



**Brighton and Sussex
University Hospitals**
NHS Trust

Information and Guidance for Patients Following Lumbar Spinal Surgery

Patient information booklet

– Please bring this booklet with you into hospital

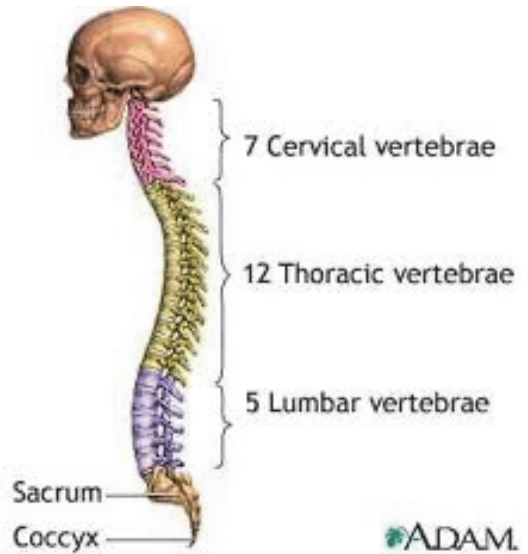
Anatomy of the spine

The spine (backbone) is made up of bones called vertebrae, stacked on top of one another to form a column. This is called the spinal column.

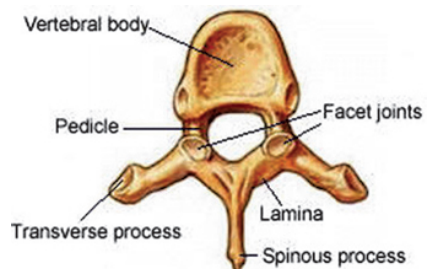
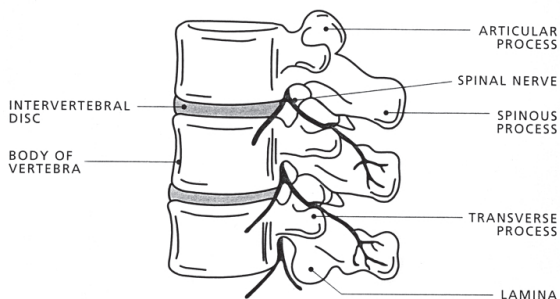
The spine has 3 main parts:

- Cervical Spine
- Thoracic Spine
- Lumbar Spine

There are 7 cervical vertebrae, 12 thoracic vertebrae and 5 lumbar vertebrae.



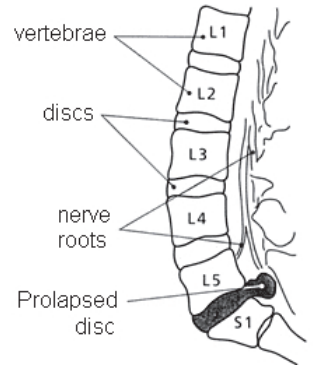
The spinal column is supported by ligaments and muscles, which keep it flexible, and strong. In between the vertebrae there are cushioning structures, known as discs. A pair of spinal nerves leaves the spinal cord between each vertebra, one to the right and one to the left.



Disc problems

Discs act as the shock absorbers of the spine. They make strong joints with the vertebrae above and below, allowing the spine to move at the same time.

Under compression, these discs flatten and broaden. Discs are often described like jam doughnuts – by compressing one side of the disc, the central jelly like structure (like the jam) will be pushed to the opposite side. Over time, repetitive movements such as bending, heavy lifting or using a poor lifting technique may cause the central jelly portion of the disc to bulge or protrude through the outer fibrous rings. This can cause pain by irritating or compressing the nerve root as it leaves the spinal cord.



In many cases, bulging discs get better on their own, but sometimes the disc may need to be partially removed surgically to reduce the pressure and irritation on the spinal nerve.

