



Signature Personalized Patient Care*

Utilized with the Oxford® Partial Knee and
the Vanguard Complete Knee System

BIOMET®

One Surgeon. One Patient.

Over 1 million times per year, Biomet helps one surgeon provide personalized care to one patient.

The science and art of medical care is to provide the right solution for each individual patient. This requires clinical mastery, a human connection between the surgeon and the patient, and the right tools for each situation.

At Biomet, we strive to view our work through the eyes of one surgeon and one patient. We treat every solution we provide as if it's meant for a family member.

Our approach to innovation creates real solutions that assist each surgeon in the delivery of durable personalized care to each patient, whether that solution requires a minimally invasive surgical technique, advanced biomaterials or a patient-matched implant.

When one surgeon connects with one patient to provide personalized care, the promise of medicine is fulfilled.

Signature Personalized Patient Care

Surgeon Designed. Patient Matched

Encompassing a range of surgical applications, the Signature system addresses anatomic individuality with an image-based approach to interactive preoperative planning, visualization and creation of patient-specific surgical positioning guides.

System Competencies

Signature Online Management System

The Signature Online Management System is the comprehensive Signature system case management site.

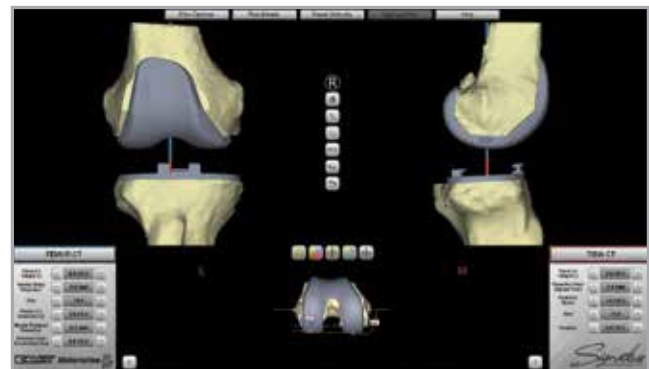
- Case management
- Imaging center interface
- Imaging protocols and reference tools
- Process status
- Surgeon planning preferences
- Access to Signature Planning Suite case plans



Signature Planning Suite

Preoperative visualization and planning based on default values or surgeon-specific preferences generate the patient-specific plan.

- Intuitive software layout
- Allows for surgeon fine-tuning of implant position
- Multitude of visualization options, including transparent bone, implant and retained hardware feature



Positioning Guides

Signature positioning guides embody the preoperative surgical plan as the basis for establishing implant position utilizing femoral and tibial pin placement.

- Selective Laser Sintered manufacturing optimizes patient-specific guide configuration and fit
- Incorporation of standard instrumentation for intraoperative visualization and bone resections
- Bone models accompany positioning guides for preoperative surgeon evaluation and intraoperative verification



Signature Personalized Patient Care

Utilized with the Oxford® Partial Knee

Signature Partial Knee Planning Software

The Signature system's partial knee application utilizes MRI imaging to provide a consistent three-dimensional data set of the patient's anatomy to enhance efficiency, and simplify partial knee arthroplasty. The intuitive layout of the Signature Partial Knee Planning Software provides a multitude of preoperative visualization options to fine-tune implant size and position and generate Signature positioning guides.

