

Effective postural management for complex patients in Prolonged Disorders of Consciousness (PDOC) – 24 hour approach

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Background

The RHN has well established clinical resources which allow for thorough specialist postural assessment, intervention and management for individuals with complex physical needs. Individuals in PDOC present with unique challenges to their long term postural management as a result of prolonged immobility and no means of communication. The importance of early intervention post brain injury and adapting interventions over time according to changing presentations is vital to successful postural management. At the RHN a multidisciplinary approach, collaborative working and a range of resources allow for the successful implementation of 24 hour postural management programmes, as outlined in the case series below.

Postural Management Interventions

The following RHN services were used for both of the below case studies to assess, optimise and implement an MDT 24 hour postural management approach:

- Postural management clinic
- Wheelchair engineering department
- Rehabilitation trained nursing and care staff
- Spasticity clinic
- Splinting clinic
- Custom sleep and seating systems
- Specialist shower chairs
- Dietetic review for weight management
- Therapy led stretching and therapeutic programmes

The Complexity of PDOC

- Limited to 24 hours in 2 positions: sitting and lying
- Unable to communicate, cannot express discomfort or care needs
- Prone to negative physical changes as a result of immobility

The Importance of 'Getting It Right'

- Optimise sleep and comfort
- Optimise individual for formal PDOC assessment
- Correct or accommodate areas of concern to reduce further impairment and burden of care
- Long term management of posture not achievable without a concurrent review of posture in seating and sleeping regularly

Case A: Custom Seating

History:

- Acquired brain injury in August 2021. Arrived at the RHN from acute hospital with rapidly changing spasticity and development of contractures.

Postural concerns:

- Contracture of right knee fixed in extension, contracture of left knee fixed in flexion, pelvic obliquity and rotation, scoliosis of spine and contracture of both elbows.

Impact on daily life and care provision:

- Difficult to position comfortably in bed
- Unable to maintain position in standard tilt wheelchair
- Prolonged episodes of profuse sweating in wheelchair and bed
- Spasticity presentation changing frequently, at risk of further contracture
- Poor sleep

Before custom seating:

- Optimised medically
- Multiple adaptations to standard chair
- Multiple rounds of botulinum toxin
- Stretching programme
- Casting of upper and lower limbs

After custom seating:

- Pelvic obliquity and rotation accommodated
- Scoliosis accommodated
- Contact provided under left flexed knee
- Right leg supported in extension
- Trunk support improved head and arm position



Case B: Sleep System

History:

- Traumatic brain injury in August 2020.
- Spent one year in a nursing home with minimal postural management support.
- Admitted to the RHN in January 2022.

Postural concerns:

- Concave left scoliosis, pelvic wind sweeping to right, upper limb flexion contractures, pelvic obliquity and rotation, trunk side flexion, plantarflexion and inversion contractures at feet

Impact on daily life and care provision:

- Difficult to position comfortably in bed
- Physiological indicators of pain identified on handling
- Carer burden during personal care
- Risk of further contracture

Management:

- Casting and splinting
- Botulinum toxin
- Pain management
- Assessment for custom seating
- Stretching programme

Outcome of a Symmetrikit sleep system:

- Scoliosis of spine supported
- Pelvic obliquity, rotation and wind sweeping partially corrected and accommodated for until comfortable



Conclusion

At the RHN, postural management is essential for optimising the PDOC assessment process, minimising the risk of future postural deformity and secondary complications and working towards a robust long term postural management solution for the individual. A 24 hour approach to postural management cannot be achieved successfully without the support of a multidisciplinary team who are able to manage posture.



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