Spondylosis (arthritis of the spine)

Lots of small joints exist around the vertebrae and discs to control the direction of movement. The surfaces of these joints are covered with cartilage, which allows for smooth movement, acting as a lubricant for the joints. This cartilage gets worn out as you get older. This may lead to an increase in stiffness and sometimes pain. Spondylosis is most commonly managed with a combination of pain relief, anti inflammatory medication and exercise.

Spinal stenosis

This is a reduction in the space available for the spinal cord or spinal nerves. Often patients do not have back pain, but are limited in the distance they can walk due to leg pain. This is often relieved by sitting down or bending forwards.

Spondylolisthesis

Spondylolisthesis means that one vertebra has slipped out of position. This can be a very mild slip or a more severe displacement and there are not always symptoms associated with this. You may feel discomfort and pain because of the irritation of the vertebral joints and spinal nerves.



What type of surgery might I have?

Microdiscectomy

This is when a small part of the disc which is causing compression on the nerve root is removed. It is performed through a small incision, with the surgeons using a microscope to see the structures.

Laminectomy

This is when the arches of bone at the back of the spine are removed, making more room for the trapped spinal nerves. This operation is usually performed for spinal stenosis. Once the bone is removed, the hole through which the spinal nerves pass is enlarged, reducing any irritation.

Spinal Fusion

This is when certain spinal bones are immobilised or fused together. This may involve using special cages or metal screws and plates. This operation is performed when it is necessary for the spine to be stabilised.

What results can I expect following my surgery?

It is important to recognise that spinal surgery cannot guarantee to relieve everyone's symptoms. In some cases the aim of surgery may be to stop symptoms worsening rather than making them better. It is also important to understand that if there is a reduction in symptoms this can take weeks to months to occur. The extent of any improvement will also depend on how much damage has been done to the spinal nerves before the operation.

It is unusual for surgery to make your symptoms worse. Occasionally existing back and nerve pain can be aggravated, especially in the early stages after the operation.

Your Surgeon will discuss likely outcomes with you before your surgery.

Risks of surgery

There are risks with any surgery. You may have additional risks to those listed below, depending on the type of surgery you will be having and any pre - existing conditions you have. Your consultant or one of their team will go through all the specific risks with you.

General anaesthetic

The risks of having a general anaesthetic in fit and healthy people are very low. If you already have heart and or chest problems the risks may be more significant, and an anaesthetist will discuss this with you.

Infection

There is a small risk of a wound infection. This can occur in the superficial tissues or deeper. Most infections are resolved with antibiotics, but occasionally some of the deeper wound infections need further surgery to clear the infection.

Damage to your spinal cord or nerves

We hope never to cause any injury to the spinal nerves, but during surgery a nerve may be accidentally damaged or there may be some bruising. In most cases this will recover. Very rarely there is paralysis to varying degrees, including weakness and numbness in limbs or problems with bowel and bladder control or sexual function.

Sometimes the waterproof membrane (Dura) that surrounds the nerve is found to be stuck to nearby structures. This may result in it tearing during surgery. The tear may result in leaking of cerebrospinal fluid (CSF). This is uncommon and usually settles down on its own. If it does occur you may need to stay in bed for a few days.

Deep Vein Thrombosis (DVT) / Pulmonary Embolism (PE)

There is a risk of getting a blood clot (thrombosis) in one of the big veins in your leg (DVT). In some cases this clot can travel up to your lung (PE) which can be life threatening. To help minimise this risk you will be given compression stockings and, once able, advised to walk around as much as you can.

Bleeding

This can occur from injury to blood vessels around the surgical site. Occasionally you may need a blood transfusion after the operation.

Problems related to positioning in theatre

We take great care to position you well in the operating theatre with the use of pressure relieving equipment. However, eye complications and pressure problems to skin and nerves can occur.

Consent

By law we must obtain your written consent before your surgery. Before your operation your consultant or their registrar will explain what your operation involves, including what the benefits are and the specific risks involved for you before asking you to sign the consent form.

