Lancashire Teaching Hospitals
NHS Foundation Trust

Information for patients and carers

Lumbar Spinal Surgery

This booklet explains the spinal surgery you are going to have. It discusses the operation and the benefits and risks of the surgery. You will also be given an additional booklet which tells you what to expect during your recovery.

You and your surgeon will have discussed this operation and decided that it is your best option. This is usually because treatment that does not involve surgery - such as pain relief, physiotherapy and injections- has not helped.

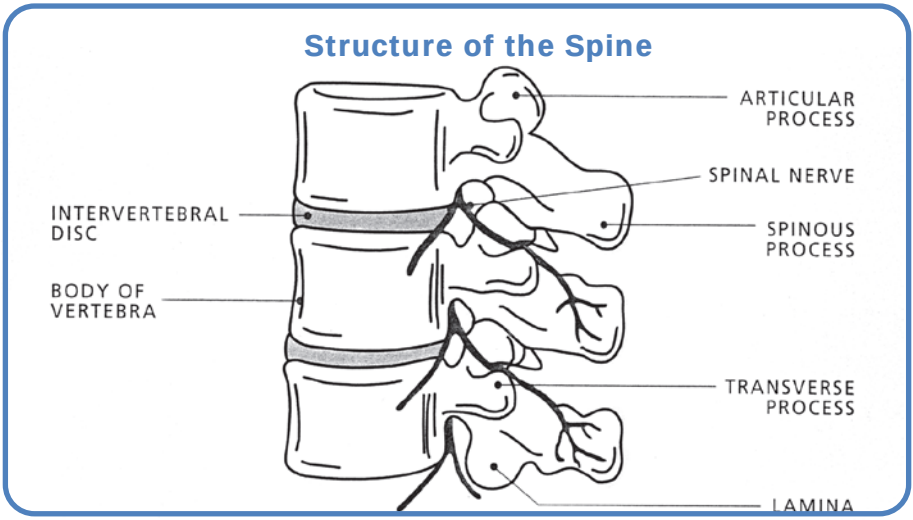
The operation will be explained to you in detail by the clinician who listed you for surgery. The surgeon will make sure that you are fully informed before you sign the consent form agreeing to surgery.

Please let us know if you feel you do not fully understand the risks and benefits of surgery. You should also let us know if you are unsure whether to continue with surgery. Please contact the surgeon's secretary and ask for an appointment to discuss the surgery further.

You should also have been informed of alternative methods of treatment.

Why do I need spinal surgery?

You may need spinal surgery for a number of reasons. The most common reasons are discussed below. Some patients may have a combination of causes. The cause in your case will have been discussed by the clinician you saw in clinic.



Spinal stenosis

Spinal Stenosis is a condition caused by narrowing of the spinal canal. These are natural changes that occur with age, (but it can affect younger people). These age-related changes can bring about thickening of some structures these include the disc, ligaments and joints of the spine. This can result in pressure on the nerves where they exit, (come out of the spine) or in the centre of the spinal canal. Pressure may be on one or more nerves. These can cause pain, numbness, tingling or heavy sensations in the leg or legs.

The symptoms usually start when standing and walking and can be eased by sitting, bending or resting.

The prognosis can be uncertain but as a rule, in time 1 in 5 will improve; 3 in 5 will stay the same and 1 in 5 will worsen.

The decision to go ahead with surgery is a quality-of-life decision. If your symptoms are acceptable to you then no treatment may be needed.

Most surgeons would suggest less risky treatments first which may include: improving your lifestyle, if appropriate, losing weight and stopping smoking. Improving mobility, strength and overall fitness can help as can improving pain control.

Injection therapies such as epidural injections or nerve blocks can also help some patients. Your clinician will discuss whether these are appropriate in your case.

Disc prolapse

You have discs between each of the vertebrae (spinal bones). These act as shock absorbers when you move around and carry things. Discs are made of layers of tough tissue called cartilage with a jelly like centre. When discs prolapse the cartilage can tear and the jelly can bulge out and can put pressure on the nerves in your spine. This can cause pain, weakness or altered sensation in the leg or legs.

