

241**Dynamic Cervical Implant. Alternative between Cage Fusion and Total Disc Replacement**G. Matgé¹¹Centre Hospitalier de Luxembourg, Neurosurgery, Luxembourg, Luxembourg

Although cervical total disc arthroplasty (TDA-C) has shown equivalence or superiority over anterior cervical discectomy and fusion (ACDF) in cervical disc disease, potential problems include non-physiologic motion which may accelerate degeneration of the facet joints, particulate wear, and compromise of the endplate mechanical integrity during device fixation. Cervical stabilization with DCI is a novel motion-preserving concept that facilitates controlled, limited flexion and extension, but prevents axial rotation and lateral bending, thereby reducing motion across the facet joints.

60 patients underwent dynamic cervical stabilization for the treatment of one to three level cervical disc disease. Minimum follow-up ranged from 6-24 months. Clinical outcomes consisted of NDI and VAS scores. Flexion-extension radiography was evaluated for the presence of device-level motion, device failures, device subsidence, and heterotopic ossification.

There was maintenance of index-level motion in about 90% of patients. NDI and VAS neck and arm pain scores were significantly reduced. More than 90% of patients were very satisfied, while 100% would elect to have the surgery again at 1 year. Two asymptomatic anterior device migrations required early revision due to device undersizing respectively too anterior positioning. An adjacent segment disease needed a delayed intervention. Cases of asymptomatic minor (non-bridging) heterotopic ossification and asymptomatic endplate subsidence were also observed during follow-up.

Preliminary results indicate that DCI is safe and facilitates excellent clinical outcomes, maintains index-level range of motion, and may be suitable for patients with facet degeneration who would otherwise not be candidates for TDA-C.