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I want that “next-generation” knee…

- High flex
- Potentially longer-lasting
- More normal feeling
- Gender-optimized
- Less-invasive procedure

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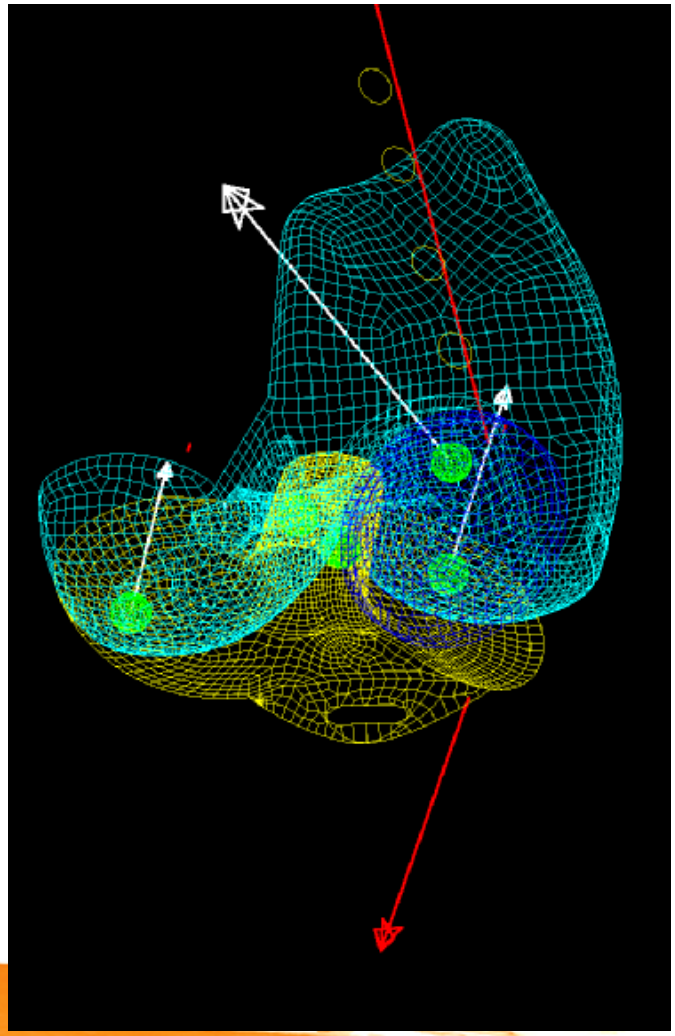
Advanced design technology

The last ten years have yielded an explosion in technology

- Fluoroscopy and MRI-derived in vivo kinematics
- Anatomic databases
- Computer modeling and simulation
- Advanced materials



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The JOURNEY II BCS Knee

- Designed to recreate the natural motion and feel of your original knee
- Sized appropriately for men and women
- Anatomic shapes and functions are recreated
- Made from advanced material that may extend the life of the implant

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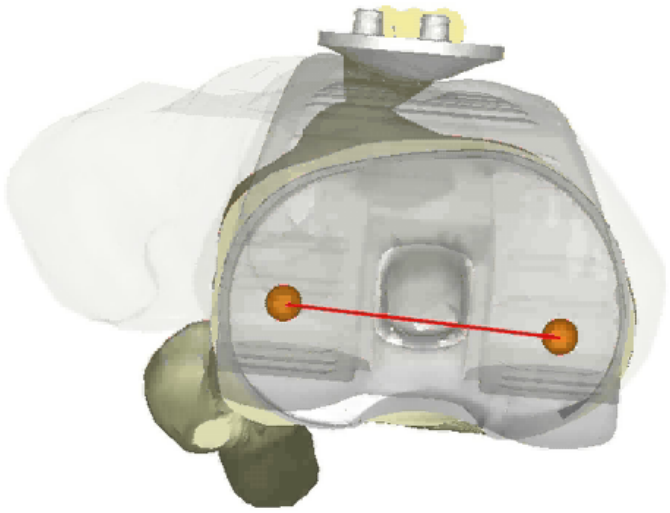
JOURNEY II BCS Knee motion



Two phases of motion:

1) -5 to 90° of flexion
   - The knee *pivots*
   - The outside compartment moves backwards very rapidly
   - The inside compartment moves only slightly from 0-100°

- 2) From 90-155° of flexion
   - Both compartments move backwards in a sliding motion