You must make sure you understand the surgery being undertaken.

If you have queries or you are unsure about any aspect of the treatment proposed, you must discuss these with your consultant or their team before having your operation.

What to do if symptoms improve before surgery

It is possible that symptoms can improve so that surgery is not necessary. If there are major changes in your symptoms then contact the patient access team on **01444 441881 Ext. 8712**.

Day of surgery

Please be aware that emergency operations need to take priority, therefore your admission or your surgery may unfortunately be delayed or postponed to another day.

- Depending on the time you are expected to go to theatre you will be told when to stop eating and drinking; this includes no chewing of gum.
- Please don't wear any makeup or apply any face creams, you will need to remove all nail varnish including that on false nails (you do not have to remove the false nails).
- Jewellery, including body piercings must be removed.
- You may be asked to wear some special socks which are designed to improve circulation. It is wise not to cross your legs while you are in bed for the same reason.

Your operation will typically take between 2-4 hours

In Recovery

- You will wake up in the recovery area where you will have a nurse with you. You will have a small clear mask over your nose to give you oxygen.
- You will also be given fluids through a small tube in one of your veins usually in your arm. Most people do not find this uncomfortable and it is usually removed the next day once you are drinking well.
- You may also have a small drain in your wound site which is usually removed the next day.
- Nurses will regularly check your blood pressure, pulse and limb movements.

How long will I stay in hospital?

The length of stay following spinal surgery is normally between 1 and 2 days, unless there are complications.

Phase 1 (0-1 days)

When the doctors are happy, you will be allowed to start getting up. This is often from the evening of your surgery. You will be shown how to get in and out of bed, and encouraged to start walking on the ward. We do not recommend the routine use of walking aids following spinal surgery, so you will be assessed for this on an individual basis. A walking aid will only be provided if thought necessary by your therapist. Once you are up and walking on the ward, your catheter can be removed. A Physiotherapist will assess you and teach you the exercises, found in this booklet.

Phase 2 (1-2 days)

Once you are advised it is safe to do so, it is important that you practice walking independently on the ward. We recommend a 'little and often' approach. It is also important for you to be regularly practicing your Early Exercises.

During this phase you will be shown how to progress your exercises and also practice stairs where necessary

Please let a member of staff know if you experience any changes in your bladder or bowel habits following your surgery.

Discharge Home

Your therapists, working alongside the doctors and nurses, will advise you when it is safe for you to go home. It is a team decision and every member of the team will be happy with your progress before you are discharged.

Someone will need to take you home once you have been discharged. Please organise this with your friends and family.

Wound care

If you have stitches or clips, these will usually be removed 7-10 days after your surgery. You must make arrangements for them to be removed by your practice nurse at your doctors surgery. Your consultant may have used stitches under the skin that dissolve and small strips of tape (called Steristrips) on top of the wound. These Steristrips can be removed after 5 days by a friend or family member at home.

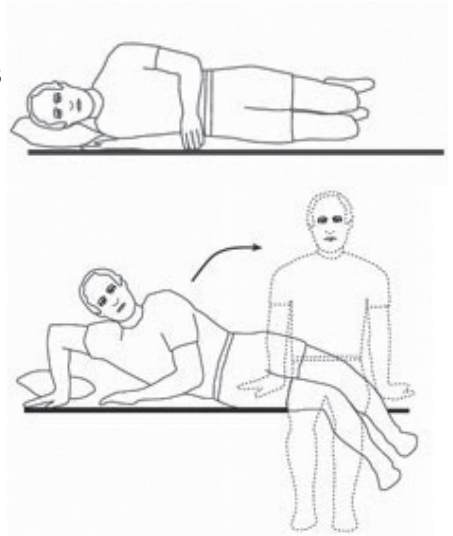
You may experience some tingling, numbness, tightness or some itching around the wound. These feelings are all part of the healing process. If your wound becomes red, inflamed or is leaking then you should contact your GP as soon as possible.

