

## Local Surgeon teaches Japanese visitors

By Laurie Puscas, Special to The Oakland Press  
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Recent advancements in methods and materials are making the recovery knee replacement surgery quicker and less painful, and are increasing the overall functionality of the knee.

Dr. Jeffrey DeClaire, Chief of orthopaedics at Crittenton Hospital in Rochester Hills, educated a team of 10 orthopaedic doctors visiting from Japan on Monday in a new technology and minimally invasive procedure called the Signature Knee Custom Cutting System.

The new technique uses custom cutting blocks created from a three-dimensional MRI of the patient's knee. This allows for a perfect fit.

"It makes a custom fit component," DeClaire said. "It takes into account the rotation, alignment, fit and the size of the component needed for each patient.

"We do not remove the whole knee. We do a resurfacing of the knee with a metal material and replace worn cartilage with high-density polyethylene on the bottom, creating a new cushion," he said.

This surgery preserves up to 40 percent more bone in the patient's knee and results in an improved range of motion, resulting in a more natural-feeling knee, he said.

Visiting doctors from Japan look on as Dr. Jeffrey DeClaire (right), chief of orthopaedics, performs a new minimally invasive knee replacement at Crittenton Hospital in Rochester hills.



"The conventional method uses big instruments," he said. By using Microplasty Instrumentation, an incision sometimes half the length of conventional surgery is needed. These instruments are specifically designed to more around the soft tissue.

"This new method avoids a step in the procedure," DeClaire said. "There is no more drilling into the femur (thigh bone) for replacement of a rod. A rod is no longer needed which reduces the cutting of tissue. With this new computer-navigated surgery, arthritic pain is gone immediately.

"The use of computers for knee placement developed over the past five years," he said. "This method by Biomet Orthopaedics is new within the last year."

DeClaire said he is one of the first doctors in the state to be trained and use this technique and may be the first five or six in the world. He has given half dozen seminars, teaching the techniques to other doctors and has already performed approximately 300 surgeries using the technique.