ORTHOPAEDICS 360

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Metal Allergy & The SensiTiN Solution

SCAN TO READ MORE

Most knee replacement implants are made from cobalt-chromium alloy, and a small number of patients are sensitive to the metal ions these implants release. For these patients, the Medacta SensiTiN coating — a titanium-nitride surface that reduces ion release by up to 90 percent — offers a hypoallergenic option with outcomes equivalent to standard implants. This guide explains how metal hypersensitivity arises, when testing is warranted, and who should consider a coated implant.

THE TECHNIQUE

01 Understanding Sensitivity

Cobalt-chromium implants can release ions that trigger a reaction in sensitive patients.

02 When to Test

Patch testing is reserved for those with a convincing history of metal contact allergy.

03 The SensiTiN Coating

A titanium-nitride layer cuts ion release by up to 90% and is harder-wearing than CoCr.

04 Proven Equivalence

Coated implants show equivalent knee scores and survivorship at up to 6.5 years.

AT A GLANCE

COATING	Titanium Nitride
ION RELEASE	Up to 90% Lower
HARDNESS	4× Harder
OUTCOMES	Equivalent

> "Metal hypersensitivity is not a first thought after knee replacement.
>
> But it is something that should not be missed."
>
> — Dr Chien-Wen Liew

FREQUENTLY ASKED QUESTIONS

Q. Can I have a knee replacement if I have a metal allergy?

Yes. Patients with documented metal hypersensitivity can have a total knee replacement using a SensiTiN-coated implant, which reduces metal ion release by up to 90% and shows equivalent outcomes to standard implants.

Q. What metals cause allergy problems in knee replacement?

Standard implants use cobalt-chromium alloy. In knee replacement patients, chromium is the most common allergen (11.6%), followed by nickel (8.6%) and cobalt (6.4%).

Q. What is the SensiTiN coating?

SensiTiN is a titanium-nitride coating applied to cobalt-chrome surfaces, giving the implant a distinctive gold colour. It is up to four times harder than CoCr and is TGA-registered in Australia.

ABOUT THE SURGEON

Dr Chien-Wen Liew exclusively performs total hip replacements via the direct anterior approach and total knee replacements via kinematic alignment only. He utilises patient-specific technology for both procedures, and practices from Orthopaedics 360 — within the Eastwood Private Hospital Precinct.

Dr Chien-Wen Liew

Hip and Knee Replacement Surgeon

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