

## **Another Angle to Solve Pressure Problems**

The scenario: a client having problems with pressure ulcers even though they are using a skin protection cushion. The therapist is pressure mapping them on different cushions trying to find one that “looks good”. Have you ever suggested to the therapist that the problem is not with the cushion but rather with the back support?

Setting up the back support in the correct position can significantly impact pressure distribution and formation of pressure ulcers. An interesting example is found in the case study “Wheelchair Seat Angle and Lumbar Support Are Critical Factors for Resolution of Flexible Spinal Deformity and Decubitus Ulcer in Persons With Spinal Cord Injury”.<sup>1</sup> This study highlights key components of effective wheelchair seating in persons with complete SCI and flexible deformity.

In this study, four clients with complete SCI and paraplegia were referred to a seating clinic due to onset of pressure ulcers with no specific incident or change in activity. The clients were not responding to an enhanced pressure relief routine. They all had pressure “relieving” cushions and ultra-light wheelchairs. A majority had a solid back support and half had a seat angle incline of 10 degrees or less. The intervention was to adjust the seat angle so that the incline was between 10-15 degrees and adjustment of the back support to achieve a slight anterior tilt restoring lumbar lordosis.

The outcomes were that all subjects had resolution of Stage I/II pressure ulcers within 6-8 weeks following the intervention. Other benefits were resolution of pelvic obliquity, improved stability in seated posture and also decreased abdominal girth. The author<sup>1</sup> of the study emphasized that, “Utilization of a solid seat back does not ensure any degree of lumbar support unless care is taken to achieve correct position.”

A solid back support in most cases will provide much better support than tension adjustable upholstery. In addition to improved pressure distribution, a properly positioned back support can provide additional pelvic stability to prevent progressive postural deformity while improving overall stability for ADLs.

This case study can be found online at:

[http://journals.lww.com/jnpt/Fulltext/2006/12000/Wheelchair\\_Seat\\_Angle\\_and\\_Lumbar\\_Support\\_Are.70.aspx](http://journals.lww.com/jnpt/Fulltext/2006/12000/Wheelchair_Seat_Angle_and_Lumbar_Support_Are.70.aspx)

-Susan Cwiertnia PT, MS  
VARILITE® Clinical Education Specialist

1. House, M.J. (2006). Wheelchair Seat Angle and Lumbar Support Are Critical Factors for Resolution of Flexible Spinal Deformity and Decubitus Ulcer in Persons With Spinal Cord Injury. *Journal of Neurologic Physical Therapy*, 30; 4, 216.  
DOI: 10.1097/01.NPT.0000281322.93071.4c