

Subchondroplasty Procedure of the Knee

What is Subchondroplasty?

The Subchondroplasty procedure is a minimally invasive surgery designed to access and treat bone defects associated with chronic bone marrow lesions (BMLs) by filling them with a biomimetic bone substitute material (BSM). This procedure leads to healing as the BSM is resorbed and replaced with new, healthy bone.

BML Diagnosis

Chronic BML is an inflammation inside the bones of the knee and is shown to be highly correlated to pain. BMLs can only be seen on certain MRI sequences, where they are marked by edematous or "inflamed" areas that have been shown to represent a healing response surrounding a microscopic insufficiency fracture within the subchondral bone.

When is it used?

- You have experienced symptomatic knee pain for 3+ months

- You have increasing discomfort when walking or standing
- You have seen limited benefits from NSAIDs, bracing, injections or physical therapy
- Your symptoms returned after an arthroscopy

What happens during the procedure?

The Subchondroplasty procedure is based on accepted methods of fracture healing, which are applied to defects associated with BMLs in the subchondral bone. It is performed either alone or in conjunction with other arthroscopic treatments.

1. An MRI of the knee is taken to diagnose BMLs.
2. Knee Arthroscopy is performed to aid in BML access trajectory and verify implant placement.
3. Simple, reproducible targeting with the scope is done to locate the bone defect.

4. An injection of BSM is injected into the bone defect.

This procedure is typically performed in an out-patient setting, meaning patients usually return home the same day.

What happens after the procedure?

- For the first 24-48 hours following surgery, patients will typically experience pain and discomfort in the operated area.
- For 1-2 weeks after surgery, you will be asked to maintain 50% weight-bearing on the operative leg using crutches. The use of crutches can typically be reduced as tolerated.
- Your surgeon will likely also recommend a routine of physical therapy to help you regain strength and mobility in your knee.

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- If you have signs of infection, which include fever of 101 degrees or greater, flu-like symptoms, redness, swelling, or excessive pain, please call your surgeon immediately

It is important to follow the specific advice of your surgeon during your recovery.

What are the risks?

The Subchondroplasty procedure is not recommended for patients with BMI >40 or patients with severe malalignment of the joint.

You should discuss treatment options and possible risks with your surgeon. Please ask your surgeon any questions you have so that you will make the best decision. It is important to fully understand the risks and benefits any treatment before making a decision.

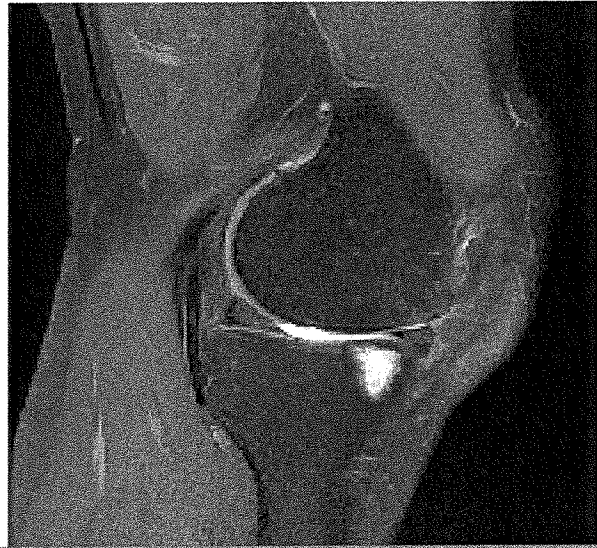
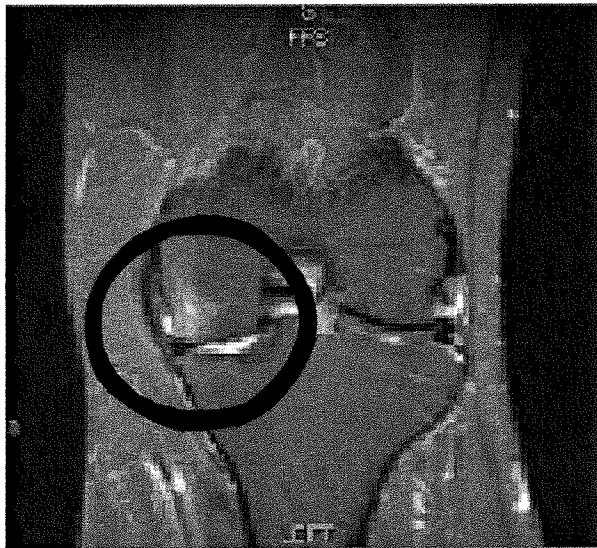
What are the benefits of this procedure?

- Utilizes a minimally invasive technique
- Performed in an outpatient setting
- Requires a short rehabilitation period
- Future treatment options stay open

Alternative options:

Conservative therapies such as pain medications, knee braces, crutches, and physical therapy may allow the body to rest and heal bone defects. Total and partial knee arthroplasty remove damaged bone from the knee and may also help the body to repair defects associated with BMLs. This procedure does not impair your chances of having a Total Knee Replacement; if that is an option you are looking into.

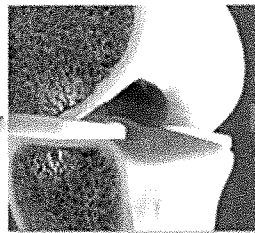
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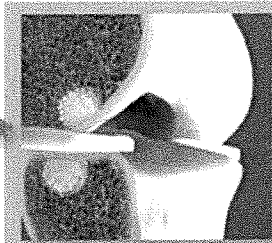
MRI of chronic bone marrow edema



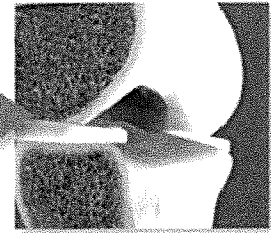
1 Diagnosis of BMLs Using T2 Fat Sat MRI & Clinical Diagnosis of Chronic Pain



2 BMLs Represent the Healing Response Surrounding an Insufficiency Fracture

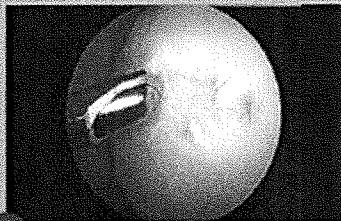


3 SCP® Procedure Targets & Treats Bone Defects Associated with BMLs by Strengthening the Bone

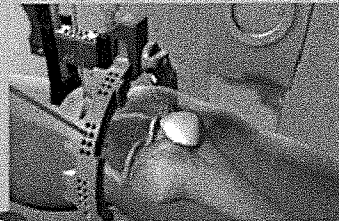


4 SCP® Leads to Healing as AccuFill™ BSM Is Resorbed & Replaced with Healthy Bone

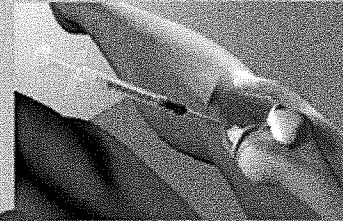
SCP® SURGICAL PROCEDURE



a Arthroscopically Aided to Confirm BML Access Trajectory & Verify Implant Placement



b Simple, Reproducible Targeting of the Bone Defect—Accurate AccuFill™ Placement Is Important to BML Resolution



c Inject AccuFill™ Bone Substitute Material (BSM) into Defect—Interdigitates & Sets to Same Strength as Cancellous Bone in 20 min.