

"Pressure Elimination Seating" (e.g., ISCH-DISH) in the Literature

Laurie Rappl, PT-June, 1999

Mooney V, et al. Comparison of pressure distribution qualities in seat cushions. Bull Prosthet Res. 1971; 10(15):129-143.

Ischial cut-out most suitable for paralyzed patients. Fluid filled or air filled cushions should be avoided in paralyzed patient as they are unstable sitting surfaces.

Key AG, Manley MT. Pressure redistribution in wheelchair cushions for paraplegics: its application and evaluation. Paraplegia. 1978-1979;16:403-412.

Follow-up of 166 patients over 15 months. Results: 89% success rate in prevention/treatment of sores, 49/56 patients with sores healed with no recurrence.

Ferguson-Pell MW, et al. Pressure sore prevention for the wheelchair-bound spinal injury patient. Paraplegia. 1980;18:42-51.

Report on seating 600 SCI patients. Max pressure allowed under IT's was 30 mm Hg. Incidence of pressure ulcers reduced by transfer of weight from ischials to greater trochanters by using foam modified with ischial cut-outs.

Peterson M, Adkins H. Measurement and redistribution of excessive pressures during wheelchair sittings. Physiother. 1982;62:990-994.

1000 patients evaluated. Safe pressures of 10 mm Hg on coccyx, 40 on ischials, 60 on post. Trochanters. Ideally, 0 mm Hg should be over ischial tuberosities and coccyx whenever possible. It is not required that pressures be equal over the entire sitting surface, but that there is selective pressure distribution.

Zacharow D. Wheelchair Posture and Pressure Sores. Springfield, IL: Charles C Thomas; 1984.

Demonstrates the construction of an inverted cut-out.

Ferguson-Pell M. Seat cushion selection J Rehabil Res Dev. 1990;(suppl 2):49-73.

Discuss load distribution according to load tolerances of the ischials vs. trochanters.

"We find that cut-out cushions are extremely useful for users with pronounced tissue wasting in the gluteal region, when more straightforward cushion systems fail to reduce interface pressures sufficiently, or are not applicable for other reasons."

Rappl L. A conservative treatment for pressure ulcers. Ostomy/Wound management 1993;39(6):46-55.

Design of cushion, anatomical and physiological justifications

Report on using pressure elimination with 6 patients with non-healing ischial or coccyx ulcers

Results: all healed in average of 6 weeks

Arakaki B, Furumasa J. A Pilot study: factors that influence cushion selection. In: Proceedings from Thirteenth International Seating Symposium. Pittsburgh, PA, Jan 23-25, 1997.

Survey of 188 patients who had cushions ordered from Rancho Los Amigos Cushion Clinic

Between Aug 1985 and July 1996.

Foam laminate cushion with cut-out was primary cushion prescribed from 1973 to 1986.

Foam laminate is the most frequently chosen cushion in this clinic (44% of 188 patients). Of those patients injured more than 11 years, 75% used foam laminate.

Foam laminate with cut-out is still recommended to provide pressure relief for stage 2-4 ulcers.

Agency for Health care Policy and Research (AHCPR), Public Health Service/US Department of Health and Human Services. Treatment of Pressure Ulcers. Clinical Practice Guideline #15. 1994 P.41

"(Patients with impaired sensation or impaired mobility) should avoid sitting unless pressure over the pressure ulcer can be totally relieved."

Sussman C, Bates-Jensen B. Wound Care: A collaborative Practice Manual for Physical Therapists and Nurses. Aspen Publishers, ©1998.

Chapter on management of pressure by therapeutic Positioning documents benefits of pressure elimination over pressure equalization.