Endoscopic discectomy & endoscopic decompression
Information for Patients at The Spine Surgery London

Introduction
As a gold standard of minimal access, endoscopic surgery has revolutionised surgery for hip and knee problems, in the abdomen and chest and even in the brain and small joints.

More challenging than endoscopic surgery in these other areas of the body, the spinal technique has been perfected in Germany where many thousands of patients have benefited. Their expert, Dr Michael Schubert, has helped in the development of the London Endoscopic Spine Surgery with the leading UK spine surgeon, Peter Hamlyn. Patients will benefit from their combined expertise.

The procedure allows for surgery to be carried out under sedation and thus avoids full anaesthesia. It takes place through a portal not much larger than a pencil. After an overnight stay, you are ready to go home. You can be back at work days later. No other method of disc surgery offers direct excision of the disc problem with such rapid recovery.

Remember, spinal surgery, however minor the access, carries with it risk.

Certainly no patient should undergo any operation without feeling that they have all the information that they wish concerning the aims, risks, benefits, nature of the surgery and the usual post-operative recovery, in addition to having been appraised of the alternative lines of management and what happens if nothing is done (the natural history of the condition). If you feel that any of these aspects have not been covered to your satisfaction you should ask for more detail and certainly not consent to any operation until you are entirely satisfied. It is your right to have this information and indeed your responsibility to ensure that you have understood it. There is also a general document entitled “Informed Consent for Treatments: Operations and Injections”

Who should have endoscopic surgery?

The operation is usually aimed at relieving nerve pressure. This pressure on the nerve may come from a herniated lumbar disc - either a new herniation or a recurrent one following previous surgery – or, it may be as a result of certain types of spinal stenosis.

These operations are therefore mostly aimed at relieving leg pain and not back pain.

Less commonly and in conjunction with other keyhole methods they may be used to relieve back pain by fusing the spine.
What operations can be done endoscopically?

Endoscopic surgery can address both disc prolapse and to a considerable degree nerve root canal stenosis.

The two operations are therefore:

1. Endoscopic Discectomy
2. Endoscopic Foraminotomy

Severe central canal stenosis is not amenable to this technique and open microdiscectomy is the preferred method there.

Will it work for you?

This is a very relevant question. The ideal patient has a soft disc prolapse. It is even useful in some cases of recurrent herniation following previous standard surgery as the access route through the foramen will be free of scarring. Likewise, visa versa – if there is a recurrence following an endoscopic procedure we may elect to use the standard open keyhole microdiscectomy.

Spinal canal stenosis from degenerative disease can be treated though the more narrow and the more the narrowing affects the central canal the more difficult it becomes. Similarly, combinations of marked canal stenosis plus disc herniation is difficult with this technique.

Finally, some levels are more challenging than others and some prolapses can migrate up or down the spinal canal to positions where they are difficult to access with this method. We can tell all this from the MRI scan. The most difficult is an L5/S1 disc prolapse which has migrated up the spinal canal a few millimeters.

Each case needs to be judged on its own merits and offered whichever method suits that case best. With the correct case selection both keyhole open microdiscectomy and endoscopic discectomy have excellent results accordingly. With the wrong case selection things are unlikely to go well. For most cases, either method will give an excellent outcome…Excellent, is OK but we are after the best.

Back Pain and Sciatica

Back pain is so common it is not so much a disease as a condition of life. The evidence of the elderly is that virtually all of us will suffer from it at some point. It is usually a passing phase and although it may bother you for a decade or more, if you are a young sufferer you should not presume that you will be in terrible and increasing trouble as your years role on. Rather than progress, it may instead resolve or plateau at an acceptable level.

For those of you who have developed a significant problem, you are at least not alone.
In the UK each year, 2 million people attend their general practitioner with spinal problems, over 300,000 are referred for specialist care, over 60,000 are admitted to hospital and more than 30,000 people undergo surgery with many more having spinal injections. It is the single commonest cause of lost working days. The direct and indirect costs run into billions of pounds.

The causes of chronic back pain are many though by far the commonest is “degenerative disease”. This degeneration is the normal process of wear and tear that occurs with life. It affects the discs, bones, joints and ligaments of the spine. If it arose anywhere else in the body it would be called arthritis though medics tend to call it “spondylosis” so as to create an air of mystique amongst the patients and to leave their students in a state of awe. There is more to it than just “wear and tear” for whilst it is more common amongst those who do heavy manual work or play heavy spinal sports such as rugby, there are many sedentary sufferers. There are familial patterns of inheritance, the random genetic lottery of our make-up and specific injuries adding to the mix as well as yet unidentified biological processes.