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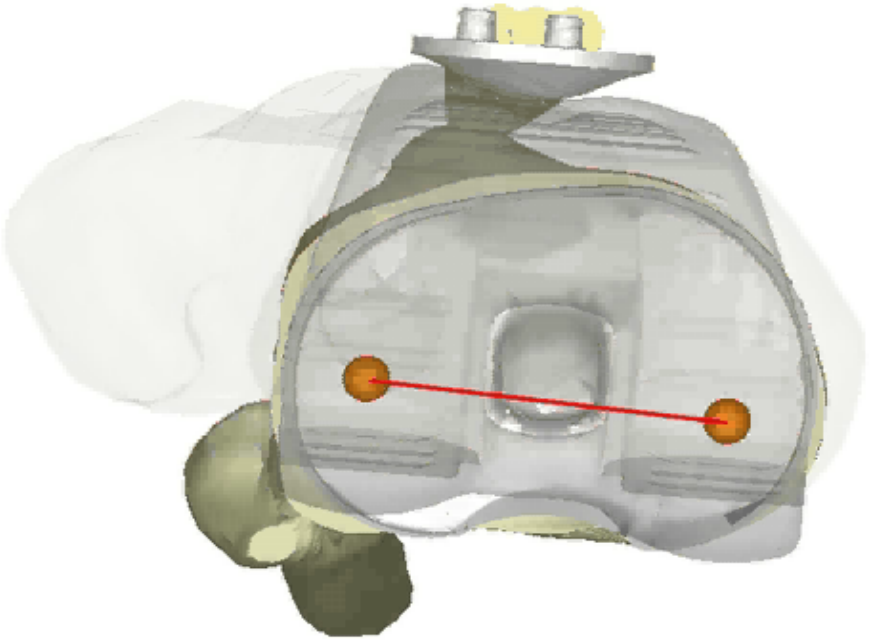
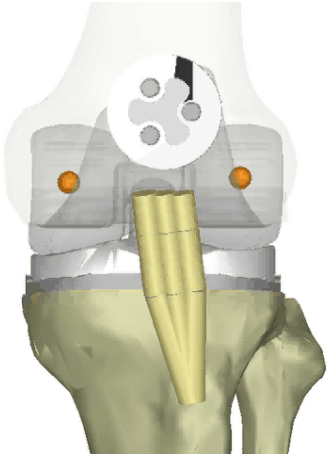
JOURNEY II BCS Knee motion





Minimized sliding motion

- Conventional knee replacements position femur too far back, which could lead to a sliding motion while bending
- The JOURNEY II BCS System follows natural anatomical positioning
- More natural positioning of the femur and tibia reduces forward sliding during flexion

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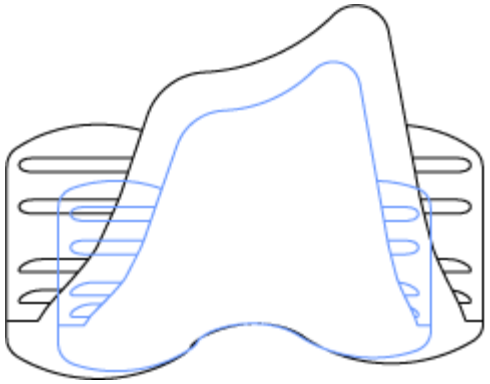
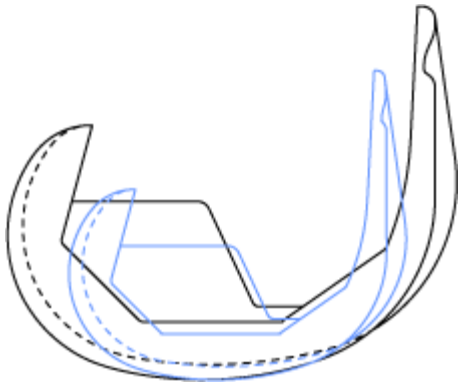
Gender optimization

- Specific sizes have been engineered to match male *and* female anatomy
- 10 different sizing options to make the right fit
- It would be rare to find a patient for whom a knee implant was not appropriately sized