The main risk factors for prolapsed discs are inherited-you can't choose your parents! Other risk factors are being overweight and smoking. Regular exercise can help reduce the risk. Sedentary occupations are at more risk than those which include activity. It may surprise you that heavy manual work and repetitive lifting don't seem to be risk factors.

Usually, treatment that does not involve surgery improves your symptoms until the disc prolapse improves. These treatments may include painkillers, physiotherapy and injections. There is no set time or number of treatments you will need. Most disc prolapses will get better within 6 to 12 weeks but in some cases, recovery can occur up to 2 years after the symptoms started. Most people get better with time; however, surgery can speed up recovery and improve your quality of life.

We may offer you surgery if you have tried non-operative treatments which have not worked. Surgery is good at relieving leg pain but is not recommended for the relief of back pain.

Cauda Equina syndrome

Cauda Equina syndrome is a rare condition that may mean you need urgent surgery. The bundle of nerves at the base of the spine becomes compressed. This affects nerves important for messages to the legs, feet, bladder/bowel and sexual organs. This is a serious condition which if not treated can lead to long term problems with pain, altered sensation in the back and both legs, bladder/bowel continence and sexual function.

What are my surgical options?

A spinal clinician will have discussed the options with you - including surgery, (this may have included the no treatment option). Then your spinal surgeon will have recommended that you may benefit from one of the surgical options. We have outlined below some of the common operations. This leaflet will help you to decide which option you prefer.

Surgery is usually performed under a general anaesthetic. If you are not fit for a general anaesthetic the anaesthetist may suggest a spinal anaesthetic for short operations. This will be discussed with you by the anaesthetist, and you may be given a separate leaflet at your pre-operative assessment that explains anaesthetics.

Microdiscectomy/Discectomy

Both involve removing the part of the disc that is pressing on your nerve. The prolapsed part of the disc is removed through a small incision (cut). The surgeon may also need to remove a small amount of bone to make some more room around the nerve.

Decompression

This involves removing bone and ligament from the back of your spine to make more room for your spinal nerves. Depending on how the nerve is trapped the surgeon may take a small amount of the facet joint and the lamina. You usually have this operation if you have spinal stenosis.

Spinal fusion / Stabilisation

This is complex surgery and may be performed with decompression or discectomy. Metal or plastic cages, screws and bone graft may be used to fuse the bones together. This stops this part of your spine moving. The aim of surgery is to reduce pain in the back and/or legs. Recovery from this surgery may be slower.

What are the risks of spinal surgery?

There are risks in having any type of surgery, especially procedures involving general anaesthetic.

General risks of Surgery

Anaesthetic risks

Problems may include cardiac arrest, blindness, death, breathing difficulties, allergies to the drugs used, heart attack and stroke. Skin breakdown and nerve damage due to positioning in longer procedures. Swallowing difficulties and voice impairment associated with the use of anaesthetic breathing tubes.

More information is available in the leaflet, '**you and your anaesthetic'** which may be given to you at your pre-operative assessment.

Bleeding

Bleeding from the veins around your nerves is one of the more common risks. Blood loss is usually low and it is unlikely that you will need a blood transfusion. There is a rare risk (1 in 3000) of damage to the major blood vessels in front of the spine (vena cava, iliac veins / arteries and aorta) if

this happens you could lose a lot of blood very quickly. This would need emergency surgery to correct and could lead to death.

Blood clot

Having surgery puts you at risk of having a Deep Vein Thrombosis (DVT) a blood clot in the leg veins. There is also a risk of Pulmonary Embolism (PE) a blood clot in the lungs. To prevent blood clots, you may be asked to wear elastic compression stockings. A mechanical pump may be used whilst you are in bed, and you may need injections or medication to prevent blood clots after your operation. You may be given a leaflet about blood clots before your surgery.

