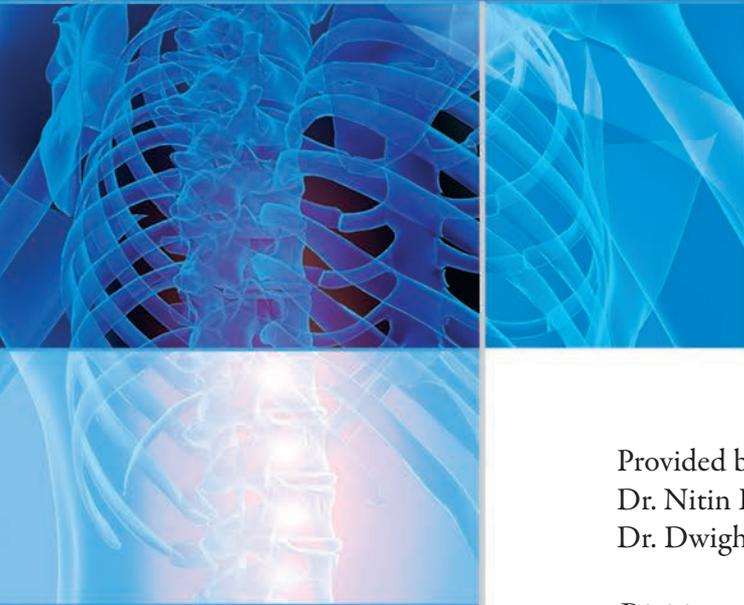


Minimally Invasive Interlaminar Lumbar Instrumented Fusion

Instruction Book



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LUMBAR ANATOMY

The spine provides support for the body. It also provides a protected conduit for the spinal cord and nerves.

The lumbar spine is composed of five lumbar vertebrae. These are separated by the shock absorbing discs. The nerves lie behind the discs.

When looking at spinal anatomy, it is often helpful to look at the spine in segments. A spinal segment is made up of two vertebrae, the intervertebral disc, and associated nerve roots.

Vertebrae: The bones of the spinal column. The main part is the round block called the vertebral body. A bony ring is attached to the back, which consists of two pedicle bones and two lamina. The spinous process is the bony knob, which can be felt on the back.

Pedicle/Lamina: The two parts of a bony ring, which connect to the back of each vertebral body. A hollow area is formed between the vertebral body and this bony ring. This is where the spinal cord lies.

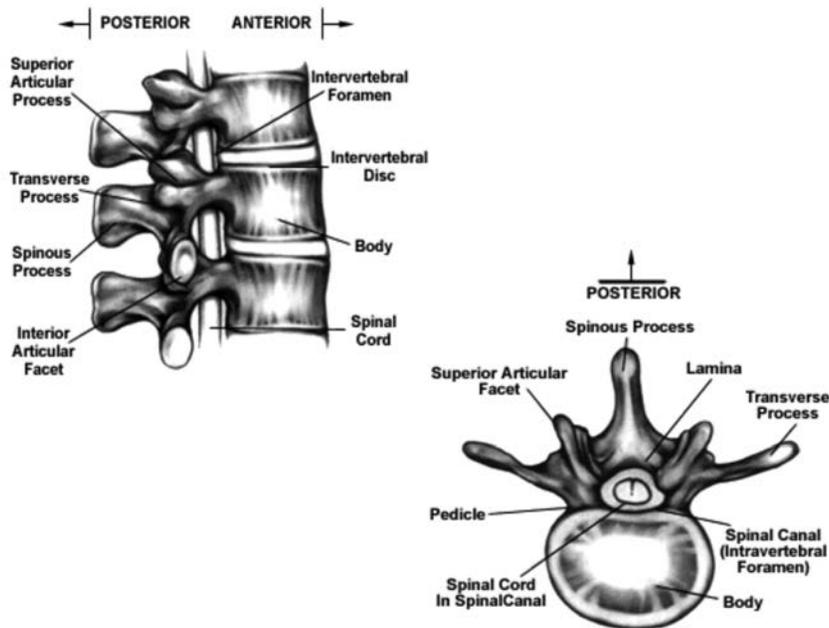
Facet Joint: The joints connecting the vertebra. There are two facet joints per vertebra. The facet joints connect the vertebrae and allow movement.

Disc: Cushion-like pad, consisting of a jelly like center and a tough outer ring. It acts like a shock absorber, load distributor and spacer.

Neural Foramen: The opening in which the nerve roots exit from the spinal cord. If this area becomes smaller, either by age or a herniated disc, the nerve root can get squeezed, thus causing pain and/or dysfunction.

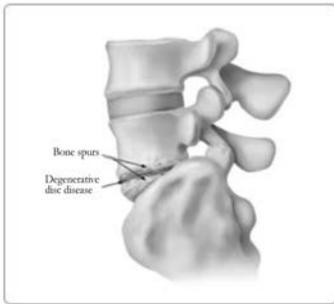
Spinal Cord: Pathway in which the brain sends signals to the rest of the body to control sensation and movement.

Nerve Root: Bundles of nerve fibers that exit the spinal cord. Each provides a sensation and function to a specific area of the body. Two roots exit the spine at each vertebral level.



MINIMALLY INVASIVE INTERLAMINAR LUMBAR INSTRUMENTED FUSION

A lumbar fusion is used to stabilize the spine. The following are common conditions that can lead to spinal instability. If you are not sure exactly what condition or conditions you have, please make sure to let us know. It is important for you to understand your condition and expected outcome.



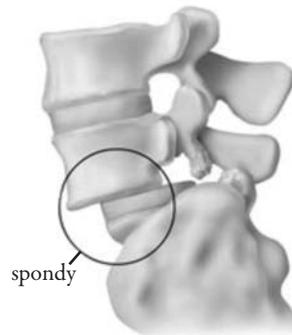
Degenerative Disc Disease

As we have learned, the discs lie between the vertebrae. The spinal cord lies behind the discs. As we age, the disc can begin to lose water content. This is called degeneration and can weaken the disc making them ineffective as shock absorbers

and spacers. This can destabilize the spine and cause great pain.

Pars Fracture / Spondylolysis

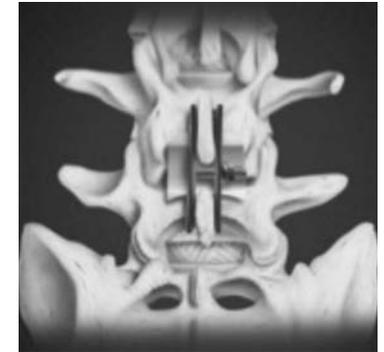
Sometimes a fracture can form in part of the bony ring that surrounds the spinal cord (Pars fracture). This can allow one vertebrae to slip forward (Spondylolisthesis). This can cause instability in the spine. The slippage can also cause compression on the nerve roots.



Recurrent Disc Herniation

Occasionally, if a lumbar disc re-herniates, spinal instability may occur. If this is the case, a lumbar fusion may be the best treatment option.

The Minimally Invasive Interlaminar Lumbar Instrumented Fusion involves performing a solid bony fusion with minimal disruption to the local muscle and ligaments. The minimally invasive spine procedure has the advantage of allowing the surgeons the opportunity to visualize the entire spine while performing a complete decompression of the neural elements with the assistance of an operating microscope. A bone graft is then placed between the Spinous Process to aid in the fusion and to act as a structural support to maintain the decompression.



A small titanium compression plate is then applied to the Spinous Process to maintain the construct stability. The surgery has dramatically decreased postoperative pain and recovery times for our patients.