



restor^{3d}

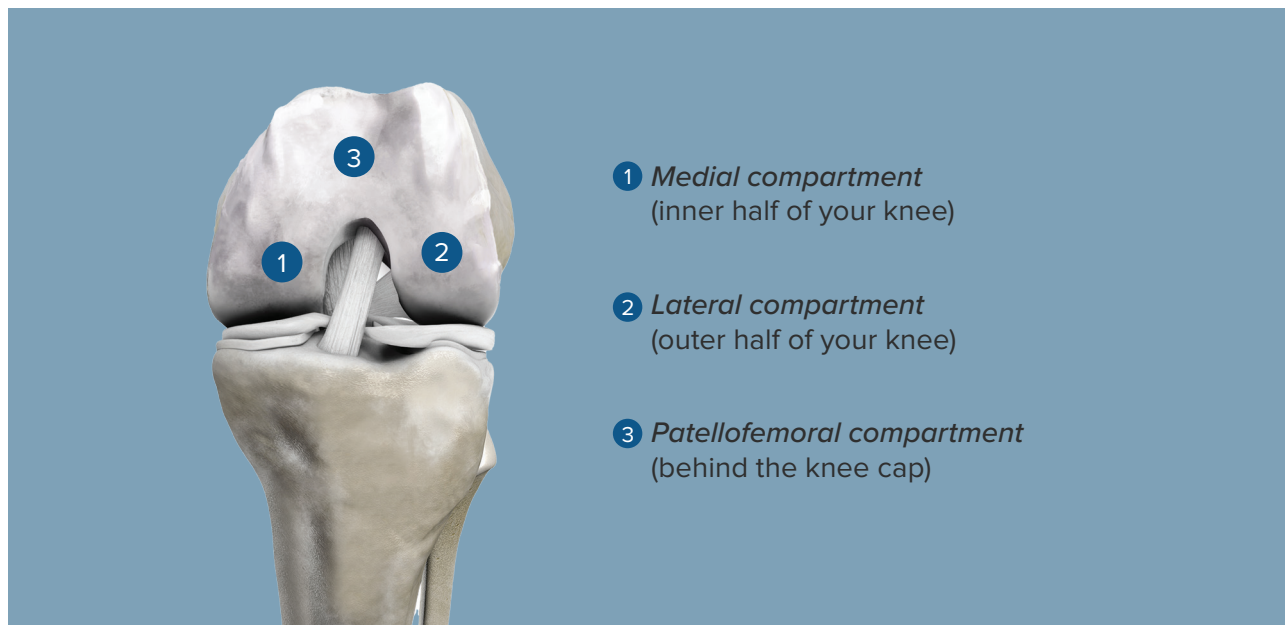
■ CUSTOMIZED KNEE IMPLANTS

Every patient's anatomy is unique. We 3D print yours.

■ UNDERSTANDING YOUR KNEE

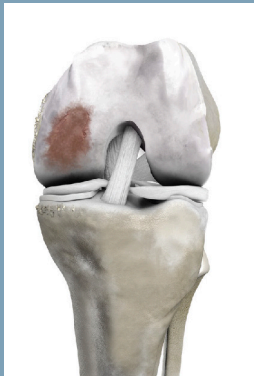
To understand the benefits of the restor3d personalized approach, it's important to understand the anatomy of your knee.

Your knee joint is formed by the intersection of the femur (thigh bone), the tibia (shin bone) and patella (knee cap). These bones form three “compartments” or sections.



Osteoarthritis (OA) is a degenerative joint disease characterized by the breakdown and wearing away of cartilage causing the bones to rub together and result in pain. It can affect all of the knee or just parts, depending on the severity.

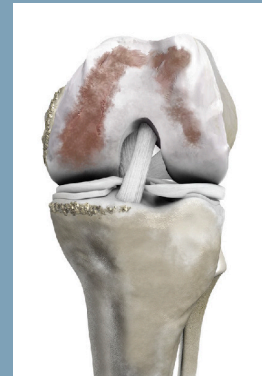
A partial knee replacement (PKR) is an option for people who have OA in one or two compartments. A total knee replacement (TKR) is an option for people with OA in all three compartments.



Unicompartamental OA



Bicompartamental OA

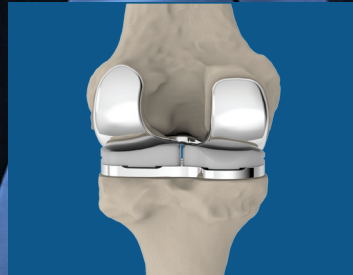
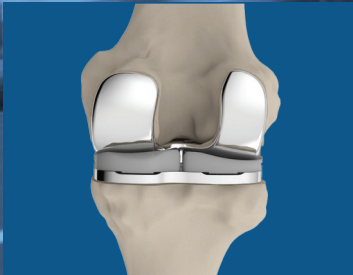


Tricompartamental OA

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Within four months I had two total knee replacements done, the restor3d way. It was made to fit my knee, not somebody else's knee, not a guy's knee, not another woman's knee, and to me, that made more sense.