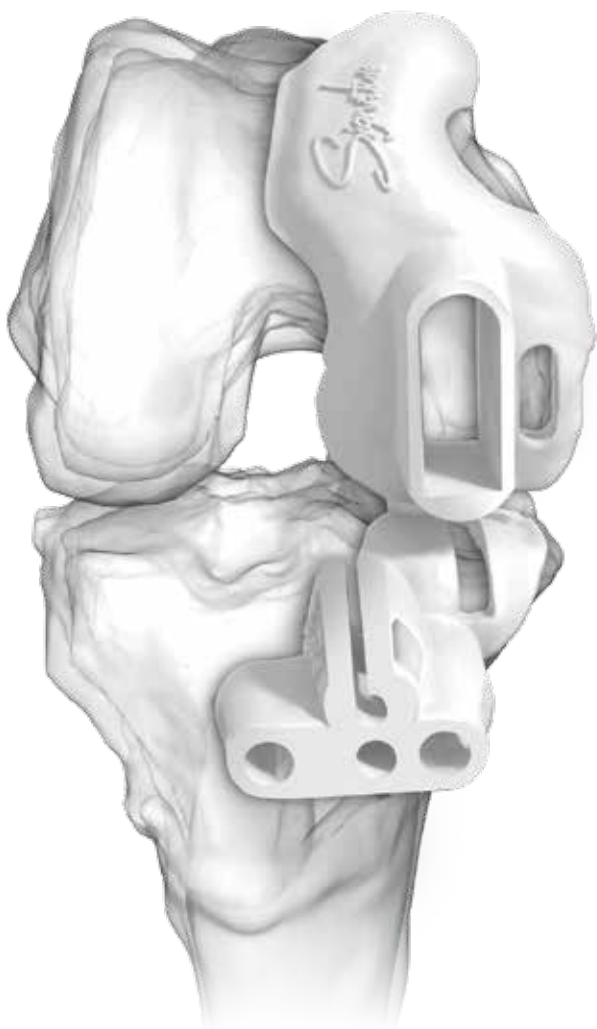
All Signature partial knee cases are planned as both partial and total knee applications based on surgeon preferences, allowing the surgeon to visualize critical anatomy and ultimately identify and approve the appropriate patient specific preoperative plan.

- Intuitive user interface and functionality
- Five bone states provide a multitude of visualization options
- Transparent bone and/or implant views
- Allows for fine-tuning of femoral and tibial implant sizing and position
- Surgeon-approved plan values dictate the femoral and tibial positioning guide design



Intraoperative Checks

Every opportunity has been taken to allow intraoperative positioning checks using conventional instrumentation. This functionality assists in surgical verification of the preoperative plan and aids in establishing confidence with the system.



Femoral and Tibial Positioning Guides

In the creation of patient-matched instrumentation, Signature femoral and tibial positioning guides embody the preoperative surgical plan as the basis for establishing femoral and tibial instrument positioning.

- Incorporation of standard cut blocks for intraoperative visualization and bone resections
- Tibial positioning guide provides captured slot for vertical cut
- Ability to adjust resection levels intraoperatively
- Integration of alignment instrumentation for verification
- Bone models, available for each case, represent the patient's distinct femoral and tibial anatomy and provide the following preoperative and intraoperative features:
 - Resection landmarks and values
 - Resection lines (representing resection planes)
 - Rotational axes of femur and tibia
 - Guide registration area

Signature Personalized Patient Care

Utilized with the Vanguard Complete Knee System

Signature Total Knee Planning Software

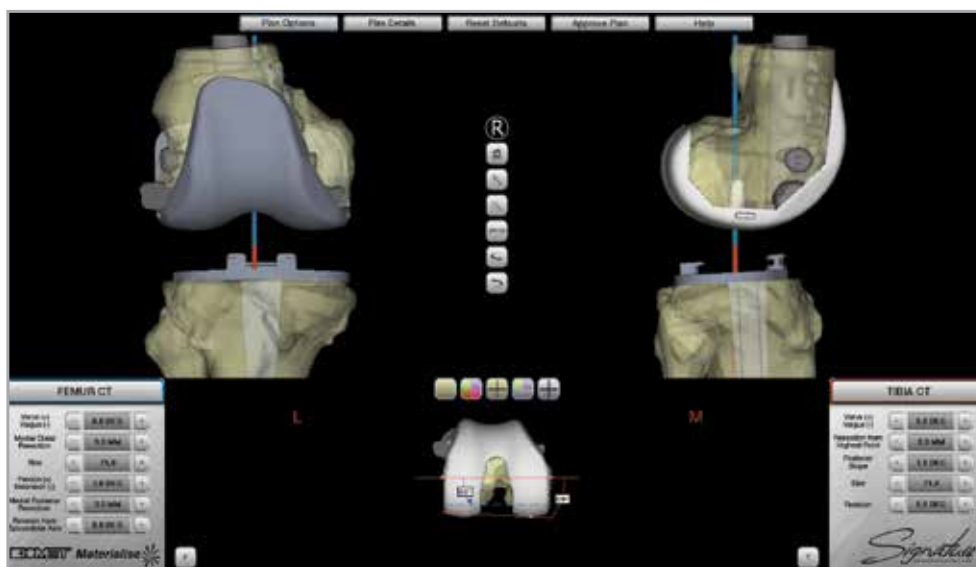
The Signature system's total knee application utilizes MRI or CT imaging, incorporating mechanical axis and traditional alignment philosophies. The intuitive layout of the Signature Total Knee Planning Software provides a multitude of preoperative visualization options to fine-tune implant size and position and generate Signature positioning guides. When used in conjunction with the Vanguard Complete Knee System's abundant femoral and tibial component size offerings, numerous tibial articulations and patellar sizes and thicknesses, optimizes clinical utility and addresses each patient's soft-tissue requirements.