How do I get in and out of bed?

We will teach you how to get out of bed comfortably. The technique normally used is called log rolling. This simply involves rolling onto your side before getting out of bed. You should continue to log roll for the next 4-6 weeks, until your strength has improved and your pain has settled.

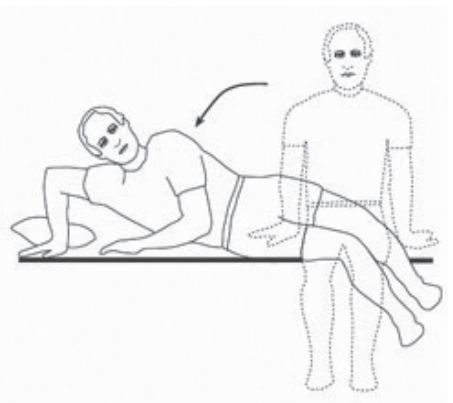
Getting out of bed:

- 1 Lying on your back, bend your knees
- 2 Roll on to your side without twisting
- 3 Bring your top arm across your body to place the hand on the bed level with your chest
- 4 Push through the arms and bring your legs over the bed to sit up.



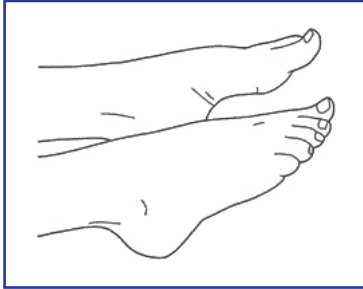
Getting in to bed:

- 1 Sit on your bed close to the pillows
- 2 Lower yourself onto your side using your arms to help guide and control your body. At the same time, bend your knees and pull your legs onto the bed
- 3 Keeping your knees bent roll onto your back without twisting.



What exercises will I need to do?

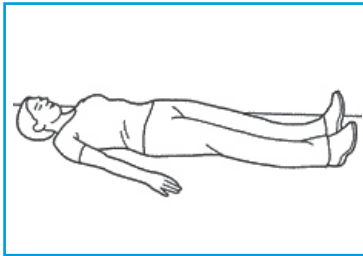
Please start these exercises as soon as possible after your operation



ANKLE PUMPS

- 1 Lying or sitting
- 2 Bring your toes up towards your shins (toes to ceiling) and then down away from you (point your toes).

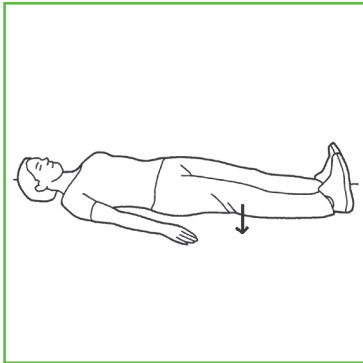
Repeat 10 times every hour.



GLUTEAL CONTRACTIONS

- 1 Lying on your back
- 2 Squeeze buttocks firmly together. Hold for 5 Seconds, and then relax.

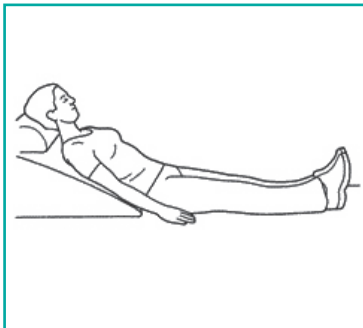
Repeat 10 times every hour.



STATIC QUADS

- 1 Lying on your back with your knees straight out in front of you
- 2 Push the back of your knees down into the bed, so that you feel your thigh muscle tighten. Hold for 5 seconds, and then slowly relax.

Repeat 10 times every hour.

