

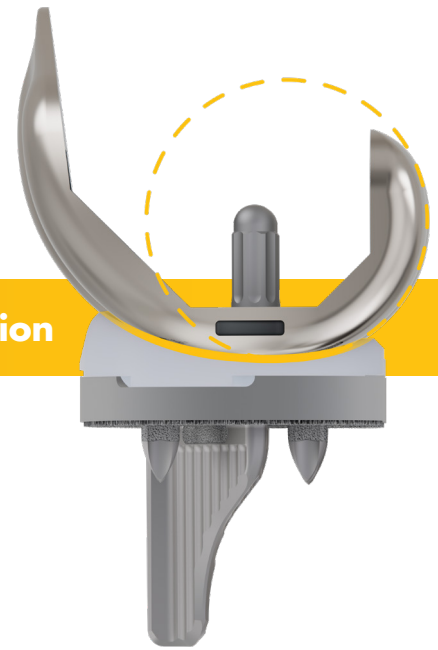
Triathlon®

Medial Stabilized Insert

Stability and kinematics enhanced through innovation

Triathlon has a demonstrated history of clinical success,¹⁻³ and we continue to build upon this legacy with innovative additions to the portfolio.

The Triathlon Medial Stabilized (MS) Insert is the latest of these additions, designed to deliver **enhanced stability**⁴⁻⁶ and **kinematics**⁷ to your Triathlon Total Knee procedures.

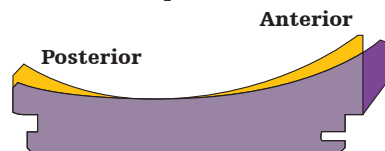


Design overview

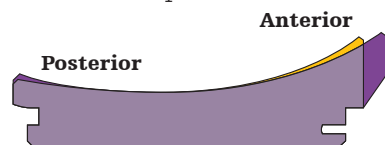
The Triathlon MS Insert is designed to achieve greater conformity⁴⁻⁶ with the femoral component in the medial compartment compared to the clinically successful¹⁻³ Triathlon Condylar Stabilized (CS) Insert. This medial conformity paired with design changes to the lateral compartment has demonstrated enhanced sagittal stability⁴⁻⁶ while allowing for more natural rotational kinematics.⁷

Triathlon CS vs. MS Insert geometry overlays

Medial compartment

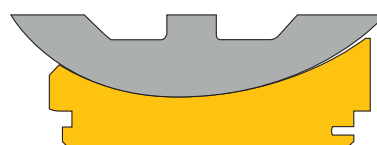
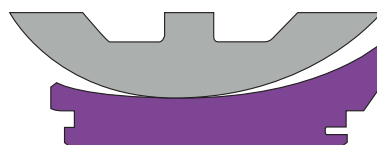


Lateral compartment



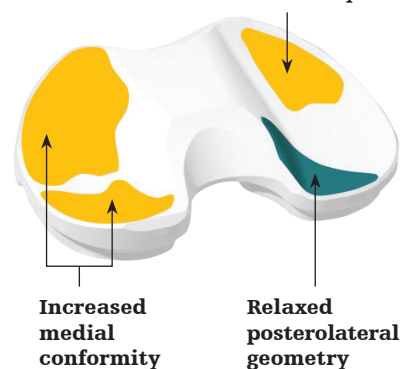
Triathlon CS Insert

Medial conformity of Triathlon CS vs. MS Insert in extension



Triathlon MS Insert

Increased anterolateral conformity



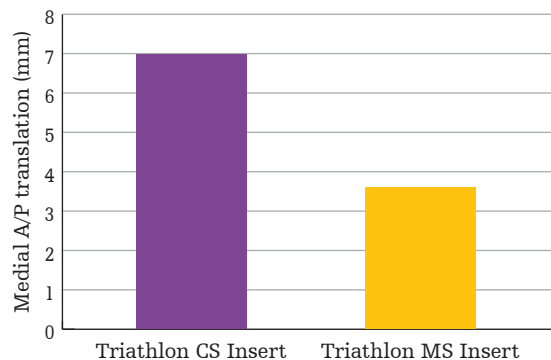
Increased material vs. Triathlon CS Insert

Decreased material vs. Triathlon CS Insert

Enhanced stability and kinematics

The Triathlon MS Insert was developed using the Knee Kinematic Model (KKM) Library—a cutting-edge technology featuring patient-specific, lower-limb finite element models that simulate activities of daily living. This innovative platform allows for virtual implantation of knee components to evaluate implant design. An evaluation of kinematic performance through the KKM demonstrated the Triathlon MS Insert allowed for medial sagittal stability and rotational kinematics that resemble those of a healthy knee during common activities, including stair descent.^{7,8}

KKM stair descent medial A/P translation⁸



The Triathlon MS Insert achieved a 46.3% increase in medial A/P stability.⁸

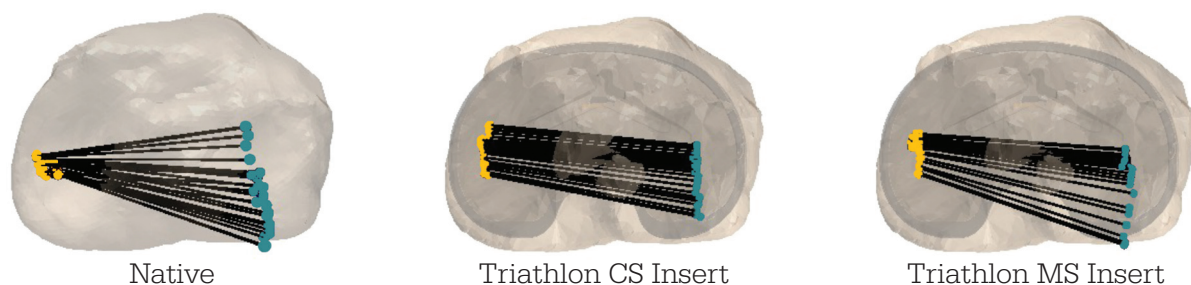
KKM stair descent rotational kinematics⁸



