Posterior Cervical Instrumentation in the Adult Patient

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DISCLOSURES

INDUSTRY

(c,e) DePuy, Biomet; (d) Vertech, In Vivo Therapeutics, Paradigm Spine, Biomerix, Breakaway Imaging, Crosstree, Invuity, Pioneer, Gentis, ASIP, PMIG; (e) Facetlink

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Importance of Classification

- Surgeon Education
- Development of New Technologies
Indications for Posterior Cervical Spinal Instrumentation

- To provide stability
Indications for Posterior Cervical Spinal Instrumentation

- **Fusion:**
  - Trauma – Unstable Fractures
  - Degenerative – s/p Nerve /Cord Decompression
  - Deformity Correction
  - Neoplasia – s/p Tumor Resection
Posterior Cervical Fusion Options

- Non-Instrumented Fusion
- Sublaminar Wiring
- Lateral Mass Screws
- Cervical Pedicle Screws
Posterior Screw Based Instrumentation

- **Biomechanics:**
  - Stronger than posterior wiring or non-instrumented fusion techniques

- **Clinical Results:**
  - Earlier Rehabilitation
  - Increased Fusion Rates
  - Minimal Risk of Complication


Huang RC, Girardi FP, Poynton AR, Cammisa Jr FP. Treatment of multilevel cervical spondylotic myeloradiculopathy with posterior decompression and fusion with lateral mass plate fixation and local
The Data

- Literature Review:
  - 2 Comparative Studies and 20 Case Series
  - 1,464 pts

- Results
  - 97% Fusion Rate
  - No increased complications
Complications

- Neurovascular Injury:
  - Nerve Root injury - 1%
  - Vertebral Artery - <1%

- Infection:
  - Approx incidence - approx. 1%

- Hardware Complications (screw pullout/failure):
  - <1%
Results of Posterior Cervical Instrumentation

**ADVANTAGES**
- Immediate Stability
- Earlier Rehabilitation
- Increased Fusion Rates
  - Approx 97%

**DISADVANTAGES**
- Risk of damage to neuro / vascular structures with screw insertion
  - 1%
CONCLUSIONS

- Posterior Cervical Screws are: SAFE and EFFECTIVE

- Changing the classification will only improve the clinical results
  - Surgeon Education
  - Product Development
THANK YOU