

## Cervical Screw For Thoracic Vertebral Posterior Instrumentation In Paediatric Aged Group – A Case Report

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### Introduction

Pediatric spine trauma is an important cause of morbidity and mortality in the pediatric population. The unique features of the pediatric spine lead to specific injury patterns and clinical presentation, different from those of adults. Increased ligamentous laxity, differences in biomechanics, horizontal orientation of vertebral facets, and underdeveloped paraspinal muscles in the immature spine result in a relatively high incidence of spine injuries.

### Clinical Case Report

Here, we would like to discuss this 6-year-old girl, who was a passenger involved in a high-energy motor vehicle accident, and presented to us with multiple vertebral colume fracture, and no neurological deficit.

Radiographic images showed multiple spinous process fracture from C5 to T5, and chance fracture at the level of T6 with T7 compression fracture. Unfortunately, she developed acute urinary retention which required catheter insertion on day 2 of hospitalisation.

Urgent MRI showed present of haematoma causes significant spinal cord stenosis at level of T6/T7. Without delay, posterior spinal instrumentation and laminotomy was done. Subsequent follow up in clinic, patient showed extremely good result where she is able to ambulate independently.

### Discussion

Three factors are responsible for the intrinsic elasticity of the vertebral column in a child. Firstly the facet joints are more shallow and horizontal in children, allowing some degree of slippage. Secondly ligaments and joint capsule are more stretchable, leading to what is known as pseudosubluxation. Thirdly absent uncinat processes and weak nuchal muscles also lend more flexibility.

In this case, surgery is indicated for grossly unstable injuries with progressive neurodeficit. Other factors including the size of implants required to be put in as smaller diameter of pedicle screws are needed.

### Conclusion

The management of pediatric spine trauma should take into consideration not only the unique pediatric spine anatomy but also the growth potential of this patient population. In this case, an alternative way of implant selection is crucial in view of the anatomy of pediatric spine.

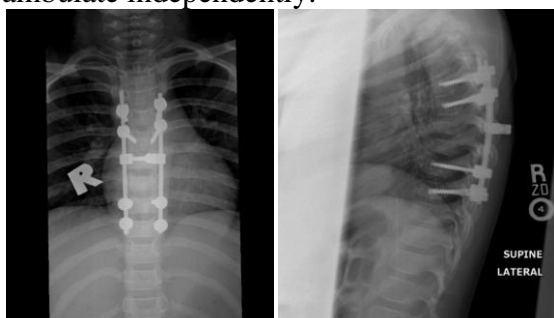


Figure 1 & 2 : Post-operative radiographic view of implant position on AP and Lateral view.