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Clinical Evidence on the Broda Comfort Tension Seating[®] System

Source Data:

Pressure Distribution Comparison among Standard Seating Surfaces and Strap Seating System

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Study Aims:

Pressure injuries (PIs) are common issues that can be minimized through the use of pressure-redistributing support surfaces. Cushions that provide immersion and contour are considered the most effective for pressure relief; however, there are many options available on the market.

The aim of this study is to compare the effectiveness of Broda's proprietary Comfort Tension Seating®(CTS) system compares to other popular types of wheelchair seating surfaces.

Materials and Methods:

Pressure redistribution qualities were measured through the peak pressure index (PPI) using pressure mapping technology. Measurements were gathered on four different seating surfaces:

- 1. Standard Sling Seat Wheelchairs
- 2. Cross-Section Foam Cushion
- 3. High-End, Contoured, Pressure-Redistributing Cushion
- 4. Broda Comfort Tension Seating®

Twenty non-disabled participants trialed each cushion for five minutes each. The methods of this study are described and outcomes analyzed by comparing the PPI and comfort of the four seating surfaces.



Results:

A Wilcoxon signed-rank test, and related samples Friedman's two-way analysis of variance by ranks (ANOVA) was calculated. The results show that there is a significant difference between each of the cushions in comfort and pressure redistribution. There was a statistically significant difference in mean PPI between the three groups in which the Comfort Tension Seating[®] system performed better than the sling seat wheelchair and flat, cross-section foam cushion, but not quite as good as the high-end contoured cushion.

Table 1. Descriptive and inferential statistical analysis of Broda Comfort Tension Seating (CTS) compared to other cushions. IP parameters and statistical result at 5 min (n=20)

Original (means+SD)				Relative (means+SD)				Statistical results on relative data		
СТЅ	Sling	Foam	M2	Sling (relative to CTS)	Foam (relative to CTS)	M2 (relative to CTS)	df	Non-parametric (Wilcoxon)		
PPI 144.63+41.54	PPI 168.65+48.02	PPI 162.65+48.02	PPI 107.24+34.64	PPI 24.02	PPI 18.02	PPI -37.39	(1.20)	Cushion	z	Р
								Broda-Sling	-3.32	<.001
								Broda-Foam	-3.22	0.001
								Broda-M2	-4.02	<.001

NOTE:

CTS: Broda Comfort Tension Seating* df: Degree of freedom PPI: Peak Pressure Index Significance: p =.05

Want to dig deeper into the results?



