





Tomorrow begins Today

So many innovations that were dreams in the past, are now a reality that impacts the way we live our lives. Advancing technologies are profoundly changing medicine, right before our eyes.

From this collective vantage point, we witness an extraordinary opportunity – to deliver meaningful medical breakthroughs that prolong and reshape the lives of patients everywhere. Together, we can solve this human health equation with the speed and ambition of a start-up and the global resources to fuel our mission.

Only with eyes for greatness and hands on details can we remain agile, responsive and poised to shape a future that benefits every person.

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“Life’s most persistent and urgent question is, what are you doing for others?”

- Martin Luther King, Jr.

At MicroPort, we believe every person has the right to high quality medical treatments



Who we are


MicroPort is a global medical devices company, founded on the belief that every person has the right to high quality medical treatments and to live longer and healthier lives.

As a premier medical solution provider, all our solutions are designed to deliver on that belief. Our close collaboration with doctors and medical societies helps us accelerate innovation and develop solutions to transform medical treatment.

The values we hold ground our purpose



Quality



Innovation



Integrity



Dedication

Global Access

With 12 MicroPort Offices and a broad network of solid distributor partnerships, we provide easy access to our products on all continents.



Restore stability and normal kinematics with the MicroPort Medial-Pivot Knee

Innovation that lasts

The Evolution® Medial-Pivot Knee delivers a legacy of 98.8% survivorship and 95% patient satisfaction that supports the design's ability to restore stability and natural kinematics.¹

Faster functional recovery²

Patients who underwent total knee arthroplasty (TKA) with the medial-pivot knee scored significantly better on the Forgotten Joint Score (FJS) than those who underwent a TKA with a modern posterior stabilized (PS) knee, particularly with regards to deep knee flexion and stability of the prosthesis.³

