GREG MALHAM
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LUMBAR INTERBODY FUSION (LIF)

DEFINITION:

Lumbar- Lower back

Interbody- Removing a damaged or prolapsed disc and replacing it with bone graft and a titanium cage. The hollow cage is filled with bone graft and Bone Morphogenic Protein *(BMP-2 or INFUSE)*.

Fusion- Joining of one vertebra to another.

APPROACHES:

A damaged disc can be removed and replaced either from the:
Front = ALIF *(Anterior)*
= OLIF *(Oblique)*
Side = LLIF *(Lateral)*
Back = TLIF *(Transforaminal)*
= PLIF *(Posterior)*

INDICATIONS:

- Symptomatic Degenerative Disc Disease (DDD);
- Discogenic pain;
- Recurrent disc prolapse;
- Spondylolisthesis;
- Instability;
- Canal or foraminal stenosis;
- Deformity.

SUCCESS OF THE OPERATION:

70 - 80% of patients report significantly improved pain, function and reduced analgesic requirements. 20% of patients will be the same after the operation and approximately 5% will be worse with increased pain and reduced function.

RISKS OF THE OPERATION:

Risks are low. 3 – 5% of patients experience complications. Mr Malham is able to discuss the risks of Lumbar Interbody Fusion (LIF) surgery during consultation appointments with you.

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RISKS OF THE OPERATION (CONT.):

Specific risks from the back are:
• Bleeding;
• Muscle damage;
• Nerve damage;
• CSF leak.

Specific risks from the front are:
• Bowel damage;
• Blood vessel injury and bleeding, especially from the left iliac vein;
• Distal emboli *(small pieces of blood clot can break off from the retracted left iliac artery and cause clots in the left leg)*;
• Retrograde ejaculation in males *(during sex when a man ejaculates, the sperm goes back up into the bladder rather than out of the penis. This is due to damage to the inferior hypogastric nerve plexus)*. Risk is 2 – 3% and highest at L5/ S1 disc level. Hence the recommendation to men of child- producing age donating a sperm sample pre-operatively.
Specific risks from the side are:
• Weakness, pain and numbness left anterior thigh *(from the transpsoas muscle splitting approach)*;
• Aorta and/or nerve injury.

Blood transfusion is uncommon and the need for this is reduced by the use of the "Cell-Saver", which is a machine used during the operation. Any blood loss from the patient is filtered and returned to the patient, thus minimising the risk of blood transfusion.

General risks *(of any major spine operation)* are:
• Infection;
• Bleeding;
• Heart attack;
• Stroke;
• DVT *(deep vein thrombosis)*;
• Pulmonary embolus;
• Pneumonia;
• Drug allergy;
• General anaesthesia
• Death;
• Metalware breakage/loosening;
• Cage dislocation;
• Non-union *(failure of fusion)*;
• Ongoing pain despite technically successful procedure.

BEFORE SURGERY:

Tell Mr Malham about any medical conditions or previous operations. If you have a medical condition such as diabetes, heart problems, high blood pressure or asthma, Mr Malham may arrange for a specialist physician to see you for a pre-operative assessment and medical care following the neurosurgery.

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BEFORE SURGERY (CONT.):

Inform Mr Malham of medication that you are taking and/or have allergies to medications. Patient must stop using the following, 10 days pre-operatively:
- Aspirin
- Plavix
- Isocover
- Asasantin

Patient must stop using blood thinning medication *(such as Warfarin)*, 3-5 days pre-operatively.

Pre-operative investigations may include:
• Flexion extension lumbar x-rays - to exclude instability *(abnormal movement)*;

• CT Lumbar Scan to assess bone anatomy and the posterior facet joints;

• MRI Lumbar Scan to assess soft tissue and especially disc injury, prolapse, nerve root and thecal sac compression, ligament damage, vertebral endplate oedema, tumour and infection;

• Bone scan to exclude cancer, infection, fracture, severe degenerative *(wear and tear)* changes. *(Identifies pain generators, especially facet joints)*;

• DEXA *(Bone Density Scan)* to assess for osteoporosis;

• Abdominal Ultrasound of *(or CT Aniogram)* posterior abdominal wall to assess position of the iliac arteries and veins;

• Assessment by a vascular surgeon, who will assist with the anterior abdominal approach in surgery.

AFTER SURGERY:

• Nil by mouth until return of bowel sounds and passing flatus. *(The bowel goes to sleep after lumbar surgery and if you eat too soon, you risk nausea or vomiting)*;

• Keep your back straight;

• Stand and walk for 30 minutes each time;

• Lie down as often as you wish;

• Remember to bend your knees;

• Sleep on your back, side or front *(whatever is comfortable)*;

• Avoid bending and twisting at the waist;

• Sit for meals only for 20 – 30 minutes maximum in a straight chair. Ensure that the height of the chair is correct for you, with the level of your hips above your knees;

• Walk four equal walks per day rather than one long walk. Aim initially for 5 and then 10 minutes, building up over 4 – 6 weeks to 30 minutes 4 times per day;

• Car travel as a passenger only for short distances *(less than 30 minutes)* in the first 4 weeks.