History: 42-year-old man with mid to upper back pain, more so along the right side and with frequent “soreness and tightness”
• Upon review of this study a finding was made prompting a subsequent exam. Test yourself before moving to the next slide.
What's the Diagnosis – Case 65
Axial T2 Images of the upper T spine
What's the Diagnosis – Case 65
What's the Diagnosis – Case 65
Findings

- At the inferior aspect of the field of view on the cervical spine study is an anterior displacement of the upper thoracic cord with an enlargement of the dorsal subarachnoid space. These findings are confirmed on the thoracic spine study that then additionally shows decreased caliber of the spinal cord at the area of ventral displacement as well as low signal in the enlarged dorsal subarachnoid space in keeping with turbulence of flow at this location.
Enlargement of dorsal subarachnoid space

Anterior displacement of the upper thoracic cord
Ventral displacement of cord and decreased caliber of the cord

Oval containing areas of low signal at site of turbulence
Normal architecture

Ventrally displaced cord with large dorsal space
Enlarged dorsal subarachnoid space with low signal related to turbulence of CSF flow.
Diagnosis: Idiopathic Spinal Cord Herniation

- A rare but potentially, severely debilitating pathology thought to be related to a dural defect which allows a free flow of CSF so that it enlarges the defect. This then allows a ventral displacement of the CSF as well as an enlargement of the dorsal subarachnoid space. The defect also yields turbulent flow that is manifest by the areas of lower signal within the CSF on the T2 and IR pulse sequences. The lesion typically occurs from T4 to T7 and is often associated with atrophy of the spinal cord and an anterior kinking which are seen in this example. Within the differential diagnosis is an intradural arachnoid cyst which can appear similar but will not contain the areas of turbulence. Additionally, if myelography is performed, there will be free flow of contrast through the area in the setting of cord herniation but not in the setting of an arachnoid cyst. Idiopathic cord herniation frequently warrants surgery depending on the symptoms. This patient is currently being further evaluated.
References

- Imaging of idiopathic spinal cord herniation.
- Parmar H, Park P, Brahma B, Gandhi D.