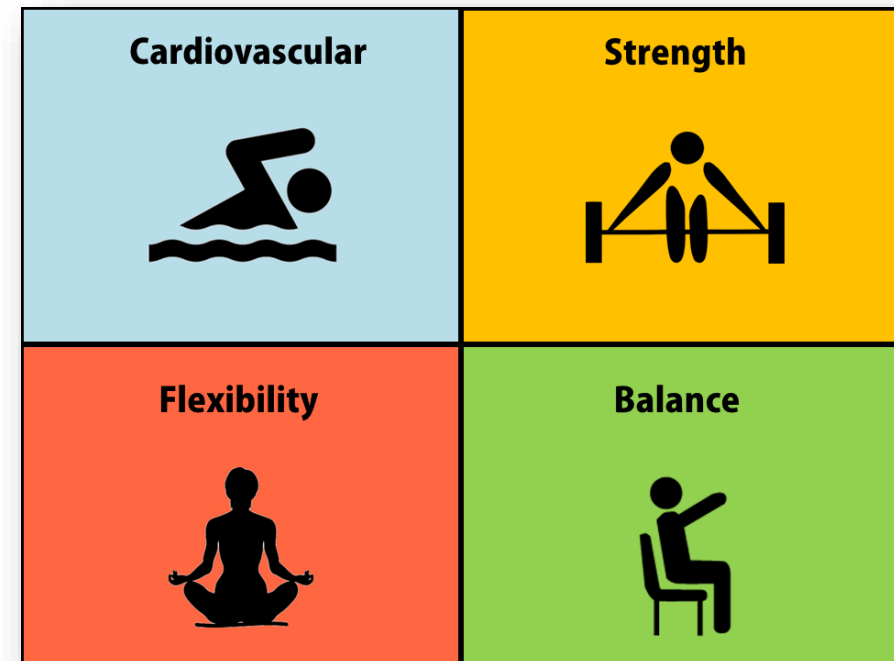
- Moderate
- “Talk not sing”

## **T**ype

- Cardiovascular
- Strength
- Flexibility
- Balance

## **T**ime

- 10-60 minutes



# Considerations

---

---

Pain

---

Fatigue

---

Cardiac history

---

Osteoporosis

---

Diabetes

---

Blood pressure

---

Prosthetic care and skin care

---

Dense hemiplegia or subluxations



# SCI Exercise Guidelines



# Stroke Exercise Guidelines

---

Recommendations include:

- People with stroke or TIA should aim to be active every day and minimise the amount of time spent sitting for long periods.
- People with stroke should be offered cardiorespiratory training or mixed training regardless of age, time since having the stroke, and severity of impairment....to support high-intensity (greater than 70% peak heart rate) cardiorespiratory fitness training.
- The dose of training should be at least 30-40 minutes, 3 to 5 times a week.
- Programmes of mixed training (medium intensity cardiorespiratory [40%-60% of heart rate reserve] and strength training [50-70% of one-repetition maximum]) such as circuit training classes should also be available at least 3 days per week.

# Stroke Exercise Guidelines

---

Recommendations include:

- The choice of programme should be guided by patients' goals and preferences and delivery of the programme individualised to their level of impairment and goals.
- Stroke rehabilitation services should build links with community-based exercise facilities (such as support groups, gyms, leisure centres or exercise referral schemes) to support people with stroke to transition to ongoing physical activity on completion of an exercise programme.
- Stroke services should consider working with other established rehabilitation services, such as cardiac or pulmonary rehabilitation, to develop exercise-based programmes and ensure access to equipment and screening protocols.

# BACPAR Guidelines

---

- There is no reason to vary the guidelines according to impairment type.
- All adults should minimise sedentary behaviours by breaking up long periods of inactivity with at least light physical activity, aim to be physically active every day.

**Any activity is better than none, and more is better still.**

# Benefits of Sport

## Reduced

- ✓ Cardiometabolic diseases/risk factors: coronary heart disease, high blood pressure, stroke, type 2 diabetes, cholesterol
- ✓ Cancers: colon and breast cancer
- ✓ Depression and anxiety
- ✓ Cognitive decline
- ✓ Weight gain

## Improved

- ✱ Cardiac condition
- ✱ Respiratory capacity
- ✱ Muscle strength
- ✱ Bone density
- ✱ Balance
- ✱ Flexibility
- ✱ Coordination
- ✱ Relaxation and sleep
- ✱ Social interaction
- ✱ Mood
- ✱ Self-confidence
- ✱ Sense of achievement
- ✱ Regaining a sense of self

