Guidelines for patients having a Lumbar Discectomy
Introduction

This information booklet has been written to give you and your family a basic understanding of what is involved when you require a lumbar discectomy.

Although you may have been told different information from friends or others, please follow these instructions specifically.

In this booklet we provide information, including things you should know before and after your operation. It is important for you to understand the advantages but also the possible problems, which may occur after this surgery.

Throughout your stay in Beacon Hospital, you will receive continuous advice and support from all members of the team.

What is a Lumbar Discectomy?

Anatomy

The lumbar spine, or lower back, is composed of 5 bones, or vertebrae. These are numbered downwards from 1 to 5 and, because they are part of the lumbar spine they are prefixed by the letter L. Hence, you will hear health care workers refer to L3 - L4 or L4 - L5, for example. At the very bottom of the lumbar spine is the sacrum. This bone is roughly the shape of an inverted triangle and the top part of this is referred to as S1.

Each vertebra is connected to each adjacent vertebra by 3 joints, 1 at the front and 2 at the back. The larger one at the front is where the body of a vertebra is separated from its adjacent vertebral bodies by an intervertebral disc. The 2 joints at the back are called...
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**facet joints** and these lay either side of the midline. These joints also serve to connect one vertebra with its adjacent vertebra.

In addition to the bony components, there are other important structures as well. The **spinal canal** is a bony tunnel which the **spinal cord** sits inside. At each ‘level’ of the spine (that is between 2 individual vertebrae) a pair of **nerve roots** comes out (one on each side). The nerve roots that come out at the levels of the lumbar spine go on to form the nerves of the leg. These nerve roots supply the skin and muscles in your legs. Each different level of nerve root supplies different muscles and different areas of skin. This helps medical professionals decide which part of your back may be causing the trouble. This also explains why people with low back problems can suffer with leg pain, numbness or tingling. These nerves also supply your bladder and bowel, which is why you may be asked about this.

**Mechanism of injury – the disc**

A healthy disc is a structure very resilient to injury. Problems can arise if there has been some **disruption** within the disc, which can be caused by repeated poor postures and/or movements or a specific task that has exposed the spine to an activity to which it is not accustomed e.g. lifting heavy objects when moving house. Changes can then take place within the disc.

If the size of the herniation of the disc is sufficient, then it will press on the nerve root as the nerve root exits from the spinal canal to form the nerves of the leg. Compression of a nerve root can cause pain, tingling, pins and needles, numbness, weakness and loss of reflex action in the leg. These symptoms are still sometimes referred to as **sciatica**.

**Examples of Disc Problems**

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**Surgery**

A lumbar discectomy is normally a minimally invasive procedure to remove part of the disc.

The operation is done under a general anaesthetic. The surgeon makes an incision down the centre of your lumbar spine with the middle of the incision over the troublesome disc.

The surgeon will examine the area and may remove some scar tissue (or adhesions) that may have formed around the aggravated nerve root. An incision will be made into the annulus and the offending nucleus will be cleared. A discectomy does not involve removing the whole disc—just the offending ‘bulge’ or herniated nucleus.

**Potential Complications of a Lumbar Discectomy**

**Incidence**

The majority of patients who undergo lumbar discectomy surgery have a pleasant experience without any complications. The following is a list of some of the problems that could potentially occur.

**Infection**

This may occur superficially in the area of the wound or deeper, affecting the bones and soft tissues of the spine. These infections can occur in hospital or after you have been discharged home. An infection is generally treated with antibiotics. If it is a deep infection then further surgery may be required to treat the affected section of the spine.

**Dural Tear**

A thin membrane called the dura covers the spinal cord and nerves. Underneath this membrane is the cerebrospinal fluid. During spinal surgery a tear of the membrane may occur and a spinal headache may result from the spinal fluid leak. The treatment for this involves stitching the tear or sealing it with glue. If this occurs additional bed rest may be required. A leak may also increase the risk of infection of the spinal fluid (meningitis).

**Spinal cord/nerve root damage**

In any spinal operation there is some risk of injuring the spinal cord. Damage to the spinal cord can cause complete paralysis or paralysis in certain areas depending on which section of the spinal cord is affected. There is also the possibility of damaging one of the spinal nerves that come out of the spinal cord.

**Persistent Pain**

One of the most common complications of spinal surgery is that it does not get rid of the patient’s pain. In some cases, it may increase the pain. Some patients may develop scar tissue around the nerves weeks after the operation that causes pain similar to what the patient had prior to surgery.

**Recurrence**

There is a 10-15% risk of recurrence of a disc bulge occurring either at the same level and side or at an adjacent level or opposite side. The greatest risk of this occurring is during the first 6 weeks.
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post-operatively and patients are consequently reminded to avoid sitting, flexion and lifting.

