

## Fusion for Lumbar Instability

### **What is lumbar instability?**

Lumbar instability is a condition where the vertebral bodies move abnormally in relation to each other. This is mainly due to the degenerative wear and tear over many years, causing a thickening and a weakening of the joints and ligaments that maintain the articulation between adjacent vertebrae. Degenerative changes are normal in adult life, but they are more likely to cause symptoms of lumbar instability in a person with inherited predisposition. Lumbar instability is also likely as a result of lytic spondylolisthesis. Lytic spondylolisthesis is due to fracturing of the vertebrae, which allow instability and movement to occur. Mostly this is a congenital abnormality but it can also be caused by trauma. Instability can result due to severe trauma to the lumbar spine and may also require surgery. Instability usually only affects two adjacent vertebrae but on occasions can involve several levels in the lumbar spine.

### **What are the symptoms of lumbar instability?**

The usual symptoms are a combination of back pain and symptoms in the legs. The symptoms in the legs denote pressure on the spinal nerves as they pass through the point(s) of narrowing in the lumbar spine. Either sciatica (sharp pains shooting down the back of one or both legs), or claudication (heavy dull aching with pins and needles in the feet and legs brought on by standing or walking) are the symptoms usually experienced in the legs with this complaint. The diagnosis is often made with CT scans of the lumbar spine. Where these suggest the diagnosis but are not entirely conclusive, either an MRI scan or a myelogram will clarify the diagnosis.

### **What is an MRI scan?**

This is a simple and safe test, similar in many ways to a CT scan. The scans are produced using a technique known as magnetic resonance imaging, and no radiation is involved. There is no need for admission to hospital. People with heart pacemakers cannot have the test. There is usually no need for any injections, but people prone to claustrophobia may find the examination somewhat stressful, and should report any anxiety at the time of the test.

### **What is a myelogram?**

This is an X-ray examination done in hospital, usually involving an overnight stay. A radiologist (specialist doctor) injects a small quantity of dye into the spinal fluid of the lower back, after which x-rays and CT scans are performed. The dye outlines the spinal canal, clearly revealing any areas of stenosis (narrowing). It is usually a simple and safe test, but on occasions it can be difficult to pass the needle through the degenerative spine, and headaches occur after the test in about 20% of people. The headaches can be severe, though they are rarely dangerous and usually pass in a day or two.

### **Why do I need surgery?**

The main reasons for recommending surgery are to relieve symptoms of back pain and leg pain and to preserve the ability to walk. Lumbar instability can result in severe compression of nerves in the lumbar spine as well as severe back pain.

### **What is actually done in the operation?**

A lumbar fusion is a spinal operation to prevent abnormal movement occurring between adjacent vertebral bodies. Decompression of the exiting nerves will need to be performed as well as fixation of the vertebral bodies using specialized instrumentation. Often pedicle screws and rods will need to be placed as well as intervertebral cages. A bone graft is used to solidify the fusion process. Once the instrumentation is placed, the spine is stable, however fusion can take 9 to 12 months to fully develop as the bone graft knits and heals to the adjacent vertebral bodies. The surgery is performed using a variety of fine tools including magnification, drill and special Ronjuers and instruments to place screws and cages.

The operation can be done as an open operation in the standard way with a midline incision. Mr D'Urso has pioneered the use of minimally invasive techniques for lumbar fusion in Australia and prefers if possible to perform a minimally invasive operation with two small paramedian incisions. The average operation takes approximately 3 hours depending on complexity. If there are more levels involved or if the patient is of large size, the time taken may be longer.

### **What about risks and complications?**

The risk of serious complications is low and the risk of death is remote. The risk of less serious complications is somewhat higher. Complications are of two types, general and specific. General complications are those that can occur with any operation, while specific complications are those relating to lumbar spinal fusion.