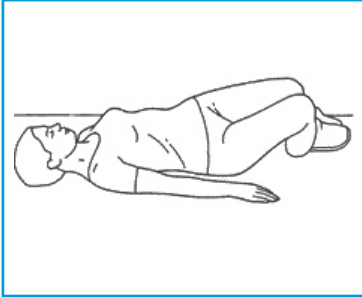


DEEP BREATHING EXERCISES

- 1 This exercise is best performed if you are able to sit slightly upright
- 2 Take a deep breath in, trying to expand your lungs as much as possible
- 3 Hold the deep breath for 3-4 seconds.

Repeat 10 times every hour.

Early bed mobility exercise



KNEE ROLLING

- 1 Lying on your back with knees together and bent
- 2 Slowly roll your knees from side to side keeping your upper trunk still.

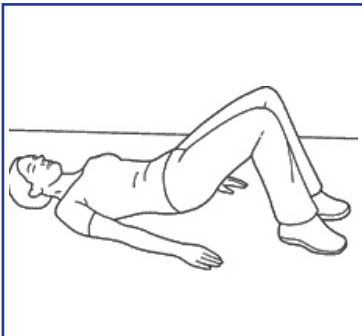
Repeat ___ times ___ times a day.



PELVIC TILT

- 1 Lying on your back with knees bent and arms by your side
- 2 Tighten your stomach muscles and press the small of your back against the floor letting your bottom rise. Hold 5 secs. - relax.

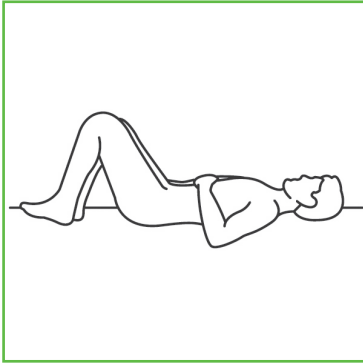
Repeat ___ times ___ times a day.



BRIDGING

- 1 Lying on your back with knees bent
- 2 Tighten your lower tummy muscle. Squeeze your buttocks together and lift your bottom off the floor. Return to starting position.

Repeat ___ times ___ times a day.

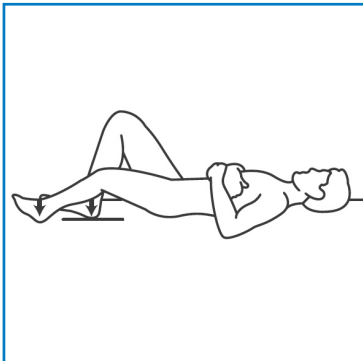


TRANSVERSUS ABDOMINUS – CONTROLLED TUMMY CONTRACTION

- 1 Lie on your back with your knees bent and your feet in line with your hips. Maintain your breathing steadily throughout the exercise.
- 2 Pull in your lower tummy, drawing your tummy button up and in. Do not let your back or pelvis move.
- 3 You can monitor the movement by placing your hands over the front of your pelvis.

Repeat ___ times ___ times a day.

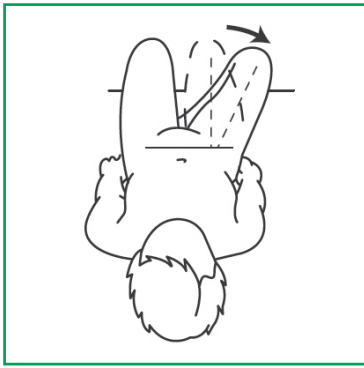
The following 3 exercises can be performed in this position, whilst maintaining the tummy contraction that you practiced in the previous exercise (transversus abdominus):



CONTROLLED HIP EXTENSION

- 1 Lie on your back with your knees bent and your feet in line with your hips. Continue breathing steadily throughout the exercise.
- 2 Slide one heel away so that the leg becomes straight.
- 3 Slide the heel back to the starting position. Do not allow the back or pelvis to move.

