
D7: The ABC and XYZ of Cushions and Backs

Jane Fontein, OT

Learning objectives:

1. Upon completion of the session participants will be able to list 3 measurements that are performed to assist in a back and cushion support prescription for a wheelchair user.
2. Upon completion of the session participants will be able to relate 3 features of back and cushions supports to the functional needs and abilities of their clients who use wheelchairs.
3. Upon completion of the session participants will be able to list at least 3 factors that can contribute to the development of skin injuries.

Session description:

Often when a referral for a skin injury is sent to a therapist the referral will request the therapist to change the cushion. When this occurs the therapist should reply “no”, I need to do a full seating assessment. Perhaps look at the cushion to see if it is set up correctly, but after that it is important to determine the cause of the skin injury, it could be from a transfer, or lack of nutrition, or from the commode seat and the actual cushion may be fine. When it comes to skin health the cushion is only one aspect of seating and needs to be examined in combination with the back, the overall wheelchair set up perhaps, the foot plates for instance. As per Jocelyn Macauley “The prescription process is only two thirds complete when the mobility base and cushion have been chosen The back support is an integral part of the seating system and needs to be considered as an equal partner to the cushion and the choice of the mobility device.”

The mat evaluation will help determine how much and where the client needs support and from that information it is important to list the properties of the seating system that is required, in conjunction with the goals of the client.

This workshop will discuss the purposes of both the cushions and backs supports, the properties of both and their impact on seating and positioning as well as their clinical implications. Is a tall back needed if the

client is tall? Where is support needed? Is weight the most important property of the cushion? What if the client is sliding out of the chair?

If possible there will be a hands on portion exploring where and what to measure with regards to back and cushion support.

Content references:

1. Macauley, Jacqueline PT., ATP .”Do You Have Your Client’s Back?” 27th International Seating Symposium March 3-5, 2011
2. Kerstu /Samyeksiibm, Marrut Bjork, Ann-Marie Erdugan, Anna-Karin Hansson & Birgitta Rustner “The effect of shaped wheelchair cushion and lumbar supports on under-seat pressure, comfort, and pelvic rotation”, Faculty of Health Sciences, Department of Clinical and Experimental Medicine, Rehabilitation Medicine, Linkoping, Sweden, and Clinical Department of Rehabilitation Medicine, University Hospital, Linkoping, Sweden Disability and Rehabilitation: Assistive Technology, September 2009; 4(5): 329–336
3. Yu-Sheng Yang, PhD, Alicia M. Koontz, PhD, Shan-Ju Yeh, BS, Jyh-Jong Chang, PhD.” Effect of Backrest Height on Wheelchair Propulsion Biomechanics for Level and Uphill Conditions” Physical Medicine and Rehabilitation, April 2012 Volume 93, Issue 4, Pages 654–659
4. Waugh K and Crane B. A clinical application guide to standardized wheelchair seating measures of the body and seating support surfaces (Rev. Ed). Denver, CO: University of Colorado Denver (363 pgs) 2013. Available from: www.assistivetechologypartners.org
5. ISO 16840. Wheelchair Seating, Section 1 - Vocabulary, reference axis convention and measures for body posture and postural support surfaces, International Organisation for Standardization, TC-173, SC-1, WG-11., 2006
6. PMAT developed by Jennifer Birt, OT Reg (MB), Specialized Seating and Mobility Clinical Specialist Rehabilitation Day Program, Health Sciences Centre, Winnipeg, Manitoba ©Jennifer Birt 2011 <mailto:JLBirt@exchange.hsc.mb.ca>