

Author Year Country Research Design Score Total Sample Size	Methods	Outcome
<p>Stinson et al. 2013 Ireland Pre-Post N=14</p>	<p>Population: Age range: 23-62 yr; Gender: males=12, females=2; Level of injury: paraplegia=8, tetraplegia=6; Chronicity range: 1-324 mo; able to safely lean forward and computer literate. Intervention: Investigate pressure relieving behaviours during everyday computer use. Strand A, (1 hr continuous computer use in standard position versus Strand B (reaching forward by 150° of arm length and typing for 5 min, alternated with 10 min of upright sitting). Outcome Measures: XSensor Interface pressure mapping system: [Dispersion Index (DI); Peak Pressure Index (PPI); Total Contact Area (CA)], Frequency of movement (left lean, right lean, push-up, other), Duration in changed position, Trunk angle and questionnaire.</p>	<ol style="list-style-type: none"> 1. Only 4.9% of movements performed during normal computer use (Strand A) were considered pressure relief movements (they were considered “moderate” unloading - 51-75% reduction in interface pressure) 2. Frequency and type of movement varied greatly (range 0-28 movements; median 5) 30% of which were classified as task related. 84.4% of movements yielded less than 25% reduction in interface pressure compared to normal sitting. 3. During Strand B, DI and angle of trunk tilt were significantly reduced ($p<0.05$) compared to normal sitting, but it did not significantly affect CA. During Strand B, PPI for both the right and left ischial tuberosity (IT) regions was significantly reduced ($p<0.001$), which represents an interface pressure reduction of ~52%. 4. Questionnaire results indicated participants preferred to incorporate pressure management movements into regular activities (77%, $n=10$).
<p>Tam et al. 2003 China Prospective Controlled Trial N=20</p>	<p>Population: Mean age: 45 yr; Level of injury: L3-T8; Time since injury range: 5-34 yr. Intervention: 1) Comparison of interface pressure and IT location during static sitting and dynamic propulsion in standard wheelchair with no cushion; 2) Comparison between 'normal' group and test group; use of Quickie TNT manual wheelchair and a rigid seat pan; mathematical calculation of IT location. Outcome Measures: Peak pressure, Location of pressure optical motion analysis system.</p>	<ol style="list-style-type: none"> 1. The magnitude of dynamic average pressure under the ITs did not exceed the mean pressure recorded during static sitting. 2. Peak pressures during static sitting were high with 4/10 people in the normal group and 7/10 in the SCI group reaching saturation pressures of 572 mmHg on the pressure mat. 3. The ratio of minimum peak pressure to maximum peak pressure during dynamic propulsion was 1:4.1 in the normal group and 1:1.8 for the SCI group. 4. No statistical difference between the normal and SCI groups in the location of the peak pressure over left and right ITs with the calculated locations of the ITs projected onto the pressure mat (20.7 ± 11.5mm on left and 24.6 ± 9.9mm on right for normal group and 17.7 ± 13.1mm on left and 13.2 ± 10.5mm on right for SCI group). 5. Pelvic tilting angle (the angle between the pelvic plane and the

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		reference seat plane which accounts for forward and backward rocking during propulsion), was statistically different between the normal and SCI groups ($p < 0.05$, power=0.9); pelvic tilt angle was $11.2^{\circ} \pm 2.1^{\circ}$ for the normal group and $5.2^{\circ} \pm 1.1^{\circ}$ for the SCI group.
Kernozek & Lewin 1998 USA Post Test N=15	Population: Gender: males=13, females=2; Mean weight=77.5 kg; Level of injury: paraplegia=15; Chronicity=chronic. Intervention: Wheelchair locomotion using static seating and dynamic seating. Outcome Measures: Novel Pliance pressure mapping system measuring peak pressure; pressure-time integral.	<ol style="list-style-type: none"> 1. Peak pressure was up to 42% higher within dynamic wheelchair locomotion when compared with static sitting. 2. Static and dynamic seating peak pressure comparison was significant ($t=5.4$, $p < 0.025$). 3. No difference was found between static and dynamic seating pressure-time integral.