This degenerative process arises earlier in the spine than in any other joint of the body, frequently being seen on MRI scans in the late teens. This is not surprising when one considers the complexity of the spine, its mobility and the amount of weight that the lower segments take.

The spine consists of 24 bones, 23 discs, 46 major (facet) joints, in addition to 55 other smaller joints. The discs are merely modified joints and each joint consists of capsules, linings and cartilage.

The two main joints at each level are the facet joints. These are a pair of joints, just behind the spinal canal, one on either side. The surface of each joint is about the size of an adult little finger nail in area. The joints are supported by ligaments attached to the bones on either side of the joints. The main strength of the spine comes from its muscles which are in two groups; those which directly surround it like the erector spinae (lamb chop / T bone) or psoas (fillet steak) and those that work on the spine from afar such as the abdominal and pelvic floor muscles. This latter group are often called the core muscles.

The degeneration of the spine seen on MRI scans principally affects the discs and joints and for nearly all sufferers predates the onset of symptoms.

**Terminology**

There are some terms that are worth learning. “Degenerative spinal disease” is an umbrella term to refer to all the processes we are discussing here. As good as any catch all phrase, it correctly gives the impression that the process is inevitable and is related to age. Indeed, this is why we all get shorter, stooped and stiff as time goes by.

The incorrect impressions this phrase gives are as follows.

It is not confined to the elderly. If you study people in their late teens and people in their early 20’s you will see signs of it on their MRI scans. It does get more common as we get older – 50 year olds have more than 30 year olds on average – but there is a huge variation. Just as some men start balding before they turn 20 and others have full heads of hair until 70, there is a trend but only one with wide variations.
In addition, whilst it may begin earlier than degeneration or arthritis in the hips and knees, it is not as relentless in its progression. Degenerative problems may plateau or improve in the spine whereas in other joints the tendency is to deteriorate progressively until the joint is replaced. In the spine, a disc may wear out until it is so thin and stiff that it stops moving and then the pain goes away. “I had terrible trouble when I was in my fifties but now it is better”.

The degenerative process affects all different elements of the spine; the discs, the facet joints as well as the ligaments and muscles.

The facet joints tend to swell. The discs lose water and hence height, become weak and the disc capsule may rupture allowing the central pulp to herniate or prolapse through and then perhaps press on the nerve roots. Bony growths, called osteophytes, may grow off the discs and joints to the point that they too compress the nerve roots. Often sciatica derives from both a prolapse and an osteophyte narrowing occurring at the same level. As the ligaments degenerate they get thicker and add to these problems. The muscles get thinner and weaker with time and able to offer less protection to a by now vulnerable spine.

“Wear and tear” is another phrase used to mean the same thing as degenerative disease. This belies the fact that some of us get it earlier than others and whilst it is commoner in manual labourers and sports people, it is still common in office workers and the sedate.

Don’t be confused:

- A “slipped disc” is the same as a prolapsed, herniated or ruptured disc.
- Wear and tear is the same as degenerative and both are the same as “arthritis”
- “Spondylosis” is the medical word for arthritis when it affects the spine.

Back Pain

Back pain arises when inflammation occurs in these worn joints and discs. You cannot see the inflammation on the scan. You can see a similar process when you sprain your ankle. The initial injury hurts but the real pain and swelling develops over the following hours and days. The ankle becomes red, hot and angry. Similarly, in the spine an injury to any of the joints or discs may be minor – “I felt a tweak in my back” - but then slowly inflammation develops in the tissue which “tweaked” and pain builds. The provoking event may be trivial – “I reached over to grab an envelope of the back seat and felt a tweak, I had a back ache that night but woke up in agony”

Thus, back pain may be thought of as inflammation arising on a long-term background of wear and tear in the joints and discs of the spine (arthritis or aging).

Two common patterns arise:

In the first, the process is chronic and ongoing and symptoms are relatively constant and persistent – “continuous low back pain/ache” (CLBP). The pain is generally provoked after exercise, made worse by prolonged sitting or driving and is often worse in the morning especially after a heavy day. It gets worse as the working week goes on.
In the second, the episodes of inflammation wax and wane, often with dramatic onset in a pattern sometimes called “acute relapsing low back pain” (ARLBP). A trivial normal action, often as benign as bending over to pick up the soap or tie a shoe lace, triggers a tweak which develops over the following hours into incapacitating back pain. Some may even an instantaneous agony that leaves them crawling for the bed. The attacks may last a few days or a few weeks and will often begin with episodes occurring once every few years. Patients describe an absolutely normal pain free life being intermittently placed on hold.

