The power of robotics in your skilled hands

The NAVIO Surgical System provides accuracy, flexibility and confidence utilizing real-time imaging (without the need for preoperative CT), hand-held robotics, a portable cart, and multiple partial and total knee implant options in an economically sound platform.
The need for improvements in healthcare

Patients are demanding improved quality of life

10–30% dissatisfaction

Knee arthroplasty has a highly successful track record as a surgical intervention, yet patient satisfaction ratings indicate 10–30% of patients remain dissatisfied.2–6

Running an effective practice is dependent on reproducible results and improving patient outcomes7

Reduce readmissions and complications7

Readmissions are considered to be a quality indicator in many healthcare systems and in many instances hospitals are financially penalized for avoidable readmissions (e.g. Medicare Hospital Readmission Reduction Program)8

Why NAVIO®?
The NAVIO Surgical System is designed to aid surgeons in component positioning, ligament balancing and bone preparation – key factors that can drive implant survivorship.9,10

The NAVIO Surgical System does this without requiring a CT scan and allows surgeons, staff and patients the experience of a patient-specific plan without the extra steps associated with other image-based robotic-assisted technologies that can increase cost or delay surgery.1

Accuracy

- Real-time imaging
- Handheld robotics
- Portable cart

Flexibility

- Multiple implant options
- Economically sound1

Confidence
Next generation of robotics

How it works

Image-free registration
- A 3D model of the patient’s cartilage and bone is captured through direct surface mapping, eliminating the need for a CT scan

Patient specific planning
- 3D implant planning provides confidence in sizing, placement, and resection depth
- For total and unicompartamental knees, patient-specific planning allows the surgeon to place implant components virtually and predict postoperative joint laxity at the time of surgery without being locked into a plan before verifying the severity of the disease
- Soft tissue balancing can be viewed throughout the full range of motion

Robotics-assisted bone preparation
- Patented NAVIO™ handheld burring technology removes only the bone determined by the surgeon plan
- Bone removal is seen on the NAVIO screen in real-time allowing the surgeon to continually assess patient anatomy against the plan

Confirmation
- For UKA and TKA, confirm postoperative joint laxity versus planned
- Varus/valgus balance is assessed to confirm the achieved long-leg alignment
- Flexibility to perform and evaluate ligament releases
Real-time imaging

Eliminates time and costs associated with preoperative CT imaging

- Simplifies the surgical process
- Reduces radiation exposure for patients
  - The mean dose associated with the preoperative CT for robotic-assisted knee arthroplasty is equivalent to 48 chest radiographs\textsuperscript{11}
  - Furthermore, one or more additional CT scans were obtained in 25% of patients, according to one study of 211 patients\textsuperscript{11}
- Enables office staff to focus on patient care by eliminating the need to spend time managing payer approvals for preoperative imaging
- Saves the healthcare system incremental cost of CT

**Image-based robotics-assisted workflow**

- Diagnostics
- CT
- Preop planning
- Intraop planning and surgery
- Recovery

**NAVIO° image-free robotics-assisted workflow**

- Diagnostics
- Intraop planning and surgery
- Recovery
Provides the confidence of handheld robotics

The NAVIO° handpiece accurately removes bone identified by the surgeon approved, patient-specific plan\textsuperscript{12}

The NAVIO handpiece offers a unique and flexible approach to knee arthroplasty
- Places robotics-assisted surgery in your hands
- Allows flexibility of multiple bone removal options [Bur | Saw | Combo]
- Provides accurate burring for bulk bone removal or fine tune adjustments

Portable cart with a small footprint
- Easily move the cart from OR to OR or facility to facility, providing flexibility and efficiencies
- Features simple calibration and a footprint designed for use in the surgery center or hospital
Implant options

Provides the flexibility of multiple implant options for partial and total knees to accommodate surgeon and patient needs

Supports the JOURNEY™ II Total Knee which is designed for normal function, smoother recovery and improved patient satisfaction

Components made with OXINIUM® alloy, an advanced material shown to be 4,900 times more resistant to abrasion, more than twice as hard, and has a coefficient of friction that is up to half that of CoCr.

Supports STRIDE UNI, designed to be optimized for robotics.

Offers a selection of implant options with a strong clinical heritage including ZUK UNI, GENESIS™ II and LEGION™ Primary.

*NAVIO with JOURNEY II XR not available for commercial use until 2018
Economically sound

A cost effective approach to building a cutting-edge surgical practice, designed to deliver outcomes predictable to the plan

- Distinguishing technology can draw patient interest and grow case volume
- Potential to increase patient volume by offering advanced surgical techniques and increasing access to unicompartmental and patellofemoral procedures
- Episode of care costs are decreased with the elimination of a preoperative CT
For detailed device information, including indications for use, contraindications, effects, precautions and warnings, please consult the product’s Instructions for Use (IFU) prior to use. Promotion and advertising of Smith & Nephew products is to be on-label and consistent with authorized indications and intended uses as stated in the product’s IFU. The information presented is solely for informational and educational purposes. Smith & Nephew does not provide medical advice. This information is not intended to serve as medical advice. The information contained herein may not be appropriate for all jurisdictions.

References

10. Siddique, N., Ahmad, Z. "Revision of Unicondylar to Total Knee Arthroplasty: A Systematic Review” The Open Orthopedics Journal 2012;6; (Suppl 2, N2) 268-275.
15. LEGION® Primary Knee System: A Prospective, Multi-Center, Non-Randomized, Safety and Efficacy Clinical Study of the LEGION Primary Knee System for Primary Total Knee Replacement in Subjects with Degenerative Knee Disease. 10-K300-95301, 29 April 2014. Version 1.0.
16. 2016 UK National Joint Registry. Figure 3.16 (al. Page 100.
21. Smith & Nephew Literature: 06961 V1 NAVIO Surgical System Case Study – Shasta Regional Medical Center 08/16.
22. Smith & Nephew Literature: 07762 V1 NAVIO Surgical System Case Study – St. Mary’s Medical Center 03/17.

To learn more about NAVIO® robotics-assisted orthopaedic surgery or to set up a demonstration, visit www.NAVIOrobotics.com

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