**Impaired Nerve Function**

Rarely, nerves in the vicinity of the spine being operated on are stretched or damaged during the operation (a neuropraxia). Fortunately, the majority of these neuropraxias resolve over a period of time, sometimes months, but in a very small minority the damage may be permanent.

**Deep Venous Thrombosis & Pulmonary Embolism**

There is a risk of deep venous thrombosis (DVT) after lumbar discectomy. Patients are treated with medications and mechanical devices in hospital to prevent this. In most cases the measures taken are effective. However despite all these precautions some patients still develop clots and may require further treatment with medication. Pulmonary embolism (PE) may occur if the clot detaches from the vein and travels to the lung.

**STROKE OR SUDDEN DEATH**

Although these complications can occur following surgery they are extremely rare following a lumbar discectomy.

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<th>Preparing for admission checklist</th>
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⇒ Smoking: It is advisable to give up smoking, or at least to reduce the number of cigarettes you smoke a day as smoking interferes with wound healing. It also impairs bone growth and repair and will delay or even prevent healing after surgery.

⇒ Clothing: Loose comfortable clothing is advised e.g. long shorts, tracksuit bottoms or loose three quarter length trousers.

⇒ Footwear: Comfortable lace up or slip on shoes with a low heel is recommended. Please ensure there is a back to these shoes.

⇒ Valuables: please leave all valuables and jewellery at home

**Manage Your Pain**

Pain is a common occurrence following any surgical procedure. It can be well managed with medications, special pain management devices and ice. The pain will naturally reduce as your wound heals and with regular use of analgesics (pain killers). It is imperative to keep your pain well controlled so you can mobilise comfortably, perform your physiotherapy exercises and resume normal activities after your surgery.

You will be asked to rate or score your pain regularly after your surgery. You will be asked to give a number between 0 and 10, where 0 represents no pain and 10 represents the worst pain you can imagine. The score will depend on how your pain feels to you.

0= No Pain, 10= worst pain imaginable
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(Please point to the number that best describes your pain)

0 1 2 3 4 5 6 7 8 9 10

NO PAIN WORST POSSIBLE PAIN

Assign the number you feel best describes your pain. The nurses will administer appropriate treatments/medications depending on your pain score. The nurse will reassess your pain score after the treatment to make sure it has worked to reduce your pain.

Physiotherapy

EXERCISE PROGRAM

Exercises:

- The physiotherapist will teach you exercises and provide back care advice.

- A brace may be needed to provide extra support for your back after surgery. If required, you will be measured for the brace the morning after surgery and must wear the brace as per your consultant’s specifications.

- It is important for you to perform the exercises that your Chartered Physiotherapist prescribes for you daily. This will allow you to gently mobilise your spine and recover both motion and muscle strength. You may also be issued with additional exercises depending on your consultants request.

- Walking is good for you, but you should rest as needed. Do not get overtired. Try to limit going up and down stairs to once or twice a day for one to two weeks.

- If you have any queries in relation to these exercises do not hesitate to contact the Beacon Physiotherapy Department on (01) 2936692.

Preliminary Exercises- Early Postoperative Period: 0-2 weeks

Frequency: You will need to do these exercises at least three to four times a day to ensure you reach your rehabilitation goals.

Please be sure to read the exercises carefully and ask your physiotherapist any questions that you may have before you leave the hospital.

The following exercises start as soon as you are able. You may feel uncomfortable at first, but these exercises will speed your recovery.

1) Ankle Pumps

- With your legs straight, bend your ankles up and down, towards and away from your face.
- Repeat 15 times
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2) Static Gluts

- Tighten muscles in your bottom. Hold 5 seconds, relax.
- Repeat x 10

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3) Quadriceps Setting.

- With your leg straight out in front of you, tighten the muscles at the front of your thigh, pushing the back of your knee down into the bed.
- The result should be straightening of the knee. Hold the contraction for 5 seconds. Repeat 15 times

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4) Trans Abdominal Setting

- Lying on your back with your knees bent. Breathe into your abdomen, and on the breath out pull gently up and in from below the belly button.
- Keep your breathing regular as you hold this muscle in.
- Hold for 5 seconds, and repeat 8 to 10 times

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Your Rehabilitation Goals

- Independent getting in and out of bed.
- Independent in walking with crutches or walker on a level surface.
- Independent walking up and down stairs.
- Achieve targeted joint range of motion.
- Achieve required muscle power and be independent with exercise programme.
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The physiotherapist will review you to commence activity once cleared by the consultant to start. This is usually 1 to 2 days post surgery.

**Day of the procedure**

Before being allowed to get out of bed for the first time, it is important to do the following exercises **every hour**. These will help prevent complications.

