

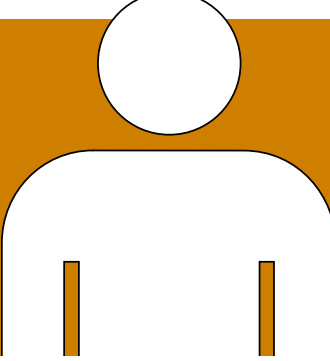


EXCEEDING EXPECTATIONS IN SPINAL CORD INJURY REHABILITATION WITH AN EXTENDED HOLISTIC INTERDISCIPLINARY TEAM: A CASE STUDY.

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The inhouse interdisciplinary team (IDT) at a specialist residential rehabilitation centre has been extended to integrate professionals beyond the traditional (e.g. nurses, occupational therapists, physiotherapists), including an acupuncturist, neurological music therapist (NMT) and solution focused hypnotherapist (SFH). This approach provides new opportunities for meeting patients' needs and goals. This case study aims to demonstrate the difference this extended IDT approach made to an individual's recovery despite being over two years post spinal cord injury (SCI).



- A 23-year-old male
- Traumatic SCI leading to incomplete tetraparesis (ASIA Impairment Scale D)
- Two years post injury
- Received 15-weeks of intensive specialist residential rehabilitation

KEY AIMS, EXPECTATIONS AND TREATMENT

Patient's initial expectations and aims	• Improve bladder symptoms. No expectation of independence with catheter management	• No expectations of progressing physical abilities	• Improve upper limb functioning	• No expectations of progressing overall participation needs
IDT's initial expectations and aims	• Improve bladder management	• Be able to walk outside ≈0.5miles	• Be able to walk his dog	• To attend a football match with friends
Outcomes exceeding expectations	• No further UTIs, bladder spasms or bypassing. • Independent with flip flow and drainage bags	• Hiked up 517m hill in the Peak District (UK)	• Able to walk his dog <u>and</u> throw and catch a ball	• Confident to socialise in busy environments and attend a football match

INITIAL ASSESSMENT OF NEEDS BASED ON THE INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH (ICF):

Health Condition

Traumatic SCI: C6 incomplete tetraparesis (ASIA D)

Body Functions and Structures

- Impaired gait and foot drop
- Spasticity
- Restricted hand movement
- Pain, bladder spasms, urinary bypassing
- Urinary tract infections (UTIs) following suprapubic catheter changes
- Dysphonia
- Fatigue
- Autonomic dysreflexia (AD)

Activity

- Indoor mobility: AFO and elbow crutch
- Outdoor mobility: Self-propelled wheelchair
- Reduced fine motor skills
- Poor sleep
- Reduced physical endurance

Participation

- Limited social activities
- Unable to walk dog
- Unemployed
- Reduced participation for 2-3 days post catheter changes
- Feeling vulnerable outside the home
- Avoiding busy environments as unable to be heard

Environmental Factors

- Lack of access to specialist rehabilitation IDT

Personal Factors

- Living with his mother post-SCI
- Reduced confidence and increase anxiety post injury

World Health Organization (2002)



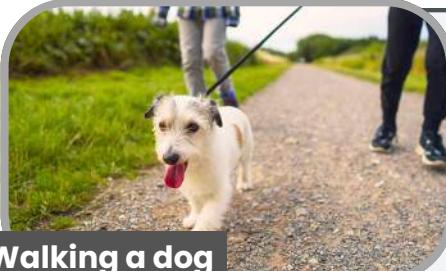
Bladder management

- **SFH** and **acupuncturist** helped with relaxation and anxiety prior to re-catheterisation reducing discomfort
- Symptoms post catheterisation identified as AD. Recurrence prevented with input from **nurses** and **consultant**
- **Nurses, OT, PT, consultant** and **orthotist** combined approach enabled independence and improved hand function when managing flip flow and drainage bags



Walking up 517m hill on rough outdoor terrain

- Traditional **OT, PT** and **Orthotic** input provided
- Rhythmic Auditory Stimulation in joint **NMT & PT** sessions improved gait pattern
- Botulinum Toxin administered by the **consultant**, with clinical input from **PT**.
- **Acupuncture** helped with pain



Walking a dog

- **OT, PT** and **NMT** worked on upper limb function, hand dexterity, throwing and catching
- Practice walking the in-house **therapy dog** with **OT** and **PT**



Attending a football match & socialising in busy environments

- **SLT** designed a voice related therapy programme including input from **SFH** & **PT** (hydrotherapy) to work on diaphragmatic breathing
- **Clinical psychology, SFH** and **art therapy** worked on anxiety and confidence
- **OT, acupuncture** and **SFH** worked on fatigue management strategies and sleep

