MICROFRACTURE CARTILAGE REPAIR SURGERY: Femoral Condyle

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This information sheet provides information on the nature and purpose of cartilage repair surgery utilising the microfracture technique in addition to an outline of the post-operative rehabilitation.

Purpose and description of the procedure

The operation is performed to stimulate repair of articular surface damage where the articular cartilage has been worn away and there is bare bone present in the joint. Normally, the joint consists of a layer of smooth articular cartilage covering the end of the bone providing an almost frictionless articulation with its counterpart on the other side. Once damaged the joint surface has unfortunately very little intrinsic capability to repair itself but it is possible to stimulate a form of repair using the microfracture technique.

Small "pick" holes are made in the end of the bone, using a sharp awl, approximately two to three millimetres deep and spaced every five to six millimetres. This allows for the marrow part of the bone to effectively grow onto the joint surface. Specialised scar tissue can then form covering the end of the bone thereby smoothing off the joint surface and improving symptoms. It is expected that the repair tissue will gradually mature and improve over six to nine months from surgery. Approximately 60 – 70% of patients note a significant improvement in symptoms of pain and function, depending on the amount of damage and intended activity.

Post-operative care

The procedure is usually performed as a day case and carried out at the same time as an ordinary arthroscopy of the knee. There is no extra incision. On return from theatre there is a padded bandage applied to the leg. This bandage is removed on the day following surgery.

Weight Bearing: MINIMAL TOUCH WEIGHT BEARING (5-10Kg maximum) is essential using crutches for 6 weeks. Rather like avoiding walking on new grass, any greater load through the joint is likely to damage the healing tissue. Even though the knee may feel comfortable the weight must be kept of it to allow the new surface to mature.

Movement of the knee joint: Early movement (flexion) of the knee is encouraged immediately following surgery and a CPM (Continuous Passive Motion) machine may be used. This helps to smooth the growing articular surface, again rather like rolling new lawn without indenting it.

Exercises during first 6 weeks: Physiotherapy exercises commence during the postoperative phase with static quadriceps and hamstring exercises while working on range of movement. Static bike, with light resistance only, and pool exercises (in deep water) can start from 2 weeks.

From 6 weeks: Progression to FULL WEIGHT BEARING is allowed at six weeks followed by a gradual increase in exercise activity. Jogging can start at 3 months if sufficient quads muscle control. No cutting, turning or jumping activities are allowed for 4 months and this may be longer for competitive or "heavy" patients.