Evolution®



95%¹

Patient satisfaction



98.8%¹

Survivorship at seventeen years



600K+

Implanted to date

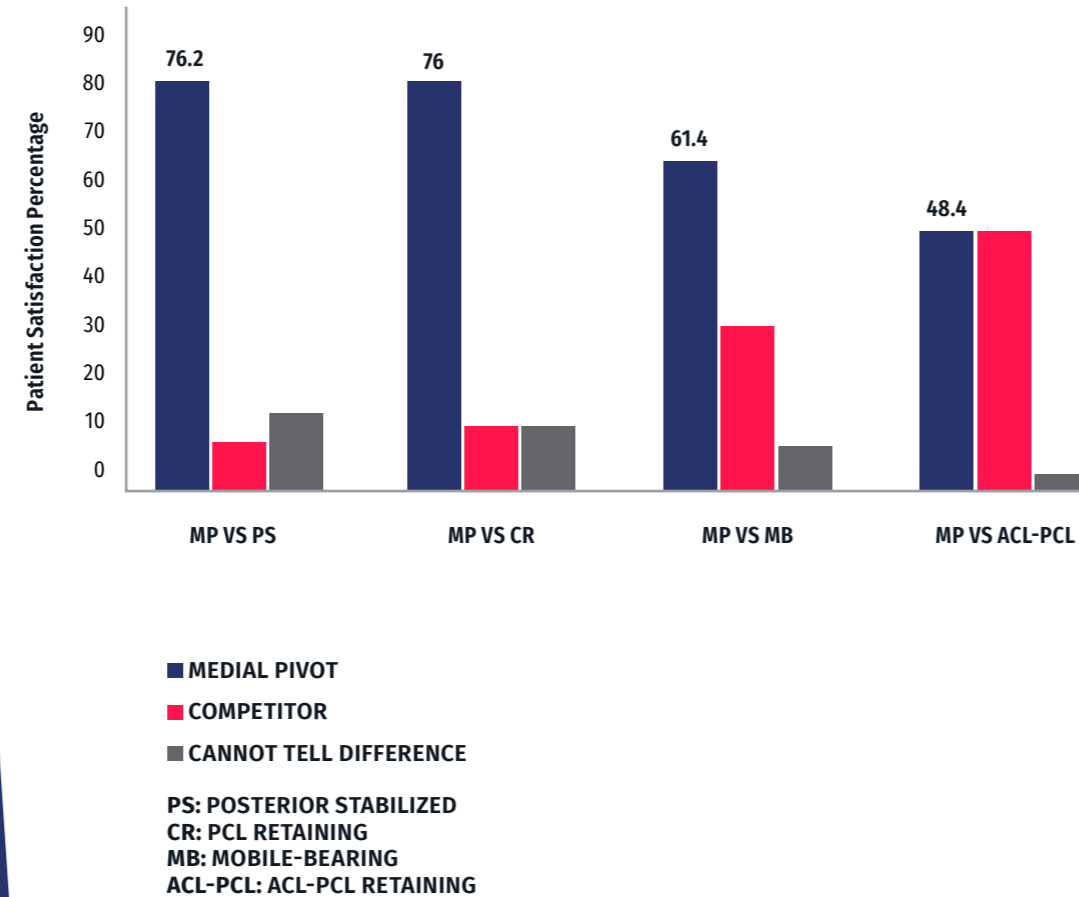


How does the MicroPort Evolution® Medial-Pivot Knee compare?

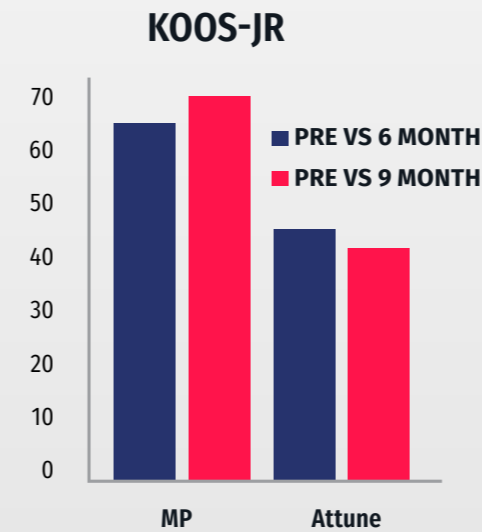
Through a Forgotten Joint Score, a patient-focused questionnaire used to assess awareness of their joint in everyday life, MicroPort ranked higher than Zimmer Biomet Persona®

- Forgotten Joint Score (FJS) taken at 1 year postoperative for 117 patients (57 MP and 60 Zimmer Persona PS).
- The Medial-Pivot TKA had a statistically significant higher overall FJS.
- Additionally, there was a statistical difference in favor of the Medial-Pivot TKA when patients were asked if they were aware of their artificial joint when standing up from a low-sitting position (deep knee flexion).

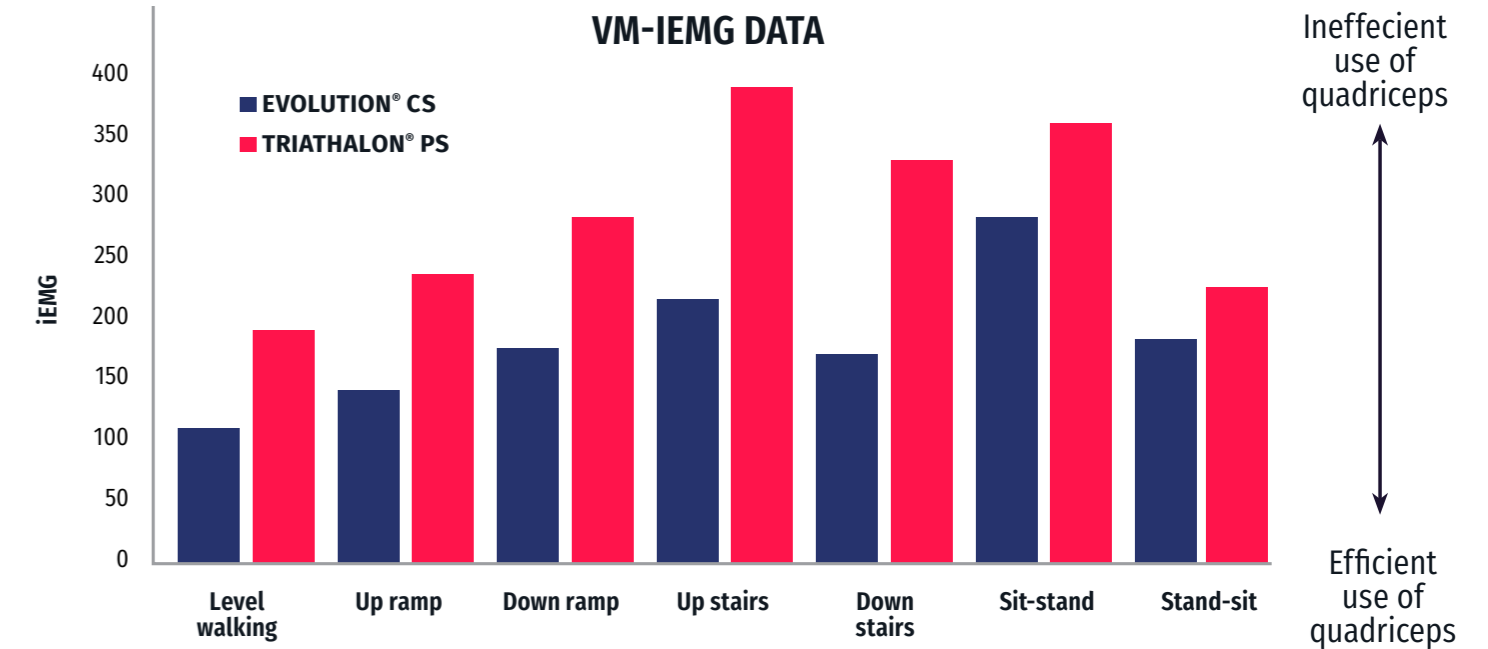
Patients prefer the Medial-Pivot over most competitive knee designs⁴