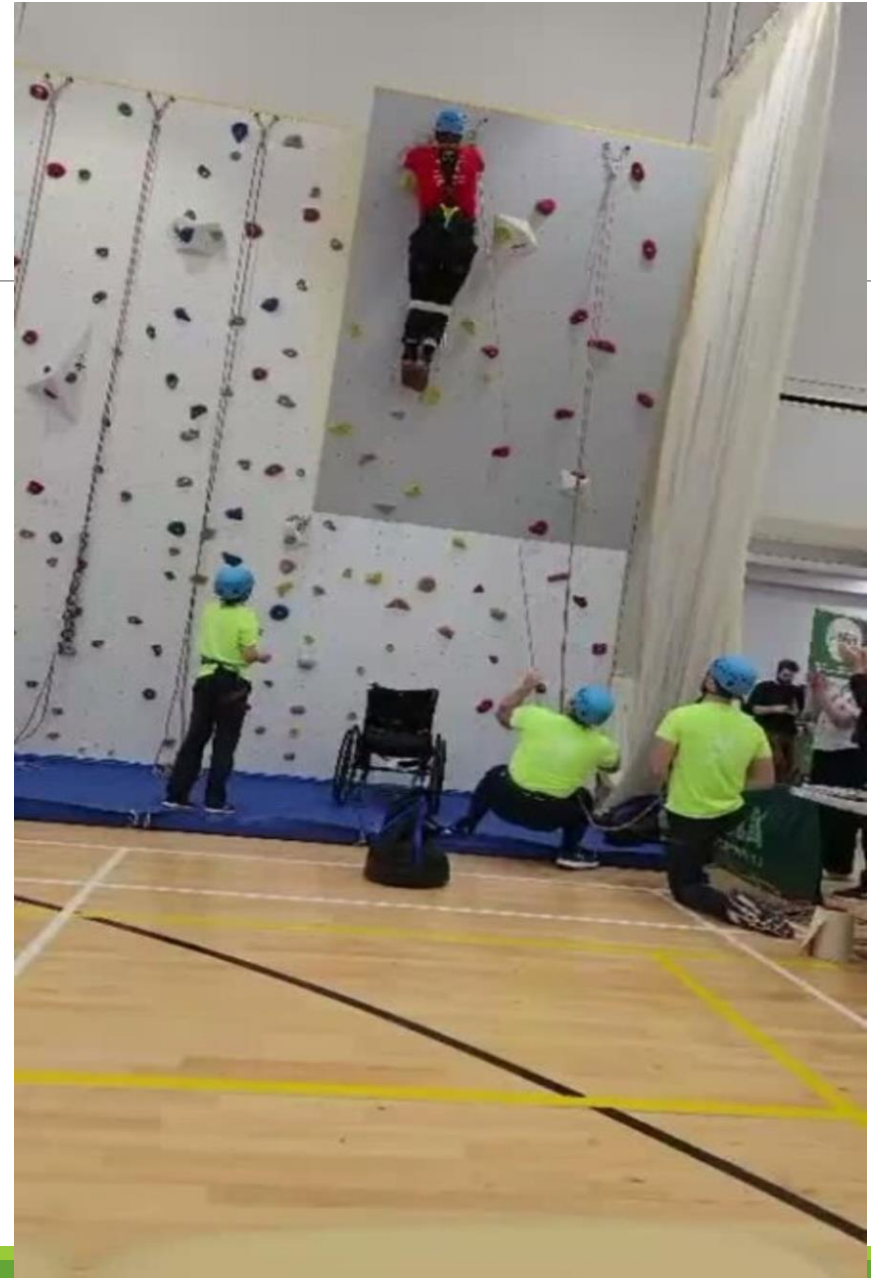
# Case Study: P

45 year old male, keen mountaineer and outdoorsman.

Paraplegic (T6 ASIA A) injury from fall while rock climbing.

Goals: independence with ADLs, return to work, return to driving.

“Return to my hobbies. To climb, cycle, walk, swim, camp in wild places. Investigate the option to become a disabled coach for disabled climbers. Advocate for disabled people's access to sports. Explore other activities for people with disabilities.”



