

Executive Summary

Publication	Prospective Comparison of a Metal-Free Ceramic Total Knee Arthroplasty with an Identical Metal System. Trieb K, Ullmann D. Metzinger K, Kramar R, Mauerer A. Hofstätter S, Fiala R. Z Orthop 2018;156:46-52
Study	Prospective, non-randomized, comparative, open-label ClinicalTrials.gov Identifier: NCT03097471
Implant	BPK-S Integration Ceramic (PETER BREHM GmbH; BIOLOX delta ceramic, CeramTec GmbH); BPK-S Integration (PETER BREHM GmbH; cobalt-chromium alloy)
Patients	80 patients (40 in each group) received either the completely metal-free TKA system or the geometrically identical metallic TKA. The mean age of patients within the ceramic group was 68.95 ± 2.7 years (6 male, 34 female) and 69.4 ± 2.8 years within the metal group (20 male, 20 female). No patient was lost to follow-up.
Follow-up	12 months
Methods	The clinical outcome was evaluated pre- and postoperatively at 3 and 12 months using KSS, Oxford Knee Score, EQ-5D-VAS Score.
Results	Postoperatively, the KSS, Oxford Knee Score and EQ-5D-VAS Score improved significantly at 3 and 12-months, but did not differ statistically between the two groups. No revision surgery had to be performed, and no complications were recorded whatsoever. There was no aseptic loosening in any of the patients.
Key Points	This is the first study comparing a completely metal-free TKA system with a geometrically identical metallic (CoCr) TKA. The completely metal-free BPK-S Integration Ceramic TKA provides a safe and efficient option for patients with a preoperatively known allergic reaction to metal in the short-term follow-up. Mid-term and long-term follow-ups will be required to demonstrate the overall efficiency of the ceramic TKA.
Abbreviations	CoCr - cobalt chromium, TKA - total knee arthroplasty, KSS - Knee Society Score