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MINIMALLY INVASIVE UNICONDYLAR KNEE RESURFACING

WHAT IS OSTEOARTHRITIS ?

Osteoarthritis is a degenerative condition whereby the joint surface lining or articular cartilage wears out. It is usually a progressive condition starting with mild damage to the articular cartilage and progressing to complete loss of articular cartilage, leaving exposed bare bone at the joint surface.

The symptoms of osteoarthritis are pain, limitation of movement, swelling, locking, crepitus (noisy joint) and loss of function.

WHAT IS THE CAUSE ?

Osteoarthritis can come about following injury or can be part of a disease process or can be inherited. In many cases a genetic component is partly responsible. Osteoarthritis can also occur through wear and tear and the normal ageing process.

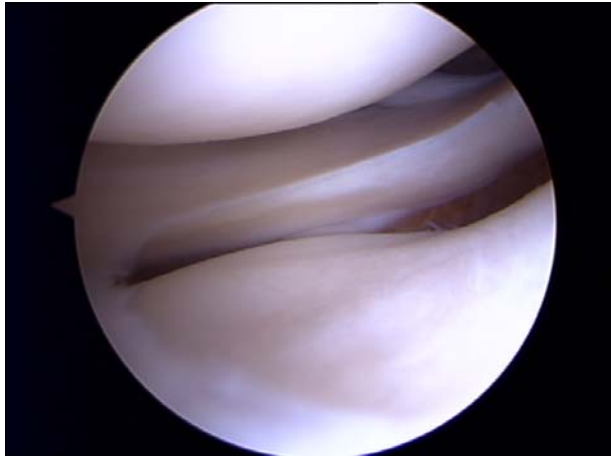


Arthritic knee demonstrating loss of medial joint space

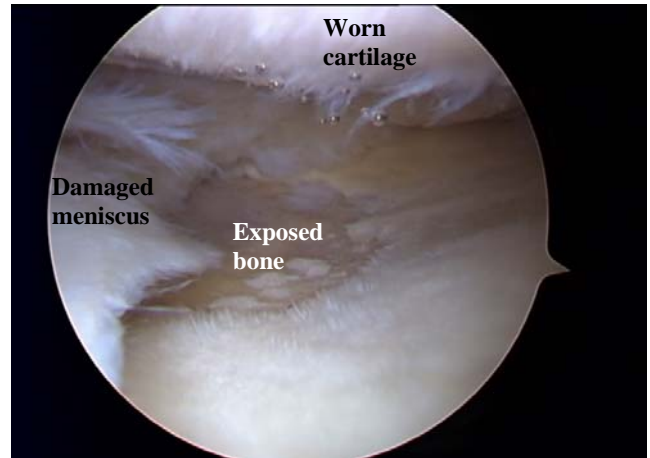


Normal knee with well maintained joint space

Arthroscopic view



Normal knee



Arthritic knee

TREATMENT OPTIONS

Non operative treatment:

This can be effective in the treatment of early or mild arthritis. It includes an appropriate exercise program, physiotherapy, analgesics or anti-inflammatory medications, weight loss and the use of a walking stick.

Surgical treatments:

These include arthroscopic surgery, osteotomy, total knee replacement and the new procedure, minimally invasive unicompartmental knee resurfacing (mini knee replacement or hemiarthroplasty).

Arthroscopic surgery can be helpful in mild cases of osteoarthritis but is unlikely to provide long term benefit in moderate to severe arthritis of the knee.

Upper tibial osteotomy involves breaking and resetting the tibial bone below the knee. The aim of this procedure is to improve the mechanical alignment of the knee. This procedure is a major operation and is associated with a long recovery. Reasonable results can be obtained in selected cases.

Total knee replacement: This is the end of the line treatment for advanced osteoarthritis. It is a large operation in which all of the surfaces of the knee joint are replaced with prosthetic components which are made from metal and plastic compounds. This operation usually requires blood transfusions and a 10 – 14 day in hospital and rehabilitation stay. Recovery is slow, although the end result is usually very satisfactory. Total knee replacement is generally not recommended in younger or active patients who tend to wear out and loosen total knee replacements more quickly than older patients. Total knee replacements have been reported as lasting from 10 to 15 years, sometimes longer. When they wear out or loosen, revision



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Total knee replacement

All surfaces of the knee joint are replaced and the cruciate ligaments are removed or de-functioned.

