Gateshead Health NHS
NHS Foundation Trust

TSS
TYNESIDE SURGICAL SERVICES

Patient Information for Lumbar Spinal Fusion

What is a lumbar spinal fusion?

You have been offered surgery to the lumbar region of your spine, your lower back. The operation is called a lumbar spinal fusion. This is an operation performed with the aim of relieving lower back and leg pain. The vertebrae will gradually fuse together through new bone growth. The aim is to obtain a solid union (fusion) of two or more vertebrae. Rods and screws hold the vertebrae in place during the fusion process. The use of bone may be used and/or taken either from another bone in your body such as the hip bone or from a bone bank.

Diagram 1.
An example of fused vertebrae**.**

A non-rigid, implant system is an alternative to fusion. Flexible materials between the screws help to preserve the structures and restore the healthy alignment of the vertebrae and relieve the pressure on the vertebrae.

What are the benefits of spinal fusion surgery?

The aim of surgery is to significantly reduce back pain, relieve leg pain and stabilise the area of your spine that has been operated on. As with any operation and treatment for pain the speed of your recovery and how much the symptoms will improve are difficult to predict and vary from patient to patient. In some cases recovery may not be complete, although most patients do notice an improvement in their condition with time following surgery. It is important to remember that you play an important role in your recovery. You must carefully follow the instructions you are given following your surgery.

Why do I need a spinal fusion?

There are many reasons for a surgeon to consider spinal fusion. It is often reserved for patients with severe and incapacitating low back pain. Conditions also include: correction of deformity (spinal curves) treatment of instability; and treatment of some lumbar nerve pain. It is likely that non surgical treatments have failed to help your condition and your surgeon has decided that this procedure is the correct form of treatment for you. Injections of local anaesthetic and steroids may have been given to you but often only offer short term relief.

Alternatives to surgery

Surgical options such as a microdiscectomy or decompression may also have been carried out or offered to assist in giving you relief from your back pain.
Microdiscectomy involves the surgical removal of small pieces of bone or disc rather than removing the whole disc as in a spinal fusion. The goal of these procedures remain the same, to eliminate or reduce pain by removing the obstruction that is placing pressure on spinal nerve root, allowing the nerve to begin to repair itself.

Pre-operative preparation

Once that you have a date for your surgery an appointment will be arranged for you to attend for a pre-operative assessment. The pre-operative assessment nurse will help you with any worries or concerns you may have and will give you advice on any preparation needed for your surgery. Before your surgery read very carefully the instructions given to you. If you are undergoing a general anaesthetic you will be given specific instructions of when to stop eating and drinking. Please follow these carefully as this may pose an anaesthetic risk and may result in your surgery being cancelled. You should bath or shower before coming into hospital. On admission to hospital a member of the nursing team will welcome you. The nurses will look after you and answer any questions you may have. You will be asked to change into theatre gowns and slippers.

The surgeon and anaesthetist will visit you and answer any questions that you have. You will also be asked to sign a consent form. A nurse will go with you to the anaesthetic room and stay with you. A blood pressure cuff will be put on your arm, some leads on placed on your chest, and a clip attached to your finger. This will allow the anaesthetist to check your heart rate, blood pressure and oxygen levels during the operation.

What does the operation involve?

Your operation will be performed under a general anaesthetic. There are many surgical approaches and methods to fuse the spine, and can involve placing a bone graft between the vertebrae.
The spine may be approached from the back (posterior approach), from the front (anterior approach) or by a combination of both. The most likely approach is the posterior approach.

What are the risks of a spinal fusion?

Graft Problems

Surgeons typically take a bone graft from another bone in the body, such as the hip bone, and use it to help keep the spine stable. There is a slight chance, less than 1% that this may shift after surgery, causing instability, which can cause damage to nearby tissue. Repeat surgery may be undertaken to correct this complication.

Pseudoarthrosis

This is also known as nonunion, and occurs when the bones do not fuse as intended by the surgeon. This can result in further joint motion that can cause pain and damage to nearby tissues. Repeat surgery is often done to correct this with further grafting or even insertion of metal plates and screws to rigidly secure the bones.

All operations carry some degree of risk. Risks of spinal fusion include:

- The risks associated with having a general anaesthetic. Modern anaesthetics are very safe, and serious complications are extremely rare. Common complications include a sore throat, minor bruising from the needle in your hand or arm. Nausea and vomiting may be a result of the anaesthetic, the surgery or the painkillers. About 1 in 5 people feel sick after an operation and anaesthetic. There are effective drugs to treat and prevent sickness. Shivering is also common after anaesthetic, and you may wake up with a special warming blanket covering you.

- Rarely teeth may be damaged during an anaesthetic (especially if they are loose, capped or crowned).