Higher 6 and 9 month KOOS-JR outcome scores over Depuy Synthes Attune⁵



Enhanced quadriceps efficiency over Stryker Triathlon⁶



The graph above demonstrates, through EMG data of the vastus-medialis (VM), the enhanced quadriceps efficiency found in patients with an Evolution® CS Knee over that of patients with a Triathlon® PS Knee.⁶



Match Your Patient's Anatomy

Kinematic Alignment

MicroPort is now combining the Evolution® Medial-Pivot knee with the Kinematic Alignment (KA) technique, a new solution that strives to increase patient satisfaction, a more natural feeling knee, and a higher functioning knee.

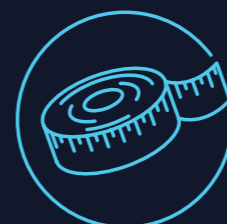
The combination of the Evolution® Medial-Pivot knee with KA is the latest in total knee replacement technology.

WE'VE REMOVED THE GUESSWORK AND THE ADDED TECHNOLOGY COSTS BY UTILIZING MECHANICAL INSTRUMENTS AND THE *MEASURE TWICE, CUT ONCE* METHODOLOGY...

To restore normal kinematics, implant design must match the native articular surface in the native position.



Instruments designed for an individualized knee implantation



Easily measure cartilage wear and reproducibly dial in medial and lateral bone resections.



Optimize ligament tension intra-operatively



Personalized alignment for each patient



The MPO approach allows surgeons to offer patients the combined benefits of KA and Medial-Pivot



We'll be your guide.

Prophecy[®] Knee Pre-Operative Navigation Guides

Deliver accurate resections for optimal function and balanced loading to the prosthesis. The guides can be a reliable tool for driving down overall instrumentation demands and promoting more intra-operative efficiency.

- Simple instrumentation
- Reduced instrument trays
- Improved operating room time
- Accurate results



Alignment and resection



Alignment only



Evolution®

- Second Generation Medial-Pivot Knee philosophy
- Cemented and cementless femoral components
- Cemented and cementless (BioFoam®) tibia options
- 5A* Rating in ODEP



Evolution® NitrX™

- TiNbn Coating
- Increased hardness and wettability⁹⁻¹²
- High corrosion resistance¹³⁻¹⁵



Evolution® Stemmed Femur

- 5° stem valgus orientation
- Medial-Pivot insert
- Distal and posterior augments (4, 8 and 12mm)
- Straight and 360° (4-8mm) offset adapters



Evolution® Stemmed Tibia

- Modular Keel and 360° offset (4-8mm) adapters
- 5, 10 and 15mm augments
- Cemented and cementless distal stems

