

Patient Information Sheet :

MINIMALLY INVASIVE SURGERY FOR HIP AND KNEE JOINT REPLACEMENTS

1. What Is It?

Minimally invasive surgery (MIS) involves undertaking surgery but utilising new techniques and new instruments to allow the operation to be performed through much smaller incisions than normal and, even more importantly, much less tissue dissection inside the body. MIS is also referred to as Minimal Access Surgery or Mini Incision Surgery depending on the company or products involved. With sufficient training and the right equipment a surgeon can undertake major joint replacements (particularly of the hip and the knee joints) through much smaller incisions than is usual at this time. The aim of the operation is the same as with the larger incision surgery, i.e. to replace the joint surfaces with a combination of metal and/or plastic and the joint replacements can involve using cement (to fix the new joint surfaces to the bones) or uncemented techniques when the new implants are coated with a layer to help them bond directly to the bone without the need for cement. The technique of MIS lends itself to use of uncemented implants.

2. What Are The Advantages?

By undertaking the operation through smaller incisions and undertaking less dissection and cutting of tissues inside the body, the surgeon can implant the new joint with less trauma than is usual. This has obvious cosmetic advantages in that the scar is much smaller than normal (usually between 8-12 cms instead of 15-25 cms) and the rehabilitation or recovery process is much quicker because the tissues have not been damaged as extensively as they tend to be with the conventional techniques. It is this rapid recovery which is the main advantage of MIS. With the technique, patients undergoing total joint replacements of either the hip or knee joint theoretically could be in and out of hospital within 24 hours but more usually the hospital in-patient stay is reduced from 8-10 days for the normal procedure to 4-5 days for the minimally invasive surgical procedure. This allows much more rapid return to function and reduces some of the major risks of operations such as thrombosis, hospital acquired infection and post operative stiffness.

3. What Are the Disadvantages?

The technique is new and is unproven. Although certainly studies have shown that the initial recovery period is much quicker than with the conventional techniques, in that patients are discharged home earlier and recover range of movement and normal function quicker than with the standard techniques, the outcome at six months after the operation in terms of function and pain relief is the same for patients who have undergone the conventional surgery as well as the minimal invasive surgery. The MIS technique is very demanding on the surgeon and requires appropriate training has been undertaken to allow the surgeon to practice the technique safely. In my own case I have undergone training uses cadavers in both Paris and Vienna under supervision of experts in the field to ensure that the technique is feasible. The use of much smaller incisions limits the size of instrumentation required to implant the new joint and special instruments and techniques have to be employed. This means that the chances of mal-positioning of the implant are much higher, particularly when a surgeon first starts the technique and if the operation is performed badly the patient will suffer. Often the operation takes longer

than the conventional operation because of the difficulties involved in using these small incisions and special instrumentation. Also in the long term, i.e. five years and beyond, we have no reliable evidence to support the fact that MIS is as good as, if not better than conventional techniques. An average joint replacement carried out using conventional techniques should last for between 10-15 years in 95% of cases and we have no evidence to confirm that this is possible with MIS at this present time. However, should the technique be carried out properly by trained surgeons, there is no reason to suppose that the results of MIS surgery are at least as good as conventional techniques.

Although the cost of MIS is reduced by means of a much shortened hospital stay and recovery process, the new instrumentation and the implants being largely uncemented, both mean greater initial outlay for the operation or surgeon involved and MIS is often therefore more expensive in terms of the operation itself than the conventional surgical techniques.

As access to the joint is limited by the small incisions and limited dissection, it is difficult for the surgeon unless fully trained, to ensure that the implants are put in the correct alignment and position. Because of this many surgeons are using computer navigated aids whereby markers are placed on bone ends to ensure that the orientation and alignment of the new knee or hip joint is accurate. This computer guided system again tends to add to the expense of the operation and causes prolongation of the operating time.

SUMMARY

At the moment therefore, minimally invasive surgery is only practised in a few centres but in the hands of a well trained surgeon with the appropriate expertise and equipment, the operation should be at least as good as with conventional techniques and allow a much more rapid and safer recovery for the patient. Because of these advantages to the patient, minimal invasive surgery is likely to become more and more established in modern joint replacement techniques.

To Find Out More.

Only certain surgeons and institutions, and indeed certain patients, are able to benefit and utilise these new techniques. The decision to undergo joint replacement should be made on xray and symptomatic grounds, i.e. the amount of discomfort an individual is suffering, and it is only once the decision has been made that joint replacement is required, that your surgeon should discuss with you the various options available to replace your joint, be it cemented vs uncemented techniques and conventional vs MIS techniques. If possible you should try and see a surgeon who has a proven track record in undertaking joint replacements through the various techniques and be able to discuss with him the various options available. Most GPs will be aware of these issues and will refer you to an appropriate surgeon or you can gain further information by visiting the information leaflets produced by NICE (National Institute for Health and Clinical Excellence), whose web page is as follows: www.nice.org.uk