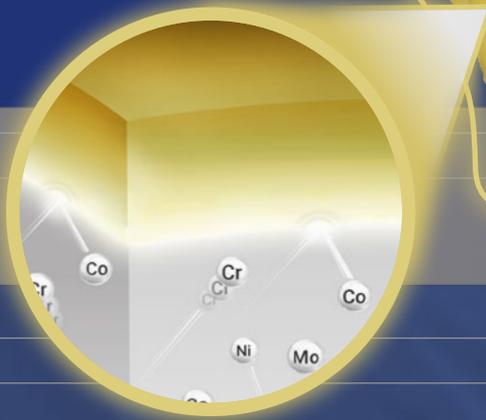


SensiTiN™

ENHANCED COATING TO REDUCE METAL ION RELEASE



Brochure

Joint

Spine

Sports Med

CLINICAL CHALLENGE



Materials commonly used in orthopaedics consist of metal alloys which can release metal ions.^[1,2] Metal ions have been shown to elicit hypersensitivity reactions, ranging from dermatitis to urticaria, vasculitis, excessive periprosthetic fibrosis, and muscular necrosis.^[1,3] Some of these metal ions may also induce tissue inflammation or damage without resulting in a hypersensitivity reaction.^[1,3]

These adverse reactions expose patients to the added risks of implant loosening, pain, or a chronic local or systemic inflammatory state, possibly leading to device removal and revision surgery.^[3,4]

Metal hypersensitivity affects approximately 10% to 15% of the general population.^[1]

Recent studies report an increased incidence of metal sensitivity due to the increasing exposure to metals, via external contact with the skin (jewelry, clothing) or chronically through in vivo, surgically implanted devices.^[3] **It is important to consider alternative solutions in orthopaedics to reduce the release of metal ions and potentially reduce the occurrence of related reactions.**^[5]

SensiTiN™

Enhanced coating to reduce metal ion release

Surgeons' preferred choice to treat patients with metal hypersensitivity^[6,7,8]

KEY FACTS

- SensiTiN is a ceramic-like coating of titanium nitride, designed to reduce metal ion release from Medacta's knee implants.
- This property makes SensiTiN the preferred choice of most orthopaedic surgeons for treating patients with metal hypersensitivity, and it is considered a valid means of reducing the likelihood of hypersensitivity onset.^[6,7,8]
- SensiTiN is applied to the GMK System and MOTO System, forming a complete product line that allows for treating a wide number of patients, from **partial** or **primary** to **revision** cases.

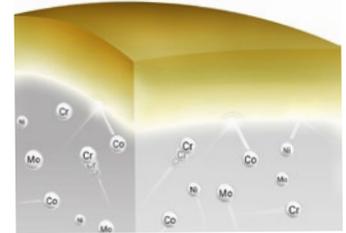


TO REDUCE METAL ION RELEASE

REDUCED METAL ION RELEASE

SensiTiN acts as a barrier against the potential release of metal ions, reducing the risk of hypersensitive reactions.

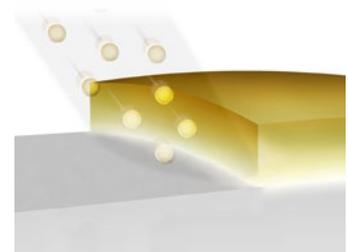
With SensiTiN, metal ion release is reduced by up to 90%.^[9]



HIGH ADHESIVE STRENGTH

SensiTiN is applied through physical vapor deposition (PVD), creating a strong bond between the coating and the implant.^{[4] [9]}

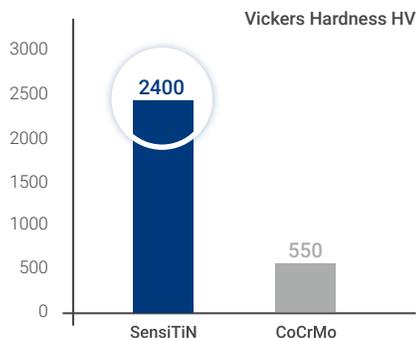
SensiTiN's high adhesive strength makes it very resistant to chipping and delamination.^[9]



ENHANCED SURFACE PROPERTIES...

HIGHER SURFACE HARDNESS

SensiTiN increases surface hardness of CoCrMo implants up to 4 times, making it more resistant to scratches.^[9]



IMPROVED SURFACE WETTABILITY

Synovial liquids can better lubricate SensiTiN coated surfaces than uncoated CoCr. This indicates a higher wettability, which can increase the lubrication between the implant's articulating surface.^{[9] [10]}



LOW SURFACE ROUGHNESS

SensiTiN coated implants have very low surface roughness (less than 0.05 μm).^[9]



...RESULTING IN WEAR RATE REDUCTION

Laboratory tests have demonstrated that surface properties provided by SensiTiN allow for low wear rates of the polyethylene even when tested in extreme conditions (e.g. in the presence of particles between the articulating surfaces).^[9]

SensiTiN™

PRODUCT RANGE



GMAK SPHERE

E-CROSS™



Vitamin E Highly Crosslinked UHMWPE

Combine **SensiTiN-coated implants** with tibial inserts in E-CROSS to further improve the performance of **GMAK Sphere**.



GMAK PRIMARY



Moto LATERAL



Moto MEDIAL



GMAK REVISION



GMAK HINGE

SYNERGY

Save time, minimize processing costs and enhance procedure accuracy: three great benefits for the growing number of TKR procedures.

Medacta's innovative technologies meet the needs of surgeons and healthcare professionals through a unique and complete solution: **Efficiency KneePack**.



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SensiTiN™
ref: 99.SENSITIN.11US
rev. 02
Last update: September 2022