RESULTS

Voice Handicap Inventory

7/40 → 0/40

SCIM II

67 → 76

6-Minute Walk Test

130m → 200m

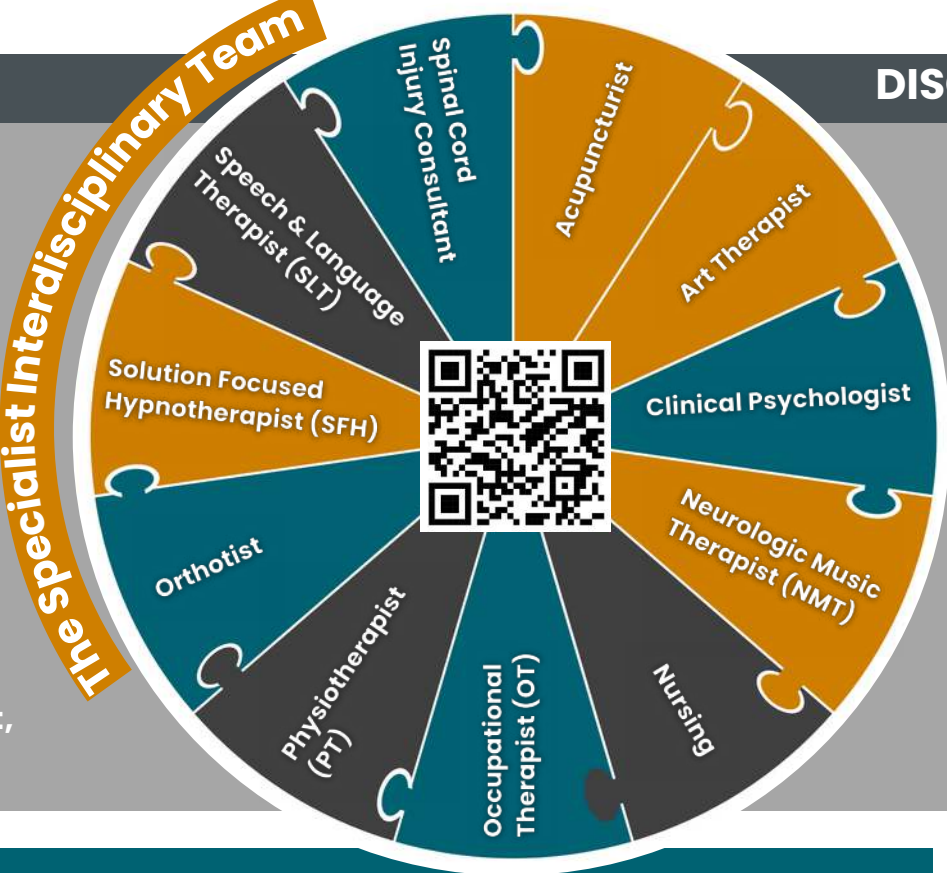
Importantly to the patient, on discharge he had further goals that he would not have previously felt able to consider relating to returning to employment, hill walking and going on long-haul flight holidays.

DISCUSSION: EXCEEDING EXPECTATIONS

Anecdotally, it is widely suggested that limited recovery can be achieved two years post-injury, in-turn suggesting this should be a SCI survivors' expectation.

However, having access to a specialist IDT, in an inpatient rehabilitation environment, provided to progress rehabilitation goals and opportunities to exceed expectations.

Input from professionals he had not previously had access to, such as art therapy, NMT, SFH and SLT, had substantial impacts on his progress.



CONCLUSION

Access to rehabilitation is recommended throughout a Spinal Cord Injury survivors' lifetime (Spinal Injuries Association, 2023). This case demonstrates what can be achieved two years after injury with an inpatient extended holistic IDT able to work together with the patient to meet their complex and overlapping biopsychosocial needs. Further research into both the integration of less traditional professional roles into the rehabilitation IDT, and the outcomes of intensive rehabilitation over two years post injury, would be beneficial in the future.

OUR TAKE HOME MESSAGE:

- All the recovery gains here were over two years post SCI, which exceeded the expectations of many healthcare professionals
- With the right team, right approach and right environment, significant gains were made

References:
Spinal Injuries Association (2023). What Matters Report. Available at: SIA_What_Matters_Report_2023-07.06.23.pdf (spinal.co.uk) (Accessed: 08.08.24)
World Health Organisation (WHO) (2002). Towards a Common Language for Functioning, Disability and Health ICF. Available at: https://cdn.who.int/media/docs/default-source/classification/icf/icfbeginnersguide.pdf (who.int) (Accessed: 08.08.24)