

<b>Author Year</b>  <b>Country</b> <b>Research Design</b>  <b>Score</b> <b>Total Sample Size</b>	<b>Methods</b>	<b>Outcome</b>
Falci et al. 2009  USA  Pre-Post  N=362	<p><b>Population:</b> Mean age: 40.5 yr; Level of injury: C6=163, C6-T1=83, T1=116; Level of severity: AIS A=229, B=36, C=41, D=54, E=2.</p> <p><b>Intervention:</b> Surgical treatment for spinal cord untethering.</p> <p><b>Outcome Measures:</b> Asia Impairment Scale (AIS) sensory and motor scores, Sensory and motor changes, Subjective report of changes post-surgery.</p>	<ol style="list-style-type: none"> <li>1. Sixty percent of the patients found an improvement in spasticity, 77% found an improvement in hyperhidrosis and 47% reported an improvement in neuropathic pain.</li> <li>2. Most patients (86.5%) required only one surgery.</li> <li>3. Progressive myelopathy regarding sensory and motor functions was arrested for an average of 3.3-3.4 yr post-surgery.</li> <li>4. 89% of patients reported an arrest in loss of sensory and/or motor function post-surgery.</li> <li>5. Return of function was reported in 46% of the patients.</li> </ol>
Lee et al. 2001  USA  Case Series  N=45	<p><b>Population:</b> Mean age: 45.6 yr; Gender: males=30, females=15.</p> <p><b>Intervention:</b> Records of patients who underwent surgical treatment for posttraumatic syringomyelia were assessed. Patients were divided into three groups: Group 1 underwent untethering only, Group 2 underwent shunting only, and Group 3 underwent both untethering and shunting. Patients were followed up to assess treatment efficacy.</p> <p><b>Outcome Measures:</b> Improvement in symptoms, Magnetic Resonance Imaging (MRI), Complications.</p>	<ol style="list-style-type: none"> <li>1. There was no significant difference in outcomes between groups.</li> <li>2. Patients in the surgical untethering group:               <ol style="list-style-type: none"> <li>a. Demonstrated improvement in motor and spasticity symptoms in the majority of patients (60% and 58%, respectively).</li> <li>b. Experienced 1 treatment failure and 2 complications.</li> <li>c. Revealed cyst re-accumulation at 1 yr follow-up.</li> </ol> </li> <li>3. The shunt only group experienced one complication and three treatment failures; 60% of patients in this group experienced improvement in gait followed by sensory (57%) and motor (54%).</li> <li>4. Among those who underwent both untethering and shunting, 33% had clinical recurrence, one experienced CSF leak, and 50% showed improvement in motor symptoms.</li> </ol>
Lee et al. 2000  USA  Case Series  N=34	<p><b>Population:</b> Mean age: 43.2 yr; Gender: males=23, females=11.</p> <p><b>Intervention:</b> Records of patients who underwent surgical treatment for posttraumatic syringomyelia were assessed. Patients underwent laminectomies and a</p>	<ol style="list-style-type: none"> <li>1. At follow-up (&gt;1 yr), 26 patients had resolution of one or more of their pre-operative symptoms; two patients experienced deterioration of motor function.</li> <li>2. A decrease in spasticity was the most common improvement in patients who underwent untethering only (67%), followed by motor functioning (57%) and</li> </ol>

<b>Author Year</b>  <b>Country</b> <b>Research Design</b>  <b>Score</b> <b>Total Sample Size</b>	<b>Methods</b>	<b>Outcome</b>
	<p>syringosubarachnoid shunt was inserted. Patients were divided into three groups: Group 1 underwent untethering only, Group 2 underwent shunting only, and Group 3 underwent both untethering and shunting. Patients were followed up to assess treatment efficacy.</p> <p><b>Outcome Measures:</b> Improvement in symptoms, Complications.</p>	<p>sensory loss (50%); this group experienced one treatment failure and two complications.</p> <ol style="list-style-type: none"> <li>Improvement in gait was seen most frequently in the shunt only procedure group (60%), followed by motor (50%) and sensory loss (50%); in this group, two treatment failures and two complications occurred.</li> <li>Patients who underwent untethering and shunt procedures did not experience clinical reoccurrence; motor (67%) and gait (50%) improved in patients in this group.</li> </ol>
<p>Falci et al. 1999</p> <p>USA</p> <p>Case Series</p> <p>N=59</p>	<p><b>Population:</b> Mean age: 26 yr; Gender: males=49, females=10; Level of severity: AIS A=53, B=1, C=4, D=1.</p> <p><b>Intervention:</b> All patients underwent spinal untethering and if a spinal cyst was present a lumbo-peritoneal shunt tube was placed along the length of the cyst.</p> <p><b>Outcome Measures:</b> Pinprick, Motor and light touch scores, Magnetic Resonance Imaging (MRI) findings, Somatosensory evoked potentials.</p>	<ol style="list-style-type: none"> <li>Participants with no previous surgery showed a significant increase in light touch (+2.38), pinprick (+3.88) and motor scores (+1.47) post-surgery.</li> <li>Participants who had previous surgery had a decrease in touch, pinprick and motor score, although it was minimal (0.7, 0.8, and 0.5, respectively).</li> <li>At 2 wk post-surgery, MRI showed decreased cyst size or complete collapse.</li> <li>Somatosensory evoked potentials were improved in amplitude compared to baseline; latency of 2 milliseconds or greater was observed in 27 patients.</li> </ol>