In a cadaveric range of motion assessment, the Triathlon MS Insert showed kinematic patterns that trended closer to native motion than the Triathlon CS Insert during passive flexion from 10 to 120°.⁹

Participating surgeons associated the Triathlon MS Insert with perceived medial stability and kinematics that best mimicked those of the native knee.⁹

Cadaveric ROM kinematics⁹

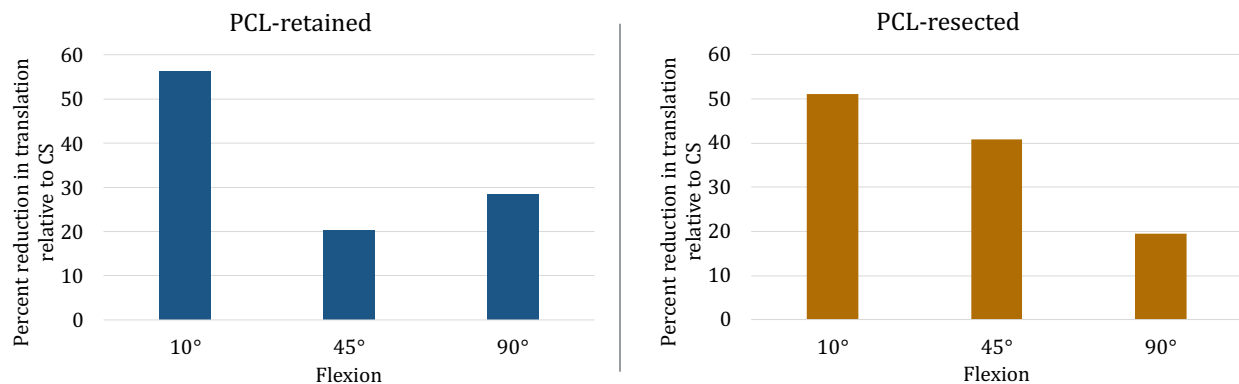


Rotational kinematics of the Triathlon MS Insert more closely resembled those of the native knee.^{8,9}

Intraoperative flexibility

The Triathlon MS Insert can be implanted with the PCL retained or resected, giving you a single, versatile option that can accommodate your surgical philosophy and individual patients' needs.

Percent reduction in medial A/P translation for MS relative to CS in cadaveric manual stress tests⁹

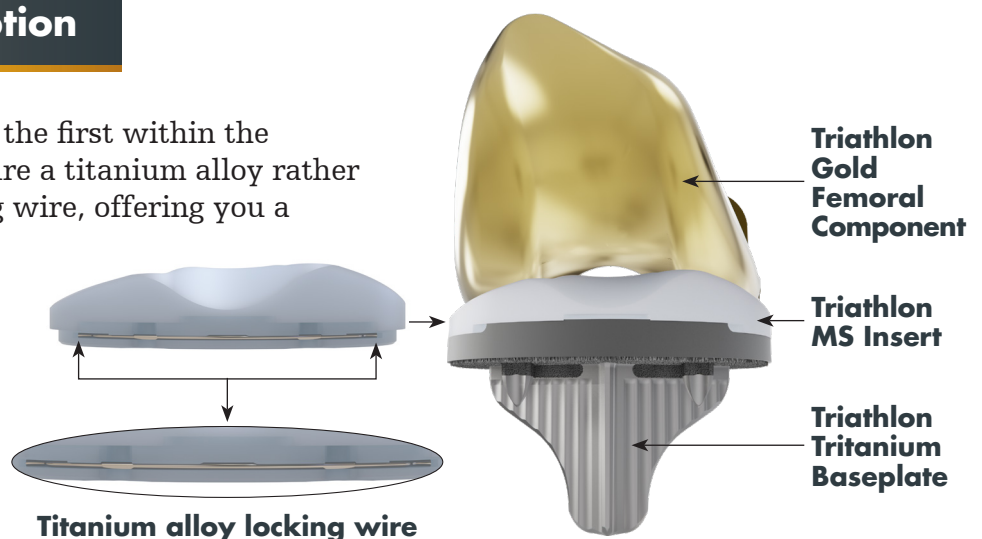


The Triathlon MS Insert provided significantly greater medial A/P constraint at 10, 45 and 90° of flexion with and without an intact PCL.⁹

Implanting the Triathlon MS Insert with a Triathlon Cruciate Retaining (CR) Femoral Component can be more bone-conserving and more efficient than implanting a posterior stabilized (PS) construct as it eliminates PS box preparation and requires fewer instruments and trays for the procedure.¹⁰

Metal-sensitivity option

The Triathlon MS Insert is the first within the Triathlon portfolio to feature a titanium alloy rather than cobalt chrome locking wire, offering you a comprehensive option for patients with metal-sensitivity concerns when implanted with the Triathlon Gold Femoral Component and Triathlon Tritanium Baseplate.



References:

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10. TRIATH-SP-30. Triathlon Knee System surgical protocol compendium.

Joint Replacement

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