As time passes, they may fail to fully resolve so there is an element of continuous low back pain and the frequency escalate into episodes every few months. Some get into a severe episode which will not settle.

**Sciatica**

Sciatica or leg pain emerges when the nerves servicing the legs, which pass through the spine, are compressed by the swollen joints or bulging (slipped/herniated/prolapsed) discs or irritated by inflammation in these joints and discs.

Sciatica is therefore called a “referred pain” and arises because the pressure excites the nerve and the brain thinks anything that comes from that nerve comes from the leg.

There is another type of referred pain that comes from our internal organs not being localised well. Hence, we feel heart pain in our left arm. This is not because the heart presses on a nerve going to the arm but as a result of the brain incorrectly localising the heart in the arm.

Both types of referred pain occur in the spine as disc, facet joint or bone pain may be poorly localised to the groin, the buttocks and hips. Likewise, if you press on a nerve in the spine it does not always go all the way down the leg to the calf or foot. Any pain felt centrally in the back is due to the discs, bones or joints of the spine hurting themselves.

Any pain felt below the knee comes from the nerves being pressed on. A common pattern is to have pain in the back from a prolapsed disc and pain in the calf from the pressure the prolapse places on the nerve root. Pain felt to one side of the spine, in the buttock or down the leg to above the thigh is in “everyman’s land” and may reflect poor localisation or limited referral.

**Why separate back pain and leg pain?**

It is because the treatment is as different as the origin of these two pains. We need to understand where each element of your problem comes from.

It is the job of your doctor/us and is done by analysing your symptoms, their history, the examination findings and the tests - scans etc. It is only then that the treatment of the identified underlying problems can begin.
In broad terms, nerve root pressure, (i.e., leg pain), is best treated with rest and passive gentle treatments whereas back pain is best treated with active exercise bases treatments.

With this understanding of the mechanisms of the back pain and sciatica, a programme of conservative therapy can be addressed.
**How is the operation performed**

The procedure is carried out with the patient on their side under heavy sedation but without a full general anaesthetic. The procedure is very well tolerated and the fact it does not require a general anaesthetic makes it safer for both the nerve root and the patient.

The endoscopic tube is guided into the spinal canal through a natural opening in the side of the spinal canal, the foramen, below the exiting nerve root. This gives direct access to the prolapsed disc and the nerves it is compressing.

The patient is lying on their side during the operation with the bad leg uppermost. The anaesthetist is with them throughout. Their job is to keep enough pain relief and sedation going to ensure the patient is comfortable. With today’s drugs that is very straight forward.

A small incision is made for the endoscope and this is guided by X-ray screening into the opening. Once in position, the disc fragments are removed. Your nerves are monitored all the time to ensure they are not injured.

After that, the job is done. A single stitch is put in the skin and you return to your room. You may get up that day. Home time is usually the next day.

**The equipment**

Most endoscopic equipment looks more complicated than it is. A fibre optic cable takes light to the probe and returns images to the camera. The surgeon operates looking between the screens on the camera stack and the X-ray machine.

The system employed at the London Endoscopic Spine Surgery is the TESSYS system made by Joimax. We believe this to be by far the most advanced spinal endoscopic system available. The equipment is of course still hugely expensive though we believe the investment made by our supporting hospital, The Princess Grace Hospital, will see our patients benefit immensely. *Less operating time, tissue damage, recovery time and less time in hospital, off work, in physiotherapy and in pain.*
After the surgery

Normally, you mobilise from the bed a few hours after the surgery and go home the next day. You will need support at home for the first few days and if that is not available, you may wish to stay longer. You should go home when the time is right for you.

The post operative period

Wound care is important. You will have some form of surgical dressing on the wound – usually a light waterproof but “breathing” dressing. The wound should not be allowed to get wet until the day after the suture is removed. In general, we like to disturb the dressing as little as possible. If it is becomes stained but is intact it is often better to put one over the top rather than to take it off.

CSF Leaks

These involve the leakage of fluid from the sack containing the nerves. With endoscopic methods, it is very rare. On the few occasions it does occur, it usually seals rapidly. We can usually see the leak at the operation and will tell you of the event. Seldom does it adversely affect the outcome of endoscopic surgery.

What Are The Risks?

This is a routine operation which rarely causes harm and usually works very well. However, bad things can happen even when the incisions are small.

It is vital that you are aware of the risks before you consent to surgery. We expect you to have read the information we provide if you are having surgery with The Spine Surgery London.