Evolution® CCK

- Medial-Pivot stability before 80° of flexion
- 4° internal / external rotation on articulating surface
- 5° femoral stem housing
- Distal and posterior augments 4, 8 and 12mm





Evolution[®] Revision

Clinically established line of revision total knee systems

Built on a 20-year, clinically established heritage of patient satisfaction and survivorship.⁷ The system maintains the proven kinematic benefits of a medial-pivot design, while also offering surgeons intraoperative flexibility to meet various patient needs.⁸

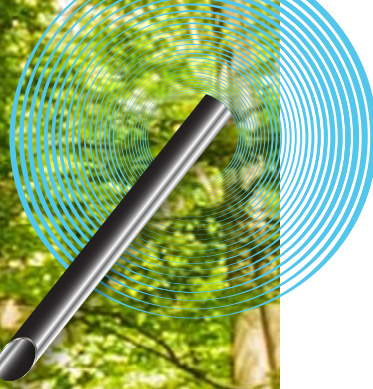
Evolution[®]





Choose Your PATH[®]

GET YOUR PATIENTS HOME FASTER



With over 50 years of clinical history, MicroPort Orthopedics has extensive experience in all aspects of Total Hip Arthroplasty (THA). We offer a full range of acetabular systems and femoral stems in various styles and philosophies to complement our range of surgical approaches.

With a complete focus on rapid recovery surgical approaches, MicroPort has partnered with pioneering surgeons in the development of a number of tissue-sparing surgical hip approaches.

Help Patients Get Home Faster.

Tissue sparing surgical hip approaches like SuperPath[®] and AnteriorPath[®], complemented by a full range of hip replacement implants and instrumentation, can help patients achieve full function, faster.



Anterior Path[®]

PORTAL ASSISTED ANTERIOR TOTAL HIP APPROACH

Anterior Path[®] is an anterior, portal-assisted approach for hip replacement that utilizes a portal to gain direct access to the acetabulum, offering direct visualization and in-line preparation of the acetabulum and femur.

The use of the portal allows for a transverse incision to be made more superior and lateral, minimizing many challenges related to the femur and wound healing.



A transverse, femoral-based incision is made more superior and lateral.



The use of a portal to prepare the acetabulum allows direct visualization and in-line reaming and cup impaction.



The placement and orientation of the incision create excellent femoral exposure, alleviate challenges related to femoral preparation, and allow the use of any stem philosophy.



1.6^{16,17}
versus 3.2 days
length of stay



2.3%^{16, 18}
vs 4.2% readmission
rate



91.5%^{16, 18}
vs 27.3% discharged
home

SuperPath®

DIRECT SUPERIOR PORTAL ASSISTED TOTAL HIP APPROACH

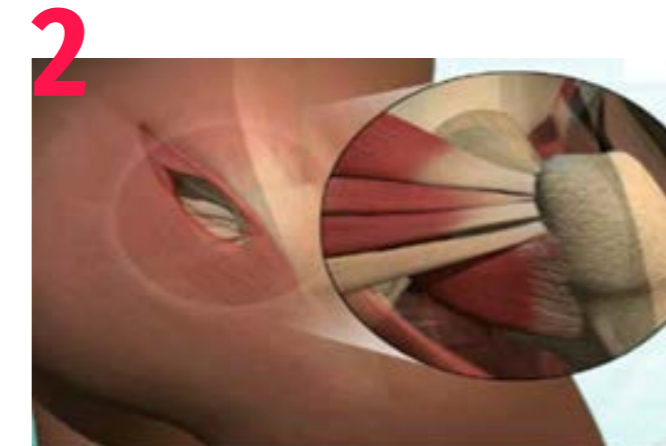
SuperPath® is a portal assisted total hip approach that accesses the capsule superiorly through the interval between the gluteus medius and piriformis without requiring the cutting of any muscles or tendons. The femur is prepared with the head and neck intact reducing the chance of fracture. The acetabulum is prepared under direct visualization and a cannula facilitates the use of inline instrumentation.

The SuperPath® Direct Superior Portal Assisted Hip Approach is a tissue-sparing approach where no muscles or tendons are cut.