It is recommended that everyone keeps moving after surgery to reduce the risk of blood clots. Make sure you drink (non-alcoholic) liquids regularly to keep hydrated.

Infection

At the time of surgery, you may be given antibiotics to help reduce the risk of infection. For larger procedures such as fusion you may need more antibiotics afterwards, these are usually given by a drip.

Infection rate is about 1%; this may be higher in some conditions such as diabetes.

There is a risk of infection with any surgery, but we take many precautions to keep that risk to a minimum.

If you develop infection post-operatively this may be dealt with by your GP with antibiotic tablets. In severe cases you may need to be admitted to hospital for treatment with antibiotics through a drip or may even need further surgery to clean the wound.

Specific Risks of Surgery

Nerve damage

This occurs in approximately 1% of patients.

If a nerve is damaged you may have permanent pain, weakness and sensation changes such as numbness in the leg(s). These can be as bad, as or even worse than before the surgery.

Dural tear

This happens in approximately 5% of patients having surgery for the first time.

The layers around the spinal cord and nerves (Dura) can be damaged resulting in a leak of fluid (cerebrospinal fluid). This will be repaired at the time of surgery. If it happens it can cause severe headaches. You will need to stay in bed flat for 2-5 days and may need intravenous (through a drip) antibiotics. This is more common in patients who have had spinal surgery before (10% with second surgeries).

Bladder, bowel, and problems with sexual function

Bowel and bladder problems are usually temporary but can rarely, (about 1 in 350 cases) be permanent. These include incontinence or retention of urine (not being able to pass water).

Bowel problems may include constipation or incontinence.

Very rarely impotence can occur (problems getting or maintaining an erection in men).

Need for further surgery in the future.

Approximately 5% of patients may need further surgery within the first year. 10% of patients will need further surgery in the 10 years following their operation.

Paralysis or Death

Serious complications such as paralysis or death are rare this may happen in less than 1in 350 cases.

No improvement or a worsening of current symptoms

You may have little or no improvement in the amount of leg or back pain you experience. A small number of patients find that their symptoms are worse following surgery.

Spinal fusion surgery - additional risks

There is a small risk that metalwork and implants can fail or break. If this happens you may need further surgery to repair this.

Bone graft may not ‘take’ which may weaken the fusion and cause breakage of the metalwork. You may also need surgery to correct this.

Spinal fusion surgery generally takes longer to recover from, and you may need to restrict your activities for longer than in decompression or discectomy surgeries.

Lateral fusion - additional risks

For those patients having lateral fusion procedures (X-LIF, D-LIF, X-ALIF) there are specific risks due to the surgical approach, the way the surgeon enters the spine. Hip flexion will be uncomfortable, and limited for some weeks after the operation, because the surgeon goes through the muscle that performs this action during the procedure.

The nerve that controls the thigh muscle can be damaged during surgery. The risk of this is reduced by nerve monitoring during the procedure but can still happen. If it occurs it can cause numbness over the front of the thigh, weakness, stiffness and pain in the hip and knee weakness. This settles for most people but can last over a year and sometimes may be permanent.
There is a risk of fracture of the vertebrae (bones) when the implant is being inserted.

For further information see:
www.nice.org.uk/guidance/ipg574/ifp/chapter/What-has-NICE-said

Factors which may affect spinal fusion and your recovery

There are a number of factors that can negatively impact on a solid fusion following surgery, including:

- Smoking
- Diabetes or chronic illnesses
- Obesity
- Malnutrition
- Osteoporosis
- Post-surgery activities
- Long-term (chronic) steroid use

Of all these risk factors, the one that can affect fusion rate the most is smoking. Nicotine has been shown to inhibit the ability of the bone-growing cells in the body to grow bone.

If you smoke, we would advise you to stop smoking to improve your chances of a good recovery. If you need help to stop smoking we can refer you to the smoking cessation service or you can discuss this with your GP. Ideally you should stop smoking or using nicotine containing products 6 weeks prior to your surgery and also for at least 3 months after your surgery.

