

Synchro



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The lumbar TLIF cage “Synchro” is made of an anterior and a posterior element. Both are linked with a joint. The mobility of both elements secures an optimized implant insertion. The anterior element is inserted into the disc space through the lumbar foramen and is properly oriented with the help of the posterior element. In its optimized positioning, the angle between both elements can vary from 45 to 90 degrees.

Case series

Under computed tomography (CT) guided spinal navigation the TLIF procedure was performed. Clinical outcome scores visual analog scale (VAS), Oswestry disability index (ODI) and short form-36 health survey questionnaire (SF-36) were obtained preoperatively, 6 and 12 months after surgery. Radiological data were acquired preoperatively, after 6 weeks, as well as 6 and 12 postoperatively and included measurements for disc height (anterior/posterior), foraminal height, segmental and global lumbar lordosis.

71% of the included patients have undergone previous lumbar surgery. In total, 80 SYNCHRO® cages have been implanted. The clinical results revealed a highly significant improvement of VAS, ODI and SF-36 after 6 and 12 months, compared to baseline levels ($p < 0.05$). Radiological analysis revealed a significant increase in anterior and posterior disc height, foraminal height, segmental and global lumbar lordosis postoperatively ($p < 0.05$). 47 out 49 patients (96%) showed evidence for fusion at the 12 months follow-up. Cage dislocation was found in 1 of 80 implanted cages (1%), which required revision surgery. Two dural tears occurred intraoperatively, which have been fixed. Another two patients needed surgical revision due to infection. The overall complication rate was 10% ($n = 5/49$).

The current study delineates satisfactory clinical and radiological results by using a novel articulating TLIF-cage. The implant-related complication rate was acceptable with low revision rate ¹⁾.

¹⁾

Ishak B, Steil M, Arroiteia IF, Unterberg AW, Kiening KL. Safety and performance of a novel articulating cage for transforaminal lumbar interbody fusion in the setting of intraoperative spinal navigation. Clin Neurol Neurosurg. 2019 Jun 20;183:105391. doi: 10.1016/j.clineuro.2019.105391. [Epub ahead of print] PubMed PMID: 31254909.

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