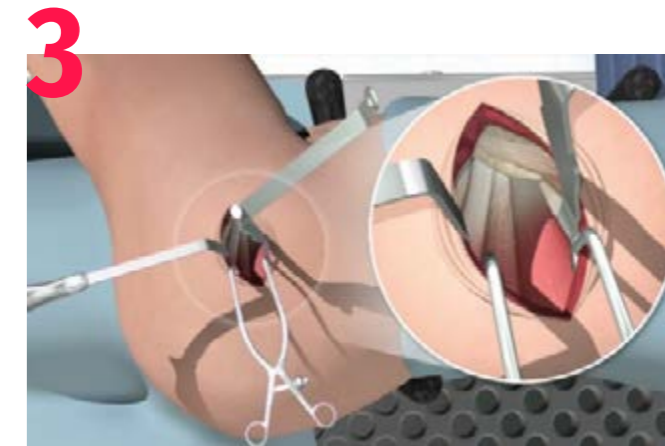
Superotrochanteric Incision

Skin incision inline with the femur aligning with the muscle fibers of the gluteus muscles.



Full Soft Tissue Preserving

Gluteus muscles, piriformis tendon, and other external rotators can be preserved enabling faster return to function.



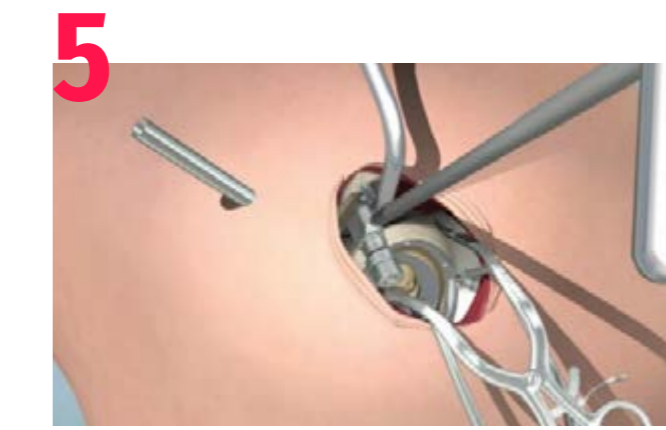
Single Line Superior Capsulotomy

Superior capsulotomy inline with the skin incision preserves the integrity of the hip capsule.



In-Line Femoral Preparation

Preparation with the femoral head and neck intact shows anatomical version and limits the possibility of calcar fracture.



Cannula assisted Acetabular Approach

Direct visualization of anatomical landmarks facilitate proper placement of implants.



Profemur® TL

- Primary wedge fixation in proximal cortical bone
- Tapered distal geometry
- 7A* rating on ODEP for modular version



Profemur® X^m

- Cemented stem; force closed fixation design
- Highly polished, forged CoCr
- 100% survivorship at 6.5 years of follow up¹⁹



Profemur® L

- Full hydroxyapatite coated
- Self-locking, dual tapered
- 95,4% survivorship at 9 years²⁰
- 10A* ODEP rating for modular version



Profemur® Preserve

- Short Stem
- Metaphyseal fixation



Profemur® Gladiator

- Accomodates preference in surgeon's philosophy on stem design and fixation, with one single set of instruments
- Tapered wedge design



Profemur® Z

- Dual-tapered geometry
- Fit without fill technique
- 95,8% survivorship modular stem at 12 years follow-up²¹



Profemur® R

- The flexible revision option
- Metaphyseal fit and fill
- 96% survivorship at 10 years follow up.²²

ACETABULAR SYSTEMS



Procotyl® P

- Hemispherical shape
- Accepts highly cross-linked A-Class® and E-Class® polyethylene, and ceramic liners
- Machined with plasma spray (PS) and additive manufacturing (AM) options
- Solid or with 3 holes for additional screw fixation
- Available with hydroxyapatite (HA) or Calcium Phosphate (CaP) coating options



Procotyl® P Revision

- Multi-hole acetabular shells feature a hemispherical shape
- Available in sizes from 46mm to 76mm in 2mm increments
- Augments available in 4mm increments from size 46mm to 74mm in two thicknesses (12mm and 18mm)
- Optional screws designed with anti-backout feature for augment fixation only



