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Calf specimens from the L3-4 and L5-6 levels were used for in vitro stability testing of a new transforaminal lumbar interbody fusion (TLIF) implant. Results were compared with those of the conventional posterior lumbar interbody fusion (PLIF) technique using two cuboid spacers. The specimens were loaded with pure moments of 10 Nm in flexion, extension, lateral bending, and axial rotation without any axial preload. They were allowed to move freely and unconstrained in all directions. In extension the PLIF implants showed slightly higher degrees of stiffness than the TLIF implant. While the conventional PLIF technique results in an increased range of motion by a factor of 2.5 after implant insertion, the TLIF approach prevents segmental destabilization in axial rotation. The facet joint arthrodesis using resorbable pins reveals biomechanically interesting results and will therefore be investigated in further studies [1)] . [2)].

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1)

Schneid S, Sabitzer RJ, Fuss FK, Grupp TM, Blömer W. [In vitro stability study of an improved implant system for minimally invasive transforaminal approach]. Orthopade. 2002 May;31(5):488-93. German. PubMed PMID: 12089799.

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