

My Total Knee Replacement The operation **tailored to you!**



Suffering from knee pain?

If your knee pain limits your daily activities, affects your mood, your health and your general well-being...

You're certainly not alone!

Are you considering Total Knee Replacement?

There are a number of surgical and non-surgical solutions, to treat your disease. Ask your doctor what is the most suitable treatment based on your age, activity level and expectations.



MyKA, a personalized Knee Alignment

A solution that allows surgeons to personalize
the position of your implant.

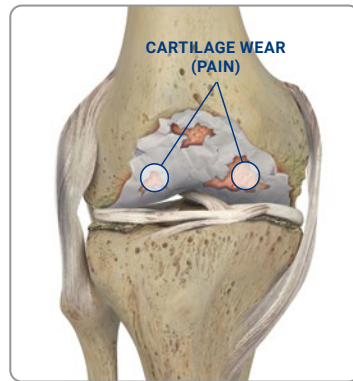
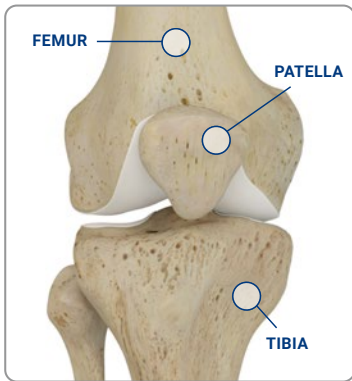
This can improve the function and the feeling of your knee.^[1,2]



What is osteoarthritis?

The knee joint is comprised of three bones: thigh bone (femur), shin bone (tibia) and kneecap (patella), the extremities of which are covered by a smooth surface (cartilage) which allows for movement.

The main cause of knee joint diseases is the wearing down of the cartilage wear, leading to osteoarthritis. **This wear is perceived as pain.** In the case of advanced osteoarthritis, your doctor may suggest that you undergo a total knee replacement.



What is a total knee replacement?

Total knee replacement surgery aims to substitute the bone and cartilage of the joint damaged by arthritis with metallic and plastic implants. The surfaces of the thigh and shin bones are replaced with high-resistant metallic components, known as the femoral component and tibial baseplate.

A plastic tibial insert is implanted between the femoral component and the tibial baseplate. This replaces the cartilage function, allowing the thigh and shin bone to slide on each other. All materials used in a total knee replacement are highly biocompatible.



Why total knee replacement?

With almost 50 years of history, total knee replacement surgery is a very common and safe procedure for the treatment of severe arthritis. Approximately 1,000,000 knee replacements^[3] are performed annually worldwide.



The main benefits of a successful total knee replacement are^[4,5]:

1. Reduction of knee pain

Pain may be rapidly and dramatically reduced, or potentially eliminated!

2. Recovery of mobility

You may greatly improve the mobility of your knee.

3. Improvement in quality of life

Your everyday activities may no longer be limited by pain and reduced mobility!

Knee alignment and MyKA

NOT ALL KNEES ARE THE SAME...

We all recognize that people look different, their faces and their bodies. In the same way, also knees are different in shape and alignment, even when they are healthy. Although a lot of legs are almost straight, many are naturally varus (bow-legs) or valgus (knock-knees). Knees can become more varus or valgus as a result of disease (arthritis), but it may not be ideal to try to make all knees straight after surgery.



BOW-LEGGED

KNOCK-KNEE

PERSONALIZED APPROACH

Traditional surgery using Mechanical Alignment (or MA) aims to give every patient a straight “knee alignment” even if the patient’s healthy leg was not naturally straight.

MyKA is based on a modern approach called Kinematic Alignment. With this technique, the surgeon aims to restore the natural knee shape and alignment of the patient’s healthy knee, matching the knee replacement to each patient’s individual anatomy.

