

LET 'EM FLY – MINIMALIST SEATING FOR MAXIMUM FUNCTION

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When are you able to do your best work? When you're strapped down, tied up, blocked in and squeezed? Or when you're free to move? The answer is obvious! The same holds true of our wheelchair bound clients, even those with the most complex involvement. So unbuckle the shoe holders, loosen the wrist straps, drop the pommel, swing out the laterals, pop the chest harness, and *Let 'em Fly!* You'll be amazed at the increased function you can help your clients find when they are able to manage their own posture, instead of having it controlled for them. The key is to find the seating configuration that allows your client to use their relation with gravity to control the pelvis, torso, head, and upper extremities. Every client's level of function and positioning needs are different, but this theory works to improve function on all levels of clients with tonal abnormalities, and is just as effective with adults as early intervention.

In a commendable effort to position our clients with abnormal tone in a nice symmetrical posture, we've often taken away the one ability that all humans require to be able to function independently: the ability to bear weight. High tone, low tone, wheelchair bound or not, it is our relationship to gravity and weight bearing that makes it possible to perform activities. All function based activities are accomplished by our body's rotation and movement in and out of symmetry. Movement in an out of symmetry from a seated position requires that we are weight bearing in our pelvis and lower extremities. Once the pelvis is weight bearing, it is then possible for clients to use their lower extremities to gain significantly more management of their own posture, and improve control of both the upper and lower extremities. For the most severely involved, it can result in improved head control that can allow for effective use of specialty motorized wheelchair drive controls and independent mobility. For a person with abnormal tonal patterns and the inability to control and modulate tone, an attempt to use their head or upper extremities to perform an activity often results in an extensor pattern that pushes the hips forward, head backward, and arms and legs into extension as the person attempts to ground themselves through their lower extremities to develop the power necessary for movement.

All the well known positioning aids, the posterior dumped anti-thrust seat, the 4-point seat belt, the oversized pommel, the high top ankle huggers with shoe holders, the curved laterals, the chest harness, the lumbar roll, the jumbo sized headrest (maybe with a forehead strap) ... all serve to prevent weight bearing in the pelvis, and the client can often be found precariously perched on their toes and the top of the backrest. These are the clients with such 'uncontrollable tone' that they break footrests, rip shoe holder straps, bend or break headrest mounts, or are sliding out and under every ingenious restraint devised. The seating must position the client such that they are weight bearing on their own; a client cannot be pushed, strapped or wedged into a weight bearing position. Much of the extreme tone that is demonstrated is not unlike what any of us would look like trying to perform an activity from a similar seated position. Seating for function must provide a stable base, but also allow a range of movement such that the client can manage his/her own posture internally, as opposed to having posture controlled externally.

There is no cookie cutter approach to a seating configuration for the client with abnormal tone. Many diseases and conditions produce fairly consistent results that make seating configurations simple to design. Especially at onset, spinal cord injuries, many neuromuscular conditions such as ALS, MS etc are relatively consistent and a successful seating configuration can often be reproduced successfully for multiple clients. However, no two clients with abnormal tone present with exactly the same seating needs. The only way to determine how and where the client can bear weight is a personal evaluation with minimal external supports. Most clients with CP respond positively to a seat slope with some anterior tilt that places the knees below the hips, a position we all naturally use to perform tasks. When lateral support is required, a broad area of support such as a contoured back support works

well without triggering a collapse onto the laterals. Pelvic position can be well maintained for most with a simple pelvic strap mounted across the proximal thighs at an angle of 80 to 90 degrees perpendicular to the seat base. Seat belts mounted at farther back toward the joint between the seat frame and back cane tend to pull the pelvis into a posterior tilt, and increase the risk of the client sliding under the belt. An anterior tilt seat base position places the client where they are able to use their tone to manage their own posture. It requires some work by the client, and is not a position anyone can sustain all day. It is imperative that the client have the ability to come in and out of the task performance position. For high functioning clients, it may be done by self-transfer to other seat surfaces. For more involved clients, it means that they must have power seat functions, and the ability to change position independently.

There will be several case studies of various complexity showing positioning and function in previous systems, and in task performance seating with minimal restraints and external supports. This strategy is a work in progress, and your comments are invited.

Speaker Bio

Kevin Phillips, CRTS is a DME provider with 10 years experience working at the Ability Center in beautiful San Diego, CA. He is a certified by RESNA as an ATS, and is a member of NRRTS.