

Straightening the Curve Scoliosis and Laminectomy Treatment

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Introduction

Scoliosis, a condition characterized by an abnormal lateral curvature of the spine, affects millions of people worldwide. While some cases are mild and may not require treatment, others can be severe, leading to discomfort, pain, and even complications like breathing difficulties. In such cases, medical intervention becomes essential. One of the surgical procedures used to address severe scoliosis is laminectomy. This article aims to explore the relationship between scoliosis and laminectomy treatment, shedding light on the condition, the procedure, its effectiveness, and the recovery process [1].

Description

Understanding scoliosis

Scoliosis is a complex musculoskeletal disorder that can affect people of all ages, though it's most commonly diagnosed during adolescence. The condition manifests as an abnormal sideways curvature of the spine, often resembling an "S" or a "C" shape when viewed from the back. While the exact cause of scoliosis is often unknown, it can result from congenital disabilities, neuromuscular conditions, or idiopathic factors.

For many individuals, scoliosis is a mild condition that doesn't significantly impact their daily lives. However, in severe cases, the curvature can progress rapidly, leading to pain, discomfort, and cosmetic concerns. Additionally, severe scoliosis can affect lung function and cardiac health, further emphasizing the need for intervention. Laminectomy is a surgical procedure commonly used to treat various spinal conditions, including severe scoliosis. Also known as decompression surgery, laminectomy involves removing the lamina, the bony arch on the posterior aspect of the vertebrae. By doing so, surgeons create more space within the spinal canal, alleviating pressure on the spinal cord and nerves [2].

In the context of scoliosis, laminectomy is often performed alongside spinal fusion surgery. Spinal fusion involves fusing two or more vertebrae together to stabilize the spine and correct the curvature. By combining laminectomy with spinal fusion, surgeons aim to both decompress the spinal cord and correct the abnormal curvature, providing long-term stability and relief for the patient.

Laminectomy in scoliosis treatment is typically reserved for cases where conservative measures have failed to provide adequate relief or when the curvature is severe and progressing rapidly. Some common indications for laminectomy in scoliosis include:

Severe pain and discomfort: When scoliosis causes significant pain that impairs daily functioning and quality of life, surgical intervention may be necessary.

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Neurological symptoms: Scoliosis can compress the spinal cord and nerves, leading to neurological symptoms such as weakness, numbness, or tingling in the extremities. Laminectomy aims to alleviate this pressure and prevent further neurological damage.

Progressive curvature: In cases where scoliosis is rapidly worsening, surgical correction becomes essential to prevent further deformity and complications [3].

Failed conservative treatment: If non-surgical approaches like bracing or physical therapy fail to halt the progression of scoliosis or alleviate symptoms, laminectomy may be considered as a more definitive solution.

The laminectomy procedure

Laminectomy is performed under general anesthesia, and the patient is positioned face down on the operating table. The surgeon makes an incision over the affected area of the spine and carefully removes the lamina, the bony covering over the spinal canal. Once the lamina is removed, the surgeon can access the spinal cord and nerves, relieving any compression. In cases of scoliosis, additional steps may be taken to correct the abnormal curvature. This often involves spinal fusion, where bone grafts or implants are used to fuse the vertebrae together, stabilizing the spine and preventing further curvature progression. The specifics of the surgical technique may vary depending on the severity and location of the scoliosis. The effectiveness of laminectomy in treating scoliosis depends on various factors, including the severity of the curvature, the presence of neurological symptoms, and the overall health of the patient. In general, laminectomy combined with spinal fusion can provide significant relief from pain and discomfort associated with severe scoliosis. By decompressing the spinal cord and nerves and stabilizing the spine, laminectomy aims to halt the progression of the curvature and improve the patient's quality of life [4].

However, like any surgical procedure, laminectomy carries risks and potential complications. These may include infection, bleeding, damage to surrounding structures, and complications related to anesthesia. Additionally, while laminectomy can provide relief from pain and neurological symptoms, it may not completely reverse the structural abnormalities associated with scoliosis. Therefore, patients undergoing laminectomy should have realistic expectations regarding the outcomes of the procedure.

The recovery process following laminectomy for scoliosis can vary from patient to patient, depending on factors such as age, overall health, and the extent of the surgery. In general, patients can expect to spend a few days in the hospital following the procedure for monitoring and pain management. During the initial recovery period, patients may experience some discomfort and limited mobility. Physical therapy is often recommended to help strengthen the muscles surrounding the spine and improve flexibility and range of motion. Patients may also need to wear a brace to support the spine and facilitate proper healing. It's essential for patients to follow their surgeon's post-operative instructions carefully and attend all follow-up appointments to monitor their progress. While the initial recovery period may be challenging, many patients experience significant improvement in their symptoms and quality of life in the months following surgery [5].

Conclusion

Scoliosis is a complex spinal condition that can cause significant pain, discomfort, and functional impairment, particularly when left untreated or unmanaged. In cases of severe scoliosis, surgical intervention may be

necessary to alleviate symptoms, prevent further progression, and improve the patient's quality of life. Laminectomy, often performed in conjunction with spinal fusion, is one surgical option for treating severe scoliosis by decompressing the spinal cord and nerves and stabilizing the spine. While laminectomy can be an effective treatment for scoliosis, it's essential for patients to understand the risks, benefits, and potential outcomes associated with the procedure. Additionally, a comprehensive rehabilitation program following surgery is crucial for optimizing recovery and achieving long-term success. By working closely with their healthcare providers, individuals with severe scoliosis can explore treatment options and make informed decisions about their care, ultimately leading to improved function and well-being.

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Conflict of Interest

None.

References

1. Duong, Linh M., Bridget J. McCarthy, Roger E. McLendon and Therese A. Dolecek, et al. "Descriptive epidemiology of malignant and nonmalignant primary spinal cord, spinal meninges, and cauda equina tumors, United States, 2004-2007." *Cancer* 118 (2012): 4220-4227.
2. Sandalcioğlu, I. Erol, Anja Hunold, Oliver Müller and Hischam Bassiouni, et al. "Spinal meningiomas: Critical review of 131 surgically treated patients." *Eur Spine J* 17 (2008): 1035-1041.
3. Solero, Carlo L., Maurizio Fornari, Sergio Giombini and Giovanni Lasio, et al. "Spinal meningiomas: Review of 174 operated cases." *Neurosurgery* 25 (1989): 153-160.
4. Sayagués, José María, María Dolores Taberner, Angel Maillo and Osvaldo Trelles et al. "Microarray-based analysis of spinal versus intracranial meningiomas: Different clinical, biological, and genetic characteristics associated with distinct patterns of gene expression." *J Neuropathol Exp Neurol* 65 (2006): 445-454.
5. Foda, Abd AlRahman Mohammad, Samia Rafi, Nadeem Ikram and Mariya Syed Alam, et al. "Spinal vs. intracranial meningioma: Aberrant expression of CD10 and inhibin with relation to clinicopathological features and prognosis." *Pathol Oncol Res* 26 (2020): 1313-1318.

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