

# FASTER RECOVERIES WITH LESS PAIN

*Research Orthopedics achieves excellent outcomes with custom-fit replacement joints.*

One of the newest advancements in superior outcomes for patients receiving a joint replacement is the introduction of custom hip and knee implants. Like mass-produced pairs of shoes, one-design-fits-all implants aren't fitted specifically to each patient.

A new custom concept in implants for hip and knee replacements is now being offered by orthopedic surgeons at many HCA Midwest Health facilities in the Kansas City area.

Why? Often, small differences exist between the implants' approximated sizes and a person's unique anatomy. Consequently, an off-the-shelf prosthesis might not fit perfectly and, in rare cases, can cause a patient to experience post-surgical pain.

But the advent of advanced computer tomography (CT) and 3D printing, says Research Orthopedics and Sports Medicine's Dr. Brian Kindred, has changed the implant landscape. He and colleague Dr. Daniel Schaper are seeing excellent results with custom-fitted prostheses.

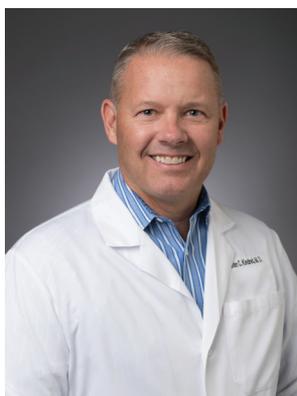
"First, we use CT to map the affected joint. We then send those scan results out to a company that produces a prosthesis that exactly matches the patient's body structure," Dr. Kindred explains.

The prosthesis company uses 3D printing to produce the custom-fitted implant and delivers customized surgical instruments used to properly place each.

## BETTER FIT ENABLES EASIER HEALING

Likewise, using custom-fitted replacement joints allows HCA Midwest Health surgeons to avoid having to revise a patient's underlying bone or ligament structure to fit the implant.

When placing an off-the-shelf knee implant, Dr. Kindred says, a surgeon might need to tighten the collateral ligament on one side and loosen the corresponding ligament on the other side of the joint to achieve an approximate fit. He or she might also need to surgically alter parts of an existing bone to create the



**DR. BRIAN KINDRED**



**DR. DAN SCHAPER**

perfect surface needed to anchor the device in place, which can cause temporary inflammation, uncomfortable tightness, or laxity in the joint, and which may result in pain and slower healing. Such post-surgical complications are less common when custom-fitted prostheses are used.

"We're basically just restructuring the knee as it was," Dr. Kindred notes.

He and Dr. Schaper also recommend "prehab"—pre-rehabilitation exercises—for many of their joint replacement candidates. Patients who first work with a physical therapist to strengthen the muscles surrounding their injured joints typically recover faster and report less pain after surgery.

Sometimes, prehab therapies are successful enough that patients are once again able to move around without significant pain, allowing them to postpone or even forego joint replacement surgery.

Those who do opt for surgery benefit from the practice's rigorous efforts to reduce infection risks. The team's use of "zip lines," which allow the doctors to approximate incisions without stitching through the outer layers of skin, as well as negative-pressure wound care systems, which keep surgical sites covered while allowing proper drainage, improve patients' chances at complication-free recovery.

## FAMILY ORTHOPEDICS AND SPORTS MEDICINE

Drs. Kindred and Schaper don't limit their practice to adults, either. Their patient list includes children with simple bone fractures and sprains as well as high school and collegiate athletes.

They've seen particular success in using platelet-rich plasma therapy to treat chronic, inflammatory joint conditions that active people often experience.

"Tennis elbow and other tendinitis issues respond particularly well to that procedure," says Dr. Kindred.

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6675 Holmes Road, Suite 129  
Kansas City, MO 64131

(Park in Lot B)