

Rehabilitation Protocol for Patients with Chondral Defects of the Patellofemoral Articulation Undergoing Microfracture

- **All patients treated with microfracture for patellofemoral defects must use a brace set with a flexion stop for at least 8 weeks.** It is essential to limit compression of the new surfaces in the early postoperative period, so that the maturing marrow clot will not be disturbed. The brace should be worn at all times, except when passive motion is allowed.
- Patients are placed into a CPM machine immediately following surgery. The goal is to obtain a pain-free and full **passive** range of motion soon after surgery during those periods when the brace is removed.
- When the patient wears a brace, strength training is allowed, but only in the 0-20° range immediately after surgery in order to limit compression of the affected chondral surfaces. The joint angles of these patients are observed carefully at the time of surgery to determine where the defect makes contact with the opposing surface, either on the patella or on the trochlear groove of the femur. **These areas are avoided during strength training for approximately 4 months.**
- Patients are allowed to put weight on the involved leg as tolerated, but it must be **limited at the angles of flexion that do not compress the treated surfaces.** For this reason the patient must wear a brace locked in limited flexion.
- After 8 weeks, the knee brace is gradually opened to allow increased flexion of the knee, a process that takes about a month. Brace use is generally discontinued by 12 weeks. Some patients, however, like to continue to wear the brace for strenuous exercise for a few more months (up to about 6 months).
- After brace use is discontinued, strength training advances progressively.
- **The doctor must examine the patient before they are released to full activity.**

Please do not hesitate to call the office with any questions or concerns at (301)-530-1010.

Phase I (Weeks 0-8)

- Weightbearing: Weightbearing as tolerated in hinged knee brace, locked in extension
- Hinged Knee Brace: Locked in extension for ambulation – opened up 0-40° for ROM exercises
- Range of Motion: Continuous Passive Motion (CPM) Machine for 6-8 hours per day for 6-8 weeks
 - Set CPM to 1 cycle per minute – range from 0-40°
 - Passive Range Of Motion and stretching under guidance of PT
- Therapeutic Exercises:
 - Quadriceps/Hamstrings isometrics

Phase II (Weeks 8-12)

- Weightbearing: Advance to full weightbearing as tolerated – discontinue crutch use
- Hinged Knee Brace: Discontinue use
- Range of Motion: Advance to full/painless ROM (PROM/AAROM/AROM)
- Therapeutic Exercises:
 - Emphasize Patellofemoral Program
 - Closed chain extension exercises
 - Hamstring curls
 - Toe raises
 - Balance exercises
 - Begin use of stationary bicycle/elliptical

Phase III (Months 3-6)

- Weightbearing: Full weightbearing
- Range of Motion: Full/painless ROM
- Therapeutic Exercises:
 - Advance closed chain strengthening exercises, proprioception activities
 - Sport-specific rehabilitation
- Gradual return to athletic activity as tolerated – including jumping/cutting/pivoting sports
- Maintenance program for strength and endurance