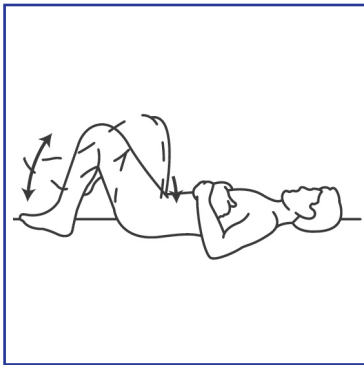
Repeat ___ times ___ times a day.



CONTROLLED HIP ABDUCTION

- 1 Lie on your back with your knees bent and your feet in line with your hips. Continue breathing steadily throughout the exercise
- 2 Slowly let one knee lower out to the side without allowing your pelvis to twist
- 3 Slowly return to the starting position again, maintaining control of your back and pelvis
- 4 Repeat with the other leg.

Repeat ___ times ___ times a day.



CONTROLLED HIP FLEXION

- 1 Lie on your back with your knees bent and your feet in line with your hips. Continue breathing steadily throughout the exercise.
- 2 Slowly raise one knee so that your hip is flexed to 90 degrees.
- 3 Keep your back and pelvis stable throughout the movement and slowly return to the starting position.
- 4 Repeat with the other leg.

Repeat ___ times ___ times a day.

Standing exercises

Your physiotherapist will guide you when to start these exercises. You also need to continue with your Early Exercises and Bed Exercises, so aim to space them out regularly during the day.



HIP FLEXION IN STANDING

- 1 Lift your leg up, bringing your knee towards your chest
- 2 Slowly lower.

Repeat 10 times, 3-5 times per day. Both legs.



HIP ABDUCTION IN STANDING

- 1 Lift your leg out to the side
- 2 Keep your toes pointing forwards and your body upright
- 3 Slowly lower.

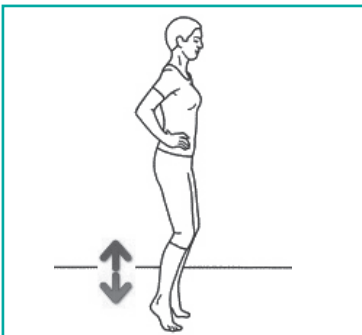
Repeat 10 times, 3-5 times per day. Both legs.



HIP EXTENSION IN STANDING

- 1 Move your leg backwards
- 2 Make sure you keep your knee straight and your body upright
- 3 Slowly lower.

Repeat 10 times, 3-5 times per day. Both legs.



HEEL RAISES

- 1 Standing holding onto a support.
- 2 Keeping your back straight
- 3 Slowly Rise up onto your toes, so that your heels lift off of the floor.
- 4 Slowly lower back down into the start position.

Repeat 10 times, 3-5 times per day.

Onward progression – what happens next?

You need to continue with these exercises for the next 3 months. Gradually increase the number of repetitions and length of time that you hold the contractions as you feel comfortable to do so.

To achieve the best possible surgical outcome it is important that you keep moving. This will help to prevent the build up of excess scar tissue, and restore movement and strength to the spine.

You can add other simple exercises, which you can do as part of everyday activities – such as sitting to standing and step-ups. Do these slowly and with control. Walking is very good exercise and helps to keep you fit. It improves your circulation and general strength. Start by walking a short distance and then gradually build up your speed and how far you go.

Apart from any specific things that your therapist may have advised you not to do, try to return to your normal daily routine gradually.

However you are advised NOT to take any form of physical exercise such as going to the gym, golf, running and so on for 2-3 months unless your consultant advises you otherwise at your follow up clinic.

You MUST discuss return to contact sport with your consultant.

Unless advised by the ward Physiotherapist you will not require any additional supervised Physiotherapy during the first 4-6 weeks.

How should I exercise in the long term?

Once your consultant has cleared you and your wound has completely healed swimming is recommended.

You may wish to join a gym - Pilates, Yoga, Thai chi and gym ball classes may all be of benefit but you must tell the fitness instructors in the gym that you have had surgery, so they can advise you appropriately. Some equipment and exercises will not be suitable for you.