—Sue, restor3d patient



Sue's Knee

■ THERE HAS TO BE A BETTER WAY

Knee replacement is a very common procedure. Despite its proven history, studies show that as many as **1 in 5 patients report they are not satisfied with the results of their total knee replacement.**¹

Knees vary in size and shape. Even your own two knees are different. In a traditional knee replacement, however, the surgeon selects an **“off-the-shelf”** implant from 6-10 standard sizes and makes the necessary adjustments to fit the implant during the procedure.

Because off-the-shelf implants aren't designed to your specific anatomy, surgeons often have to compromise on implant fit, rotation, and alignment. These compromises can cause pain or discomfort after surgery and help explain why **1 in 5 patients aren't satisfied.**

■ THE FIRST KNEE REPLACEMENT
THAT FITS ONLY ONE KNEE. **YOURS.**

Unicompartmental Knee
Replacement



Bicompartmental Knee
Replacement



Tricompartmental
Knee Replacement





Making it personal instead of off-the-shelf

To provide our patients with better results, restor3d has developed the only customized total knee replacement that is designed specifically for your knee.

This patient-specific approach offers unique advantages not possible with traditional, off-the-shelf implants:

- Individualized fit that virtually eliminates sizing compromises common with off-the shelf implants and often associated with pain after surgery
- Designed to follow the shape and contour of each patient's knee, which provides an increased potential for a more natural feeling knee
- Maintains the patient's natural joint lines to avoid instability, a common cause of patient dissatisfaction

“

I'm a metal fabricator. That means twisting, turning, and lifting every moment of the day. The restor3d partial knee replacement has made a huge difference in my life—at work and at home. I can even get on the ground and play with my grandkids again.

—Alan, restor3d patient

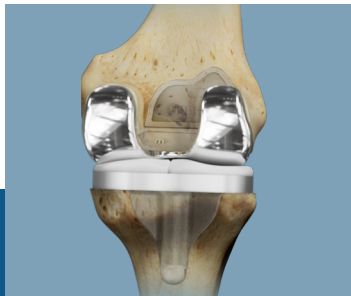
Alan's Knee



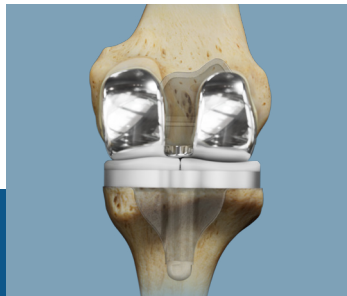
■ CUSTOMIZED FIT

Better fit leads to less pain

restor3d implants are specifically designed to fit your knee, avoiding sizing and positioning compromises common with off-the-shelf implants that can lead to long-term painful outcomes. Our implants are also designed for optimal bone preservation.



Patient A



Patient B



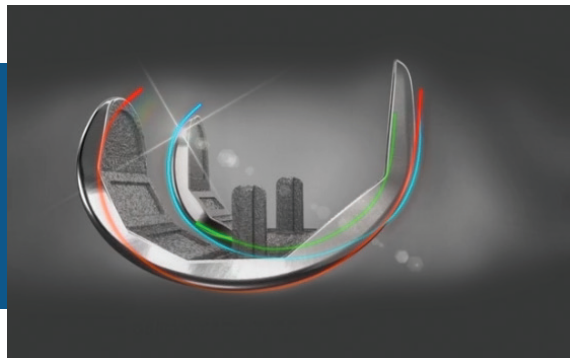
Patient C

■ CUSTOMIZED SHAPE

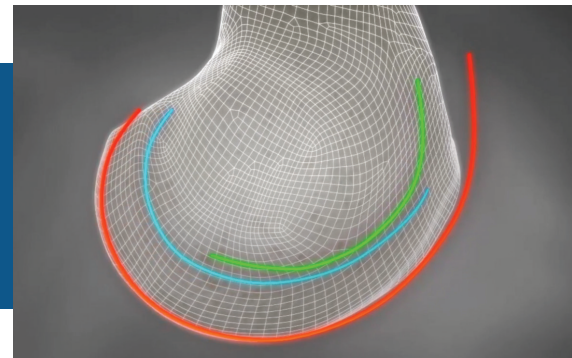
Designed for a more natural feeling knee

restor3d implants are designed to mimic the natural shape of your knee, which plays an important role in the way your knee bends and extends. By restoring the natural shape of your knee rather than replacing it with the standardized geometry of off-the-shelf implants, your knee may feel more like your natural knee.