Liberty

Double Mobility System

- Hemispherical design +2mm cylindrical extension at the rim
- Cemented, cementless, revision options



Biarticular

- Hemi-arthroplasty bipolar implant
- Preassembled shell and liner



Exclusif

- Pre-Assembled acetabular cup
- Intuitive and user friendly instrumentation
- Decreased ratio between shell OD and liner ID



Procotyl® C

Cemented Cup

- Hemispherical, low profile design
- A-Class® Highly cross-linked polyethylene



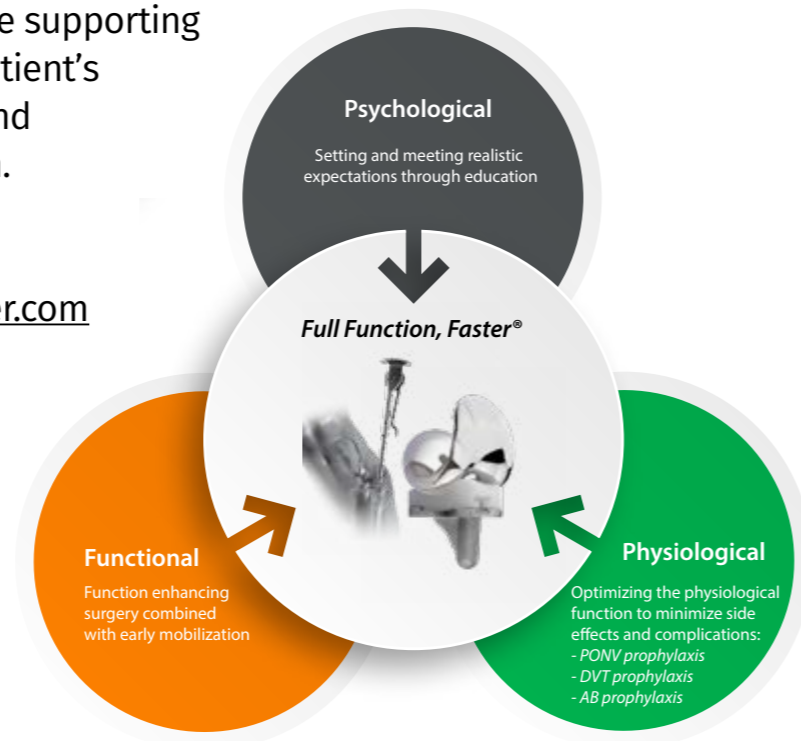
Full Function, Faster® Enhanced Recovery Protocols

Full Function, Faster® is a multifactorial patient treatment pathway for total joint replacement surgery.

This is achieved through the combined efforts of the key clinical stakeholders during the treatment, in conjunction with the use of a function enhancing MicroPort solution.

This concept is designed to use the latest clinical evidence supporting acceleration of the patient's functional recovery and perceived satisfaction.

