

fracture with C1 and C2 distraction behaving as a variant of occipital-cervical dissociation. *Methods:* Case Report *Results:* An 88-year-old female was involved in a motor vehicle accident and was transferred to a trauma centre from a peripheral hospital intubated. She was diagnosed with a significant injury to the C2 vertebral body with distraction between C1 and C2, which is a variant of an occipital-cervical dissociation. This patient had significant facial injuries, a zygomatic fracture, multiple lacerations, and a pulmonary contusion. Her ISS (Injury Severity Score) was greater than 16. She was however from a spine perspective neurologically intact. She required stabilization in the form of an occiput-cervical fusion. *Conclusions:* We present a polytrauma patient with a C2 distraction type injury and atlantoaxial dissociation manifesting more like an occipital-cervical dissociation injury with very good pre-operative imaging. These injury patterns are critical to recognize as they are unstable requiring occiput-cervical fusion instead of a cervical fusion alone which is reserved for some cases of odontoid Type III fractures.

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### Biomechanical evaluation of the ProDisc-C stability following graded posterior cervical injury

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*Background:* There is limited data regarding the development of persistent or recurrent symptoms, and the implications of revision posterior surgery in the setting of previous cervical arthroplasty (CA). The purpose of this study was to analyze segmental kinematics in human cadaveric specimens with and without CA, in the context of graded posterior resection. *Methods:* Fourteen human cadaveric cervical spines were divided into arthroplasty (ProDisc-C) and control (intact disc) groups. Both groups underwent sequential posterior element resections: unilateral foraminotomy, laminoplasty, and finally laminectomy. Specimens were studied sequentially in two different loading apparatuses during induction of flexion-extension, lateral bending, and axial rotation. *Results:* Range of motion (ROM) after CA was reduced relative to the control group during axial rotation and lateral bending, but was similar during flexion and extension. With sequential resections, ROM increased by a similar magnitude following foraminotomy and laminoplasty. Laminectomy had a much greater effect following CA compared to the control group, with the largest magnitude of increase in flexion and extension. *Conclusions:* Foraminotomy and laminoplasty do not seem to induce greater instability in the setting of CA, compared to controls. Laminectomy alone would not be recommended for use with arthroplasty due to the significant change in kinematics, especially in flexion and extension.

## P.138

### Corrective Adult Spinal Deformity Procedures in a community hospital: a single institution review

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*Background:* Adult spinal deformity (ASD) are typically managed in tertiary care centres due to their complexity in surgical planning and

peri-operative care. *Methods:* A retrospective analysis of consecutive corrective ASD surgery performed by a single surgeon at a community based centre performed between 2012 and 2014. Inclusion criteria were age  $\geq$  18 years with a minimum of 1 year follow-up. We reviewed age, aetiology, mortality, medical and neurological deficit. All standard radiographic deformity parameters were also evaluated and analysed. *Results:* n=32 corrective spinal deformity procedures were performed. The most common aetiology was de novo degenerative scoliosis. The mean length of stay was 11.94 days. The most common levels fused from T1-pelvis (n=13). L5/S1 was the most common level requiring interbody fusion (n=17). There were n=10 who required a PSO. Only n=4 patients had EBL greater than 3500cc. There were a total of 9 medical complications with post-operative hypotension being the most common (n=3). Hardware failure across the PSO site was the most common long term complication (n=7). There were n=2 death. There were no reported deep infections requiring revisions. Radiographic parameters analysed showed significant improvement. *Conclusions:* ASD surgery perioperative complication rates in a community hospital are similar to those done in high volume academic centre.