

Author Year Country Score Research Design Sample Size	Methods	Outcome
<a href="#">Calderón-Juárez et al. 2024</a> Canada Pre-post Level 4 N=24	<p><b>Population:</b> N=24, 17M, 7F  AIS A: 14  AIS B: 7  AIS C: 3  AIS D: 0</p> <p><b>Treatment:</b> Participants underwent urodynamic studies (UDS) and BP was monitored every 1-2 minutes to identify AD.</p> <p><b>Outcome Measures:</b> BP, finger-photoplethysmography and ECG</p>	<ol style="list-style-type: none"> <li>1. SBP increased as the UDS progressed, and the highest HR was reached 60 seconds after maximal sBP.</li> <li>2. The accuracy of the standard deviation of heartbeats (variability in HR) threshold for predicting episodic AD was strong (AUC=0.811, 95% confidence interval [CI]=0.688 – 0.934, <math>p &lt; 0.001</math>).</li> </ol>
<a href="#">Cívicos Sánchez et al. 2021</a> Spain Pre-post Level 4 N=37	<p><b>Population:</b> N=37, 27M, 10F  Mean age: 42.4 years  Cervical: 32  Thoracic: 5  ASIA A: 20  ASIA B: 4  ASIA C: 5  ASIA D: 7  ASIA E: 1</p> <p><b>Treatment:</b> Participants rested in supine position on a tilt table for 40 min while a 30ml blood sample was drawn. After 3 minutes of head-up tilt at 60 degrees, another blood sample was collected. In supine position, 100-400ml of 0.9% saline at 37°C was infused into the patient via urinary catheter. HR, BP, and peripheral resistance was measured</p> <p><b>Outcome Measures:</b> HR, BP, and peripheral resistance</p>	<ol style="list-style-type: none"> <li>1. There was a correlation between the magnitude of maximum sBP and time since SCI (<math>\rho = 0.52</math>; <math>p = 0.004</math>).</li> <li>2. AD was typically precipitated in participants with ASIA impairment scores A or B (19/22, 86%), but only in 3 out of 8 (37.5%) patients with ASIA scores of C, D or E (<math>p = 0.02</math>).</li> <li>3. 55% of SCI participants with AD presented neurogenic orthostatic hypotension (NOH) concomitantly, but none of SCI participants without AD had NOH (<math>p = 0.01</math>).</li> <li>4. Participants with AD+NOH had lower levels of noradrenalin compared to participants without NOH in supine (<math>107.2 \pm 170.0</math> vs. <math>145.7 \pm 116.7</math> pg/ml, <math>p = 0.143</math>) and upright (<math>173.6 \pm 334.8</math> vs. <math>318.1 \pm 310.3</math> pg/ml, <math>p = 0.034</math>) positions.</li> </ol>

<b>Author Year</b> <b>Country</b> <b>Score</b> <b>Research Design</b> <b>Sample Size</b>	<b>Methods</b>	<b>Outcome</b>
<p><a href="#">Currie et al. 2019</a></p> <p>Canada Pre-post Level 4 N=26</p>	<p><b>Population:</b> N=26, 73% male All participants had AIS score of A or B</p> <p><b>Treatment:</b> BP was measured over a 24-hour period, automatically every 15 min during the day and every 60 min at night. Participants were to manually measure BP during any activity that may trigger AD/OH or anytime they experienced AD/OH symptoms. Baseline daytime values were calculated by averaging three successive automatic measurements after the participant woke up and had transferred to their chair. Baseline nighttime values were determined using the average of the first 3 automatic BP measurements during sleep.</p> <p><b>Outcome Measures:</b> BP, incidences of AD or OH.</p>	<ol style="list-style-type: none"> <li>1. No AD parameters (e.g., frequency, maximum sBP, maximum change in sBP, longest AD episode) were independently related to arterial stiffness (cfPWV)</li> <li>2. Although not significantly correlated, there was a mean of 5 AD events per day, with an average maximum sBP of 154 mmHg. The mean maximum change in sBP was 49 mmHg and the longest average AD period was 25 minutes.</li> <li>3. cfPWV was also positively correlated with the total number of BP events (<math>r=0.480</math>, <math>P=0.013</math>).</li> </ol>
<p><a href="#">Huh et al. 2024</a></p> <p>Korea Pre-post Level 4 N=29</p>	<p><b>Population:</b> N=29 with cervical SCI, 26M, 3F AIS A: 19 AIS B-D: 10</p> <p><b>Treatment:</b> Participants recorded BP using beat-by-beat continuous BP measurement. Participants' bladders were filled with normal saline (37°C) up to cystometric capacity. sBP, dBP, MAP and HR were continuously monitored while participant was in supine position. Restoration time was analysed during and after urination. Restoration time is the duration from the initiation of voiding until BP returns to the pre-filling resting level.</p> <p><b>Outcome Measures:</b> sBP, dBP, MAP, HR, restoration time</p>	<ol style="list-style-type: none"> <li>1. Restoration time demonstrated strong positive correlations with peak sBP and sBP change, indicating that individuals with a greater increase in sBP are likely to have longer restoration times (<math>r=0.61</math>, <math>p=0.000</math>; <math>r=0.64</math>, <math>p=0.000</math>, respectively).</li> <li>2. Restoration time exhibited a strong positive correlation with both peak systolic blood pressure (SBP) and SBP change (<math>r=0.61</math>, <math>p=0.000</math>; <math>r=0.64</math>, <math>p=0.000</math>, respectively).</li> <li>3. sBP change in beat-to-beat BP measurement was significantly associated with prolonged restoration time (<math>p=0.016</math>) and was found to be the most significant factor for prolonged restoration time.</li> </ol>

<b>Author Year</b> <b>Country</b> <b>Score</b> <b>Research Design</b> <b>Sample Size</b>	<b>Methods</b>	<b>Outcome</b>
<a href="#">Walter et al. 2018</a> Switzerland Pre-post Level 4 N=300	<p><b>Population:</b> N=300, 259M, 41F  Tetraplegia: 98  Paraplegia: 202  AIS A: 120  AIS B-D: 180</p> <p><b>Treatment:</b> All participants underwent a urodynamic investigation while monitoring sBP, dBP, and HR. The bladder was filled with a 37°C mixture of 0.9% sodium chloride solution and contrast medium via a transurethral catheter.</p> <p><b>Outcome Measures:</b> sBP, dBP, HR</p>	1. The presence of neurogenic detrusor overactivity predicted AD during urodynamic investigation (p=0.030).