It is important to remember

Most of our patients benefit from having surgery. In some cases, the risks and benefits are different. If this is the case, your consultant will discuss this with you. So please remember that although the risks of spinal surgery can be very serious, for the vast majority of our patients the risks are very low.
You will be given the opportunity to discuss this as part of the consenting process. Once you are satisfied you will sign the consent form and agree to go ahead with surgery.

What are the benefits?

The benefits of spinal surgery can include reducing your pain and discomfort, as well as preventing your symptoms from becoming worse.

Following decompression or discectomy surgery

- 70-75% of people have significant improvement in symptoms
- 20-25% may have an improvement but have some persisting symptoms
- 5% are not helped at all
- 1% may be worse than they were before surgery

More complex surgery can have a smaller chance of success. If you have any questions about this you should ask your consultant.

Following fusion surgery

- 60-70% of people may have improvement of back pain
- 20-30% may have an improvement of back pain but still have some persisting symptoms
- 10-20% may not be helped at all and in some cases may be worse than before surgery

Consent

We must by law, obtain your consent to carry out any operation and some other procedures beforehand.

Clinicians will explain risks, benefits and alternatives before they ask you to sign a consent form.

If you are unsure or unhappy about any aspect of the treatment proposed, please ask to speak with a senior clinician again.

What happens before the operation?

Pre-operative assessment

When you have agreed that you wish to go ahead with an operation, you will be contacted to attend a pre-operative assessment. This assessment makes sure that you have had all the investigations you need and that you are fit for surgery. This may include, blood tests, x-rays and ECG (heart reading), to check that you are fit.

The results from some of these tests are valid for 3 months and may need to be repeated nearer to the time of the operation, if appropriate.

It is important that you inform us of any changes to your health between your pre-operative assessment and surgery.

Please bring a current list of any medication you are taking to your pre-operative assessment. This includes any supplements, vitamins or inhalers.

If necessary, you may be referred to an anaesthetist for further assessment of your fitness for surgery.

You will not be entered onto the waiting list until you are fit for surgery.

You may be sent to the specialist education clinic 1-8 weeks before your surgery. A nurse and occupational therapist will assess you and explain what happens during your operation and hospital stay. They will also explain what to expect and give you advice regarding what you can and can't do after the surgery.

If further investigations are needed at this time they will be arranged.

The nurse will also talk to you about going home after your surgery. We will help you decide whether you need more help in your home after the surgery.

What happens when you are in hospital?

Day of admission

Your admission letter will explain what time to come into hospital and to which ward to go to.

You must not eat or drink anything for a while before your surgery. We will tell you when to stop eating and drinking at home.

You will usually meet your surgeon and anaesthetist before going into surgery and will be given the opportunity to ask any questions you may have.

Medications

Please bring a supply of any regular medications that you take with you. These will be locked in a locker by the side of your bed and given to you at the right times.

A pharmacist visits each of our wards every day. They will go through your medications with you and answer any questions you have about them.

Valuables

Please do not bring valuables, jewellery or large sums of money into hospital. The Hospital cannot accept responsibility for lost items.

Getting ready for surgery

Before you go to the operating theatre, we will ask you to change into a hospital gown. You will be asked to remove all jewellery (except wedding rings which can be taped over) and make-up. Your nurse will accompany you to the theatre reception. You will then be taken into the anaesthetic room where you will be given an anaesthetic. This is usually a general anaesthetic, but some patients may have a spinal anaesthetic. This will have been discussed with you by the anaesthetist.

What happens after the operation?

When you wake up you will be in the theatre recovery area. You may be wearing an oxygen mask. We will take this off once you are fully awake. You may also have an intravenous line (IV or drip) in your arm. This gives you fluid as you will not have drunk anything for several hours. We will take this out once you are drinking well.

Occasionally, some patients may need a catheter (tube to drain urine) inserted in theatre. Usually, you can eat and drink when you are fully awake. We advise you to start with a light meal.

