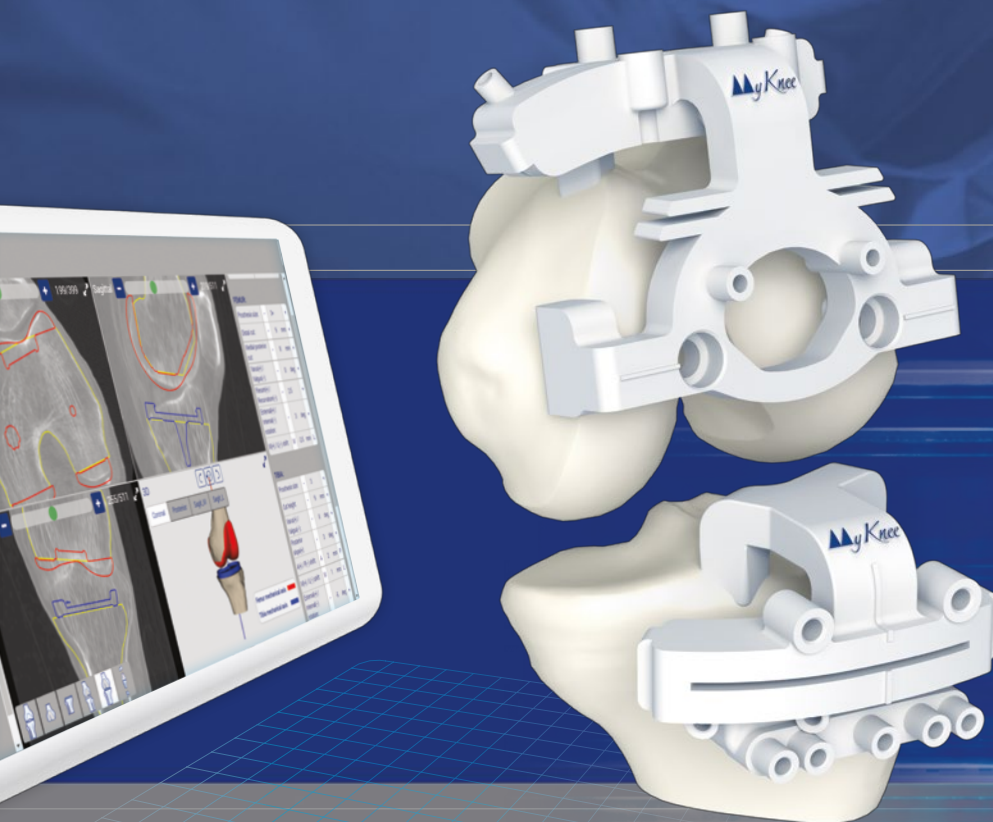




PATIENT MATCHED TECHNOLOGY
IN KNEE REPLACEMENT

DESIGNED FOR YOU BY YOU



Brochure

Joint

Spine

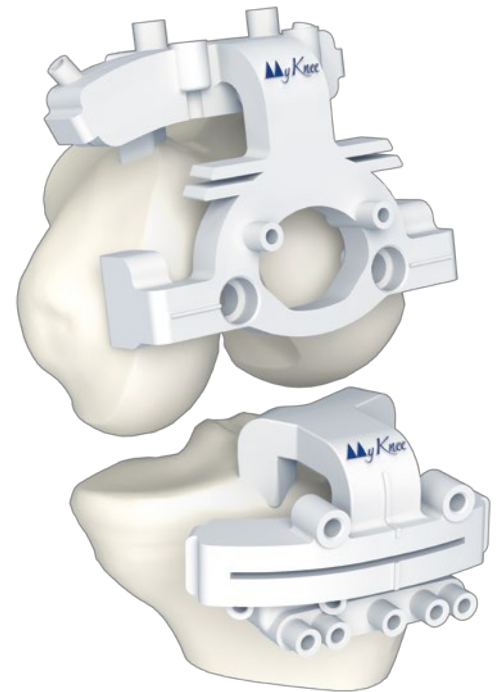
Sports Med

INNOVATION: THE KEY TO SUCCESS

Our core philosophy at Medacta is that **innovation is the key to success**. This drives us in the continued effort to design and develop cutting edge solutions for Orthopaedics. **MyKnee** is a set of **3D printed patient-specific guides** that allow **accurate** and **reproducible implant placement** based on a **pre-operative 3D plan**, that has been created from the CT or MRI images of the patient's knee.

