

Client: Phillip

Clinician: Diana Hoopes, PT

Location: Wilmington, Delaware

Phillip is an adult with developmental disabilities. He lives at the Mary Campbell Center in Wilmington, DE. He has increased muscle tone throughout his body. Phillip is non-ambulatory and non-verbal. He seeks out movement and tends to rock with his entire body in his manual wheelchair for much of the day.

Phillip was seen in May of 2017 with his team of therapists at his residential center. He was positioned in a Quickie IRIS tilt in space manual wheelchair with a Jay Custom Fit linear back and a Stimulite cushion. He also had a wide, flat head support; lateral trunk supports; pelvic positioning belt; and lateral thigh supports. Although he was fairly well positioned, his constant rocking had led to increased wear and tear on his wheelchair frame and seating system.



Equipment Breakage

Phillip's caregivers used the wheel locks to prevent the wheelchair from moving across the room in response to his rocking. He exerted so much force behind his movements that the solid tire had actually broken around the wheel lock numerous times – the tire looked like a monster had been taking bites out of it!



The team had attempted to address his constant rocking in this wheelchair. The IRIS wheelchair included a Quickie Dynamic Back. The Dynamic Back had failed due to Phillip's constant movements – specifically, the elastomer in the back had become damaged. After repeatedly changing out this elastomer, the supplier placed a Seating Dynamics

Dynamic Rocker Back interface elastomer in the Quickie Dynamic Back. Although this elastomer was in good shape at the evaluation, Phillip's movements were no longer compressing the elastomer at all, rather the movement was occurring between the bolts and the holes in the Quickie Dynamic Back. The holes were worn from round to oval, allowing movement of the bolts within the holes. The entire assembly was at risk of breaking and needed to be replaced.

The IRIS wheelchair also included Miller's Adaptive Technologies Dynamic Footrest Coils. These attach between the footrest hanger and footplate and are

Quick Notes

Challenges:

- ✓ Equipment Breakage
- ✓ Movement
- ✓ Client Injury

Areas affected:

- ✓ Head
- ✓ Back
- ✓ Trunk
- ✓ Knees
- ✓ Feet

Equipment Used:

- ✓ [Dynamic Rocker Back](#)
- ✓ [Dynamic Footrests](#)
- ✓ [Dynamic Head Support](#)
- ✓ [Sunrise Medical Quickie IRIS](#)

designed to rotate laterally in response to significant force. Phillip did not appear to be activating this dynamic component, as his movement pattern was primarily knee extension.

Client Injury

Phillip did not have any dynamic component at the head, and he impacted the head support with such force throughout his day that he had worn off his hair at the point of contact! We were concerned about the forces occurring at the cervical area and the impact on his brain.

Movement

Phillip needs to move. He seeks out movement, craving this vestibular input. Research has demonstrated that movement can reduce agitation and increase alertness. He required movement at his pelvis, knees, and neck. He had movement at his pelvis, but the Quickie Dynamic Back was not working correctly. He had a dynamic component on the footrest hanger, but he was not activating it as this did not match his movement pattern. He also required durable components that he would not break.



Diana Hoopes, PT
Phillip's Physical Therapist
Wilmington, DE

“He loves it! This has saved the chair from breaking down because he has moving components now.”

Results

A Seating Dynamics Dynamic Rocker Back interface (DRBi), Dynamic Footrests and Dynamic Head Support Hardware were recommended for Phillip. He has since received this equipment. His therapists report that he can move much more readily and greatly enjoys these components. Since receiving the new Dynamic Seating, he has not broken anything on his wheelchair or seating system. The DRBi is locked during transport, and he does not like that. He is greatly relieved once this is unlocked after he arrives at his destination!

Videos

Head to the Seating Dynamics YouTube channel to see before and after videos of Phillip. See the difference!

- Dynamic Back Failure

<https://www.youtube.com/watch?v=94V2Mm6WJBE&list=PLfav8B1WDNUpv6V1vuNg8Hgp3CWI5dJ5e>

- Accommodating repeated banging against a wheelchair head support

<https://www.youtube.com/watch?v=n6QzODN0LRg&index=2&list=PLfav8B1WDNUpv6V1vuNg8Hgp3CWI5dJ5e>

- Phillip receives his Seating Dynamics components!

<https://www.youtube.com/watch?v=uR47wzhs-dc&index=3&list=PLfav8B1WDNUpv6V1vuNg8Hgp3CWI5dJ5e>

About the Author

Michelle Lange is an occupational therapist with 30 years of experience and has been in private practice, Access to Independence, for over 10 years. She is a well-respected lecturer, both nationally and internationally and has authored numerous texts, chapters, and articles. She is the co-editor of Seating and Wheeled Mobility: a clinical resource guide, editor of Fundamentals in Assistive Technology, 4th ed., NRRTS Continuing Education Curriculum Coordinator and Clinical Editor of Directions magazine. Michelle is a RESNA Fellow and member of the Clinician Task Force. Michelle is a certified ATP, certified SMS and is a Senior Disability Analyst of the ABDA.