

Dynamic Stabilisation of the Lumbar Spine

Background

This technique is relatively new, having been designed in Switzerland and developed in Germany over the last ten years. It has only been in clinical use since 1994, and therefore the long-term follow-up on the system is not as available as for more conventional treatments. It is a system designed to stabilise the spine, taking the pressure off damaged structures such as discs and joints, without resorting to a fusion. The spine, therefore, remains mobile at the operated level.

Who Needs it?

This technique is used in patients who require surgical stabilisation of one or more spinal segments, having failed to adequately improve with non-surgical treatments. In these cases there may be a desire to retain movement at the painful level either because nearby levels are damaged (but not painful) or if the patient is young. In elderly patients a fusion may fail because of the poor bone quality and here again the technique can be useful. In the rare case where the patient has had surgery before to remove a bulging piece of disc material (often the cause of sciatica) and a further piece of disc comes out, the technique can be used to "decompress" the disc and prevent any future problems recurring. Where the spinal canal is narrowed causing pressure on the nerves ("canal stenosis") this system may be used to slightly bend the spine forwards at the affected level or levels and stabilise it, to make a little extra space. This decompresses the nerve roots and overcomes the symptoms, usually of leg pain brought on by walking.

Pre operative advice.

48 hours before surgery, take some gentle laxatives (lactulose, senna) to ensure you have your bowels opened on the day of surgery.

On the day of your surgery it is important to remain Nil by Mouth. Do not eat beyond midnight the night before you arrive but you may continue to drink water up to two hours before admission, where you will be advised further.

It is not necessary to bring your medications with you, as these are supplied from Pharmacy at The London Clinic (you can use your medications when you return home). However, if you take a number of medications, please bring a list of names and doses so they can be appropriately supplied by the pharmacy department.

You will need to **bring your scans** with you to The London Clinic.

Please find enclosed an information booklet from The London Clinic, with information on items to bring with you for your stay.

How is it done?

The operation is performed under general anaesthetic with the patient lying face down on a well padded table. There are two types of surgical approach, the midline and the "Tramline" (or Wiltse) approach.

The midline approach.

An incision is made in the midline on the back over the affected level and the position confirmed with an x-ray. The muscles are parted from the spine and the bones can then be easily seen. Screws are passed into the bones down the line of the pedicle on each side (Pedicule Screws) above and below the affected level; these act as anchoring points for the dynamic stabiliser, which passes between the screws, being inserted under very controlled tension/compression or distraction to allow the pressure to be taken off that level, without distorting the normal anatomy. This is then secured with grub screws and the wound is closed.

The Tramline or Wiltse approach

Here the patient is positioned in exactly the same way, but two incisions are used, which are usually shorter than the midline incision described above. The muscle retraction is minimal, because the tissue planes from these incisions lead directly to the point on the vertebra that the surgeon wishes to enter. The screw placement etc is exactly the same otherwise. Some surgeons believe that patients recover quicker and better because of the lack of muscle retraction when the tramline incisions are used.

Post operative Care.

You will wake up in theatre recovery, where you will spend a short time recovering from the anaesthetic.

You will then be transferred back to the ward. The contact numbers and visiting times are listed below.

It is important not to eat or drink too quickly post operatively to avoid sickness and further complications. You will have maintenance fluids intravenously to keep you hydrated.

On day 1 post operatively, you will be seen by the physiotherapy team on the ward. They will start teaching you how to safely get out of bed, and will help you to start walking again. You may feel lightheaded or dizzy the first few times you get up – this is normal, and will wear off. The physiotherapist may also fit you with a brace to support your spine. You will have to wear this for several Weeks. There may be opportunity to use the hydrotherapy pool during your inpatient stay.

Your wounds will be managed by the nursing staff - they will be dressed as needed. They will also provide you with the appropriate information for discharge.

What are the results?

Most patients have significant improvement in their symptoms after surgery. The operation itself may take several weeks to recover fully from, and thereafter a program of physiotherapy exercises is needed to retrain the spinal muscles and work on improving posture.

At follow-up appointments patients are carefully checked and the results audited. X-rays are taken to ensure the screw positions are satisfactory and that healing has occurred - the bone grows onto the screws and this can be inferred from the x-ray.

Because this is a relatively new system, with the first implants having been performed in the nineties, it is difficult to say what the long term outcome is going to be. The system and the techniques have, of course, been very extensively tested

and the "long-term" clinical results are beginning to come through and look very promising. On-going studies will hopefully prove the value of this technique over the coming years.

Contact us.

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These contact numbers will be available to you between the hours of 9-5, Monday to Friday. If you have any concerns out of hours, please don't hesitate to contact the ward at The London Clinic, or your GP. If you need any urgent care, please visit your local Accident and Emergency.