The usual complications associated with major surgery are seldom encountered. Chest infection and blood clots forming in the deep veins of the legs (deep venous thrombosis or DVT) can occur but are very rare. Parts of the blood clots may break off and fly up to the lung where they block the blood flow (Pulmonary embolus or PE). Very rarely people die from these blockages. You may have heard of these complicating long plane journeys. The most effective way to avoid these complications is to mobilise quickly after the procedure and this is one of the major advantages of endoscopic over open surgery. For those of you who are immobile, we can reduce the risks by giving you injections to thin the blood, supportive stockings and compression pumps on the legs worn whilst in bed.

There is a risk to life and limb. Any anaesthetic and any operation may kill you, even sedation and endoscopic surgery. Any spinal surgery may paralyse you which in the instance of a lumbar operation will mean loss of all leg, bowel, bladder and sexual function. At its worst, this may be complete and permanent. Such disasters are extremely rare – a risk in the order of you being run over by a bus. People do get run over by buses but it is exceptionally rare. Of course, if you do not have the operation the disc may fully prolapse and paralyse you itself. Again, we see this though it is very rare. In other words, there are bad buses on which ever road you choose, they occur in approximately equal numbers on the two routes and rationally they should not influence your decision – though they clearly often do.
These buses are indeed extraordinarily rare and we can usually see them coming and so take evasive action.

The “cauda equina syndrome” is the term used to describe paralysis of this part of your nervous system – the spinal nerve in the lumbar canal. The patient usually has a phase of excruciating pain followed by numbness, paralysis and an inability to pass urine which classically is painless. i.e., you know you have an overfull bladder but it does not hurt – “painless retention”. An early warning may be numbness around the perineum/private parts/the area where your pants go. If you notice anything like this you need to see a doctor, any doctor – don’t wait for us - immediately. This syndrome is a surgical emergency. You need to have the disc removed immediately i.e., that day / night.

Nerve root injury affecting the nerve that is being pressed on by the disc prolapse or the one exiting through the foramen we pass the endoscope through can occur though is also very rare. Obviously, the nerve roots are handled during the procedure though the endoscope provides excellent visualisation and patients being semi-awake alert us early if we are irritating the nerve. There is quite often a degree of increased numbness though more often patients describe the pre-operative numbness lifting somewhat and nearly all go on to improve thereafter. The risk will be less than 1%.

Failure of an operation to achieve its intended goal is always possible. In this instance, it will mean the persistence of leg pain as it was before. This is uncommon though remember the purpose of these particular operations is to relieve leg and not back pain. The latter may remain though is often reduced to some degree. Further, rehabilitation for the back pain is more likely to prove effective when the nerves are no longer compressed and the legs are free. That is to say we get rid of the leg pain with surgery and the low back pain thereafter with rehabilitation physiotherapy. The persistence of some non-disabling levels of back pain is common after disc prolapse. It is not uncommon for a degree of pre-existing weakness and numbness to persist particularly if it was severe before hand. The longer they have been present the more likely this is. However, most patients experience an improvement in weakness and numbness if not complete resolution.

Recurrence of symptoms may occur. That is to say you may get better only for things to get worse again later. There are a number of reasons why and again this may be in the form of back or leg pain. Back pain may occur in acute bouts and can be minimised by your being diligent with the post-operative physiotherapy. Leg pain may arise from a disc prolapse occurring at an adjacent level, a recurrence of the original disc prolapse, scarring occurring around the nerve root affected by the original disc prolapse, or damage caused by the original prolapse leaving the nerve root hypersensitive as it attempts to recover in the post-operative months. Usually, it is an element of each of these pathologies which operate together to cause recurrent leg pain. A degree of pain is not uncommon at times in the early phase though will usually settle over a period of a few weeks or months. Seldom are the troubles serious and rarely do they then persist though precisely how often is still a matter for some debate. To find out a true recurrence rate, thousands of patients need to be followed for tens of years and for none to drop out during that time. There has been no perfect study but it is our impression from those studies that have been done and from our experience that perhaps 1 in 10 patients at some point in the future get into substantial recurrent trouble. That is to say we feel it is about the same as for standard open microdiscectomy procedures.
Recurrence of course largely reflects the natural history of disc disease rather than anything relating to the surgery itself, though it is important that you appreciate the operations simply tackle current troubles and offer no protection against future problems at other levels – the post-operative physiotherapy perhaps does. Obviously, we would not offer the surgery if we did not think that without it you are likely to fair worse than you are with it.

**Deterioration** is a possibility. Operations can make you worse, can do you harm or may leave you with new problems to cope with. This is rare and deterioration directly as a result of the surgery probably affects a fraction of 1% of patients. Quite a few patients may have a transient increase in numbness or weakness though persistent significant problems are rare indeed.