1. Take 3-4 deep breaths.
2. With your knees straight move your feet vigorously up and down 20 times.
3. Tighten up your thigh and buttock muscles and hold for a few seconds- repeat 10 times.

**Day One:**

A brace may be needed to provide extra support for your back after surgery. If required, you will be measured for the brace the morning after surgery and must wear the brace as per your consultant’s specifications.

The Physiotherapist will assess you and provide you with an exercise program. A log roll procedure will be practiced to carry out all transfers in and out of bed. You will walk for a short distance and will be encouraged to progress mobility throughout the day.

Your dressings may also be reduced.

**Day Two onwards:**

Regular exercise throughout the day is required to increase your movement and strengthen your muscles. Walking is part of your exercise programme and you should be increasing your walking distance on the ward daily. The physiotherapist will have escorted you to the stairs and by discharge you will have climbed a flight of stairs safely and independently.

**Log Roll Method**

**Getting into bed:**

- Sit on your bed, closer to the head of the bed than to the foot of the bed.
- Scoot back onto the bed as far as you can.
- Lower yourself onto your side using your arms to guide and control your body. At the same time, bend your knees and pull your legs onto the bed.
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- Keep your knees bent. Roll onto your back. Keep your shoulder and hips together as a unit as you roll. Think of yourself as a rolling log.

Getting out of bed:

- While lying on your back, bend your knees.
- Roll onto your side. Keep your shoulders and hips together as a unit as you roll.
- Place your bottom hand underneath your shoulder. Place your top hand in front of you at chest level. Slowly raise your body as you lower your legs toward the floor.
Stairs Technique

**Going up-stairs**

- When using a walking aid, Maintain crutches/walking stick on the step below.
- Lead with the un-operated leg up onto the step above.
- Take your weight onto the un-operated leg by pushing on crutches/walking stick and banister.
- Follow with the crutch/walking stick onto the same step.

**Going Downstairs**

- Put crutch/walking stick down onto the step below.
- Follow with the operated leg.
- Take weight onto the operated leg using the crutches and banister for support.
- Follow with the un-operated leg onto the same step.
General Recommendations

Sleeping
While in hospital some patients find it harder to sleep for various reasons, i.e. different bed and environment. If you find that you are having this problem please let the nursing staff know as you may require something to help you sleep.

Usually you sleep in any position that is comfortable, except for sleeping on your front. If you have a brace then this can be removed at night, unless otherwise indicated.

Pain Medication
On discharge from hospital you will be prescribed some medications, some of which will be for pain. Plan to take your pain medication 30 minutes before your exercises. Preventing pain is easier than chasing pain. If pain control continues to be a problem, contact your general practitioner.

Nutrition:
Aim to follow a well-balanced diet which includes protein, fats and carbohydrates. It is important to be well nourished to promote wound healing, so eat well and do not attempt to lose weight at this time.

The following nutrients are particularly important at promote wound healing:

- Protein- found in meat, fish, milk, eggs, yoghurt, cheese, beans and pulses.
- Vitamin A- found in liver, fortified milk, carrots, turnips and green leafy vegetables.
- Vitamin C-found in citrus fruits, potatoes and green leafy vegetables.
- Iron- found in liver, red meat and green leafy vegetables.
- Zinc- found in breakfast cereals, red meat and green leafy vegetables.

If you are on a special diet or have any queries, please discuss with your doctor, nurse or dietician.

Bowel Care
A high fibre diet is recommended after surgery. You may also be prescribed laxatives (eg. Lactalose, Senokot) during your hospital stay.

Driving
In order to be safe driving a motor vehicle, you must be in control of the pedals effectively. It is recommended that you do not drive a motor vehicle until advised by you consultant. You may ride in a car from the hospital to your home. However, you should avoid longer car trips until cleared to do so by your consultant.

Travel
Prolonged periods of sitting on airlines may predispose you to leg swelling and deep venous thrombosis, and it is recommended that you avoid this until 6 weeks after your surgery. If you must travel, wear your elasticated stockings and keep your leg elevated as much as possible. Please discuss with your consultant any imminent travel arrangements.
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**Car Transfers**

Your Consultant will tell you when you are allowed to drive again after your operation. When travelling in the car you should sit in the front passenger seat. It is important that you avoid long journeys if possible.

Before getting into the car, make sure that you are standing on level ground and not on a kerb. Your driver should move the seat back as far as it will go and recline the seat slightly.

When *getting in the car* stand with your back to the car and lower yourself down slowly onto the seat, keeping your operated leg slightly out in front of you. Slide back into the centre of the passenger seat allowing you operated leg to come onto the seat with your knee slightly bent. Keep leaning backward, twist your bottom and swing your legs into the foot well of the car.

