

### Introduction

Adult patients requiring major surgical treatment of thoracolumbar deformities are at risk for cervical spinal cord compression due to prolonged prone positioning under general anesthesia. Many of these patients do not complain of symptoms of cervical spondylitic myelopathy (CSM) preoperatively. We report our treatment algorithm for reducing the risk of exacerbation of CSM during corrective thoracolumbar surgery.

### Methods

We prospectively studied all patients undergoing major surgical procedures for adult spinal deformities (ASD) in our institution from 2006-2016. A total of 497 patients were included (372 F, 125 M). Average age 63.7 years. Every patient underwent a detailed neurological exam. Patient's with objective evidence of CSM were studied with MRI and dynamic cervical X-rays. Radiological criteria were applied and patients subsequently divided into 2 groups: Group 1 = No further intervention. Group 2 = SSEP/MEP monitoring only. Group 3 = Cervical decompression surgery before ASD correction.

### Results

Of 497 patients, 124 (25%) were found to have objective signs of CSM. Of these only 51 were found to have significant imaging issues (signal abnormality on MRI, or instability on X-ray), and were subsequently assigned to Group 3. 37 patients with cervical stenosis and no other imaging abnormality were treated in Group 2. 38 patients were found to be primarily hyperreflexic and treated in Group 1. There were no complications of new or worsening CSM in our postoperative patients following this protocol. LOS, other complications and treatment course will be discussed.

### Conclusions

Occult cervical myelopathy is a significant risk factor in patients undergoing surgery for ASD. Approximately 25% will require further investigation and about half of these patients will be found to have significant cervical spinal cord compression. Successful clinical outcomes depend upon careful screening and subsequent surgical planning.

### Learning Objectives

Understand prevalence of CSM in Adult Spinal Deformity.

Understand Treatment algorithm for treatment of occult CSM in these patients.

### References