

Executive Summary

Publication	The association between metal allergy, total knee arthroplasty and revision. Münch HJ, Jacobsen SS, Oelsen JT, Menné T, Soballe K, Johansen JD, Thyssen JP. Acta Orthopaedica 2015;86(3):378-383 https://www.ncbi.nlm.nih.gov/pubmed/25582229 (PMC free full text)
Study	Retrospective, registry-based
Implant	-
Patients	Knee registry: n = 46,407 Contact allergy database: n = 27,020
Follow-up	1979 – 2013
Method	Denmark has both a knee arthroplasty registry (primary implants, revisions) and a registry in which proven contact allergies are documented (allergy patch test database). The data from both registries were contrasted with regard to metal allergies and complications/revisions for TKA.
Results	Positive skin test reactions are not necessarily associated with complications and/or revisions after TKA. Patients with 2 or more knee revisions have a markedly higher incidence of metal allergies (Co, Cr). Corrosion and/or metal debris may lead to secondary sensitization and possibly to failure of the implant. A higher rate of metal allergies was found in patients with unexplained symptoms who underwent a revision.
Key Points	Metal allergies play a role in the multifactorial pathogenesis of knee implant failure. There are some patients who are markedly more susceptible to metal allergy reactions. These patients are at particularly high risk if they receive knee implants that contain metals (Ni, Co, Cr). Currently, the best preventive measure is a highly biocompatible knee implant with a low wear rate and tissue-friendly wear debris that does not cause secondary sensitization to metal(s) in patients.
Abbreviations	Co – cobalt, Cr – chromium, Ni – nickel, TKA – total knee arthroplasty