**Wound infection** can occur with any operation. In the spine, it is rare as there is so much muscle covering it. Muscle fights infection well. However, if an infection ever sets in the effects can be very serious. Again the risks are less than 1%. Diabetic patients are at slightly higher risk of this.

**Informed consent**

Before you have a procedure of any kind, however trivial you may feel it to be, you must be fully aware of the possible and likely consequences. You have to sign a consent form in which you state that you are fully aware. We will go over this with you in your consultation. Do not sign the consent form for a procedure with us unless you feel fully informed of its aims and risks, as well as the alternatives. Please make sure you are fully content with everything set out in our Informed Consent for Treatments: Operations and Injections form. You can get this form either from our office at The Spine Surgery London or on our website – www.spinesurgerylondon.com

Obviously you must know what the aims and risks of any operation are. We will document in the notes that we have explained these to you as it is routine to do so. Do not sign the consent form if you feel we have not.

**We will write something like this in your notes: - make sure you feel it is true**

“I have explained the aims and risks of the procedure including those to life and limb (i.e. death, paralysis and disaster), of failure (the procedure does not work), recurrence (you get better but it comes back) and deterioration, (you are made worse), of death, paralysis, wound problems, of nerve/nerve root injury, as well as the likely natural history of the condition (what happens if nothing is done), the possible impact of alternative managements and treatments, along with the usual post procedure recovery and its variants (i.e., how much time off from work, what help you will need at home, what the wound care is).”

**These are all things you will need to have had covered.** Again, do not sign the consent if you are not sure
What happens if you don’t have it done?

The “natural history” is what happens when nothing is done and this must be compared with the scale of risks associated with the procedure. Eventually many people’s troubles will settle though again good data is hard to find. A general rule of thumb is that within the first six to ten weeks spontaneous resolution occurs for about 95% of patients – or at least a substantial and consistent decline in symptoms is evident. If you are having surgery before this time there needs to be a good reason – progressive motor or sensory loss, worsening rather than consistent or declining pain or a disc prolapse of such immense proportion that it threatens paralysis. You should know what the reason is for such rapid progress. However, if after this time there is no clear pattern of decline in symptoms many of you are stuck at least for a long time. Into this picture it may be reasonable to integrate any social, personal, occupational and domestic pressures.

What are the alternatives?

Lumbar Microdiscectomy is the principle operative alternative. If this is relevant to you, we will discuss it. However, any operation is always the last resort. Instead, you could try injections or further conservative treatment (physiotherapy, osteopathy, chiropractic, acupuncture, tablets and time). Obviously, we will usually have formed the view that these are unlikely to bring you to comfort any time soon before recommending surgery.

Occasionally, we will have warned you that bad paralysis of nerves may occur if things are left and in these circumstances there is little choice but to proceed though this is rare. For the majority, it is pain that drives the surgery. In these circumstances, you have to feel that the degree of pain warrants the risk and effort involved in having the operation.

Discharge

Most people go home the next day. However, there is no rush and you should stay until you are ready.

Do not have a fixed plan. Make arrangements that are flexible. Surgery is not like fixing a new car.

You need to be recovered enough so that you can manage the journey home and life at home. If you live a long way off, are on your own or have a dependant young family you will need to stay for longer. Occasionally, the less able who live alone might sensibly use a convalescent facility.

Remember there is no rush – go home when you are ready. You should be able to tick certain boxes:

- be able to mobilise and more or less dress yourself
- to have passed urine
- to have tried some stairs
- to be able to manage on just oral medication and pain relief
- to be able to cope with your journey home
- to be able to survive comfortably with your personal home circumstance
How to get home

The front passenger seat in a standard car is fine. If the journey is long, get out of the car every hour and do some simple stretches. Then get back in and carry on. It is often sensible to take some tablets before you leave the ward. Go to bed when you get home, regardless of how you feel.

Done once, even a long journey is OK. This is not a licence to drive every day.

Post-operative back care

This is obviously crucial to any procedure’s success. Even before you come in and again before you go home after surgery, we will have discussed some details of how to care for your back in the weeks that follow. Indeed, several members of the team will be involved in this.

We tend to recommend that you wear a canvas type lumbar support belt for the first few weeks. The physiotherapists will supply you with one. Without any significant incision pain there is a danger of mobilising the disc too much and the aim is to limit this.

If you feel you are developing unexpected, troublesome or worrying symptoms, do not hesitate to call our office or the ward staff. If troubles arise out of hours, call the hospital and ask for the sister in charge.

