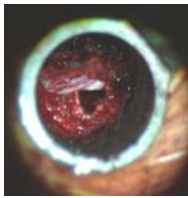


Minimally Invasive Surgery

□ **What is Minimally Invasive Surgery?**

Minimally invasive surgery is not new. However, the use of smaller incisions has recently become more popular. Advances in optics and engineering now allow the surgeon to consider performing complex procedures through these smaller incisions.



View through tubular retractor for interbody fusion.

The goal of the procedure, i.e. spinal fusion or decompression, is unchanged from the standard spinal procedure. Minimally invasive techniques were developed as a means of reducing soft tissue damage, via dilating or spreading tissue instead of cutting or tearing them. This reduction in soft tissue damage may result in a more rapid postoperative recovery for the patient.

It is more appropriate to consider “Minimally Invasive Surgery” as minimal incision surgical techniques. While the incisions may be considerable smaller than standard incisions, the procedure conducted through that incision is essentially unchanged. Many patients and several spinal procedures do not lend themselves to the use of minimal incision techniques. Patients should discuss the pros and cons of minimal incision techniques with their surgeon.

□ **Am I a candidate for Minimally Invasive Surgery?**

There are many factors to consider prior to selecting minimally invasive surgery. While the incisions may be small, the amount of work performed under the skin is in many cases technically more difficult. Certain procedures do not lend themselves to small incisions and the options should be discussed with your surgeon.

The decision to proceed with a minimal incision procedure may be changed intra-operatively. Patients must be prepared and give permission for larger incisions (standard procedures) if the procedure through smaller incisions becomes unsafe to continue. Patient safety is our most important priority. Your surgeon will use his judgment in your best interest.

□ **How is Minimally Invasive Surgery performed?**

The preparation process for minimally invasive surgery is unchanged from the standard technique. Following a thorough preoperative screening,

Minimally Invasive Surgery

i.e., laboratory studies, EKG and chest x-ray (depending on your age and anesthesia protocol) you will be admitted to the operating room pre-anesthesia area (inpatient or outpatient) and interviewed by the nursing and anesthesia staff. A general anesthetic is typically administered and you are positioned on the operative table in accordance with the procedure to be performed (please review the information sheets regarding that standard technique).

Minimally invasive techniques rely heavily upon the use of special intraoperative x-ray equipment (image intensifiers, also known as c-arms) and illumination provided by either a microscope and/or endoscope.



Surgeons are using the microscope or endoscope to aid in surgical exposure.

In addition, your surgeon may also choose to use neurologic monitoring in the form of EMG or SEP/MEP to reduce to risk of injury. The operative site is identified and the approach to the spine carried out. Surgical objectives (nerve root decompression, disc space fusion) are achieved and the incisions are closed. You are awakened from the general anesthetic and sent to the post-anesthesia recovery area for further monitoring.

□ **Are there risks associated with Minimally Invasive Surgery?**

Risks associated with minimally invasive surgery are similar to the standard procedure. The following are the some of the potential complications:

- Misplaced spinal instrumentation
- Anesthesia adverse reactions
- Paralysis – the risk is low, especially with the availability of spinal cord monitoring (ask your physician to elaborate)
- Infection
- Nonunion (pseudarthrosis)
- Spinal instrumentation dislodging or pulling out
- Persistent pain and occasionally worsening of pain
- Pneumothorax (air in the chest)
- Cerebral Spinal Fluid Leak

Minimally Invasive Surgery

- Single nerve damage

Other complications related to any major surgery and not specifically minimally invasive surgery include:

- Blood loss and transfusion risk
- Medical complications , heart attack, stroke, pulmonary embolism death
- Ileus and other gastrointestinal problems
- Bladder infection
- Blindness or partial vision loss
- Pneumonia- Bacterial or Chemical

The long term outcome of minimally invasive surgery is not known. In some situations the minimally invasive approach offers clear advantages. In others such as a fusion it is not as clear. Patients historically have done well with regular incisions. Please discuss your situation in detail with your surgeon.

Minimally Invasive Surgery

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I have read the note above, and my questions regarding the proposed procedure have been answered satisfactorily.

Signature

Date

Print Name

Date of Birth