Silicon nitride is a new alternative with desirable bone compatibility and imaging characteristics.

The aim of a study is to compare silicon nitride implants with PEEK cages filled with autograft harvested from osteophytes.

A prospective, randomized, blinded study of 100 patients with 2 years follow-up. The primary outcome measure was improvement in the Neck Disability Index. Other outcome measures included SF-36, VAS arm pain, VAS neck pain, assessment of recovery, operative characteristics, complications, fusion and subsidence based on dynamic X-ray and CT scan.

There was no significant difference in NDI scores between the groups at 24 months follow-up. At 3 and 12 months the NDI scores were in favor of PEEK although the differences were not clinically relevant. On most follow-up moments there was no difference in VAS neck and VAS arm between both groups, and there was no statistically significant difference in patients' perceived recovery during follow-up. Fusion rate and subsidence were similar for the two study arms and about 90% of the implants were fused at 24 months.

Patients treated with silicon nitride and PEEK reported similar recovery rates during follow-up. There was no significant difference in clinical outcome at 24 months. Fusion rates improved over time and are comparable between both groups ¹).

1)

Arts MP, Wolfs JF, Corbin TP. Porous silicon nitride spacers versus PEEK cages for anterior cervical discectomy and fusion: clinical and radiological results of a single-blinded randomized controlled trial. Eur Spine J. 2017 Apr 5. doi: 10.1007/s00586-017-5079-6. [Epub ahead of print] PubMed PMID: 28382392.

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