

Rehab Outcomes After a Case of Traumatic Spondyloptosis

Greg Shinaman, MD; Andrew Stephens, MD, Sean Pickard, MD; Douglas Fetkenhour, MD
University of Rochester Medical Center, Department of Physical Medicine and Rehabilitation

Case Diagnosis

Spondyloptosis causing T4 AIS A traumatic spinal cord injury.

Case Description

34-year-old male presented on 7/24/2024 after a BMX bike accident causing a fall of 20 feet with flaccid paraplegia and absent sensation below T4. CT thoracic spine confirmed spondyloptosis of the T5 vertebrae. Patient underwent T2-T9 posterior spinal decompression and fusion. He was ultimately diagnosed with T4 AIS A traumatic spinal cord injury and was admitted to acute inpatient rehabilitation and discharged on 8/10/2024. At the time of discharge, he was independent with wheelchair mobility, minimum assistance for sit pivot transfers, independent with straight catheterization program and moderate assistance for toilet transfers.

Discussion

Spondylolisthesis is the horizontal translation of one vertebral body relative to the adjacent vertebral body, often causing pain or radicular symptoms. The etiology of this injury is most commonly degenerative, dysplastic, traumatic, isthmic or pathologic. The most common location is in the Lumbar spine with L5-S1 being the most frequently involved vertebrae followed by L4-L5. Spondylolisthesis is graded using the Meyerding Classification on a scale of 1 to 5 based on the degree of translation of the vertebral body. Grade 1 is characterized by translation of < 25% the antero-posterior width of the vertebral body while grade 5 is > 100% translation. Grade 5 spondylolisthesis is also known as Spondyloptosis and is an exceedingly rare diagnosis, most often caused by trauma.

This patient presents a rare diagnosis of spondyloptosis causing a T4 AIS A traumatic SCI. There is limited documentation of rehabilitation outcomes after this diagnosis and this patient highlights the rehabilitation potential of patients with these serious injuries.

Conclusions



Patients with rare, but serious spondyloptosis causing traumatic SCI can make significant and meaningful functional improvements with acute inpatient rehabilitation.