Serious complications are extremely rare for most people, but complications such as awareness, severe allergic reactions, nerve damage etc. may occur. All anaesthetists are trained to deal with these. The risk of death due t the anaesthetic alone is less than 1 in 250,000. However, if you have any serious medical problems (e.g. heart or breathing problems) then these conditions may make your anaesthetic and surgery more complicated or risky. Your anaesthetist will be happy to discuss your concerns with you.

- A blood clot in the legs that, in rare cases, can pass to the chest and be life threatening
- Wound infection. Deep wound infection that does not respond to anti-biotic treatment is a serious problem that may ultimately require further surgery, 1-2%
- Although successful your operation may leave your pain no better and there is a small chance less than 5% it may even be worse.
- A small chance of injury to the nerves. The severity of this can vary from a small degree of numbness to complete loss of strength in the muscles supplied by the nerve involved. Severe nerve injury is extremely rare, less than 1%
- The risk of a new pain from the site from where the bone graft is taken.
- The bone graft does not fuse together and if it fails to do so may result in persistent pain and in rare cases a need to re-do the operation, 2-5%
- CSF (Cerebral Spinal Fluid) leak 3%

What is the recovery like after surgery?

Your stay in hospital will be from two to seven days. Your anaesthetist will prescribe pain control medication for immediate discomfort and for your recovery. You are most likely to have a patient-controlled postoperative pain control pump. With this technique, the patient presses a button that delivers a predetermined amount of pain medication through an intravenous line a tube that goes into your arm. You will also be offered oral pain medications.

You are likely to be in bed for at least the first 24 hours depending on your surgeon's instructions. You will be helped by the nursing staff to roll from side to side. However, the physiotherapist will help you the following day to regain your mobility. Eating and drinking normally can be resumed once the ward

staff are happy with your recovery. You will have a urinary catheter in situ and a drip to provide you with post operative fluids. These may be removed on day two depending on your recovery.

What symptoms may I experience after my operation?

After the operation you may find that a little swelling or bruising occurs around the wound and some bleeding may occur. It is important to monitor the wound for any excessive bleeding. There may be some discomfort and pain following your surgery and you will be prescribed painkillers. However, if your pain is severe and continuous you should contact your GP.
After surgery you may experience stiffness and scar tenderness. With time and gentle use the stiffness should disappear, this is usually over 6 weeks to 3 months. The scar will remain pink for some time and gradually fade to a fine white line.

Do's

Start to move as soon as you can. Your pain will lessen. Practice the exercises that the physiotherapist has given you. Once home it is encouraged that you walk as much as possible for 15-30 minutes each day. Swimming is an excellent form of exercise and can commence at 6 weeks after surgery. After 3 months you can start using cardio equipment in the gym. More vigorous exercise can be under taken after 3-6 months. Normal sexual activity can be resumed when comfortable. If you have a sedentary (sit down) job you will need to stay off work for approximately 6 -8 weeks. For manual jobs this is 3-6 months.

Don'ts

Try to avoid sitting for more than 40 minutes. You can support yourself in a good position by using a cushion or rolled up towel. Avoid bending and twisting at the waist, it's better to bend your knees. Avoid pushing, pulling, lifting and bending for the first 6 weeks. Flatter shoes are better during the day. Do not lift heavy weights and avoid so for the first 6 months. If your job is heavy manual work or involves driving do not return for at least 12 weeks after your surgery. You should not drive until 6 weeks after surgery. When you start driving make sure you change your position every hour and think about your posture. If you need to go on any long journeys take regular breaks. You are allowed to fly after 6 weeks.

Your post operative care will be guided by your Consultants specific instructions.

Where can I get further information?

Your Consultant, GP and Pre-Assessment Nurse who will see you prior to your admission will be able to answer most of your questions.

www.spinehealth.com

www.livestrong.com

www.backpain.org.uk

www.backcare.org.uk Helpline: 0845 1302704

Useful Telephone Numbers:

Clinical Lead Nurse Amanda Cavanagh (Tyneside Surgical Services)
0191 4453953
Mobile: 07837563351
amanda.cavanagh@ghnt.nhs.uk

Orthopaedic Nurse Practitioner:
0191 4452375

Level 1 Surgery Centre:
0191 4453040/3004
(24 HR HELPLINE)

QEH Main Switchboard:
0191 4820000

Patient Advice Liaison Service:
(PALS) FREEPHONE:
0800 953 0667

Tyneside Surgical Services:
0191 4452474

Data Protection

Any personal information is kept confidential. There may be occasions where your information needs to shared with other care professionals to ensure you receive the best care possible. In order to assist us improve the services available your information may be used for clinical audit, research, teaching and anonymised for National NHS Reviews. Further information is available in the leaflet Disclosure of Confidential Information IL137, via Gateshead Health NHS Foundation Trust website or the PALS Service.

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