**Each implant is customized
based on your set of curves**



**Each knee has its own
shape and curvature**

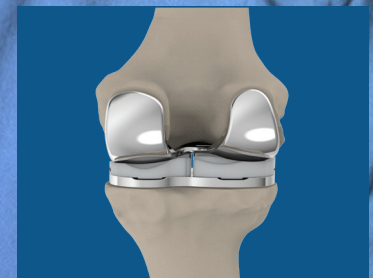


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The biggest difference is the lack of pain, and my knee feels more natural. Even physical therapists are just astounded that I gained as much flexion and extension compared to the standard, off-the-shelf knee replacement.

—Rita, restor3d patient

Rita's Knee

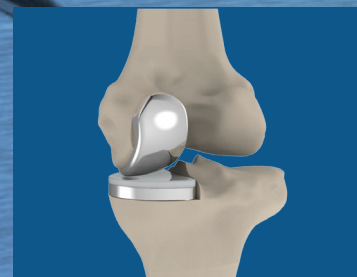


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My knees feel completely natural. I would never think that there is a device in my knee because I do not feel any different on my right leg, which is the one that had surgery, than I do my left leg.

—Irene, restor3d patient

Irene's Knee

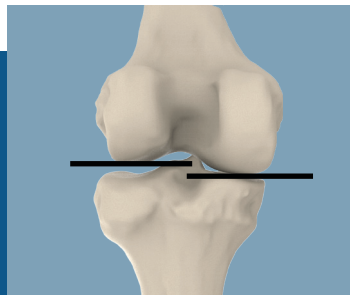


■ MAINTAINING JOINT LINES

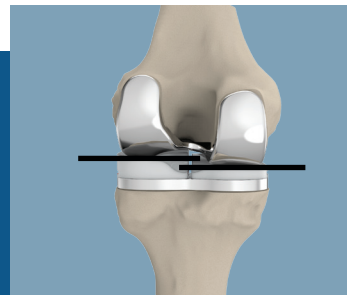
Stability more closely matched to the normal knee²

Many patients complain that their knee feels wobbly after knee replacement surgery. This feeling is formally known as mid-flexion instability. Off-the-shelf knee implants aren't designed to match the natural offset joint line that most patients have. Instead, they flatten the offset to the same height, which can lead to midflexion instability.

restor3d implants maintain the patient's medial and lateral joint lines, which allows for a more stable knee after surgery.



Patient's natural medial and lateral joint lines



restor3d matches the patient's shape, respecting the joint lines

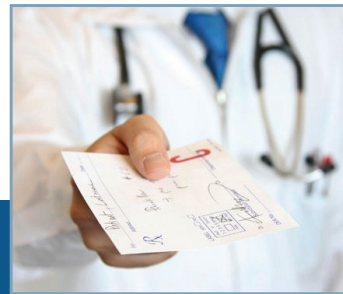
CUSTOMIZED DESIGN

Customized just for you

restor3d's iFit® image-to-implant® technology converts a CT scan of your knee into a 3D model and then designs an implant that's unique to you. This fully automated process ensures that your implant is made for your knee, and only your knee.

Your doctor will give you a prescription for a diagnostic CT scan of your hip, knee, and ankle

The CT scan will be sent to restor3d

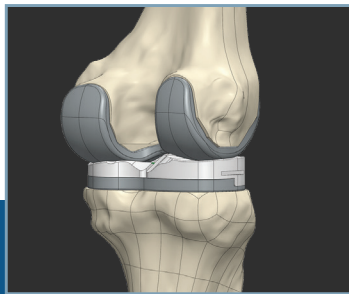


Scheduling a CT scan



Getting your knee scanned

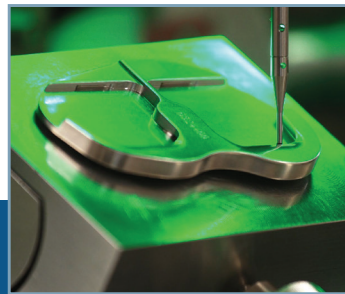
Using your CT scan, a 3-D model of your knee is developed and will be used to individualize your implant



Recreating your knee



Your implant and surgical instrumentation are designed and manufactured specifically for you



Personalizing your implant



Your implant will be delivered to the hospital a few days before surgery



Preparing for surgery

restor3d

www.restor3d.com

Research Triangle Park
4001 E NC Highway, Ste 3160
Durham, NC 27709

(984) 888-0593
customer-service@restor3d.com

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