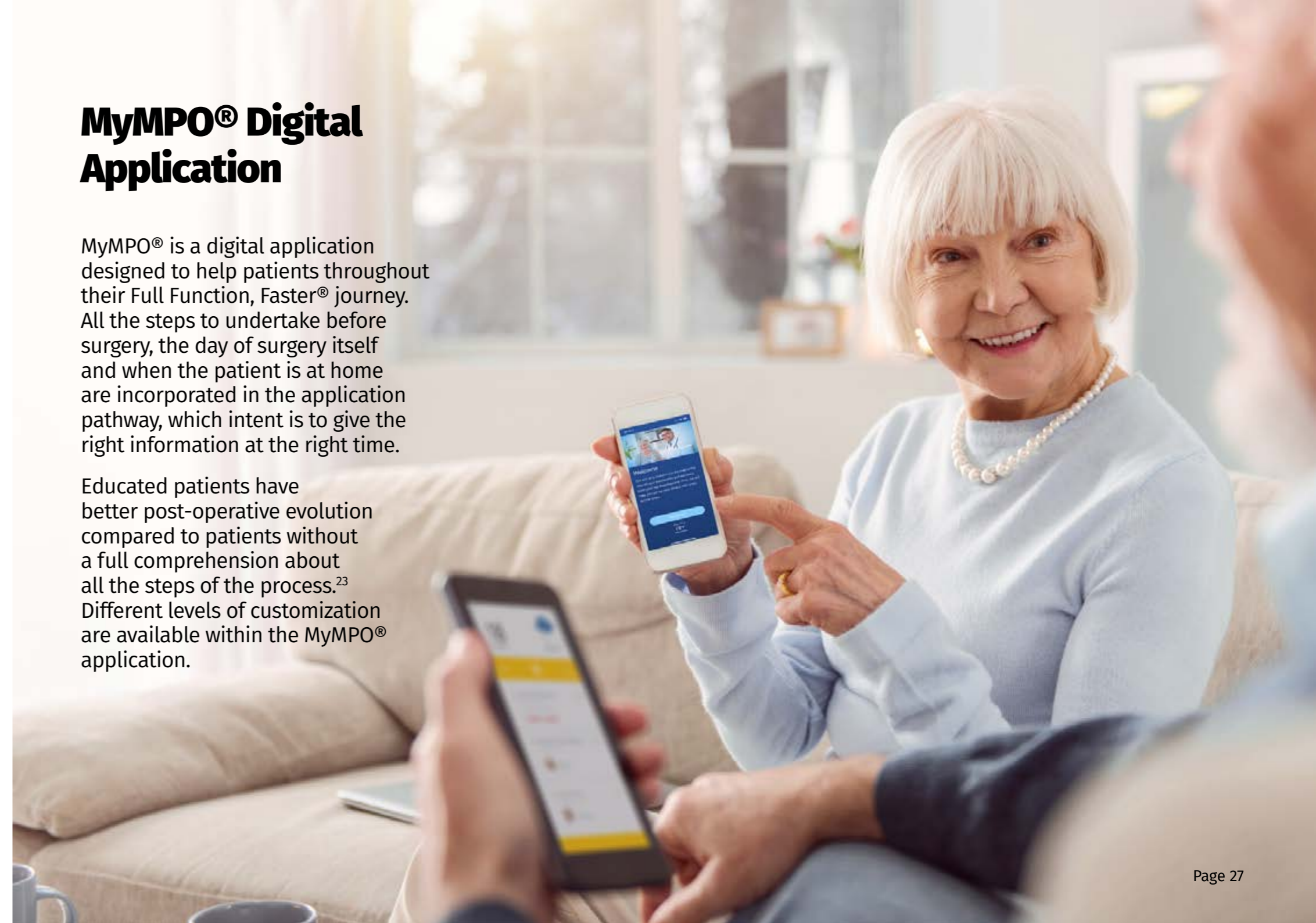
Learn more on:
www.fullfunctionfaster.com



MyMPO® Digital Application

MyMPO® is a digital application designed to help patients throughout their Full Function, Faster® journey. All the steps to undertake before surgery, the day of surgery itself and when the patient is at home are incorporated in the application pathway, which intent is to give the right information at the right time.

Educated patients have better post-operative evolution compared to patients without a full comprehension about all the steps of the process.²³ Different levels of customization are available within the MyMPO® application.





With the continuous evolvement of the orthopedic market we have founded our www.microportjointacademy.com with the aim to:

- Offer best in class medical education to surgeons;
- Offer an international teaching faculty of highly specialized key opinion leaders, focused on providing the latest science based insights and techniques;
- Create a surgeon-to-surgeon community facilitating each surgeon to reach out to their peers.



Individual Training

Surgical Observation Visits
JAM Labs



Classroom Training

Cadaveric Masterclass
Didactic Events
Webinars

*The capacity to learn is a gift,
The ability to learn is a skill,
The willingness to learn is a choice.*

