

NAVIO[◇] Surgical System

Powering the JOURNEY[◇] Partial Knee System

Available for unicondylar and patellofemoral joint replacement, the NAVIO system delivers the precision of robotics through handheld instrumentation. Intraoperative planning software uses soft-tissue kinematics and 3D surface capture to predict joint laxity, enable precise implant positioning, and customize a solution for each patient without requiring a preoperative CT scan.

The NAVIO System Advantage

Handheld robotic assistance

- Precise execution of bone resection within the defined surgical plan.

CT-free technology

- Direct anatomic mapping paired with kinematic registration recreates a virtual 3D representation of patient anatomy.

Customizable surgical planning

- Intraoperative, patient specific implant localization and soft-tissue balance.

Surgeon controlled

- No reliance on representative to drive case forward. Surgeon remains in full control.

Portable

- Small and compact with a minimal OR footprint.
- Simple transportation between OR rooms and health care facilities

Open implant architecture

- Support for the Smith & Nephew JOURNEY[◇] UNI and PFJ knee systems.
- Delivers the first OXINIUM[™] Oxidized Zirconium option to robotics-assisted joint replacement.
- Enables the surgeon use their implant of choice.



JOURNEY[◇] Partial Knee System

The JOURNEY UNI and PFJ knee systems have been engineered to empower patients with a renewed right to an active lifestyle and seek to bridge the gap of improving patient satisfaction and implant longevity through function, motion, and durability. Paired with the NAVIO[°] Surgical System, JOURNEY Partial Knee procedures can utilize the benefits of intraoperative planning software and robotic assistance to enable precise implant placement and soft-tissue balance.

The JOURNEY Partial Knee System Advantage

Function

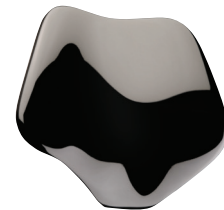
- Femoral design exhibits a 10° anatomic bend to mimic natural femur anatomy and provide optimal bone coverage.
- Round on flat design allows all 7 femur sizes to match all 6 tibia sizes.
- Consistent JOURNEY UNI contact area for +/-12° of varus/valgus misalignment to help prevent edge loading.
- Anatomic shape of JOURNEY PFJ enables optimal bone coverage to help reduce stress shielding and bone resorption.

Motion

- Round on flat JOURNEY UNI design intended to allow patient's native ligaments to drive motion.
- Femoral component features a 15° anatomic bend to allow for more normal patella tracking and to avoid impingement.
- Engineered to allow up to 140° of flexion.
- Deepened and lateralized trochlear groove of the JOURNEY PFJ intended to drive optimal patella tracking.

Durability

- <0.0035% nickel content.
- Components are made with OXINIUM[°] alloy, an advanced material shown to be 4,900 times more resistant to abrasion¹, more than twice as hard², and has a coefficient of friction that is up to half that of CoCr³.



JOURNEY UNI Knee Replacement supported with the NAVIO Surgical System

1. Hunter, G., and Long, M. Abrasive Wear of Oxidized Zr-2.5Nb, CoCrMo, and Ti-6Al-4V Against Bone Cement. 6th World Biomaterials Cong. Trans., Society for Biomaterials, Minneapolis, MN, 2000, p. 835.

2. Long, M., Riestler, L., and Hunter, G. no-hardness Measurements of Oxidized Zr-2.5Nb and Various Orthopaedic Materials. Trans. Soc. Biomaterials, 21, 1998, p. 528.

3. Poggie RA, Wert J, Mishra A, et al (1992). Friction and wear characterization of UHMWPE in reciprocating sliding contact with Co-Cr, Ti-6Al-4V, and zirconia implant bearing surfaces. Wear and Friction of Elastomers, Denton R and Keshavan MK, Eds., West Conshohocken, PA: ASTM International.

[°]Trademark of Smith & Nephew.