

SEATING THE 'UNSEATABLE'

*BRENLEE MOGUL-ROTMAN B.SC.O.T., OT REG. (ONT.), ATP/SMS,
STEFANIE SUKSTORF LAURENCE, B.SC.O.T., OT REG.(ONT.)*

Permobil Canada, Motion Specialties

Ever have the sinking feeling when you meet a client that you have absolutely no idea where to start? Every client presents with their own unique issues; some are physical, some are behavioural, some are environmental related. A good outcome for a prescription takes all factors into consideration and strikes a balance to accommodate as many issues as possible. The core tenants of best practice in the prescription of a seating and mobility system are assessment, goal setting, matching client need to equipment parameters, evaluation and follow up. Utilizing the best practice, problem-solving path as it applies to any client, those that appear straight forward, complex or 'unseatable', whatever the reason can have a successful outcome. The follow case studies are examples of the application of these principles.

Case #1 – Mario V:

Mario is a client with a diagnosis of ALS. He was diagnosed approximately 20 years ago and is now in his mid-40's. He lives with his aging parents who are primary caregivers along with hired caregiving staff. Mario's condition is deteriorating- he has a g-tube, B-Pap machine and has significant issues communicating. He is unable to speak at any volume and mouths words to his caregivers. He is able to void on is own and uses a urinal when assisted.

Mario was assessed and prescribed a power wheelchair 3 years ago. At the time of the assessment process, he was offered power tilt, recline and seat elevation. The issue of standing was discussed but Mario reports that he was told that he could not use the function and no full assessment of standing was completed. The family and caregivers regularly stand Mario up and he used to hold onto a high walker. Now they hold him in the standing position. Not only is this unsafe, it is difficult for the caregivers and not effective long term.

After seeing a power standing chair on the Ellen DeGeneres show, Mario's mother contacted the manufacturer who then put her in contact with the Canadian rep and vendor. The family was provided with an evaluation chair, and fund-raised to pay for the full cost of the new power chair- power tilt, recline, elevating legs, seat elevation and standing.

Outcome:

- Permobil front wheel drive power wheelchair with power tilt, recline, elevating legrests, seat elevation and standing (client does not drive independently)
- ROHO High profile Quadro Select cushion
- Prism back support
- Bodypoint pelvic positioning belt, Monoflex chest support
- Bodypoint Monoflex chest support used as head support when standing

Mario uses all the power seat functions of his chair on a regular basis. His ability to stand allows him to urinate in standing into a urinal. He is able to communicate more effectively with his caregivers as they are able to look 'eye-to-eye' and see his face and his mouth movements. He is able to manage pressure, increase sitting tolerance, communicate and engage in his environment. His caregivers use the various positions to assist in repositioning Mario in a safer and easier manner.

Case #2 -- Fabio:

Fabio is a young man who suffered a brain injury in 2006. He is cared for primarily by his mother and attends physiotherapy (with different therapists), massage therapy and various programs. He is never on his own, his mother performs all of his care throughout the day.

This client is 'unseatable' as the goals of the therapists vs. the mom/client differ. The physiotherapist works on optimal alignment, reduction of spasticity and tone and attempts to reduce contractures

and maintain range of motion. The physio would like the client to be seated in custom molded seating to attempt to lock in the optimal position achieved in treatment. Fabio's mom wants him to sit well, but be able to move himself. She wants him to foot propel within the home (for short distances) and she does not want Fabio to be locked in place. If Fabio is seated in custom molds and does move due to spasticity and tone or to function, then he will not be utilizing the custom curves and potentially could be at higher risk of pain, tissue/skin breakdown and postural deformity.

Client condition:

Brain injury 2006.

No ambulation, severe high tone and spasticity. Limited range of motion upper extremities and lower extremities. Wears AFOs bilaterally. Left side of pelvis rotated forward, left pelvic obliquity, falls to the left. Rib hump larger on right side.

Current equipment:

Sits in manual tilt/recline chair with modular cushion and back support. Uses 4 pt. pelvic positioning belt and complex head support.

In sitting, right leg adducts and crosses over left leg, client falls to left, slides out of seat

Physiotherapist recommends custom molded seating to 'lock in' posture and alignment and control tone. Mom wants client to be able to move, to foot propel (with left foot), wants his legs separated and for client to change his position throughout the day. She regularly repositions him and he is never on his own.

Outcome:

New chair not considered/does not meet funding agency criteria at this time.