The nurses will observe you closely when you return to the ward. They will make sure that any pain you have is well controlled, but you may still have some pain and discomfort. If you have any other symptoms such as nausea (feeling sick) your nurse will help you with this.

Getting Moving

We aim to get you moving around on your own as soon as possible. The physiotherapist or nurse will come to see you and help you to get out of bed and start walking. They may go through some simple exercises with you and practise using the stairs if this is needed.

All of this will improve your confidence to get up and about again once you get home.

How long will I have to stay in hospital?

This depends on the type of surgery you have had and how you feel afterwards. If you have a discectomy or decompression surgery you may be

able to go home the same day or the day after. If you have fusion surgery you will normally be discharged from hospital within one to five days after your operation.

You will not be discharged until all members of the team who treated you are sure you are well enough.

Day Case Patients

For some surgeries you will benefit from going home the same day. You will be given more information on important things to look out for when you get home. This will be given to you either before your operation or before you go home.

What is the best way to look after myself at home?

Some people feel a little anxious about managing at home after your operation. The advice we give here should help you. If there is anything we have not covered in this booklet, please ask before you go home.

You will need to take things easy for several weeks after the operation. You will be advised to take time off work. It can take at least six to twelve weeks (and some patients may take even longer) to heal properly. We recommend that you follow the advice we give you carefully.

How do I care for my wound?

How big will my wound be?

This depends on which operation you had and your body size. The incision (cut) needed to do a microdiscectomy can be as small as 1.5cm long. The cut will be longer if you have a decompression or spinal fusion.

When will I have my stitches taken out?

If you have stitches or clips, these will be taken out ten to fourteen days after your operation. The practice nurse at your GP surgery will do this

for you. Please make an appointment for this once you are at home. Please inform the ward staff if you feel you are unable to attend the GP surgery.

How soon can I shower?

Keep your wound clean and dry. You can shower as normal, but you may need to change your dressing after each shower for the first week. We will give you a supply of dressings before you go home.

How long will my wound take to heal?

Wound healing goes through several stages. You might feel tingling, numbness or some itching around the wound. The scar might feel a little lumpy as the new tissue forms and it might also feel tight. These are all normal. Do not be tempted to pull off any scabs as this is a protective layer and removing it will delay healing.

These are some of the signs of infection. Contact your GP, the ward or the emergency department if you develop any of these:

- **The wound becomes more painful, swollen or hot**
- **You have expanding redness around the wound**
- **You notice any yellow or green discharge from the wound or the wound discharge becomes cloudy**
- **You feel unwell, have a raised temperature (fever/shivering)**

These are the warning signs for Cauda Equina Syndrome. Contact your local emergency department / A&E if you develop any new combination of these symptoms:

- **Severe pain radiating down both legs**
- **Loss of feeling/pins and needles between the inner thighs or genitals**
- **Numbness in or around your back passage or buttocks**
- **Altered feeling when using toilet paper to wipe yourself**
- **Increasing difficulty when you try to urinate (pass water)**
- **Increasing difficulty when you try to stop or control the flow of urine**
- **Loss of sensation when you pass urine**
- **Leaking urine or recent need to use pads**

Will I see my surgeon again after I am discharged home?

An appointment will be sent to you after discharge. Your follow-up appointment will be with one of the spinal team. Your appointment will be between 6 and 12 weeks after you operation, dependent upon your surgeon's instructions. This follow up appointment may be a telephone appointment.

A summary of your care will be sent to your GP after your operation.

What medication will I be given to take home?

Please make sure you bring into hospital a supply of your regular medication, this needs to be in the original packaging from the pharmacy. You need to make sure that you have enough medication to last for your stay in hospital and that you will have a supply once you return home.

If you need any new medication this will be supplied before you leave hospital.

Take regular pain relief initially to allow you to be as active as possible. Reduce these as your pain levels begin to improve.

Where can I get a Fitness for work certificate?

