



## Overview of Physiological Complications of Spinal Cord Injury (SCI)

Depending on your SCI injured individual's specific injury, the following is a listing of physiological complications that may affect his/her recovery and everyday living. We hope you will find this listing helpful in understanding the potential physiological complications of SCI, as well as the terminology associated with SCI.

Potential Physiological Complication	Description
<b>Autonomic Dysreflexia</b>	<ul style="list-style-type: none"> <li>• Often seen with injury above the T6 level and is the 4<sup>th</sup> leading cause of death in SCI injured individuals.</li> <li>• Medical emergency that can result in convulsions, intracranial hemorrhage, and death.</li> <li>• Reflex action of the autonomic nervous system in response to a stimuli arising from the skin or organ below the level of the lesion which can include urinary/bowel trouble, injury to skin, and vascular system, as well as reproductive system, fractures, acute medical problems, and dental procedures.</li> <li>• Signs and symptoms include change in blood pressure, pounding headache, profuse sweating above the level of injury, flushing of the skin above the level of injury, appearance of spots in client's visual field, nasal congestion, altered consciousness, blurred vision, hiccups, penile erection, anxiousness, change in heart rate.</li> <li>• Common prescription: remove stimuli and treat as a medical emergency.</li> </ul>
<b>Clonus</b>	<ul style="list-style-type: none"> <li>• Sustained muscle contraction (e.g. exhibited in leg "jumping" on footrest of wheelchair).</li> <li>• Common prescription: remove pressure point under ball of the foot, ensure proper position of feet on foot pedals.</li> </ul>
<b>Decreased Vital Capacity</b>	<ul style="list-style-type: none"> <li>• Often seen with injury at cervical and high thoracic lesions.</li> <li>• Chest expansion markedly limited.</li> <li>• Decreased ability to cough.</li> <li>• Prone to respiratory infections.</li> <li>• Decreased energy level may affect tolerance for activity and potential to perform various activities of daily living.</li> <li>• Common prescription: deep breathing exercises, mechanical suctioning.</li> </ul>
<b>Flaccid Bladder</b>	<ul style="list-style-type: none"> <li>• Often seen in L1 and lower injuries.</li> <li>• Weak bladder due to decreased tone.</li> <li>• Common prescription: Indwelling catheter with leg bag.</li> </ul>

<b>Flaccid Paralysis</b>	<ul style="list-style-type: none"> <li>• Often seen with quadriplegic clients in the upper extremities.</li> <li>• No muscle tone - no movement.</li> <li>• Common prescription: protect limb during transfers.</li> </ul>
<b>Osteoporosis</b>	<ul style="list-style-type: none"> <li>• Decreased bone mass due to disuse (i.e. decreased weight bearing or muscle use).</li> <li>• Can affect the long bones of the thighs/legs (i.e. femur/tibia: pathological fractures 1 year post accident).</li> <li>• Common prescription: daily standing/weight bearing.</li> </ul>
<b>Poor Body Temperature Regulation</b>	<ul style="list-style-type: none"> <li>• Often seen with injury at C4/C5 level.</li> <li>• Cannot regulate own body temperature.</li> <li>• Common prescription: environment must be externally monitored (i.e. heating, air conditioning).</li> </ul>
<b>Postural Hypotension</b>	<ul style="list-style-type: none"> <li>• Pooling of blood in abdomen and lower extremity due to lack of movement. Poor venous return of blood to the heart.</li> <li>• Blood flow problems can result in fainting/blackouts (e.g. when client is brought upright quickly, his/her body cannot compensate for decreased blood flow to vital organs).</li> <li>• Common prescription: slow transition from lying to sitting, tip chair back if feeling dizzy, pressure stockings (TEDs) or thoracic support.</li> </ul>
<b>Pressure Sores or (Decubitus Ulcers)</b>	<ul style="list-style-type: none"> <li>• Sensory loss (i.e. the inability to feel pressure) and loss of blood supply to the area can result in death of the tissue and the advent of sores (e.g. due to pressure from prolonged position, braces, etc.).</li> <li>• Common prescription: turning in bed, special mattresses, foam “booties” for heel protection, special wheelchair and/or chair cushion, skin inspection mirror.</li> </ul>
<b>Sexual Dysfunction</b>	<ul style="list-style-type: none"> <li>• Decreased sensation below the level of the lesion.</li> <li>• Decreased fertility.</li> <li>• Spontaneous erections or lack of erections in males.</li> </ul>
<b>Spastic Bladder</b>	<ul style="list-style-type: none"> <li>• Common prescription: indwelling catheter with leg bags, condom catheter with leg bag, intermittent catheterization.</li> </ul>
<b>Spastic Paralysis</b>	<ul style="list-style-type: none"> <li>• Uncontrolled increase in muscle tone at rest or during movement.</li> <li>• Spasticity may cause difficulty in movement or coordination particularly in the case of an incomplete paraplegic client. However, it can be present in both paraplegic and quadriplegic clients.</li> <li>• Common prescription: muscle relaxant including anti-spasm medication.</li> </ul>

**For further information about Spinal Cord Injury, feel free to contact Sibley & Associates at 1-800-363-8900.**