General complications are in general related to age and to underlying disease. A person aged 75 years with diabetes and a history of heart attack is at greater risk of complications than a 40 year old with perfect health. General complications include stroke, heart attack, bleeding in the wound postoperatively, blood clots in the legs (which can travel to the lungs or heart) and infection. Specific complications include damage to one or more of the nerves travelling through the spinal canal. This could cause permanent numbness or weakness in the legs or feet (or to some part of one or other leg), and on rare occasions could affect control of bladder or bowel. Pedicle screws may be placed incorrectly or may loosen, this may require revision of the instrumentation and replacement of a screw into the spine. Fusion may also fail to develop. This can be due to multiple factors including infection, heavy use of cigarettes or osteoporosis.

Serious complications are rare. You should not be unduly concerned with the risk of serious complications. However, failure of the surgery to meet expectations (without anything going wrong) is a more likely possibility. This means that despite the best efforts of the patient and the surgeon, the symptoms do not respond to surgery, as one would normally expect. This is very disappointing but can occur. Reasons for this are not always obvious.

### **How long will I be in hospital?**

After an open spinal fusion procedure, you should expect to be in hospital for approximately 8 days. Depending on your recovery, further rehabilitation as an inpatient may be required. After a minimal invasive lumbar fusion bed stay would be approximately 4 days. Rehabilitation is less often required after minimally invasive surgery.

### **What can I expect after the operation?**

There will be some pain in the area of the wound itself, as well as some shooting pains in the legs in the first few days. There will be an intravenous drip inserted during the operation, and through this strong pain relief will be given for the first 48 hours or so. After that, tablets will be used, along with occasional injections as required. It will be difficult to roll over in bed for the first few days, and during this time you will depend heavily on the nursing staff. The first standing out of bed usually occurs 24 hours after

surgery, though can be attempted sooner. After a few days, most people are able to get in and out of bed unassisted and to take walks around the ward quite comfortably. Bowel actions usually do not occur until the fourth or fifth day after surgery - this is quite normal and should not cause any concern.

### **Will I need physiotherapy?**

Most patients will be seen by a physiotherapist during their stay in hospital, mainly to ensure that the simple movements like getting out of bed are done correctly. There is usually no physiotherapy during the first four weeks or so after discharge from hospital, and only a minority of people will need on-going physiotherapy after that.

### **What about when I get home?**

The most important aspect of the first four weeks after surgery is rest. Just as concrete needs time to dry and harden, so too does the wound need time to heal, internally as well as externally. This takes at least four weeks. Undue bending and lifting during this time must be avoided. Sitting should be minimised to essentials, such as toilet and eating. Driving is generally considered inadvisable in the early weeks, even as a passenger. The best plan is to schedule two good walks of about 15 minutes each per day, and to spend most of the remaining time resting. Swimming is an excellent exercise after spinal surgery, but should not begin until after you have attended your post-operative appointment. Your post operative appointment is usually scheduled four weeks after surgery with Mr D'Urso.

It is hard to predict how long it will take for recovery to be completed. In most cases, the symptoms due to spinal instability will have eased within the first 4 weeks, but you should not regard this as a deadline - some people take much longer than this to get benefit from surgery.

### **Will I need rehabilitation?**

Not every one needs formal rehabilitation. However, if there are going to be problems coping alone at home, for example, then a week or two in a rehabilitation hospital can be time very well spent. Also, if there is significant incapacity prior to surgery, or there are complicating medical factors that may slow the recovery process, then rehabilitation is advisable. Most people over 70 years of age would need some rehabilitation in hospital. Most people under 60 years can go straight to their own homes.

If your back problem is the result of an injury at work, then you will require a rehabilitation program. The type of program needed will depend on the nature of your work, the size of the workplace, the duration of symptoms and on the details of the surgery itself. Rehabilitation may involve input from a number of sources, such as your family doctor, your employer or rehabilitation service providers, whether they be as an inpatient or outpatient.

For further information please consult Mr. Paul D'Urso's website: [www.pauldurso.com](http://www.pauldurso.com). If you were to have any further questions please contact Mr D'Urso's rooms directly.