

# Seating and Positioning Throughout the Lifespan

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## BACKGROUND

There is a large need for occupational therapists for seating and positioning and assistive technology across the lifespan. The research shows that people are improperly fitted into their wheelchairs often causing pressure ulcers, pain, and reduced functional mobility and activity (Sonenblum, et al.). More research in this area needs to be completed, however, the current research shows that occupational therapists can create better outcomes for patients if they oversee wheelchair seating and positioning and continue to check up on those patients. Occupational therapists can also provide recommendations for other assistive technology or options for seating and positioning beyond wheelchairs and adaptive equipment. Occupational therapists can be valuable to this research; and should continue to perform assessments and provide more solutions to seating and positioning and assistive technology challenges for individuals of all ages. According to the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), there are 109 certified assistive technology professionals in the state of Colorado, and only 13 of which are registered occupational therapists. The area of seating and positioning for wheelchair fitting as a certified assistive technology professional and with the training of a certified occupational therapist is a very niche market. Occupational therapists can add the meaningful occupation piece during seating and positioning sessions, which can lead to more participation and overall quality of life for patients (Thyberg, et al.). If patients are not properly assessed and fitted, they are at increased risk for decreased participation in activities of daily living and other health factors. It is important for occupational therapists to continue learning and being influential in RESNA and with seating and positioning in the community.

## METHODS

- Demonstrated proficiency in the occupational therapy role for assessments and interventions for individuals in geriatric and pediatric settings specifically focusing on seating and positioning challenges.
- Determined and developed knowledge in assistive technology to create resources for caregiver training/education and for simple and complex assistive technology devices to increase function and comfort in seating and positioning.
- Demonstrated the ability to measure, fit, and position clients in wheelchairs, and show the ability to accurately and thoroughly document assistive technology recommendations from an occupational therapy viewpoint for client safety, seating and positioning, and reimbursement.

## FOCUSED QUESTION

How does seating and positioning and assistive technology impact an individual throughout their lifespan; and what role does occupational therapy play to achieve the patient's goals and needs.

### PEDIATRIC CLIENT HISTORY

- Born at full term – 15-months-old
- No diagnosis – undergoing genetic testing
- Developmental and feeding delays
- Hypotonic
- Bench sits unsupported – cannot roll over, creep, or crawl
- Has use of hands together at midline and can pincer grasp small food during feeding

### ADULT CLIENT HISTORY

- 31-year-old male
- Motorcycle accident resulting in anoxic TBI
- Communicates through eye blinking only
- Hypertonia and spasticity present
- Contractors of bilateral extended ankles, left knee extension, and wind-swept hips to the left

### GERIATRIC CLIENT HISTORY

- 85-year-old male
- Parkinson's Disease (PD)
- Rigidity, tremors, and hypotonic movements
- Shuffled gait and poor kyphotic posture
- Spends majority of the day in power-lift recliner chair

### RESULTS

Occupational therapy plays a large role in this child's play development, developmental milestones, feeding, and positioning. After evaluations and treatments this family was recommended a seating system with molded support under the pelvis for their child's highchair during mealtimes. It is important for a child's ankles, knees, and hips to be at 90 degrees during feeding and supported with a 3- or 5-point safety harness. There should also be appropriate back support due to low tone and strength.

### RESULTS

This client was recommended a tilt-in-space manual wheelchair with a custom molded seating system. The client's caregiver performs all transportation of the chair. The chair requires head rest support, leg adduction support due to contractor, foot-rest boxes to support lower extremities and help reduce further contractors, seat belt, bilateral trunk support, bilateral arm support, and custom molded seat for pelvic placement to reduce hip wind sweep.

### RESULTS

This client uses a 4WW for functional mobility around the community and the assistive living facility. Occupational therapy assisted with the client's overall posture in sitting and helped the client be more functional through core exercises, large exaggerated Parkinson's moves for intervention, and positioning throughout activity of daily living tasks. This client was taught about assistive technology on his phone to enhance his ability to perform tasks through voice commands, due to buttons being very hard to push because of PD symptoms.

## BOTTOM LINE FOR OT

Individuals in who are not properly fitted into their wheelchairs show areas of deficit, pain, and decreased functional mobility. Participation in activities of daily living may be difficult and/or decreased due to the not having the proper equipment, education, and comfort. Pressure ulcers and other injuries or pain due to improper wheelchair fitting can reduce overall health and quality of life. Occupational therapists can provide proper tools for measuring, fitting, and education for patients for seating and positioning and assistive technology. Occupational therapists can also provide caregiver education for individuals to receive proper care and maintenance.

Individuals can also benefit from a variety of seating and positioning recommendations and tools beyond a wheelchair provided by occupational therapists. This includes and is not limited to recliner positioning, highchair positioning, sitting at a table for functional activities and/or eating, bed positioning, car seat sitting/laying, toileting, and several other areas that impact the quality of life and daily activities. Occupational therapists play a vital role in seating and positioning needs in all facets of life.



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