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### Exploring Seating and Mobility Provision

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# Exploring Seating and Mobility Provision

Amaris Hornbuckle OTD/S

Expert & Faculty Mentor: Dr. Teresa Plummer, PhD, OTR/L, CAPS, CEAS, ATP  
 Site Supervisors: Andy Foster, OTR, ATP, CRTS; Sandy Foster, PT, DPT, ATP



**Numotion**

**Mission:** Improving the lives of people with disabilities by enabling them to actively participate in everyday life.  
**Vision:** Be the primary source for all mobility, independence, and life-enhancing solutions; lead the industry in innovation so all people with disabilities may thrive with personalized products and services.

**TriStar Skyline Medical Center**

**Mission:** Above all else, TriStar Skyline is committed to the care and improvement of human life. We strive to deliver high quality, cost-effective healthcare in the communities we serve.

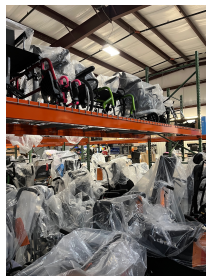
**Identified Needs of the Agencies**

**Numotion:**

- Current identification method of available loaners is time consuming

**Tristar Skyline:**

- Limited awareness of potential clients and TriStar Staff of the presence of a wheelchair clinic



Left: Mat Assessment. Right: Numotion Loaner Wheelchairs.

Capstone Goals	Outcomes
<ul style="list-style-type: none"> <li>• Develop resources related to seating and mobility provision and education</li> </ul>	<ul style="list-style-type: none"> <li>• Created loaner tracking spreadsheet for Numotion</li> <li>• Designed promotional materials for the Seating and Mobility Clinic at Tristar Skyline</li> <li>• Reformatted Houston Methodist form for easier collaborative academic use</li> <li>• Created reference cards of the protocol for Explorer Mini FDA Testing</li> </ul>
<ul style="list-style-type: none"> <li>• Expand knowledge of wheelchair service provision</li> </ul>	<ul style="list-style-type: none"> <li>• Observed 185 hours of seating and mobility evaluations of a variety of ages and diagnoses</li> <li>• Completed WHO Wheelchair Service Training Package Basic Certification</li> <li>• Completed Academy of Neurologic Physical Therapy Wheelchair Course</li> <li>• Achieved entry-level competency in mat assessments</li> </ul>
<ul style="list-style-type: none"> <li>• Collaborate with OT, PT, and other professionals related to seating and mobility provision and education</li> </ul>	<ul style="list-style-type: none"> <li>• Conducted a literature search for the Position Paper on Pediatric Power Mobility</li> <li>• Participated in the planning and execution of an interprofessional event with 100+ Belmont University interior design, OT, and PT students</li> <li>• Served as a liaison between 50+ Belmont University OT students and Vanderbilt biomedical engineering students for the fabrication of 4 modified ride-on toys for Go Baby Go</li> </ul>
<ul style="list-style-type: none"> <li>• Develop awareness of the lived experience of end-users</li> </ul>	<ul style="list-style-type: none"> <li>• Consumed a variety of multimedia created by end-users</li> <li>• Spent a day navigating playgrounds in a wheelchair</li> <li>• Talked with a variety of end-users &amp; caregivers at evaluations</li> <li>• Wrote 3 personal reflections throughout capstone</li> </ul>

**Acknowledgements:**

I would like to extend my gratitude to the following individuals:

- Andy Foster and Sandy Foster for their openness and willingness to share their expertise.
- Dr. Plummer for her guidance, support, and knowledge throughout my capstone.
- All the clients, therapists, and ATPs that allowed me to observe and participate in their evaluations.
- Everyone at Numotion for their kindness and assistance.

**Deliverables**

**Step:**

1. Complete Pre-Screen Checklist
2. Ask if caregiver has question about the study or consent process
3. Complete and sign consent and video consent
4. Fill out demographic form
5. Have parent complete CREDS short form
6. Begin modifications recording
7. Interact while child sits on caregiver's lap
8. Measure child's lower and upper leg length

**# Child is not interested in playing with device:**

- Play "Hide and seek" with device or joystick
- Touch joystick and show that the device moves
- Bang on device or press button to direct attention
- Incorporate child's favorite toy with the device
- Increase level of direction & assistance with child
  - Visually direct child to the device
  - Increase verbal cues directing to the device
  - Hand over hand to touch/interact with device

**Check for Proper Fit**

- Feet should be firmly on the support surface
- If sitting seat, knees should be position at ~90° with full weightbearing across femur on the saddle seat
- Adjust tray to support upper body at elbow height
- Ensure child applies reach joystick with consistent method of access (hand, elbow, mouth, etc)

Protocol Flashcards for Explorer Mini FDA Testing

**Our location:**

1441 Chestnut Plaza (Houston, TX)  
 For more information, call 813-789-1010

**Wheelchair Seating and Mobility Clinic**

TRISr Skyline Medical Center

**Who may qualify for a wheelchair?**

1. Individuals with a chronic medical condition who are no longer able to ambulate or complete daily tasks in a timely, safe manner in their HOME environment.
2. Current wheelchair users who need updated equipment, modifications or other assistive devices.

**Common Diagnoses**

- Multiple sclerosis
- Parkinson's disease
- spinal cord injuries
- stroke
- CVA
- cerebral palsy
- ortho. limb
- osteo. arthritis
- cerebral palsy
- CVA
- stroke
- spinal cord injuries
- multiple sclerosis
- Parkinson's disease
- cerebral palsy
- stroke
- CVA
- ortho. limb
- osteo. arthritis

**Who is involved in the evaluation?**

- Physical therapist certified as an Assistive Technology Professional
- over 20 years of assistive technology experience
- experienced in their assistive technology equipment (AT) expertise
- registered as a service provider, documentation requirements, and compliance details
- minimal seating experience
- may also include family members, caregivers, etc.

**How do I set up a wheelchair evaluation?**

1. Ask your ATP or contact the PT evaluation and trial department
2. Send to Skyline Occupational Therapy services:
  - Full medical history and current diagnosis
  - Full medical history and current diagnosis
  - Phone number: 813-789-1010

**What happens during an evaluation?**

- We will review:
  - medical history and current level of function
  - general neurological exam and posture evaluation
  - upper and lower extremity range of motion/strength testing
  - review of assessed and current wheelchair system
  - the mobility strategy with recommended equipment

**What happens after the evaluation?**

- 1. Recommendations regarding appropriate equipment will be provided.
- 2. If approved, equipment will be sent to DMG company.
- 3. Client scheduled for a 1st follow-up training session.
- 4. All items with DMG hyperextension OR 5. All items with DMG.

Promotional Materials for TriStar Skyline

Numotion Wheelchair Loaner Tracking Spreadsheet