Minimally invasive unicondylar knee resurfacing: This new procedure is really an adaptation of an old operation (unicondylar replacement). It is done through a small incision about 8cm long. This procedure resurfaces only the damaged parts of the knee with prosthetic components that are made from metal and plastic compounds. It is a much smaller surgical procedure than a total knee replacement and requires a much shorter hospital stay. Many patients leave hospital within 24 hours of surgery. It can be performed as a day only procedure. Blood transfusions are usually not required.



Unicondylar resurfacing is a conservative operation in which only small amounts of bone are removed from the knee. Healthy bone and cartilage is left alone. Normal kinematics of the knee are preserved.

ADVANTAGES OF MINIMALLY INVASIVE UNICONDYLAR RESURFACING:

The advantages of this procedure over total knee replacement include the following:

- Smaller operation.
- Conserves bone stock and healthy tissues.
- Shorter hospital stay.
- Fewer complications.
- Blood transfusions not usually required.
- A better, more natural feeling knee.
- Smaller incision.
- Faster restoration of function.
- Better range of movement and function.
- Less bleeding at surgery.
- Future revision surgery is easier than following total knee replacement.
- Shorter rehabilitation and quicker recovery.
- Lower cost.

DISADVANTAGES OF MINIMALLY INVASIVE UNICONDYLAR KNEE RESURFACING:

This operation may not last as long as a well performed total knee replacement. The largest reported series of knee replacements in the world shows slightly less durability of unicondylar replacements compared with total knee replacements (Swedish national arthroplasty register of 34,000 cases). The operation may last only 8 to 10 years before it needs to be revised. Some studies have shown a 10-15% revision rate at 10 years.

As with all operations for arthritis, it may lead to incomplete resolution of symptoms.

WHO IS SUITABLE FOR MINIMALLY INVASIVE UNICONDYLAR KNEE RESURFACING?

Patients over 50 years old who have severe osteoarthritis predominantly affecting one side of the knee with good preservation of the rest of the joint are usually suitable for a minimally invasive unicondylar knee resurfacing. Younger patients and those with a relatively high level of activity may be more suitable for this procedure than a total knee replacement.

WHO IS NOT SUITABLE FOR MINIMALLY INVASIVE UNICONDYLAR KNEE RESURFACING?

- Patients with severe osteoarthritis affecting more than one area of the knee joint.
- Patients who have severe angular deformity around the knee.
- Patients who suffer from inflammatory arthritis e.g. rheumatoid arthritis.
- Patients under 50 years of age except in special circumstances.
- Patients with an unstable knee from previous cruciate ligament injury.

Patients who have previously had an osteotomy around the knee may not be suitable for this procedure.

YOUR SURGERY AND HOSPITAL STAY

A blood test will be arranged prior to your admission. You will be admitted to hospital on the day of surgery. After admission you will be evaluated by the anaesthetist. A general anaesthetic is usually used.

In hospital strong painkillers are used for pain management and you will be given some when you are discharged home.

A physiotherapist will see you for advice about appropriate exercises and the use of crutches.

You will need to arrange a post operative visit in the rooms 2 weeks after your surgery. **83826199**

SUMMARY:

The new operation of Minimally Invasive Unicondylar Knee Resurfacing is a major advance in the treatment of osteoarthritis of the knee. In appropriate patients it can give excellent relief of symptoms and return of function to an arthritic knee. In some cases it may be an appropriate alternative to other forms of treatment such as the total knee replacement. Total knee replacement, however, remains the treatment of choice in a severely arthritic knee where all the joint compartments are damaged.

Minimally Invasive Unicondylar Knee Resurfacing is not a minor procedure but can be done as a short stay procedure in hospital and is associated with faster recovery and rehabilitation time with a lower rate of complications than total knee replacement.

It is important to remember, however, that this operation is not designed to last a lifetime and may need revision to a total knee replacement in future.

For more information and an animated video on knee resurfacing visit

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