Physiotherapy

You may well have been given specific instructions by the hospital’s physiotherapist. Indeed, you are likely to be given a sheet with diagrams of various exercises. The precise details of these exercises and how often they should be done are of less importance than your response to them. That is to say, if you develop pain on doing these exercises, you should stop them. In the first few weeks all that can occur is the simple healing process. Physiotherapy maintains your mobility during this time but should not be allowed to interfere with the healing process. Therefore, if it hurts, you should stop and you should not be anxious if, as a result, you are quite stiff by the end of this early period. Physiotherapy begins in earnest around the fourth week when the back will be stable enough to allow real progress to be made.

Exercise

The aim here is to do small amounts but often. For most of the first week you will either be in hospital or should be pottering about inside your home. For the second week, the amount of activity undertaken should essentially be unchanged. You should simply be moving about as if you were in fact still in hospital. It would be perfectly reasonable to fix your own meals and to look after yourself though you should not be doing housework or looking after others. You may go out for short walks. From the second week onwards, light exercise may be taken. You may go on very short car journeys (10-15 minutes) and go out for longer walks. Prolonged outings, lengthy or frequent trips to the office will be bad for you. Problems most often arise when patients do a little too much a little too often, i.e., one trip to the office may be alright but three cause troubles.

Sitting

You are better to be standing or lying following back surgery. If you wish to sit, a high, upright dining room style chair is the most appropriate. It is certainly reasonable to start sitting for your meals when you have gone home but it is sensible to stand up and stretch between courses.
This should be back to normal around about the four to six week mark. However, it will always be advisable to avoid prolonged periods sitting and very soft or low armchairs.

**Sex**
If it hurts, don’t. If you think it will hurt, don’t - until of course you think it won’t and it doesn’t.

**Wound care**
You should not get the wound wet until the day after the sutures have been removed. It is perfectly reasonable to have a shower, providing the wound is covered with a waterproof dressing. The ward may provide you with this before you leave. In general, we like to change the dressings on wounds as infrequently as possible. The wound should be kept dry and a dressing used that allows the wound to breathe.

**Removal of Stitches**
The stitches should be removed at or shortly after the tenth day. We mostly use a single stitch which runs under the skin and can be pulled from one end. (Get an adult to help you.) I also usually put steristrips (small sticky tapes) across the wound and two in parallel with the wound to hold the stitch ends. The ones holding the stitch ends need to be pulled off and then the suture can be removed. Most often a nurse linked to your G.P. or the district nursing service do this. If you are near one of my hospitals you may be able to have these removed there. You need have agreed an arrangement for this to be done before you leave hospital - our ward nurses who will liaise with your GP, district nurse or one of the local hospitals, as is appropriate.

**Bending, lifting, carrying**
In the first few weeks, you should not be doing this. The physiotherapy, which will begin about the fourth to sixth week, will teach you how to bend correctly and how best to lift. It should certainly be something that you keep to a minimum in the first months.

**Driving**
In the first few weeks you should be driven i.e., you should not drive the car yourself. In the weeks that follow, you should limit journeys to short periods. As physiotherapy commences and progress is made, you may gradually start to extend this. In general, it is best to have the car seat set as high and as upright as possible. If you are becoming uncomfortable you should stop, get out and do some light stretches before continuing.

**Sports**
You should not do this until we have reviewed your progress. It should be deferred until you have completed the fitness programme that only begins with the physiotherapy at the fourth to sixth week and is likely to take a further four to six weeks at least.

**General philosophy**
The aim is for you to avoid things which aggravate your pain. Once recurrence of back and leg pain has occurred, it is much more difficult to get it to go away. It is much simpler to avoid it in the first place. If in doubt, err on the side of caution. You can do most things after the first week or so. However, you will not be able to do much of them. “Can I drive?” “pick up the baby?” “go into the Office?” or “fly?” are all frequently asked questions. The answer is usually yes BUT not very often. It is not so much what you do but how often you do it.
Follow-up

The usual routine is to see patients three or four weeks after discharge and it is at that point that we can start the physiotherapy. This will need to be near to home though later may need to move nearer to work. We usually then see you after another six weeks and then a further three months.

Planning your return to work

This may reasonably be considered after two weeks though there is a wide variation in this. Much of this relates to the job in question. Clearly, a brick layer commuting 50 miles by car each way will take longer than a librarian working next door to home.

Whatever the work a gradual return is best – perhaps two half days the first week (Tuesday and Thursday), three the second (Monday Wednesday and Friday) and four the fourth (Monday, Tuesday and Thursday, Friday). Work five half days the next and then start to increase the length of the days. It is important to keep up the physiotherapy during this phase. The program outlined above is very gradual and more rapid progress may be possible but if pain recurs you should ease off.