# 'I can't move my legs': the reality of surviving a road crash

Updated / Thursday, 16 Apr 2026 22:52





# Aquatic Physiotherapy -Therapy Pool

Temperature: 35 degrees

Size: 14m x 6m

Depth: 1m – 1.8m

# Benefits of exercise in water

---



---

Ability to maintain upright position

---

Greater ease of movement

---

Greater ROM

---

Low impact on joints

---

Greater resistance

---

Good cardio workout

---

Muscle relaxation

---

Pain relief

---

Mental wellbeing

---

# Barriers to community engagement

Very few heated pools – very expensive

Travel

Needing assistance dressing/ in pool

Accessibility of pool and dressing rooms

Self-consciousness

Busy environment, sensory overload

Contraindications and precautions

- ATACP guidelines



# Aquatic Physiotherapy: What do we Offer?



## Service Delivery

- 1:1 sessions
- Group sessions
- Halliwick sessions
- Swimming lessons – Swimcamp
- Kayaking
- Family and Carer Training
- Relaxation with Music Therapy



# Therapy Pool – sensory session

Temperature: 35 degrees

Size: 14m x 6m

Depth: 1m – 1.8m

## Relaxation Sessions: Joint initiative with Music Therapy

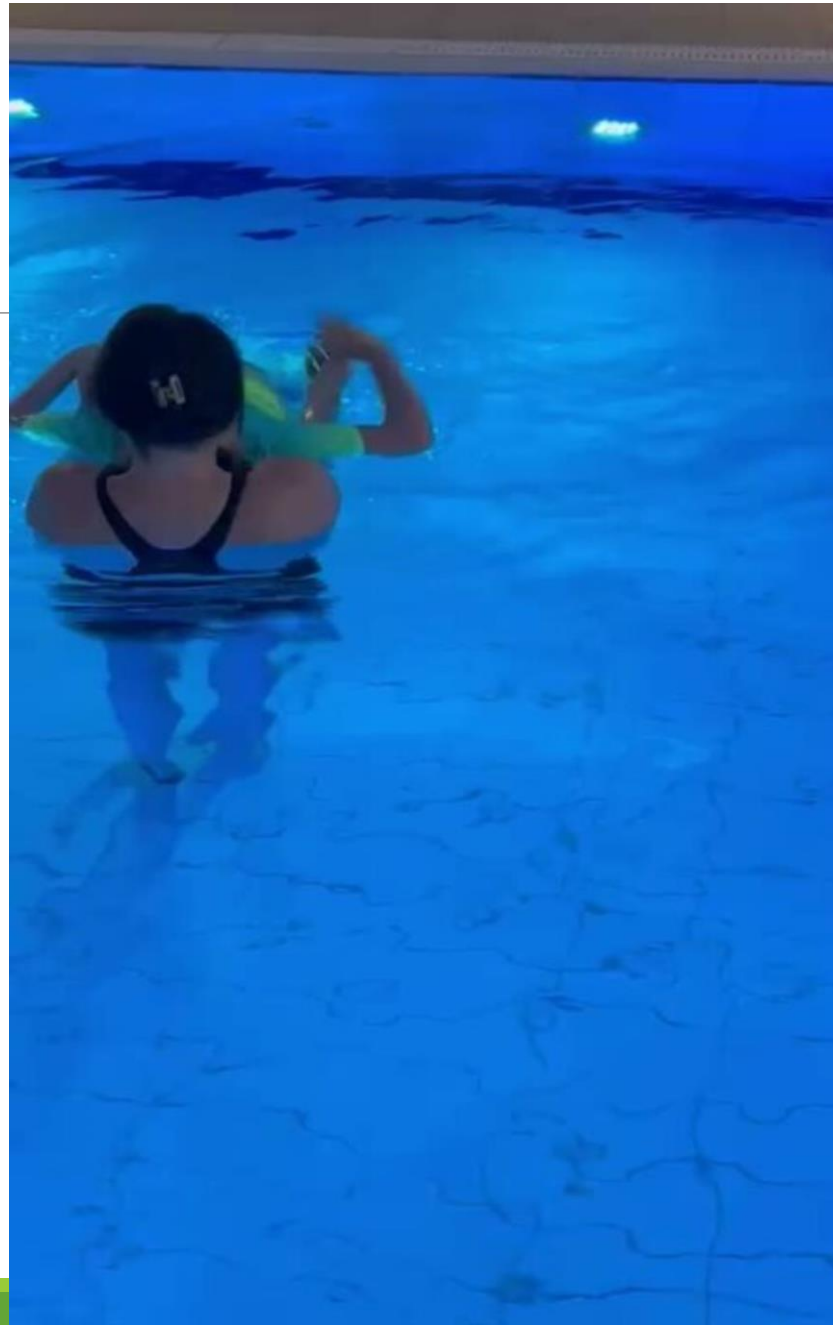


- ♪ Live music on the pool bank tailored for each session
- ♪ Gliding and handling based on Watsu techniques
- ♪ Deeper relaxation
- ♪ Emotional release
- ♪ Help people stop mental and or physical overactivity
- ♪ Referral from physio, psychology, music therapy or by the patient themselves

# Case Study: E

---

- ✓ Ongoing support for those with higher dependency needs
- ✓ 1:1 sessions
- ✓ Joint Aquatic and Music Therapy
- ✓ Family training
- ✓ Ongoing Outpatient support





