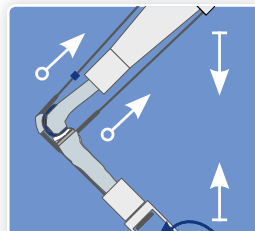


RESPONSIBLE INNOVATION

Medacta is committed to providing innovative and safe solutions for patients with an evidence-based approach. GMK Sphere was tested over 3 years prior to launch through an intensive evaluation program including *in vitro* and *in vivo* trials and Laboratory tests^[8,10,11,14].



1. Extensive laboratory tests and computer simulations^[10]



2. Cadaver validation^[8]



3. Sophisticated clinical evaluation in centres around the world^[11,14]

MINIMIZED WEAR RATE

GMK Sphere maximizes the femoro-tibial contact area to minimize polyethylene wear.



Endolab GmbH - GMK Sphere wear test results compared with the mean value of all fixed bearing TKA implants.^[12,13]



GMK[®] REVISION
GLOBAL MEDACTA KNEE

GMK[®] HINGE
GLOBAL MEDACTA KNEE

...AND REVISION SOLUTIONS

ADVANCED INSTRUMENT OPTIONS...



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GMK[®] Sphere Leaflet
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GMK[®] SPHERE

MEDIANLY STABILIZED KNEE

STABILITY FOR LIFE



Brochure

Hip

Knee

Spine

Navigation

PATIENT SATISFACTION AFTER KNEE ARTHROPLASTY

Despite the excellent longevity of total knee arthroplasty, many patients continue to experience functional deficits after surgery.

Patient expectations are not as well fulfilled by TKA as by total hip replacement with fewer knee patients achieving a “forgotten joint” replacement. Studies show that around 20% of TKA patients are not satisfied^[1, 2, 3]. Excessive A/P motion may result in anterior knee pain and continued swelling. In many P/S designs, the stabilizing mechanism only engages after 70-80° of flexion leaving the knee vulnerable to A/P instability during the most commonly encountered functional activities^[4].

GMK[®] SPHERE MEDIANLY STABILIZED KNEE

Based on the knee anatomy and kinematic studies performed by Prof. Michael Freeman and Prof. Vera Pinskeroval^[6], the GMK Sphere is an innovative total knee implant designed to deliver **maximum functional stability** with the goal of increasing TKA **patient satisfaction** during activities of daily living and **decreasing post-operative knee pain**.

STABILITY IN TKA IMPROVES PATIENT SATISFACTION

In a study in which patients had a conventional CR or PS in one knee and a medianly stabilized device in the other, 76% preferred the knee with the “ball in socket” medial compartment^[5]. Patients reported:

- It feels more normal
- It is stronger when ascending/descending stairs
- It has superior single-leg weight bearing
- It feels more stable during flexion and overall
- There are fewer clunks, pops and clicks

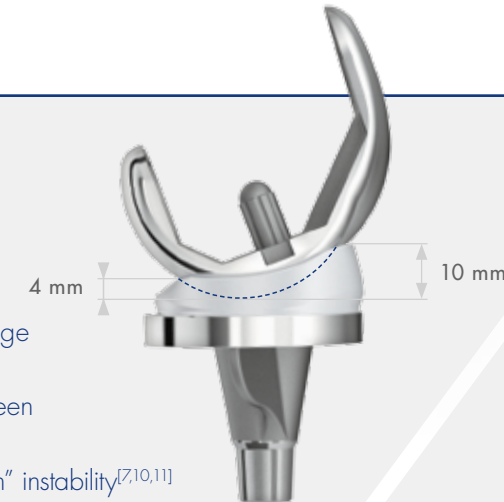
KEY FEATURES



STABILITY

GMK Sphere features a fully congruent medial compartment providing:

- High stability throughout the range of motion^[7,10,11]
- No paradoxical motion between femur and tibia^[7,10,11]
- No implant-related “mid-flexion” instability^[7,10,11]



NATURAL PATELLAR TRACKING

GMK Sphere replicates natural lateralized patella tracking to reduce patello-femoral joint pressure and address anterior knee pain^[8,9]:

- Trochlea groove lateralized by 2 mm to enable natural patella tracking^[9]
 - Flattened medial trochlear wall prevents patello-femoral overstuffing minimizing retinacular tension^[8]
 - Anatomic patellar implant with medialized dome allows for optimal bony coverage with reduced soft tissue tension, improved stability and contact area^[12]



ANATOMIC FIT

Extensive anthropometric research on a unique global database containing more than 15,000 CT and MRI scans of knees validated the^[12]:

- Range of 13 femoral sizes with 2 mm increments that best fit a broad spectrum of anatomic profiles
- Anatomically shaped tibial baseplate
 - Range of inserts with 1 mm increments

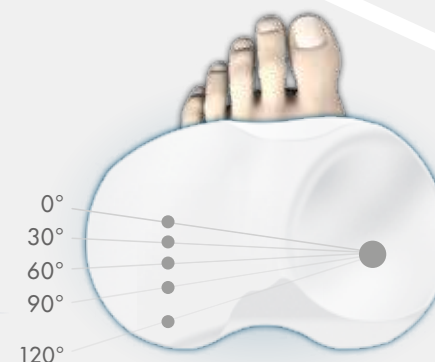
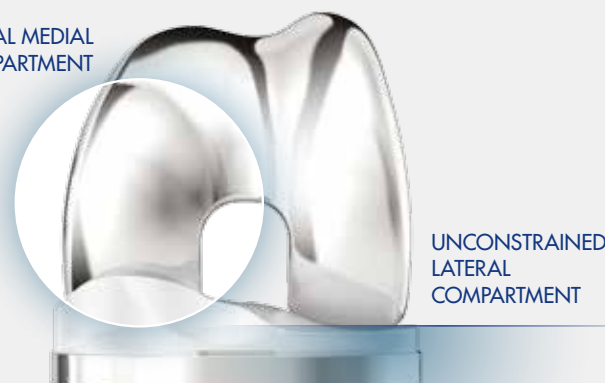
The combination of 13 femoral sizes and inserts with 1 mm increments allows the surgeon to “fine tune” ligament balance and improve stability throughout the range of motion.

PATIENT-SPECIFIC KINEMATICS

GMK Sphere accommodates the best pattern of kinematic motion for each patient rather than imposing an assumed “norm”^[11]. This is achieved with:

- “Ball in socket” stability throughout the range of motion in the medial compartment^[7,10,11]
- Freedom of movement in the lateral compartment^[10,11]

SPHERICAL MEDIAL COMPARTMENT



13 FEMORAL PROFILES

