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Tibial and Femoral Microfracture Advice Sheet

This treatment was popularised in 1980 by Richard Steadman an Orthopaedic Surgeon in Vail, Colorado. It is a method used to treat areas of damaged articular cartilage (the surface covering the ends of the bone).

Signs & symptoms of articular cartilage damage

Swelling
Giving way
Locking or catching
Noise

Indications for microfracture

Full thickness articular cartilage defect (down to bone)
Unstable articular cartilage covering the bone
Ideally area less than 2cms in diameter

When is microfracture not recommended?

If there is poor lower limb alignment
If the defect is not full thickness
Patient unwilling to follow rehabilitation protocol

How is it performed?

Microfracture is performed during arthroscopic (keyhole) surgery. The damaged area is prepared by removing any loose or damaged areas of articular cartilage, exposing the underlying bone. A small pick (awl) or drill is used to create small holes in the bone. It is important that bleeding occurs from these holes. The blood clot that fills the defect contains cells capable of forming "cartilage like" tissue. This tissue is similar to the original articular cartilage, but not as strong.

Rehabilitation

Rehabilitation will vary depending on the location and size of the defect. The healing area is very fragile in the early weeks and it's potential for healing will be compromised if excess loading (weight bearing) is applied. Movement may stimulate the healing process and help the new tissue to form.

When the microfracture is on the top of the tibia (shin bone) or end of femur (thigh bone), weight is limited by the use of crutches.

POST OPERATIVE MANAGEMENT PROTOCOL

- Non weight bearing on crutches for 8 weeks. Ensure that a normal walking pattern is used.
- Cold therapy (either ice or cryocuff) should be used to reduce swelling and pain
- Achieve a full range of passive movement as soon as possible.
- CPM immediately after the operation. Ideally using the machine for 6-8 hours a day, every day for 8 weeks. This may help stimulate cartilage growth.
- If CPM is not available a static bike or pedal exerciser can be used for 15-20 mins, 3 times a day with minimal resistance at a steady pace.
- Strengthening exercises as directed by your physiotherapist. General leg exercises should be undertaken to maintain leg muscles.
- Wean off crutches starting at 8 weeks.
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After 8 .

- Gradually increase to fully weight bearing
- Exercises (supervised by your physiotherapist) to regain strength, range of movement and balance.
- No leg extension (quads press) or free weights in gym until 16 weeks.
- No running for 4-5 months
- No sports involving jumping, high impact or cutting for 6 months

Information on Continuous Passive Movement (CPM) machine

If microfracture surgery is to take place it is advisable for you to hire a CPM machine for the 8 weeks. To avoid paying VAT you will need to hire the machine yourself. They will arrange delivery and confirm prices with you.

The machine can be delivered to the hospital and the Physiotherapists will set it up for you.

The telephone number of Phoenix Healthcare products is 0115 965 6634

Please check with your insurance company whether they will pay for it as often they will not.