# Lap Pool

Temperature: 29 Degrees

Size: 25m x 4.4m

Depth: 1m – 1.8m

# SWIMCAMP

## Collaboration with Swimcamp

Providing swimming lessons since Oct 2025 to:

- ✓ Inpatients
- ✓ Outpatients
- ✓ Staff Wellness
  - Staff swims





# NRH Canoeing Ireland Initiative



# Case Study: K

42 year old male, skiing accident

Paraplegic (T7 ASIA B)

Treatment Prog:

- 1:1 sessions
- Halliwick approach initially
- Progressed to Swimcamp
- Use of Kayaking for trunk control
- Family sessions



# NRH Annual Sports Championships



Celebrating the power and positive impact of sport on the lives of our patients.

It is a key event for the hospital to celebrate sportsmanship and inclusivity in a friendly competition.

26 different sports and activities on offer throughout the 4 day event, both competitive and “taster sessions”.









# Inter Spinal Unit Games (ISUG)

---

The Inter Spinal Unit Games (ISUG) is a dedicated event supporting the rehabilitation and reintegration of individuals with spinal cord injury (SCI). Held annually at Stoke Mandeville Stadium, the Games bring together patients and staff from 14 Spinal Injury Centres across Ireland and the United Kingdom.

Participants receive coaching and demonstrations from elite wheelchair athletes across multiple disciplines including athletics, basketball, swimming, and boccia.

For many, ISUG represents their first experience outside a hospital environment since injury. The event promotes confidence, independence, and physical well-being, while introducing adaptive sport as a pathway to sustained participation and community reintegration.

# ISUG



**“It’s really a fantastic event that opened my eyes to so much opportunities in sport. It was definitely the pinnacle of all my rehab.”**



# ISUG



**“No sport is out of reach.”**

**“All sports are doable with some adaptations.”**



# More resources...

---



[NRH.Exercise.Physio@nrh.ie](mailto:NRH.Exercise.Physio@nrh.ie)

[Muireann.ORiordan@nrh.ie](mailto:Muireann.ORiordan@nrh.ie)

[NRH.Aquatic.Physio@nrh.ie](mailto:NRH.Aquatic.Physio@nrh.ie)

[Catherine.sadlier@nrh.ie](mailto:Catherine.sadlier@nrh.ie)

[Roisin.hayes@nrh.ie](mailto:Roisin.hayes@nrh.ie) - Music Therapy

[Mark.Barry@iwa.ie](mailto:Mark.Barry@iwa.ie)

[info@iwasport.com](mailto:info@iwasport.com)

# ...and more...

---

[Sports Inclusion Disability Officers | Sport Ireland](#)



**SPÓRT ÉIREANN**  
**SPORT IRELAND**

## **Sports Inclusion Disability Officers**

Sports Inclusion Disability Officer (SIDO) aim to increase the participation of people with disabilities in sport, fitness and physical activity throughout the country. This is achieved through working in partnership with statutory agencies, sports clubs, community groups, facility providers, schools, disability service providers and people with disabilities.

Please use the below to find contact details for the Local Sports Partnership in your area as they are the point of contact for any queries relating to SIDOs or the Social Inclusion Disability Programme.

# ...and more...

---

---

Spinal Injuries Ireland

---

Acquired Brain Injury Ireland

---

MS Ireland

---

Ex-well

---

Active Disability Ireland

---

Croí

---

Irish Heart Foundation (Young stroke Survivor)

---

Siel Bleu

---

HSE.ie (Living well)

- ✓ IWA Sport
- ✓ Golf Ireland
- ✓ Tennis Ireland
- ✓ Table Tennis Ireland
- ✓ Badminton Ireland
- ✓ Archery Ireland
- ✓ Target Shooting Ireland
- ✓ GAA for all

# Aquatic Resources

---

**CPAT** – Chartered Physiotherapist in Aquatic Therapy

**ATACP** – Aquatic Therapy Association for Chartered Physiotherapists

**Halliwick** – International Halliwick Association

**ATSPRA** – Aquatic Therapy Shallow Pool Rescue Award

**PWTAG** - Pool Water Treatment Advisory Group

**Pool Plant Operators Course** – Ireland Active

[www.swimcamp.ie](http://www.swimcamp.ie)

[www.canoe.ie](http://www.canoe.ie)

# NRH Education and Future Planning

---



National Grand Rounds

Programmatic Training Days

Halliwick group sessions

Hosting Aquatic courses

Tours of Gym and Sports Facilities

Data collection

Service auditing

“Train the Trainer”

Chair yoga