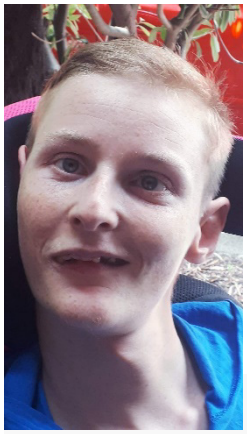
Client: Dyllie

PT/OT/Supplier: Marty Hughes, PT & Lauren Hunter, OT, Linds Rehabilitation

Location: Melbourne, Australia



Dyllie is a 25 year old man with the diagnosis of cerebral palsy who has been using Seating Dynamics Dynamic Footrests (telescoping, elevating, and plantar/dorsi flexion), Dynamic Rocker Back, and Dynamic Head Support Hardware for 8 months at the time of this case study.

Current Presentation

Dyllie frequently experiences increased extensor tone and spasticity while seated in his wheelchair. He also has underlying low tone. His increased tone is more pronounced during periods of high emotion (stress, happiness, frustration), communication, and mobility over uneven surfaces.

History

Dyllie had used a static seating system for many years. His family approached the prescribing physiotherapist about trialing Dynamic Seating as they were having difficulty with the following:

- Dyllie's extensor tone would cause him to bridge in his wheelchair (extending his pelvis off the seat). To support Dyllie in the wheelchair seating system, he had been prescribed a 4-point pelvic positioning belt, ankle supports, and anterior trunk support. After sustained periods of extension in the wheelchair, Dyllie developed prolonged redness on his hips (from rubbing against the pelvic positioning belt) and on the soles of his feet (from significant pressure against the footplates).
- Dyllie's tolerance to remain in the wheelchair was limited to 3 hours a day, after which he was fatigued and required a change of positioning.
- Dyllie would bridge (again, extending his pelvis off the seat) to wrap his head around the side of the head support, which could lead to his head being caught and even injury.
- Dyllie's mood could escalate quickly due to stressful situations and the need to communicate, as well as to draw attention to himself through increased extensor tone.
- Moving over uneven surfaces would increase his extension and Dyllie pushed against his wheelchair seating in these scenarios.

Quick Notes

Challenges:

✓Extension
✓Loss of Position
✓Pressure
✓Decreased Sitting Tolerance
✓Fatigue
✓Potential Injury
✓Agitation
✓Muscle tightness

Areas affected:

✓Back
✓Lower Extremities
✓Neck

Equipment Used:

✓Dynamic Rocker Back
✓Dynamic Footrests
Static Footrests
✓Dynamic Head Support
Static Head Support
Spreader Mount

- Transfers into his wheelchair in the morning were difficult as his legs were tight in the morning and difficult to extend. His legs would 'catch' on the front of the seat edge, pulling Dyllie forward in the wheelchair.

Dynamic Seating

Jump forward 8 months to using Dynamic Seating: Dyllie started with just the Dynamic Rocker Back, however, he was still able to wrap his head around the head support and was exerting a great deal of pressure on the bottom of his feet. Therefore, the treating therapist and the family decided to trial the Dynamic Footrests and Dynamic Head Support Hardware. Here are the stated outcomes from the family:

Dyllie with Dynamic Seating

- Dyllie is no longer able to wrap his head around the head support, reducing the risk of injury.
- Dyllie continues to use the postural supports prescribed for him, however, he no longer has prolonged redness after getting out of his seating system, indicating reduced pressure.
- Dyllie's seating tolerance has increased from 3 hours to 8-10 hours in a day, increasing his ability to access community events and activities.
- Dyllie's self-regulation of mood has improved, with the family stating they no longer need to rush over to reassure him. He can rock and extend in the wheelchair to self soothe.
- The family also notes he is more effective in his communication.
- His overall 'need' to extend in the wheelchair has reduced.
- The family and physio have noted increased muscle strength and control, especially in his neck and head movements.
- Dyllie can now tolerate mobilising over uneven surfaces as the dynamic components assist in maintaining his position despite vibration and large jolts from impact force.
- The increased muscle strength in his legs has assisted with morning transfers. The family notes that his legs are not as tightly flexed, and they can get his pelvis back into the wheelchair more readily.
- The family have also noted reduced involuntary movements, with more controlled movements being observed.

Results

Dyllie's family have stated the dynamic components and the wheelchair are now an extension of Dyllie. They feel he knows this, as well, and now uses the wheelchair to express himself in a variety of situations in his day-to-day activities. The family also stated they would never go back to a static seating system for Dyllie, as they are so impressed with these positive changes.

Lauren Hunter, OT
Linds Rehab
Hallam, Victoria, Australia

"Dynamic hardware is an essential component of the wheelchair for Dyllie to optimize function and represent who he is as a full-time wheelchair user."

Please click here to view videos of Dyllie using his Dynamic Seating.

About the Author

Lauren Hunter has been working as an Occupational Therapist for over 15 years in a variety of inpatient and community settings. Wheelchair prescription and complex seating have always been a part of her practice, with a passion for optimising outcomes for those living with a variety of diagnoses requiring support from a wheelchair to maintain their mobility. Lauren has come from a senior community position to take on the Clinical Educator role with Linds Rehabilitation Equipment, located in Victoria, Australia. Lauren's role is to support therapists in their clinical decisions when choosing from a vast range of products and to provide education that makes wheelchair prescription easy, using best practice guidelines, a journey that finishes with the best outcomes for the end user.