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Neurosurgical Treatments

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Neurosurgery is the surgical specialization that treats diseases and disorders of the brain and spinal cord. Back pain can sometimes produce neurological symptoms such as numbness, muscle weakness, and loss of bowel and bladder control due to dysfunction at the nerve root. These symptoms are indicators that neurosurgery is required to treat the underlying cause of back pain as opposed to conservative treatments. Procedures to treat back pain under the realm of neurosurgery include discectomy, laminectomy, and spinal fusion surgery. In neurosurgery, there is a higher risk of further nerve damage and infection which may result in paralysis.

A neurosurgeon is a Medical Doctor or Doctor of Osteopathic Medicine who has completed a five or six-year residency that focuses on the surgical treatment of patients with neurological conditions. A neurosurgeon is trained in the diagnosis and treatment of disorders of the brain, spine, spinal cord, nerves, intracranial, and intraspinal vasculature. A neurosurgeon may complete additional training with a Spine Fellowship and specialize in spine surgery. Is surgery for neck or back pain necessary? Sometimes it is reasonable to consider spine surgery if the pain has not diminished after months of non-surgical treatment, if pain does not respond to medication, or if you're unable to complete basic daily activities. Some surgery options are minimally invasive (microdiscectomy for a herniated disc) and allow for quick recovery, while other types of surgery (a posterolateral fusion for degenerative disc disease) are more extensive.

Cervical spine surgery is generally performed on an elective basis to treat either:

Nerve/spinal cord impingement (decompression surgery)

Spinal instability (fusion surgery).

The two procedures are often combined, as a decompression may de-stabilize the spine and create the need for a fusion to add stability. Spinal instrumentation (such as a small plate) can also be used to help add stability to the spinal construct. The cervical spine can either be approached from the front (anterior approach) or from the back (posterior approach). In general, where possible, most surgeons favor an anterior approach for most conditions. An anterior approach results in less disruption of the normal musculature and is also easier to maintain the normal alignment of the spine.

Spine surgery is a major undertaking, and rehabilitation is an important part of helping patients gets the most possible benefit from their surgery. Essentially, rehabilitation (physical therapy, exercise) can help patients recover from spine surgery as quickly and completely as possible.

It can be thought of as alignment and balance for your body. If you buy new tires for your car, they won't last as long if they are not aligned and balanced and the new tires will be a waste of money. Your spine surgery is like new tires, and a physical therapist's role is to do the alignment, balance, and engine tuning to make sure that the effects of the surgery are as positive as possible. There are several ways that a physical therapist typically will work with a patient to help him or her get back into good physical condition and heal from the injury and back surgery.

A physical therapist is trained to help manage pain following back surgery. Controlling pain is an important first step in allowing patients to regain their strength, as it is very difficult to complete a rehabilitation program if one is in a great deal of pain. While a certain amount of pain is common in the recovery process, there are several means that a physical therapist may use to help minimize pain, such as: Ice application, certain positions of the spine, certain types of movements, electrical devices. Many of the techniques for back pain relief are simple and easy to learn and can be done at home or at work throughout the day. For many patients, it is surprising to learn how much simple use of ice packs and/or changes in movements and positions can help alleviate post-operative pain.

The therapist will typically develop a training program tailored for the patient, taking into account the patient's specific surgery, body type, and tissue conditions. Therapists focus on muscle facilitation with areas where the muscles may need special retraining to gain strength and provide stability following the back surgery. This type of exercise therapy may focus on: Muscles in the incision area, Muscles that may have been weakened by nerve problems before the surgery, Small muscles that work around each vertebra and help stabilize the spine. Most people (even those without spine problems) do not use these muscles very often. However, if these small muscles are trained properly, they can provide excellent stabilization that can protect the spine and protect the newly operated area to prevent future problems.

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