Posterior Spinal Fusion
This leaflet has been designed to give you some information about your condition and proposed operation which has been discussed with you and your consultant.

You have been diagnosed with degenerative changes of your spine. This is often referred to as those that cause the loss of normal structure and of function of the spine.

Typical symptoms include low back pain, muscle spasms, thigh or leg pain, and weakness.

**Conservative treatment**

This is initially treated conservatively with pain relief, therapeutic exercise including stretching, which may improve the flexibility of the trunk muscles, coordination and strength.

**Surgery**

This becomes a consideration when the disorder causes nerve compression. Pressure on spinal nerves can cause incontinence, severe pain and numbness and tingling down your legs which is associated with weakness.

**Spinal Fusion**

This is an operation when one or more segments of the spine are fused. This may be performed for a number of reasons such as spondylolisthesis (a horizontal vertebral shift of one vertebra onto another).

Other causes include degenerative changes, trauma fractures and recurrent disc prolapses.
Risks

Your surgeon will always discuss risks with you as there is a small chance that you may be worse off after your spinal surgery. It is a good idea to discuss your future surgery with someone close to you before going ahead.

X-ray showing spondylolisthesis
Nerve Damage

Nerve damage can occur during the operation which can result in numbness or pins and needles. 1% of patients may be left with permanent numbness. In rare circumstances there can be more significant damage to the bladder and bowel and this occurs in 1 – 2% of patients. (These figures are nationally quoted).

The lining around the nerves may be torn during surgery; this is known as the dura. This could result in the leakage of spinal fluid known as a dural tear. If this does occur the symptom is a severe and persistent headache.

Your surgeon will advise you to undertake a period of bed rest from 48–72 hours. This may occur in 5% patients and will normally resolve itself.

Occasionally a second operation will necessary to repair the dural tear.

Wound Infection

Wound infections can range from minor to moderate and can treat with antibiotics.

Severe infections at the site of the operation are less likely, but are more difficult to treat and may require a wound washout and will increase your hospital stay.

All surgery involves cutting the skin, and this can lead to bruising and bleeding which is common. The bruising can last for several weeks.

Deep Vein Thrombosis (DVT)

During the weeks following surgery there is a 5 - 10% risk of developing a blood clot in your leg as you have reduced mobility for a short period of time during and after the operation. You
will be asked to wear elastic stockings before the operation and in theatre mechanical pneumatic pumps and boots are used, both of these may be used initially in the post operative phase until you are able to mobilise. It is essential to perform deep breathing exercises to prevent any respiratory problems. You will be asked to wriggle your toes and get out of bed as soon as advised by your surgeon. If we believe you are at high risk of developing a DVT your surgeon may prescribe a blood thinning injection until you are discharged from hospital. (Please refer to the trust DVT leaflet for further information).

**Pulmonary Embolism**

Occasionally a clot can break from a DVT and passes to the lungs via the heart causing PE in 0.1% of patients who have surgery. Pulmonary embolism (PE) is a life threatening complication and needs immediate attention.

**Smoking**

If you smoke you need to try and stop smoking 3 months before your surgery. Your GP will be able to advise you further on how to give up smoking.

Smoking is shown to increase the complications after major surgery, increasing your risk of chest infections.

**Revision Surgery**

If revision surgery is needed then the risks are slightly higher. Metalwork may be displaced, brake or loosen and further surgery will be required to address this.
**Constipation**

Some pain relief can cause constipation. It is important that you are able to resume your usual bowel habit after your surgery to avoid constipation as it can increase back pain and affect your bladder emptying. Daily walking, a fibre rich diet and oral laxatives can help if bowels are not open for 3 days after which sometimes you may need a rectal suppository.

**Bladder Hesitancy**

Anaesthesia can sometimes affect the prostate in men and this can lead to urinary retention. Patients may be catheterised short term and if subsequently are unable to pass urine normally they may be sent home with a urinary catheter and referred to the Urology clinic.