- Intuitive user interface and functionality
- Five bone states provide a multitude of visualization options
- Implant library to meet surgeons implant preference

- Transparent bone and/or implant views
- Allows for fine-tuning of femoral and tibial implant sizing and positioning
- Surgeon-approved plan values dictate the femoral and tibial positioning guide design

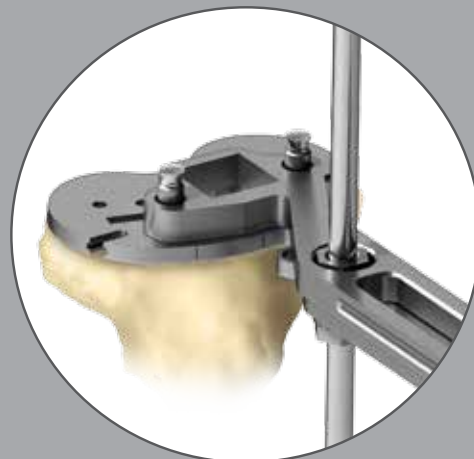
MRI or CT imaging modalities, provide a consistent three-dimensional data set of the patient's anatomy. While MRI has been the system's primary imaging modality, the CT process was developed to provide an alternative for patients with:

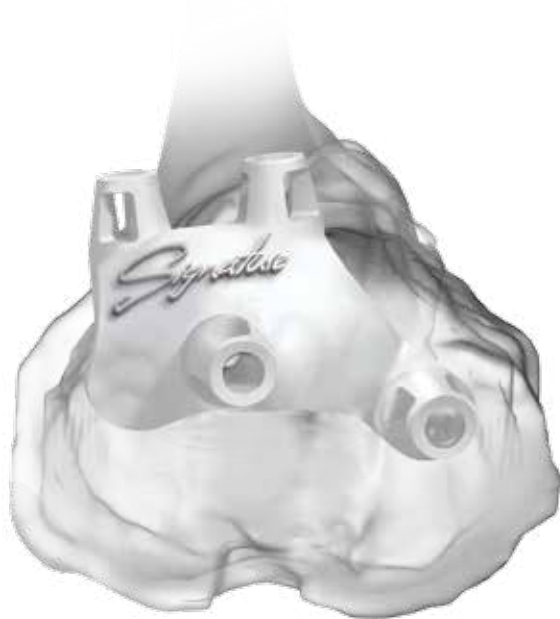
- Pacemakers
- High BMI (exceeds MRI gantry capacity)
- Large legs (do not fit within hi-res knee coil)
- Retained hardware at the knee
- Claustrophobia



Cut Block Positioning

Vanguard Resection Blocks may be aligned to a variety of positions, based upon surgeon preference. Femoral distal resection blocks may be aligned direct anterior or positioned anteromedial. Universal tibial blocks (non-side specific) should be aligned direct anterior, while anatomic blocks (side-specific) should be positioned anteromedial.





Femoral and Tibial Positioning Guides

In the creation of patient-matched instrumentation, Signature femoral and tibial positioning guides embody the preoperative surgical plan as the basis for establishing pin position.

- Incorporation of standard cut blocks for intraoperative visualization and bone resections
- Ability to adjust resection levels intraoperatively to address soft-tissue envelope
- Integration of standard alignment instrumentation for verification
- Bone models, available for each case, represent the patient's distinct femoral and tibial anatomy and provide the following preoperative and intraoperative features:
 - Resection landmarks and values
 - Resection lines (representing resection planes)
 - Rotational axes of femur and tibia
 - Guide registration area (except MRI femur)



Intraoperative Checks

Every opportunity has been taken to allow intraoperative positioning checks using conventional instrumentation. This functionality assists in surgical verification of the preoperative plan and aids in establishing confidence with the system.



Delivery System

The Signature Delivery System provides a configurable solution for efficient delivery and supply to the operating room. Utilizing femoral and tibial sizing from the preoperative plan, instrumentation may be condensed for each case.

*A collaborative partnership with Materialise N.V.

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