This innovative concept combines multiple features that support benefits for both the surgeon and the patient.

- **Accurate implant positioning** ^[1-10]
- **No intramedullary canal violation** with less bleeding and haemoglobin loss for the patient ^[12, 16, 17]
- Up to 60% **reduction of surgical steps and related time** for bone resection ^[12, 16, 19]
- **Potentially one extra case** per surgery session ^[10]
- **Comfort of use** in every surgical scenario, also in total knee revision cases ^[20]
- **Interactive 3D web planner**



DESIGNED FOR YOU BY YOU

MYKNEE OFFERS YOU MORE. . .

- **THIS ONE WORKS!**
Several studies and published articles prove the accuracy and effectiveness of MyKnee ^[1-14]
- **CT OR MRI BASED**
Freedom to choose the preferred imaging technology.
- **ONLINE CASE MANAGEMENT WITH INTERACTIVE 3D PLANNING PLATFORM**
MyKnee cases are managed entirely online with no need to install software. The case database is available to surgeons at any time, from anywhere and the information on the website is always kept up-to-date.
- **COMPLETE IN-HOUSE TECHNOLOGY**
The MyKnee process is kept entirely in-house from the 3D anatomical reconstruction to the manufacture of the cutting blocks, with direct support and communication between the surgeons and their dedicated MyKnee engineer.
- **ONLY 3 WEEKS LEAD TIME**
The shortest delivery time in today's market for this technology.
- **A PERSONAL MYKNEE TECHNICIAN JUST FOR YOU**
Each surgeon is assigned a personal MyKnee engineer to develop detailed understanding and familiarisation of the surgeon's preferences.
- **INNOVATIVE 3D PRINTING TECHNOLOGY**
This solution delivers instruments specifically tailored for the patient's anatomy, with a continued respect and commitment to delivering standards of a high quality.

PATIENT SPECIFIC SOLUTION!

MYKNEE FAMILY



Medacta's patient matched instrument platform for partial, total and revision knee replacement **accommodates many surgical approaches** including **bone referencing, ligament balancing** and **muscle sparing**, while **reducing the overall reusable instrument footprint in the operating room.**

Both CT- or MRI-based cutting guides, MRI-based pin positioning blocks for uni- and total-knee implants, and **CT-based guides** to revise failed total-knee implants are available to offer a wide range of options to every surgeon.

For **GMK Sphere**, a dedicated **Kinematic Alignment** planning protocol, **MyKnee KA**, is available to supplement the **traditional mechanical alignment principles.**



MYKNEE EFFICIENCY: A POWERFUL SYNERGY

The potential benefits of MyKnee technology can be further enhanced when used in conjunction with **GMK Efficiency single use instruments.** **GMK Efficiency** is a **complete single use instrument solution** used to implant GMK Sphere or GMK Primary total knee systems. It has been designed to **optimize instrument management and logistics** in the O.R. and throughout the hospital supply chain, providing benefits to every healthcare stakeholder.

MyKnee and GMK Efficiency together offer an **innovative and complete technological solution** and deliver **concrete benefits for the patient, surgeon and hospital.**



GMK Efficiency
SINGLE USE INSTRUMENTS
IN KNEE REPLACEMENT

PRODUCT
CO₂ NEUTRAL
by Swiss Climate

THE MYKNEE JOURNEY



1. Medacta receives the CT or MRI images of the patient's leg.



2. MyKnee pre-operative planning starts with the 3D reconstruction of the joint and follows surgeon's specific preferences.



3. Virtual positioning of the implant is proposed to the surgeon who can modify the plan, if required.



4. Once the plan has been validated by the surgeon, the 3D printing in-house manufacturing process starts.

INTERACTIVE 3D WEB PLANNING

DESIGNED BY YOU!

The **MyKnee pre-operative planning** is based on the **surgeon's specific preferences** and submitted to the surgeon for approval through an interactive web portal available at <https://myknee.medacta.com> and accessible from any device.



With each case, **the surgeon can modify femoral and tibial parameters**, such as:

- Femoral distal, anterior-posterior resection levels, femoral rotation, femoral flexion and femoral varus/valgus.
- Tibial resection level and tibial varus/valgus.

The MyKnee team is always at the surgeon's disposal and happy to help!