- Modular cushion- Action LP2. Cushion has a low profile to ensure foot propulsion. Cushion incorporates a bit of gel to reduce some shear/friction. To add small, removable wedge under cushion at front so that optimal foot positioning is maintained when static and wedge removed for foot propulsion.
- Aeromesh calf panel, Bodypoint 4-point belt, Whitymyer SOFT Dual sub-occipital head support (tried Adjustaplush)
- Trufit Max back support with ability to adjust for shape of rib hump
- Bodypoint Upper body harness to be used when client needs to be more static

Case #3 – Adrian

Adrian is a 44 year old male who lives at home with his mother, who provides all of his care. Mother is devoted to his care, proud of the fact that he has never has surgery, and requires no medications. Adrian is reported to become agitated when in is chair not able to tolerate sitting in it for very long, and tending to fall to his right side.

On initial presentation Adrian appeared unseatable due to the severity of his left leg adduction. Mother reports that the removal of the pommel during the creation of his last seating system and lack of stretching during her absence due to medical issues, have resulted in his presentation. Mother's goal is to have Adrian sit 'normally'.

Client condition:

Cerebral palsy, developmental delay, non-verbal but very inquisitive, dependent for all of his activities of daily living.

Pelvis and spine can easily be positioned in midline. Fair head control and active use of upper extremities, although not purposeful. Right lower extremity able to approach 90 degree hip flexion, with fixed 90 degree knee and ankle flexion, but with adduction minimally correctable away from

midline. Left lower extremity tight in full adduction, hip and knee flexion, with minimal ability to move the leg away from his pelvis.

Current equipment:

18" Quickie Iris (8 years old?) with custom laminar foam seat and back, and custom leg pad with additional custom removable pads. Deep seat well sits 2.5" forward of back rest such that client sits in recline with minimal back contact. Footrest hangers cut off of wheelchair frame and custom footbox mounted midline from seat pan. Seat cushion bolted to chair and covers difficult to remove for laundering. Custom fabricated headrest is wide/deep and difficult to see around.

Mother's goal is to have Adrian sit comfortably in chair with legs in neutral. She is frustrated at having so many pieces to deal with when getting him in and out of the chair, and the difficulty in moving the chair.

Outcome:

- 14" Quickie Iris with one contracture leg rest with angle adjustable plate and heel loop to support right leg, angle adjustable stroller handle
- Contour U seat and back cushion, both in aluminum pans to allow removal of back and seat covers for cleaning and mount of left leg support.
- Whitmyer Adjustaplush headrest to contain his head but not block his line of sight.
- Bodypoint 2-point padded belt, Daher chest harness for use outdoors only
- Invacare Matrx Elan headrest with standard pad, mounted to CU seat pan
- Extra wide arm pads (full length left, desk length right) on cantilever arms

While mom's goal was to get Adrian's leg back to midline, she understood that this was not immediately achievable. She was delighted to see Adrian comfortable, seating simplified, chair easily maneuverable, and leg support adjustable to match his ROM.

Learning Objectives

1. Participants will be able to list 3 goals of the mat assessment.
2. Participants will be able to identify importance of defining generic features of a seating system based on assessment.
3. Participants will be able to discuss steps in problem-solving to match client needs and product options.

References

1. Arledge, S., Armstrong, W., et al (2011). RESNA Wheelchair Service Provision Guide. Arlington VA. Retrieved from www.resna.org
2. Waugh, K. & Crane, B., (2013). A Clinical Application Guide to Standardize Wheelchair Seating Measures of the Body and Seating Surfaces. Revised Edition. Denver, CO.
3. Laurence, S. & Mogul-Rotman, B., The Mat Assessment – Getting the Information You Actually Need. (handout) Presentation at Ontario Society of Occupational Therapists annual conference, Toronto, September 2012.
4. Brenlee Mogul-Rotman is an occupational therapist and National Clinical Education Manager for Permobil Canada brenlee.mogul-rotman@permobil.com
5. Stefanie Sukstorf Laurence is an occupational therapist and Education Manager for Motion Specialties slaurence@motionspecialties.com

Speaker Bios

Brenlee is an occupational therapist and ATP/SMS and is currently the National Clinical Education Manager for Permobil Canada. Brenlee has a background in clinical work and owned a private practice in Toronto for the past many years. She has experience with a variety of clinical client

populations and has worked in the past with various groups in product trials and clinical outcomes. She is a member of the OSOT Seating and Mobility Team and a member of the Board of Directors of the Canadian Spinal Research Organization.

Stefanie Laurence wants to live in a world where every wheelchair is perfectly fitted, comfortable, functional and used correctly. As an Occupational Therapist and Education Manager for Motion Specialties, she's been on her soapbox for over 30 years at colleges, universities, group homes, hospitals and conferences across North America and even as far as Europe. When she's not teaching about seating and mobility equipment, you can find her with her arms wrapped around a client helping to create a custom seating system.