How should I sit and stand following surgery?

The following information is for your guidance and comfort only. It is important to remember that the best advice is regularly changing position. This will help to prevent muscles from tiring and allows your joints to move, which is essential for their nutrition and preventing pain and stiffness. In the first few weeks following your operation try to avoid prolonged standing or sitting, and keep moving as much as you are comfortable with.

Standing

Maintain the correct amount of curve at the lower part of your spine by 'tucking your tail in' and gently tightening your abdominal muscles. Lift your breastbone up slightly to allow your shoulders to relax back.

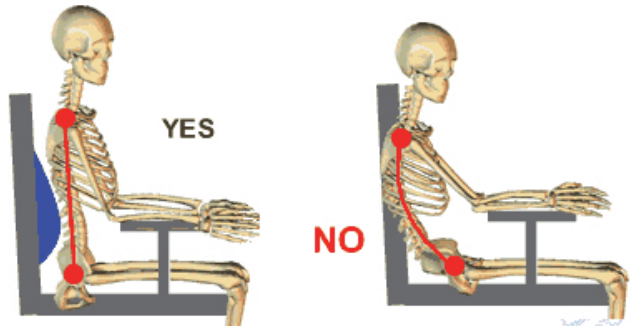
In this position, your head will be balanced over your shoulders, taking any unnecessary strain away from the back of your neck.

Walking is unrestricted, but you should avoid prolonged standing for the first 4-6 weeks.



Sitting

It is important to maintain the lower lumbar curve while sitting as this will help ensure a good position for your shoulders, head and neck. Sustained slumping in a chair is not a good position and puts an abnormal strain on your spinal ligaments, joints and discs.



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Seat height

Your feet should rest comfortably on the floor, with your thighs supported almost as far forward as your knees. A low seat will cause your lumbar spine to bend too much, also causing strain in your neck.

Seat angle

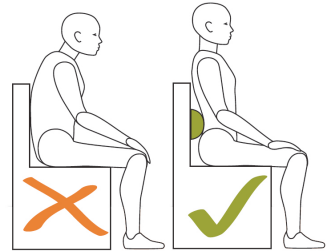
For some activities, such as working at a desk, it is helpful if the seat slopes forward slightly, enabling you to keep your lumbar curve while your trunk is leaning forwards.

Seat firmness

A seat does not have to be very firm to be good for you, but if it is very soft, you will sink into it, causing your lumbar spine to bend too much.

Lumbar support

Using some form of lumbar support helps to keep the whole spine in a good position. You can buy lumbar rolls or backrests from specialist shops, but simply using a rolled up towel or a small cushion can be very effective.



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Arm rests

Use arm rests when possible. By supporting your arms, they take the strain off the muscles of your shoulder girdles and spine. The arm rests have also been shown to lower disc pressures in your back, especially when writing and typing.

You should avoid sitting for longer than 20 – 30 minutes at a time for the first few days. After this you may gradually build up the length of time which you spend sitting, as long as it is comfortable to do so.

Avoid prolonged sitting of 1 hour or more for the first 4 weeks after your surgery.

How can I wash and dress myself?

Sitting in the bottom of the bath is not recommended. If possible, use a walk-in shower, or have a strip wash. You must not get your wounds wet, so ensure you have waterproof dressings on until your wounds have healed over.

You are allowed to bend down to put your socks and shoes on as you would normally. However if you are struggling to reach your feet, you could try:

- Placing your foot on a stool in front of you, remembering to bend at the hip and knee of your supporting leg and to maintain the natural curve of your back
- Sitting on the edge of your bed, bring your foot up to you by bending at the hip and knee
- Lying on your bed, bringing your knees up to you one at a time.

If you have any concerns please ask to speak to an occupational therapist.

When can I start lifting?