Done in a graduated way, the return to work is a very positive part of your rehabilitation. It needs to be in your control and with the encouragement of your employer. If they will put up with you being part-time and unreliable they will see you sooner.

If, by contrast, your job is one whereby you have to be there fulltime and reliably or not at all, it will take longer. Then the job is not a part of the rehabilitation but the hurdle rehabilitation has to prepare you for. You will get back later as you need to fully recover before starting. If you have a long commute, your return will be further delayed. The average commute time for our patients is in the region of one hour each way. From the spinal perspective, that is a two hour physical job in addition to your real work. Days spent working from home help.

Discuss this advice with your employer and make a plan. Obviously the best laid plans may change due to circumstances and we will advise on how likely your plan is to come off at the first out-patient session post surgery i.e., at about the four week mark.

A safe return to sport

Clearly, the situation is different for the occasional exerciser than it is for the keen amateur sports person. Equally, the elite athlete or professional sports person will have particular demands. Certain sports are more trouble than others. With that in mind here is some general advice tailored to the two broad groups:-

Advice for the amateur

In general terms, for members of the general public it takes three months to get over the surgery and return to normal life. It takes a further three months to train you back up to competitive sport.
Some sports are tougher than others. We would not recommend significant long distance running, rowing machines or squash, (tennis and badminton are usually fine). However, most other sports are fine- after an appropriate training schedule to get you fit and to strengthen the spine.

Two sports need a special mention. You should miss a ski season, i.e., this needs to be a good six months off. Likewise it should probably be six months before you do serious riding – much depends on the horse of course! Essentially, done properly, skiing and horse riding are like advanced Pilates or core muscle exercises, i.e., they can be good for you. However, you would not leap into an advanced Pilates class any more than you would yoga and neither would you expect to do them if you were injured.

You may get back to your sport safely when the disc has firmly healed (and you can do nothing to speed that up) and when you are cardiovascularly fit, have achieved good flexibility and basic core muscle strength. Your physiotherapist will guide you.

It is all about being reasonable and phasing in the return. Start with a few holes of golf and don’t go for the big drive on your first few visits. Make sure there is time to recover before and after you play. Gently build it up.

Whatever your sport now is a good time to see a coach. Most professionals have injuries and there are ways to ‘T off, to serve, to set up your bike and even to run, that are more back friendly than others. A professional coach will be able to help you if you explain your problem – “I have a bad back and want to run like Usain Bolt, please”. Good luck.

**Elite or professional sports people**

For elite athletes, the situation needs to be tailored to your specific sport and any neurological weaknesses. The latter can be frustratingly slow.

We can nearly always get you doing fitness work within a few weeks and will often use water-based exercise.

The younger you are (i.e., the earlier in your career) and the tougher the sport is for the spine, the longer it takes. Likewise, many of you will have other injuries we need to work around.

There are nearly always specific competitions and events you are hoping to target and we will tailor the return to play in that context as much as is sensible.

We will always need to look at the routine of your training as well as technique if we are to prevent further injury. This is where the cause of so many injuries hides. It is therefore a process that will involve not only your physiotherapy team, but the coaches and managers so that with you we can put together the strategy most likely to see rewards.

It is the routine that most of you get back to your professions.

The trick is to cover all the angles and the devil is in the detail. Do try to be patient. It is like trying to escape from a field full of lions – you have to plan the route exactly and if you bolt for it they will see you. Take it gently, very gently at first, until we are certain we are fit and fast enough to smile while we bolt over the horizon.
Results of Endoscopic and Other Surgery
Here we summarise the different surgeries that are possible.

Before starting, we would caution you against the over interpretation of small differences in success or failure rates with published data. There are many factors which can confound things:

- New techniques tend to be studied by experienced experts on selected sub-groups of patients whereas published data on old techniques tend to be looking at how populations of surgeons get on when the method is applied to all comers.
- Different populations of patients with different problems are included within the “slipped disc” population and so different sub-groups may be reported and the purported difference in outcome simply reflect a more responsive pathology being found in the differing sub-populations.
- Drop out rates from the studies may vary and can corrupt the results favourably or unfavourably.
- Length of follow-up may vary as can the threshold in symptoms taken to indicate “failure”. In general, the longer and harder you look the more recurrence you see.
- Some techniques are surgically more challenging and thus a specialist centre does disproportionately better than does the general community spinal surgeons.

That said, the results available from the various international groups are reassuring that the technique is at least as good and as safe as other techniques – in the right hands.

