



# Understanding The Osteoarticular Transfer System (OATS)



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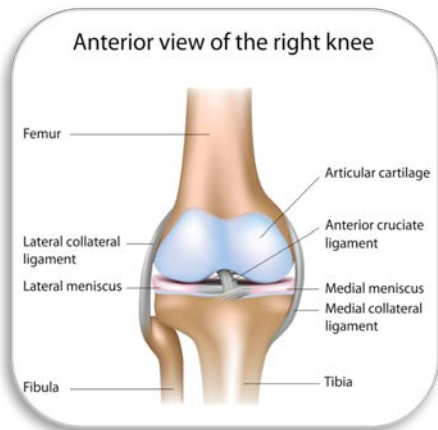
Our goal at The Orthopedic Institute of Wisconsin is to provide high quality care, both non-surgical and surgical. This approach allows our patients to regain lost function and experience pain relief that will hopefully result in the improvement of their quality of life. If you have any additional questions, please call: (414) 643-8800

## What is a Focal Cartilage Defect?

Thick, durable cartilage covers the ends of the bones in the knee joint, allowing it to bend properly. At a concentrated portion of the femoral condyle, a small, focused amount of articular cartilage can wear away. This is often caused by trauma following a direct impact to the knee or as a result from the shear of a twisting injury. Once these defects become symptomatic, they may progress and lead to severe degenerative changes in the joint such as osteoarthritis. Since articular cartilage has such poor healing qualities, these injuries will not often heal or regenerate spontaneously.

## Understanding Knee Anatomy

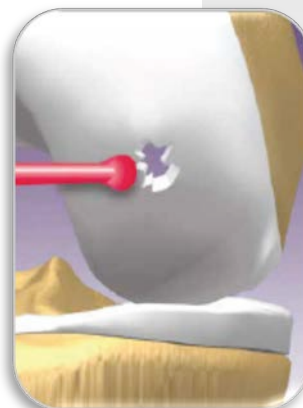
The knee joint joins the thigh bone (femur) to the shin bone (tibia). Tendons connect these bones to the muscles in the leg that move the knee. Ligaments in the knee connect the bones and provide stability. Articular cartilage exists within the knee joint to protect the bones and help it bend smoothly. The knee



is aligned so that approximately equal pressure is applied to the inner (medial) and outer (lateral) sides of the knee.

## Who Needs an OATS Procedure?

Patients that have isolated cartilage defects of the knee, mainly those on the femoral condyle (the end of the femur), are candidates for this procedure. The loss of cartilage in these defects causes pain and often limits knee function.



Arthrex Inc. "Single Use OATS."

## The Surgery

This procedure will take, on average, 60-90 minutes and involves replacing the damaged cartilage and bone with a real bone replacement. A 6-8 inch incision is made over the kneecap to allow access to the damaged knee. Using a coring tool, Dr. Pennington will make a shallow round hole, removing all of the damaged tissue. A “plug” of healthy bone and cartilage is then secured into the prepared indentation and pressed into a tight fit. No bone cement is used. This returns healthy bone and cartilage to the damaged area of the knee. Dr. Pennington typically uses a cadaver plug for this procedure, as it does not require the removal of your own healthy bone and cartilage.



Bone “plugs” used to fill in the indentation made around the damaged cartilage.

Arthrex Inc. “Backfill Plugs.”  
<http://www.arthrex.com/backfill-plugs>

## Typical Schedule of Follow-up Visits

### Five-to-ten day assessment

- Staples removed
- Pain level check
- CPM machine use assessed

### 1-month assessment

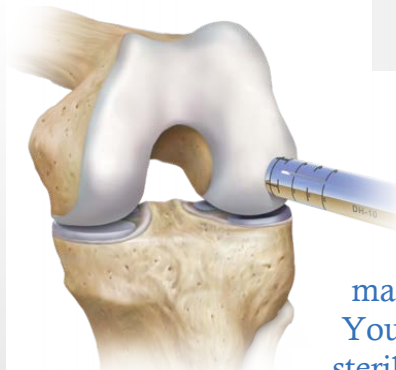
- Range of motion check

### 2-3 month assessment

- Range of motion check
- Quad strength check

### 4-6 month assessment

- Hopeful return to activity



Arthrex Inc. “Chondral Defect.”  
<http://www.arthrex.com/knee/chondral-defect>

## Post-Operative Expectations

After surgery, you can expect your knee to be wrapped in a polar care ice machine to reduce inflammation and pain. Your incision site will be covered in a sterile dressing; keep your incision site clean and dry. Some bruising of the lower leg is to be expected. Patients can expect to be on crutches postoperatively with gradual increase of weight bearing thereafter. Weight is not to be put on the leg for 1 week following surgery and is to be restricted for 6 weeks. Following 6 weeks, weight bearing is to be done as tolerated. A continuous passive motion (CPM) machine will be provided to you following your surgery in order to progress with passive range of motion. Driving can be done once you are no longer taking prescription pain medication and when you have been cleared by your physical therapist. You should be able to return to normal activities 3-6 months following surgery.

## Physical Therapy

The continuous passive motion (CPM) machine will be supplied and is generally started the day after surgery. It is advanced with the patient’s tolerance. Physical therapy begins soon after surgery and focuses on pain relief and passive motion, followed by active motion and strengthening of the knee and leg. Those patients who are diligent about physical therapy and rehabilitation can expect the best post-op results and the earliest return to sport.



A Leader in Orthopedic Excellence

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