Anterior cervical discectomy and fusion classification

- Analysis of adverse sagittal alignment after anterior cervical discectomy and fusion (ACDF) for degenerative cervical myelopathy with local kyphosis
- Anterior cervical discectomy and fusion in treating acute myelopathy caused by Brucella cervical spondylitis: a case series
- Radiographic and clinical findings associated with Klippel-Feil Syndrome: a case series
- Arthroscopic Pectoralis Minor Release and Infraclavicular Brachial Plexus Decompression for Neurogenic Thoracic Outlet Syndrome: A Novel Treatment for an Old Problem
- Outcome After Anterior Cervical Decompression and Fusion-A Nationwide FinSpine Register Study of Independent Predictors of Outcome at 12 Months After Surgery for Degenerative Cervical Spine
- Predictors of hospitalization for longer than one day following elective single-level anterior cervical discectomy and fusion: a retrospective case-control database study
- Anterior cervical discectomy and fusion for subaxial cervical spine injuries; management challenges and early outcome in a neurosurgical center
- The Impact of Proton Pump Inhibitor Use on Fusion Rates Following Single-level Anterior Cervical Discectomy and Fusion

Anterior cervical discectomy and fusion procedures can be classified based on several criteria, including the number of levels treated, surgical technique, and the type of implants used.

1. Based on the Number of Levels Treated - **Single-level ACDF:** Fusion between two adjacent vertebrae (e.g., C5-C6).

Multiple-Level Anterior cervical discectomy and fusion Fusion involving three or more vertebrae (e.g., C4-C6).

Two-level cervical discectomy and fusion

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2. Based on Surgical Approach - **Right-sided approach:** Less commonly used, depending on surgeon preference and patient anatomy. - **Left-sided approach:** More commonly used due to anatomical considerations, such as the position of the esophagus and carotid artery.

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3. Based on Type of Implant or Material Used - **Interbody spacers:**

1. **PEEK (polyetheretherketone) spacers.**
2. **Titanium spacers.**
3. Biological materials such as **autografts or allografts.**

- **Cervical plates:** Placed with screws to enhance stability. - **ACDF without plates:** Utilizes standalone devices or implants integrated into the spacer.

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4. Based on Fusion Technique - **Static fusion:** Implants designed to maintain a fixed position between vertebrae. - **Dynamic fusion:** Implants allowing initial controlled movement to encourage bone healing.

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5. Based on Surgical Goals - **Simple decompression:** Indicated for radiculopathy or myelopathy caused by herniated discs. - **Deformity correction:** Addressing cervical lordosis or more complex spinal deformities.

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6. Based on Postoperative Radiological Outcomes - **Solid fusion:** Complete bony consolidation between adjacent vertebrae. - **Pseudoarthrosis:** Failure of fusion with persistent motion at the treated segment. - **Implant failure:** Displacement or malposition of the plate or interbody spacer.

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Additional Classifications Relevant to ACDF - **Modic Classification:** Identifies degenerative changes in vertebral endplates. - **Pfirrmann Classification:** Grades disc degeneration.