There are three techniques to compare:

Keyhole Open Microdiscectomy: This is the established “gold standard” against which all other techniques need to be measured. It is the method used to remove herniated intervertebral discs in most centres and is performed with the help of an operating microscope. It involves entering the spinal canal between the lamina of the adjacent vertebra, identifying the nerve root and removing the herniated fragment of disc that is compressing it, plus any other loose fragments of disc. It is the standard technique available in most centres. In many cases, it will remain the preferred option. The average success rate is 87%. (Open surgery not using microscopes requires very large incisions and excess muscle stripping. It is seldom used in specialist centres today).

Percutaneous Nucleotomy (+/- Endoscopy): This is basically an old technique whereby a tube is placed into the middle of the disc under X-ray control and the non-herniated part of the disc is sucked out in the hope that the herniated bit will get sucked back in too, i.e., you take out the good bit of the disc in the hope, rather than the expectation, that the bad bit will get better too. The surgeons at LESS have never supported this approach – it removes often very healthy disc and usually leaves behind the prolapsed part. The application of endoscopic visualisation does not ameliorate this underlying flaw. Even the reports of its proponents show only a 75-85% success rate in a highly selected sub-group of cases favourable to this technique where the disc is only bulging but still contained within the capsule. If applied to most prolapses, the technique would be expected to fail. We are of the view that the reported results are optimistic in established disc herniation.
Endoscopic Transforaminal Discectomy:
Where possible this is the technique favoured by LESS. It involves decompressing the nerve root by directly retrieving the herniated fragment from within the spinal canal just as with the “gold standard” open microdiscectomy method. The difference is that access is gained to the spinal canal via the natural foramen, (hole), in the side of the spinal canal with the minimum of muscle dissection. With specialist endoscopes, (TESSYS™ equipment) the results for the removal of a sequestered intervertebral disc prolapse document a success rate of more than 93% in 1-year and 2-year follow-up studies. In addition, for those patients who already have had failed surgery with another technique, the success rate remains at more than 85%.

Which one is best for You?

We would not recommend a percutaneous discectomy except in very unusual circumstances. When there is a small contained bulge of the disc causing leg pain then it is a reasonable option. However, the other techniques work just as well and this situation is in fact exceptionally rare. Most small, contained disc bulges are not associated with referred leg pain. Remember none of these techniques offer anything other than relief from leg pain – back pain is not treated by these techniques. The choice is therefore between endoscopic transforaminal versus open interlaminar discectomy.

Our view is that unless there is a good reason to do an open operation, even with microsurgical techniques, the endoscopic method is preferable as the muscle dissection is less, no ligaments are removed and the recovery is quicker. However, it is a close run thing and in certain circumstances open microsurgery is in fact preferred.

If the disc is very hard or associated with bony swelling (osteophytes) or hardened ligaments, the endoscopic technique struggles. Likewise, if the prolapse lies to the side of the spine outside of the central canal, open techniques struggle.

For this reason, we feel it is important to offer both methods and will recommend which ever we feel is the most appropriate for you. Often there are pros and cons behind each one in which case we will place them before you.

What do you do in the event of problems?

If, once you have got home, problems arise, help is available from a number of sources.

First, you may ring my office number. If it is during working hours this is certainly what you should do. My secretarial staff will be able to contact myself, my clinical assistants or our spinal nurse and obtain advice for you. If it is out of hours, you may also ring this number and the machine will tell you what to do in the event of an urgent enquiry or you may leave a message.

Second, you may ring the hospital and ask to speak to my Spinal Nurse. In her absence, you should ask to speak to the hospital’s Duty Manager or to the ward staff. Telephone numbers are given at the end of this information sheet.

You may of course contact your general practitioner or any emergency service should you so wish or if the other avenues fail.
We do not provide a 24 hour emergency service but can respond on most occasions.

Costs, Codes and Authorisation

A separate information sheet is available which covers all aspects of this. Please obtain this and read it before you confirm your surgery. The costs of private surgery are considerable and if you are hoping to use insurance you will need to obtain authorisation from your insurer and register this with us prior to admission. Some insurers/policies may not pay all surgical, anaesthetic or hospital fees. All costs remain your responsibility even if your insurer has agreed to help/pay direct. There are usually three bills you need to know about; the hospital, the anaesthetist and the surgeon. You are responsible for ensuring all are paid.

Other sources of information

We produce a number of other information sheets. You may obtain a title list from my office.

The Princess Grace Hospital produces information on a number of surgeries including spinal procedures. We were also involved in their production so they are not entirely independent. However, the physiotherapy and nursing issues are given an airing. You can obtain these from our Spinal Nurse.

Your General Practitioner will have seen other patients going through spinal surgery though will not likely have seen folk having endoscopic discectomy. Of course, they may also be familiar with any other health concerns you have and be able to offer advice on how these might impact on recovery.