



Zimmer® NexGen®
Complete Knee
Solutions CR-FLEX and
LPS-FLEX System

White Paper Journal
Reprint Abstracts

Title

**TIBIAL POST WEAR IN POSTERIOR STABILIZED TOTAL KNEE ARTHROPLASTY:
AN UNRECOGNIZED SOURCE OF POLYETHYLENE DEBRIS**

Authors

Puloski SKT, McCalden RW, MacDonald SJ, Rorabeck CH, Bourne RB

Publication

Journal of Bone and Joint Surgery. 2001;83-A:390-397

Purpose/Premise

This paper discusses a study conducted to evaluate the wear patterns at the interface between the cam and spine in a series of posterior stabilized implants retrieved at revision.

Material and Methods

The surfaces of the spines were analyzed from 23 components (four different designs) that had been implanted for a mean of 35.6 months. Digital images from all four sides of the spines were used to obtain a quantitative analysis of wear. The grading system used measures the adhesive, abrasive, and fatigue wear.

Outcomes

Wear was evident on all spines. An average of 39.9% of the spine surfaces showed deformation. Seven spines had severe damage with significant loss of polyethylene. Two components failed and had to be revised; one of these was related to isolated spine wear and one to severe wear with subsequent fracture. Although wear was evident on all four sides, the greatest amount was posterior.

Conclusion/Recommendation

The authors concluded that the spine of a posterior stabilized implant can be an additional source of polyethylene wear debris, and suggested that the variability of the wear patterns was due to the specific design and location of the spine.

More information about this article may be requested from your local Zimmer representative or by logging onto science.zimmer.com.