Expandable lateral cage

<html><iframe width="560" height="315" src="https://www.youtube.com/embed/Kg-f92vK6FA" frameborder="0" allowfullscreen></iframe> </html>

Optimal cage expansion can play an important role in the performance of the device: under-expanding the device increases the chances of cage migration, and over- expanding can increase the risk of cage subsidence. Thus, investigating the effects that different expansions may have in the biomechanical performance of an interbody cage could help to characterize the optimum expansion.

A 3.0-Nm torque expansion of a lateral interbody cage provides greater immediate stability in flexion and extension (FE) and axial rotation (AR) than a 1.5-Nm torque expansion. Moreover, the expandable device provides stability comparable with that of an equivalent (in size, shape, and bone-interface material) static cage (SC). Specifically, the static cage bilateral pedicle screw system (SC+BPSS) construct was the most stable in FE motion. Even though an expandable lateral lumbar interbody cage may seem a better option given the minimal tissue disruption during its implantation, there may be a greater chance of endplate collapse by over-distracting the disc space because of the minimal haptic feedback from the expansion [1].

Expandable lateral cages with unilateral pedicle screws [UPSs] provide stability equivalent to that of a TLIF construct with bilateral pedicle screws [BPSs]) in a degenerative spondylolisthesis model [2].

1)
Gonzalez-Blohm SA, Doulgeris JJ, Aghayev K, Lee WE 3rd, Laun J, Vrionis FD. In vitro evaluation of a lateral expandable cage and its comparison with a static device for lumbar interbody fusion: a biomechanical investigation. J Neurosurg Spine. 2014 Apr;20(4):387-95. doi: 10.3171/2013.12.SPINE13798. Epub 2014 Jan 31. PubMed PMID: 24484306.
2)
Mantell M, Cyriac M, Haines CM, Gudipally M, O'Brien JR. Biomechanical analysis of an expandable lateral cage and a static transforaminal lumbar interbody fusion cage with posterior instrumentation in an in vitro spondylolisthesis model. J Neurosurg Spine. 2016 Jan;24(1):32-8. doi: 10.3171/2015.4.SPINE14636. Epub 2015 Sep 18. PubMed PMID: 26384133.