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Restoring Function. Maximizing Performance.

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KNEE CONDITION

Cartilage Defect

Focal Chondral / Osteochondral Defect — Patient Condition Guide



Articular cartilage defect on the femur · for education; your anatomy may differ

OVERVIEW

A focal cartilage defect is localized damage to the smooth cartilage surface of the knee, distinct from the widespread wear seen in arthritis. It commonly results from a single traumatic injury, repetitive stress, or osteochondritis dissecans (OCD), and disproportionately affects younger, active patients.

ANATOMY

Articular cartilage covers the ends of the femur, tibia, and patella, allowing smooth, low-friction motion. Because cartilage has limited blood supply, it has little natural capacity to heal itself once damaged.

SYMPTOMS

- Deep, localized knee pain with activity
- Swelling after activity
- Catching or locking if a cartilage fragment is loose
- Pain that doesn't fully resolve with rest

DIAGNOSIS

MRI is the key tool for sizing and characterizing a cartilage defect and checking the underlying bone. Defect size, location, and depth all factor into which restoration procedure is most appropriate.

TREATMENT OPTIONS

Smaller defects may respond to activity modification and unloading strategies. Surgical options include microfracture, osteochondral autograft or allograft transplantation (OATS/allograft), and MACI cartilage cell implantation, chosen based on defect size and patient factors.

RECOVERY TIMELINE

- Weeks 0–6: protected weight-bearing, often with a brace

- Months 2–4: progressive strengthening
- Months 4–9: gradual return to impact activity
- Full maturation of restored cartilage can take up to a year

FAQS

Q Why can't cartilage just heal on its own?

Cartilage has very limited blood supply, so it lacks the natural healing capacity that bone and other tissues have.

Q Which cartilage procedure is right for me?

This depends on the size, depth, and location of your defect, along with your age and activity goals — Dr. Pettit will walk through the options with you.



SCAN FOR THE LATEST VERSION ONLINE

robertpettitmd.com/handouts/cartilage-defect.pdf

This handout is for general patient education and does not replace personalized medical advice. Always follow the specific instructions given by Dr. Pettit and your care team.