Brian Herbert



References

1. Macheras GA et al A long term clinical outcome of the Medial Pivot Knee Arthroplasty System. *Knee*. 2017 Mar;24(2):447-453
2. Cassard et al, Outpatient TKR – 30 days readmission rate and complications, Full Function Faster meeting, London, 2018
3. Van Overschelde P, Parker A Preliminary Short-term Outcome of first 300 consecutive cases of second generation Medial-Pivot Total Knee replacement System EKS Arthroplasty Conference - eposter - London - April 20-21, 2017
4. Pritchett, J. Patients prefer a bicruciate-retaining or the medial-pivot total knee prosthesis. *JOA*. 2011; 26 (2): 224-8.
5. Data on file at MicroPort Orthopedics.
6. LaMontagne M, et al. 2014 Quadriceps and Hamstring Muscle Activation and Function Following Medial Pivot and Posterior Stabilized TKA: Pilot Study
7. Based on a retrospective study of Advance® Medial-Pivot. Macheras GA et al A long term clinical outcome of the Medial Pivot Knee Arthroplasty System. *Knee*. 2017 Mar;24(2):447-453
8. Batra S et al “Superior patient satisfaction in medial pivot as compared to posterior stabilized total knee arthroplasty: a prospective randomized study.” *Knee Surg Sports Traumatol Arthrosc*. 2020 Nov 5. doi: 10.1007/s00167-020-06343-4. Epub ahead of print. PMID: 33155090
9. MPO Data on file – Evolution® NitrX™ vs uncoated. Bench test results not necessarily indicative of clinical performance.
10. Dennis DA, Komistek RD, Mahfouz MR, Haas BD, Stiehl JB. Multicenter determination of in vivo kinematics after total knee arthroplasty. *Clin Orthop Relat Res*. 2003
11. Macheras GA et al A long term clinical outcome of the Medial Pivot Knee Arthroplasty System. *Knee*. 2017 Mar;24(2):447-453
12. http://dot-coatingusa.com/images/pdf/protection_against_allergic_reactions_through_ceramic_coatings.pdf
13. Kirmanidou, Yvoni et al. “New Ti-Alloys and Surface Modifications to Improve the Mechanical Properties and the Biological Response to Orthopedic and Dental Implants: A Review.” *BioMed Research International* 2016 (2016): 2908570. PMC. Web. 1 Oct. 2018
14. R. Thull, Corrosion behavior of dental alloys coated with Titanium Niobium Oxinitride, *Deutsche Zahnärztliche Zeitschrift* 1991Nov., Universität Würzburg
15. Test report DOT GmbH and Nordum GmbH, Examination of influence of PVD – coatings to the ion release of CoCrMo-alloys in SBF – buffer, 2006
16. As compared to traditional surgery. Gofton, W; Chow, J; Olsen, KD; Fitch, DA. Thirty-day readmission rate and discharge status following hip arthroplasty using supercapsular percutaneously-assisted total hip surgical technique. *Int Orthop*. 2015; 39:847-851
17. As compared to traditional surgery. AHRQ HCUPnet (2012) Agency for Healthcare Research and Quality H-CUPnet Database, ICD-9-CM Code. Accessed 4 Sept 2014
18. As compared to traditional surgery. Pugely AJ, Callaghan JJ, Martin CT, Cram P, Gao Y (2013) Incidence of and risk factors for 30-day readmission following elective primary total joint arthroplasty: analysis from the ACS-NSQIP. *J Arthroplasty* 28(9):1499-1504. Doi:10.1016/j.arth.2013.06.032.81.51 for United States in 2011. <http://hcupnet.ahrq.gov/HCUPnet.jsp>. Accessed 4 Sept 2014
19. Vanbiervliet J, Somers JF “Excellent mid-term results of a new polished tapered modular cemented stem: a study of 113 hipreplacements with minimum 5-year follow-up” *Hip Int*. 2017 Feb 18 [Epub ahead of print]
20. Fitch DA “Mid-to long-term outcomes of a modular femoral stem in total hip arthroplasty” *Hip Int* 2016; 26 (Suppl2): S3-S55
21. Fitch DA et al. “Long-term survivorship and complication rate comparison of a cementless modular stem and cementless fixed neck stems for primary total hip replacement” *International Orthopaedics*. September 2015, Volume 39, Issue 9, pp 1827–1832
22. Köster G et al “5-to 10-Year Results Using a Noncemented Modular Revision Stem Without Bone Grafting” *J Arthroplasty*. 2008 Oct;23(7):964-70
23. Campbell KJ, Louie PK, Bohl DD, Edmiston T, Mikhail C, Li J, Khorsand DA, Levine BR, Gerlinger TL *J Bone Joint Surg Am* 2019; 101:145-51



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