Matching the patient’s individual leg shape means that Kinematic Alignment can potentially make recovery easier and faster^[6] compared to traditional surgery, it may reduce the patient’s pain^[7] and possibly improve the biomechanics of walking and daily activities.^[1]

Stability of your knee

GMK SPHERE: THE MEDIALLY STABILIZED KNEE

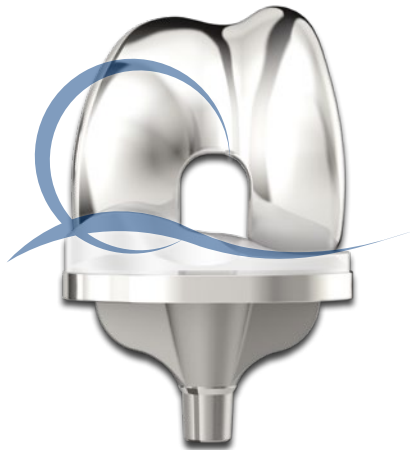
A normal knee is a complex structure - when it bends, the lateral (outer) side rolls back, while the medial (inner) component side remains stable. The GMK Sphere knee implant is designed to provide a more natural motion that replicates this movement of the healthy knee. This allows for stability in the inner component side through a ball-in-socket mechanism. Stability is important for performing daily activities, such as going up and down stairs, changing position from sitting to standing, getting into a car, and more demanding activities like shopping and gardening.

STABILITY IS IMPORTANT FOR PATIENTS

The medial ball-in-socket mechanism of the GMK Sphere helps to replicate the function and the stability provided^[8,9] by the natural ligaments and structures of the knee, most of which are removed during total knee replacement. Many patients prefer a stable knee design with a medial ball-in-socket compared to other conventional knee designs, as they feel more natural, more stable and stronger during common daily activities.^[10,11]

GMK[®] SPHERE
MEDIALLY STABILIZED KNEE

Stability for life



Bibliographic references:

- ^[1] PA. Vendittoli, et al. Kinematic Alignment in Total Knee Arthroplasty Better Reproduces Normal Gait than Mechanical Alignment. *KSSTA* 2019-May; 27(5): 1410-17.
- ^[2] Y. BAR ZIV et al. "Patients undergoing staged bilateral knee arthroplasty are less aware of their kinematic aligned knee compared to their mechanical knee" *Journal of Orthopaedics* 23 2021; 155-159 ^[3] A.Price, et al. Knee replacement. *Lancet*. 2018 Nov 3;392(10158):1672-1682. doi: 10.1016/S0140-6736(18)32344-4. PMID: 30496082. ^[4] Neuprez A, et al. Total joint replacement improves pain, functional quality of life, and health utilities in patients with late-stage knee and hip osteoarthritis for up to 5 years. *Clin Rheumatol*. 2019. <https://doi.org/10.1007/s10067-019-04811-y> ^[5] Canovas F, Dagneaux L. Quality of life after total knee arthroplasty. *Orthop Traumatol Surg Res*. 2018; 104(1S): S41-S46. ^[6] C. Rivière et al. Alignment Options for Total Knee Arthroplasty: A Systematic Review. *OTSR* 2017-Nov; 103(7): 1047-56. ^[7] Dossett, et al. A Randomised Controlled Trial of Kinematically and Mechanically Aligned Total Knee Replacements: Two-Year Clinical Results. *BJJ* 2014-Jul; 96-B(7): 907-13. ^[8] P. Schütz et al. "Kinematic Evaluation of the GMK Sphere Implant During Gait Activities: A Dynamic VideoFluoroscopy Study." *JOR* 2019- Nov; 37(11): 2337-47. ^[9] S. Banks et al. "Can a Total Knee Arthroplasty Be Both Rotationally Unconstrained and Anteroposteriorly Stabilised?: A Pulsed Fluoroscopic Investigation." *Bone Joint Res* 2016-Mar; 5(3): 80-86. ^[10] Pritchett, James W. "Patients Prefer A Bicruciate-Retaining or the Medial Pivot Total Knee Prosthesis." *JOA* 2011-Feb; 26(2): 224-28. ^[11] PF. Choong et al. "A Randomized Controlled Trial Comparing a Medial Stabilised Total Knee Prosthesis to a Cruciate Retaining and Posterior Stabilised Design - A Report of the Clinical and Functional Outcomes Following Total Knee Replacement" *JOA* 35(6), 1583-1590 2020

GMK[®] SPHERE

MEDIALY STABILIZED KNEE

MyKA[™]
KINEMATIC ALIGNMENT PLATFORM



If you have any concerns about your new knee,
don't hesitate to contact your doctor and, finally...

...enjoy your new knee!

For further information visit the website:

myknee4me.com

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