When *getting out of the car*, reverse the above procedure and ensure the operated leg is out in front of you before standing up.

**General Safety Advice for Home:**

Please be aware of the hazards in your home as this will make your recovery easier and safer.

- Move electrical cords, phone lines and ensure clear pathways.
- Store items within easy reach specifically in the kitchen and bathroom areas.
- Remove rugs including bath mats and entrance mats.
- Be careful with pets and young children.

- Be aware of water spills, slipper floors and always think before you move.

**Stockings**

Your consultant may wish for you to go home with elasticated stockings. These can be an important part of preventing the development of deep vein thrombosis (blood clots in the legs). It is recommended to wear these until review with your consultant and he will advise further on same.

**Pain & Swelling**

Most people come round from the anaesthetic and feel an immediate relief of their leg symptoms. Pain often settles fairly quickly. Numbness and tingling sensations usually take longer to settle though - this may be days, weeks or months. It varies considerably from person to person.

Some people may always have an area of numbness that never fully recovers. Do not worry if your leg pain is still present - it is not a sign the surgery has failed. Nerves take time to recover from being squashed. They also have a tendency to ‘remember’ what has happened to them. Also, take into consideration your recent operation. Bruising and swelling will be present which will settle, but can also irritate the delicate nerve tissue initially.

**Work**

Do not return to work until your doctor says you can. People *generally* get back to light work in two to four weeks and can do heavier work and sports within two to three months.
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**General Care**

- Do not bend from the waist to pick up things. This movement strains your back muscles—you should bend your knees and squat instead.
- Do not carry heavy items, such as shopping or laundry. Do not lift anything heavier than a litre of milk. Do not try to move heavy furniture until your doctor says you may. Do not lift anything over your head.
- Do not sit in soft or overstuffed chairs. Firm chairs with straight backs give better support.
- Your reaction time may be slower due to pain or certain prescribed medications.
- Walking is good for you, but you should rest as needed. Do not get overtired. Try to limit going up and down stairs to once a day for one to two weeks.
- You may resume sexual activities when your doctor says you may.
- Avoid strenuous exercise or activities like swimming, golfing, or running until you are advised to so by your consultant or physiotherapist.

**Discharge Instructions**

You will be discharged from hospital one cleared by your consultant. When you leave the hospital you will be asked to make an appointment or an appointment will be given to you to see your consultant, usually 6 weeks after the operation. This is for a routine check-up which will make sure you are progressing satisfactorily.

**Wound Care**

You will leave the hospital with a simple surgical wound. Before leaving the hospital your dressing will be changed and the wound site checked. Keep the dressing clean and dry (liaise with the nurse on admission as the dressing may be waterproof). The nurse looking after you will advise you on when the dressing needs to be changed as per the consultant’s specific wound care instructions.

**Signs of Infection**

Infection may occur despite your best efforts. If any of the symptoms below occur then you will need to see your GP or liaise with the centre for orthopaedics for advice and possible antibiotics. The signs of infection include:

- Redness around the wound site
- Increased pain in the wound
- Swelling around the wound
- Heat at the wound site
- Discharge of fluid – may be green or yellow
- Odour or smell from the wound
- Feeling of being generally unwell
- Fever or temperature

Most people will have sutures (stitches) that will need to be removed approximately 10-14 days after surgery. This may be done by the GP, Centre for Orthopaedics, consultant or in the convalescence centre.
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**Follow Up**

You will be advised to attend outpatient Physiotherapy within two to three weeks of discharge. You may either attend a private physiotherapist in the hospital or a physiotherapist more local to your home. The Beacon Hospital Physiotherapy department run a Back Rehabilitation Programme for patients who are recovering after back surgery. It is gym based exercise programme and it runs for one hour / week over 6 weeks. It focuses on increasing core muscle strength, mobility and fitness to help you return to normal activities, work and sport. If you are interested in attending, please let your ward physiotherapist know or alternatively contact Physiotherapy reception on 01-2936692 to book a place.

You may need to continue your physiotherapy for several months after your surgery. Your physiotherapists will advise you after your surgery regarding your requirements.

**Conclusion**

We hope that you have found this booklet useful and that it has helped to relieve some of your fears and anxieties regarding your surgery. During your hospital stay, your medical team will be available to answer any other queries you may have.

We look forward to meeting you soon.

**Individual Patient Notes:**

Consultant Name: ________________________________

Date of Surgery: ________________________________

Surgery Note: ________________________________

Weight Bearing Status: ________________________________

Walking Device: ________________________________

This Patient Education leaflet was developed by the Chartered Physiotherapists and the orthopaedic liaison nurses in Beacon Hospital.

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