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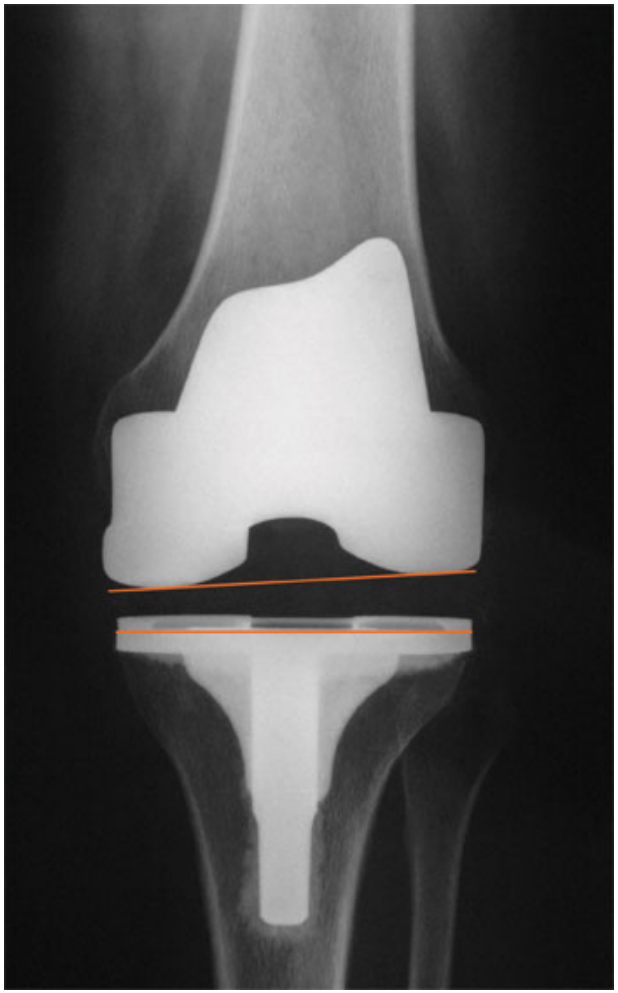
Promoting normal feel with natural shapes

- The front portion of the femoral component is thinned to decrease knee pain while bending
- Asymmetric tibial implant matches the natural shape of the prepared tibia
- Maintains the natural 3° joint line

Thinned

Asymmetrical



Joint line

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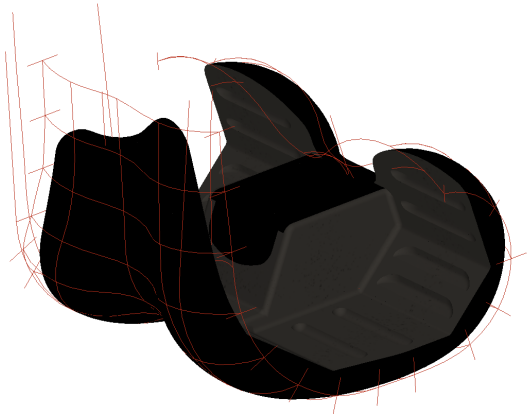
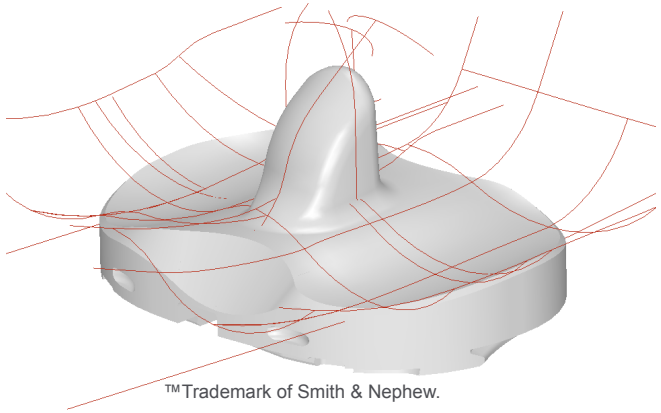
Promoting normal feel with natural shapes

- Plastic liner and metal femoral component interact to recreate the stability of your ACL and PCL
- Plastic liner designed to allow for flexion of up to 155°