Once approved by the surgeon, **Medacta produces the MyKnee guides using 3D printing, in-house sintering technology**. The guides are then shipped and ready for surgery.

*The user interface may change without prior notice. The images shown above are for indicative purposes only showing the type of information provided by the interactive website.

REFERENCES

[1] Anderl W et al, CT-based patient-specific vs. conventional instrumentation: Early clinical outcome and radiological accuracy in primary TKA; *Knee Surg Sports Traumatol Arthrosc.* 2014. **[2]** Koch P, Müller D, Pisan M, Fucentese S, Radiographic accuracy in TKA with CT-based patient-specific cutting block technique; *Knee Surg Sports Traumatol Arthrosc.* 2013 Oct;21(10):2200-5. **[3]** Nabavi A et al, Patient-specific instrumentation for total knee arthroplasty: evaluation with computer-tomography tools; *Journal of Orthopaedic Surgery* 2017, Volume: 25(1) 1-8 **[4]** Leon V, Patient matched technology vs conventional instrumentation and CAS, Poster at the 13th EFORT Congress, Berlin, May 23-25 2012. **[5]** Dussault M, Goldberg T, Greenhow R, Hampton D, Parry S, Slimmack M - Preoperative planning accuracy of MyKnee system. *M.O.R.E. Journal.* 2012 May; 2:22-25. **[6]** Müller D et al, CT based patient specific cutting blocks for total knee arthroplasty: technique and preliminary radiological results. Podium Presentation at the 71st Annual Congress of the SSOT, Lausanne, Switzerland, June 22-24, 2011. **[7]** Goldberg T et al, CT-Based Patient-Specific Instrumentation Is Accurate for TKA: A Single-Surgeon Prospective Trial; *Bone Joint Journal* vol. 95-B no. SUPP 34 325, 2013. **[8]** Goldberg T et al, CT-Based Patient-Specific Instrumentation Is Effective in Patients With Pre-Existing Hardware about the Knee; *Bone Joint Journal* vol. 95-B no. SUPP 34 326, 2013. **[9]** Trong M, Helmy N et al, Improved positioning of the tibial component in unicompartmental knee arthroplasty with patient-specific cutting blocks; *Knee Surg Sports Traumatol Arthrosc.* 2014 Jan, Epub ahead of print. **[10]** Baldo F, Boniforti B, Patient-specific cutting blocks for total knee arthroplasty: preoperative planning reliability. *J Orthopaed Traumatol* 2011; 12 (Suppl 1): S23-S88. **[11]** Goldberg T, MyKnee economical and clinical results. Podium Presentation at the 6th M.O.R.E. International symposium, Stresa, Italy, May 13-14, 2011. **[12]** Koch P, MyKnee System : A new vision in total knee replacement. *Leading Opinions - Orthopédie & Rheumatologie* 2, 2011: 32-35. **[13]** Gagna G, Aspects économiques de la technologie sur mesure MyKnee en chirurgie prothétique du genou, Podium Presentation at the SOFCOT Annual Meeting, Paris, November 11-14, 2012. **[14]** Lyras N et al, Restoration of the Mechanical Axis in Total Knee Arthroplasty Using Patient-Matched Technology Cutting Blocks. A Retrospective Study of 132 Cases; *Arch Bone Jt Surg.* 2017; 5(5): 283-289. **[15]** KRitter MA, et al, Postoperative alignment of total knee replacement: its effect on survival. *Clin Orthop.* 1994; 299:153-156. **[16]** Kalairajah Y, et al, Blood loss after total knee replacement: effects of computer-assisted surgery. *J.BJS Br.* 2005 - Nov;87(11):1480-2. **[17]** Kalairajah Y, et al, Are systemic emboli reduced in computer-assisted knee surgery? A prospective, randomised, clinical trial. *J.BJS Br.* 2006 Feb;88(2):198-202. **[18]** Peersman G, et al, Prolonged Operative Time Correlates with Increased Infection Rate after Total Knee Arthroplasty. *Hospital for Special Surgery Journal* 2006 - Feb;2(1):70-2. **[19]** Data on file: Medacta **[20]** V. León: Revision of total knee arthroplasty with the use of patient-specific instruments: an alternative surgical technique, *Expert Review of Medical Devices* 2020, DOI: 10.1080/17434440.2020.1803737

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