**Occupational Therapy**

You may need to seek the help of family, friends or others with some aspects of domestic activities (e.g., laundry, vacuuming, bed making, shopping) initially following surgery. It can prove helpful to have these arrangements, if needed, in place before you come into hospital. If you are already having difficulty rising from furniture e.g., bed, chair or toilet you may need to consider temporary alternatives such as borrowing a higher chair from someone or contacting a Social Services Occupational Therapist in your local area.

**Social Worker**

To avoid unnecessary extended periods of hospitalisation patients’s needs are assessed in the Pre-Operative Assessment Clinic. You may seek the help of a social worker prior to your admission. This may be by self-referral or via your GP. In some areas support may also be available from Voluntary Services e.g., British Red Cross, Age Concern.
Before Surgery

What time should I be nil by mouth for the operation?

- Nothing to eat or drink - Fasting (Nil by Mouth). It is important that you follow these instructions because if there is food or liquid in your stomach during your anaesthetic it could come up to the back of your throat and damage your lungs.

- If you are on the morning theatre list last food/milk by 02:30am. Last water by 07:30am.

- If you are on the afternoon theatre list last food/milk by 07:30. Last water by 10:30am.

- No chewing gum on the day of surgery.

If you are a smoker you should not smoke on the day of your operation. This will help to avoid breathing problems during your anaesthetic.

What medication can I take prior to surgery?

If you are taking medicines, particularly painkillers you should continue to take them as usual, unless you are advised otherwise at your pre-operative assessment visit.

Drugs that require special instructions:

- Some Anticoagulant and Antiplatelet drugs such as Aspirin, Clopidogrel (Plavix) Dipridramol (Persantin, Asasantin) or Warfarin may be stopped a few days prior to surgery to reduce the risk of bleeding. The decision to stop medication is made after the pre-operative team have discussed your drug history with your spinal surgeon, weighing the risk versus benefits as you might be taking medication to prevent any future cardiovascular complications.
Oestrogen containing contraceptive pills and Hormone Replacement Therapy (HRT) are usually stopped one month prior to surgery to reduce the risk of thrombo-embolism during surgery.

Diabetic medications such as Metformin, Glipizide, Glibenclamide, Gliclazide and Glitazones are avoided whilst fasting.

Insulin dependant patients may be put on an insulin pump on the day of surgery pre-operatively.

Herbal medications may need to be stopped one week prior to surgery due to lack of evidence about adverse interactions with a general anaesthetic.

After surgery you will be informed when to restart these medications. Please refer to Preparing for your Surgery Trust leaflet for more information.

**Your Operation**

The surgery will be performed through a small incision in your lumbar spine usually a posterior (back) approach is used.

The surgery will be carried out under a general anaesthetic.

Surgery aims to remove pressure on spinal nerves (called decompression) and stabilize the spine.

Fusion involves placing bone graft around spinal instrumentation (rods and screws) to incite bone to grow together into a solid construct.
Approximately 65 -70% patients will have an improvement in their leg pain although improvement in back pain is less reliable. Sometimes the procedure is performed with metalwork and sometimes the disc is removed and an artificial block called a cage is used to support the front of the spine.

After Your Surgery
Immediately following the operation you will be taken on your bed to the recovery ward where the nursing/medical team will regularly monitor your blood pressure and pulse.

Oxygen will be given through a facemask to help you to recover from the anaesthetic.

You will be offered regular pain relief.

The medical and nursing staff will monitor neurological observations of your bladder, bowel, legs and feet to ensure there has been no nerve compression.

Wound Care
The nursing staff will redress your wound prior to discharge and advise you on subsequent dressing changes. You are advised not to shower or bath for the first 12 days following surgery or until the wound is completely dry.

If you experience:-

- Severe redness or discharge from your wound
- A high temperature
- Please inform the spinal nurse practitioner as well as your GP.
- The spinal team holds a dressings clinic though the week where wounds can be inspected and subsequent treatment advocated.
On leaving hospital the nursing staff will provide you with a letter to take to your local surgery for a dressing change and suture/clip removal at 12 days after your operation date. Please book your own appointment.

