

MICROFRACTURE CARTILAGE REPAIR SURGERY: Trochlea / Patella

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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. 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 knee brace and a padded bandage applied to the leg.

Weight Bearing: FULL WEIGHT BEARING is allowed in a hinged knee brace with the hinges set to allow 0 – 20 degrees flexion only for 6 weeks.

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.

Weight should not be put through the knee cap part of the joint, in other words by taking weight on the bent knee. This is because, 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 off it to allow the new surface to mature. Movement in the form of repeated bending of the knee helps to smooth the growing articular surface, again rather like rolling new lawn without indenting it.

At 6 weeks: The brace is removed and normal walking should be achieved.

Further rehabilitation: Physiotherapy exercises commence during the postoperative phase with static quadriceps and hamstring exercises while working on range of movement using static bike and pool exercises from 2 weeks.

After six weeks a gradual increase in exercise activity is allowed building up to commencing impact type activities at 4 months.

For the patello femoral joint specific closed chain exercises are used to strengthen the muscles controlling the patella without overloading the new surface. It is expected that the repair tissue will gradually mature and improve over six to nine months from surgery.