The hospital can provide you with a certificate for your hospital stay. Please ask the nursing staff or ward clerk. You will have to ask your GP for any further certificates.

Who can I contact with queries or concerns?

If you have any medical problems, contact your GP first. They will contact the medical team at Preston or Chorley if necessary.

Advice on returning to usual activity

You may see an Occupational Therapist, (OT) when you attend the specialist education clinic, (before the operation).

The OT can assess you and give you advice on carrying out your day-to-day activities. Daily tasks include, personal care tasks; work; lifestyle and leisure activities. The OT can also, if appropriate, prescribe assistive equipment to help you.

After your surgery you may also receive an appointment to see a Physiotherapist who will work with you to progress your recovery. This will usually be in your local area and your appointment will be

somewhere between 6 and 12 weeks post-op, depending on the type of operation that you have had.

Contact details

Should you require further advice or information please contact

Orthopaedic Spinal Team
Patient Experience Co-ordinator - 01772 522307
Patient Experience Co-ordinator - 01772 522943
Patient Experience Co-ordinator - 01772 521391
Patient Experience Co-ordinator - 01772 522310

Royal Preston Hospital
Ward 14 - 01772 522474
Ward 16 - 01772 522990

Chorley Hospital
Leyland Ward - 01257 245742
Rawcliffe Ward - 01257 245748

The Patient Advice and Liaison Service (PALS)

PALS offer support, information and assistance to patients, relatives and visitors. They can also provide help and advice if you have a concern or complaint that staff have not been able to resolve for you. Telephone: 01772 522972 Email: PALS@LTHTR.nhs.uk

Care provided by students

At Lancashire Teaching Hospitals our students get practical experience by treating patients.

Please tell your doctor or nurse if you do not want students to be involved in your care. Your treatment will not be affected by your decision.

Sources of further information

www.lancsteachinghospitals.nhs.uk
www.nhs.uk
www.patient.co.uk
www.accessable.co.uk

Support groups and organisations

www.eurospine.org - European Spinal Surgeons website, information on spinal conditions and surgery.

British Association of Spinal Surgeons
www.spinesurgeons.ac.uk - Advice and information on spinal conditions and surgery.

SPORT Trial
www.dartmouth.edu/sport-trial/patients.htm - Research based information and treatment calculator for spinal decompression and discectomy

Backcare
www.backcare.org.uk - Information about back pain and how to manage it. Helpline: 0845 130 2704

Brain and Spine Foundation
www.brainandspine.org.uk - Advice and support for people with brain and spine conditions. Helpline: 0808 808 1000

Brain and Spinal Injury Centre (BASIC)
www.basiccharity.org.uk Helpline: 0870 750 0000

Outsiders Sex and disability advice.
www.outsiders.org.uk Helpline: 07770 884 985

Scoliosis Association (SAUK)
www.sauk.org.uk - Advice, support and information about scoliosis and other spinal conditions.
Helpline: 020 8964 1166

Spinal Injuries Association (SIA)
www.spinal.co.uk Helpline: 0800 980 0501

Lancashire Teaching Hospitals NHS Foundation Trust is not responsible for the content of external internet sites.

All our patient information leaflets are available on our website for patients to access and download:

www.lancsteachinghospitals.nhs.uk/patient-information-leaflets

Lancashire Teaching Hospitals is a smoke-free site. Smoking is not permitted anywhere on any of our premises, either inside or outside the buildings. Our staff will ask you about your smoking status when you come to hospital and will offer you support and advice about stopping smoking this will include Nicotine Replacement Therapy to help manage your symptoms of withdrawal and the opportunity to speak to a nurse or advisor from the specialist Tobacco and Alcohol Care Team.

If you want to stop smoking, you can also contact Smokefree Lancashire on Freephone **08081962638**

Please ask a member of staff if you would like help in understanding this information.
This information can be made available in large print, audio, Braille and in other languages.

Department: Orthopaedics
Division: Surgery
Production date: November 2023
Review date: November 2026
JR 1070 Part 1 V1