Avoid lifting anything heavier than about 1kg/2 lbs (approximately half a filled kettle) for the first few days. Slowly increase the weight you are lifting as you feel comfortable to do so. Remember to lift things properly, keeping the weight of the object you are lifting close to your body. If you are unsure please ask your therapist.

YES



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NO



Avoid lifting weights of 10kg / 22 lbs or more, for the first 3 months.

Children and Pets

Children and pets can be unpredictable which can result in extra stresses being placed on your spine whilst lifting. We recommend that you do not lift children and pets for the first 3 months following your surgery. If your dog is large and likely to pull you it is advisable to wait until you have seen your consultant before walking them. If your dog is small and very well behaved we suggest waiting at least 2 weeks and then gradually increasing the length of your walks.

Repeated heavy lifting can lead to degeneration of your spine, resulting in pain. It is recommended that you restrict loads that you lift on an on going basis following your surgery.

When can I return to driving?

You should not drive for at least the first 4-6 weeks, unless your surgeon advises you that you can do so sooner. Your surgeon will advise you at your outpatient appointment when you can start driving again. If you have changes with the strength in your legs, or the sensation in your legs then this may be longer.

Before you start driving again you should do some safety checks. You should be able to;

- Turn to look in all directions
- Sit comfortably in the driving position
- Be able to do an emergency stop
- Inform your insurance company of your surgery. You may not be insured to drive if you do not do so.

When can I return to work?

There are no specific time limits with regards to when you can return to work as it depends on the surgery you have and the type of job you do. Figures vary from 2 weeks to 3 months. The more manual your job the longer it is likely to take for you to return to it.

It is important you discuss this with your consultant who will be able to advise you. They may suggest a gradual return to work. You can also discuss this with your GP once discharged home.

Sickness Certificates

Please ask the ward staff if you need a sickness certificate. The hospital can provide one for the time that you are in hospital and for 2 weeks post surgery. Once home your GP will be sent details of your surgery and will be able to provide your sickness certificates until you return to work.

When can I fly following surgery?

If you have to travel by plane within the first 6 weeks following your surgery, discuss this with your surgeon or GP prior to travelling.

General health advice

Diet

Eating a healthy balanced diet will aid your recovery by providing your body with the tools it needs for healing.

Smoking

Cigarette smoking has an adverse effect on healing following surgery and can reduce the potential benefits from your operation.

Sexual Activity

Can be resumed when you feel comfortable enough; for most people this is from 3 weeks following surgery, but can be earlier.

Medical Advice

If you have any severe worsening of your pain, severe calf pain, new problems with your bladder or bowels, or new widespread areas of numbness or pins and needles sensations (i.e. both legs, or the saddle area) please seek urgent advice, either through your GP, NHS 111 service, local Accident and Emergency Department or NHS Walk-in-Centre.

For non urgent problems, such as queries with your pain medications, please contact your GP.

Physiotherapy contact details

If you need any advice from your Physiotherapist following discharge from hospital, or if you have any concerns regarding your progress you can contact us for advice and support.

We will be happy to offer you some advice over the phone for the first 6 weeks following your discharge.

Please call the team where you had your surgery.

**Princess Royal Orthopaedic Physiotherapy, Albourne Ward
Haywards Heath:**

01444 441881 ask for Bleep 6113.

(Monday- Friday 9.00am – 4.30 pm)

Neurosurgical Physiotherapy, RSCH Brighton:

01273 696955 Extension 7876

(Monday-Friday 8.30am – 4.00pm)

**Sussex Orthopaedic Treatment Centre (SOTC) Physiotherapy
Haywards Heath:**

0333 200 1728 Extension 8834 or 8828

(Monday-Friday 8.30 am – 7.00 pm)

Saturday – Sunday 8.30 – 4.30 pm)

**If you require any help or advice after the 6 week stage,
please contact your GP.**

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Disclaimer

The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

Reference number: 585.2
Publication Date: March 2018
Review Date: March 2020

