

Evidence Discussion (CMM-601:Anterior cervical discectomy and fusion)

Risks of anterior discectomy and fusion include but are not limited to infection, dysphagia, dysphonia, bleeding, vertebral artery injury, recurrent laryngeal nerve injury, esophageal or tracheal injury, dural tear, hematoma, nerve root injury, spinal cord injury, paralysis and death. [1, 2] Complications related to the implants (e.g. migration, subsidence, screw failure/backout) are also possible. Late complications include adjacent segment disease and pseudoarthrosis often necessitating revision surgery at the adjacent or index levels. This may start a cascade of multiple fusions, more complications and poor long term outcome. Indications for surgery include patients with underlying cervical degenerative disc disease with the clinical presentation of cervical radiculopathy and/or myelopathy. [1, 3] Given the possibility of significant surgical complications, proper patient selection is crucial to minimize the risk benefit ratio. Supportive subjective symptoms and physical exam findings should be present and concordant with imaging findings as abnormal advanced imaging findings are not uncommon in asymptomatic patients. [4-6]

Multiple studies have shown that the vast majority of patients with cervical radiculopathy will improve with a 4-6 week course of non-operative treatment. [7-9]. Initial non-operative management is also noted as a recommendation in the North American Spine Society (NASS) Coverage Policy Recommendations [3]. However, for patients with myelopathy or other urgent/emergent conditions (e.g. progressive neurologic deficit), a trial of non-operative treatment would not be necessary.

Contraindications to anterior cervical discectomy and fusion as noted in the North American Spine Society (NASS) Coverage Policy Recommendations: *Cervical fusion* include treatment of discogenic axial neck pain and isolated cervical radiculopathy due to foraminal stenosis amenable to simple foraminotomy[3].

Jackson et al. noted higher rates of postoperative complications and worse functional outcomes in patients with psychological disorders undergoing spinal surgery [10]. It was concluded that proper identification and treatment of these conditions prior to surgery may significantly improve many outcome measures in this population.

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