If you are unable to attend your local surgery - a district nurse may be booked for the dressing change.

Rehabilitation

On the first day following your surgery, the physiotherapist will come and assess you. They will give you some exercises and show you the correct way to move in bed.

If appropriate they will also help you to get out of bed for the first time and increase you walking distance over the next few days.

They will practice stairs with you if required.

You will not be referred for any spinal mobilisation exercises for 3 months, but your needs will be assessed on an individual basis and you will be referred for Out-Patients physiotherapy if strengthening and mobility progression is required.

Your wound site needs to be clean and healthy with minimal oozing prior to your discharge.

Recreational Activities

Walking is the best activity that you can undertake following spinal surgery. Gradually increase walking as pain allows.

When you are able to sit comfortably and if you have no altered sensation or weakness in your legs then you can consider resuming driving, but it is important that you discuss this with your insurance company also.

Swimming can be commenced once the wound is dry and you feel comfortable to do so.
In the longer term Pilates is also excellent for strengthening your back and should be considered.

Staying active and taking part in regular exercise is recommended when recovering from spinal surgery.

**Lifting and Carrying**

Heavy lifting should be avoided for 3 months. Other than this you are allowed to carry out all normal daily activities but avoid excessive twisting, pulling and pushing for 6 weeks. You should try and maintain good posture by not slumping.

**Fatigue is expected in the first 6 weeks.**

Everyone is different and may be starting from different levels of ability following surgery depending on how long and severe their symptoms have been.

Everyone should try and gradually increase their level of activity to get the most out of their operation. You should not expect to be completely pain free before starting this aspect of your rehabilitation and you will experience good days and bad days.

Follow the advice from your physiotherapist.

**Sex**

You can resume sexual activities when you feel comfortable. However we advise you to take a more passive role in the early stages. Try alternative positions to support your back.

Follow the advice from your physiotherapist.
Going Home
The Occupational Therapist may need to assess you if you are having difficulties with some of your activities of daily living eg. being able to wash and dress yourself. They may also need to consider if any additional assistive equipment is required in your home in order to protect your back and/or help your mobility. This equipment is normally only needed on a temporary basis. Return to everyday activities should be graduated over several weeks. It is important that you bring your completed heights form with you on admission; this form will have been given to you during your pre-operative assessment.

Returning To Work
You will need to be off work for 8 to 12 weeks. This may vary from person to person and on your occupation. Heavier workloads will require a return in a gradual and progressive manner.

The hospital can provide a fit note or you can ask your GP.

Follow Up
We will send you an appointment to be reviewed by your Consultant or his Registrar at the out patients clinic in approximately 6 - 8 weeks following your spinal surgery.

You should try to reduce your pain relief in consultation with your GP. This should be done in a graduated fashion over a 4-6 week period for example.

If you have concerns relating to wound care, pain control or aspects of rehabilitation once you have been discharged you may contact the spinal nurse practitioner via the help line and leave a message.
References
The Royal College of Anaesthetists, Churchill House, 35 Red Lion Square, London WC1 4SG www.rcoa.ac.uk
Association of Anaesthetists of Great Britain and Ireland 21 Portland Square, London WC1 1PY www.aagbi.org
Patient information from Royal College of Surgeons of England http://www.recseng.ac.uk/patient_information
Motability Scheme
Address: Warwick House, Roydon Road, harlow, CM19 5px. Tel: 0845 456 4566/fax 01279632000/minicom 01279632273
Medical Advisory Branch (DVLA)
Drivers Medical Group, Longview Road, Swansea, SA99 ITU Tel: 01792 783686 http://www.dvla.gov.uk/drivers.aspx

NHS Constitution. Information on your rights and responsibilities. Available at www.nhs.uk/aboutnhs/constitution
If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

Spinal Nurse Practitioner
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07798 581 139

www.nbt.nhs.uk/oplanned