Microfracture Rehabilitation Protocol

The specific rehabilitation program for each patient following a microfracture will vary depending upon the following factors:

- The location of the defect
- The size of the defect
- Whether any other surgical procedure, such as an anterior cruciate ligament reconstruction, was done at the same time as microfracture

Rehabilitation Protocol for Patients with Chondral Defects on the Femur or Tibia

- The patient is started on a continuous passive motion **(CPM)** machine immediately in the recovery room. Ideally, the patient should use the machine for 6 to 8 hours every 24 hours. Range of motion is increased as tolerated until full range of motion is achieved with the machine.
- If a CPM machine is not used, the patient begins passive flexion/extension (straightening and bending) of the knee with 500 repetitions three times a day.
- **The use of crutches, with only light touch-down weight allowed on the involved leg, is prescribed for 6 to 8 weeks**. Patients with small defect areas (less than 1cm in diameter) may be allowed to put weight on the leg a few weeks sooner.
- Brace use is rarely recommended for patients with chondral defects on the femur or tibia. Limited strength training also begins immediately after microfracture surgery.
- Standing one-third knee bends with a great deal of the weight on the uninjured leg begin the day after surgery.
- Stationary biking without resistance and a deep-water exercise program begin 1 to 2 weeks after surgery.
- After 8 weeks the patient progresses to full weight bearing and begins a more vigorous program of active knee motion.
- Elastic resistance cord exercises can begin about 8 weeks following surgery.
- Free weights or machine weights can be started when the early goals of the rehabilitation program have been met, but no sooner than 16 weeks after surgery.
- **Patients must not resume sports that involve pivoting, cutting, and jumping for 4 to 6 months after a microfracture procedure.** Full activity may be resumed once the physician has examined the knee and given approval for the patient to return to sports activity.

Rehabilitation Protocol for Patients with Patellofemoral Chondral Defects

- **All patients treated with microfracture for patellofemoral defects must use a brace set for 0° to 20° of flexion 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° to 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 to 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 at about 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 knee before the patient is released to full activity.**