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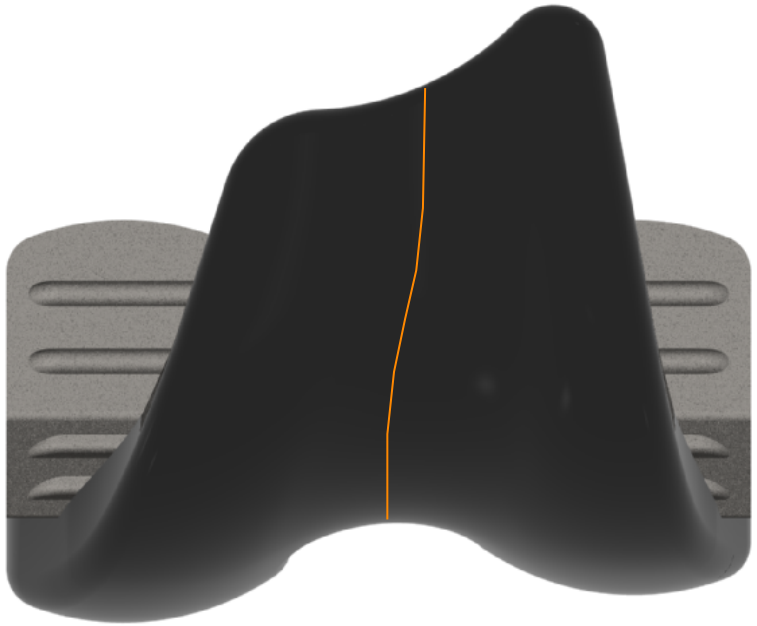
Don’t forget the kneecap

- Kneecap-friendly design
- Moves the kneecap through the anatomical “S”-curve of the trochlear groove
- Aligns the quadricep through flexion, which minimizes pain



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After surgery

- You will undergo a rehabilitation protocol designed to strengthen muscles and maximize flexion; This is vital to your success!
- After physical therapy: Low-impact activities as your bones and muscles adjust to the new stresses (swimming, walking, bicycling)
- You may feel years younger than expected— the excruciating bone-on-bone pain is gone!

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VERILAST™ Knee Technology

For Knee Replacement Implants

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Longevity of the implant

OXINIUM™ Oxidized Zirconium

- Zirconium – a biocompatible metal similar to titanium
- The outer surface takes on low-friction ceramic qualities during patented process
- Surface becomes **4,900-times** more resistant to the commonly experienced metal abrasion that wears through plastic components
- The oxidized surface reduces plastic component wear by up to **80%** when compared to cobalt chrome.

Traditional implant material

OXINIUM material

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Longevity of the implant

OXINIUM™ Oxidized Zirconium

- May extend the life of the implant due to wear
- Weighs **20%** lighter than same-sized implant made from cobalt chrome
- Safe for patients with metal allergy
- Appropriate for physically active adults

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Traditional Material vs. VERILAST™ Technology

Traditional Material

- Typically combines cobalt chrome with high-density plastic
- Expected to last **10-15 years** before wear becomes an issue

VERILAST

- Combination of Smith & Nephew's patented OXINIUM™ metal alloy and "highly cross-linked" polyethylene
- A knee implant technology that combines two low-friction materials

OXINIUM

Cross Linked Poly

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VERILAST™ Wear Study

- Smith & Nephew LEGION™ Cruciate Retaining Knee with VERILAST Technology was subjected to extensive lab testing and it surpassed expectations:
  - After 5 million simulated steps, wear was reduced by **98%** compared to implants made from traditional materials.
  - After 45 million steps, wear was reduced by **81%** when compared to traditional material implants at 5 million steps
  - **45 million steps = 30 years of typical use under normal conditions**

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About VERILAST™ Knee Technology

Based on laboratory wear simulation testing, the LEGION Primary Knee System with VERILAST technology is expected to provide wear performance sufficient for 30 years of actual use under typical conditions.

- Results of wear simulation testing have not been proven to predict actual joint durability and performance in people

- Reduction in wear alone may not result in improved joint durability and performance

- Other factors such as bone structure, can affect joint durability and performance and cause medical conditions resulting in additional surgery

- These other factors were not studied

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About Knee Replacement Surgery Patient Information

- There are potential risks with knee replacement surgery such as loosening, fracture, dislocation, wear and infection may result in additional surgery
- Do not perform high impact activities such as running and jumping unless your surgeon tells you these activities are acceptable
- Early device failure, breakage or loosening may occur if you do not follow your surgeon's limitations on activity level
- Early failure can happen if you do not guard your knee joint from overloading due to activity level, failure to control body weight or accidents such as falls
- Knee replacement surgery is intended to relieve knee pain and improve knee functions
- Talk to your doctor to determine what treatment may be best for you
- Additional information available at www.RediscoverYourGo.com