

Evidence Discussion (CMM-610: Lumbar Total Disc Arthroplasty)

Artificial disc replacement is indicated in patients who have discogenic low back pain with single level lumbar disc disease at L3-L4, L4-L5 or L5-S1 and have axial pain and possibly radicular pain who have failed six months or more of non-surgical medical management and not have any mental or behavioral health disorders. [1] It should be noted that multiple studies and reports have shown most cases of back pain and sciatica are self-limited and typically improve within with conservative care. [9, 10]

Risks/complications of lumbar total disc replacement surgery are similar to anterior lumbar fusion and include but are not limited to infection, hematoma, persistent or incomplete relief of symptoms, possible need for more surgery, ureteral injury, retrograde ejaculation, ileus, neurovascular injury, deep vein thrombosis, pulmonary embolus and death. [6] Complications related to the implant (e.g. device dislocation, subsidence, osteolysis from wear debris) are also possible. [3, 4] Overall complications rates of TDA are less than fusion. [5]

Despite potential complications, there are numerous studies reporting superior results with TDA versus lumbar fusion, including pain scores and shorter operative times and hospitalization. [1, 2, 5, 6] Contraindications to lumbar disc arthroplasty as noted in the North American Spine Society (NASS) Coverage Policy: *Lumbar Artificial Disc Replacement* (Revised 2019) Recommendations include degenerative disc disease at multiple levels, spinal instability/spondylolisthesis greater than Grade I, chronic radiculopathy, osteopenia, poorly managed psychiatric disorder, significant facet arthropathy at same level, age < 18 yrs. or > 60 yrs. and infection or tumor. [1]

Jackson et al. noted higher rates of postoperative complications and worse functional outcomes in patients with psychological disorders undergoing spinal surgery. [8] It was concluded that proper identification and treatment of these conditions prior to surgery may significantly improve many outcome measures in this population. [8]

Although the use of any coverage criteria includes the possible risk of delayed care, EviCore firmly believes the benefits of our evidence based criteria best ensure patient safety and highly outweigh any clinical harms.

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