

Patient Experience and Non-Surgical Management of Spinal Abnormalities

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ABOUT THE STUDY

Spinal deformity refers to an abnormal curvature or misalignment of the spine, which can lead to pain, discomfort, and functional limitations. This condition can be congenital, developmental, or acquired due to various factors such as trauma, degenerative diseases, or neuromuscular disorders. The treatment of spinal deformities is an important aspect of orthopedic and neurosurgical practice, aiming to restore the spine's natural alignment and improve the patient's quality of life.

Historical background

The history of spinal deformity correction dates back to ancient civilizations, where early attempts were made to address spinal curvature using rudimentary techniques. The ancient Greeks and Romans documented cases of spinal deformities and experimented with traction and bracing methods. However, it wasn't until the late 19th and early 20th centuries that significant advancements were made in the understanding and treatment of spinal deformities.

Ancient civilizations, including Egypt and Greece, recognized spinal deformities such as scoliosis, kyphosis, and lordosis. Egyptian mummies show evidence of spinal deformities, and ancient Greek physicians like Hippocrates described and attempted treatments for these conditions. Hippocrates, often referred to as the "Father of Medicine," introduced early methods to correct spinal deformities, including traction and the use of various devices to straighten the spine.

Patient experience

The journey of a patient undergoing spinal deformity correction is multifaceted, including the preoperative, operative, and postoperative phases. Each phase presents unique challenges and requires comprehensive care and support.

Preoperative phase: The preoperative phase involves thorough evaluation and preparation. Patients often undergo a series of diagnostic tests, including X-rays, MRI scans, and CT scans, to assess the extent and nature of the deformity. During this phase,

healthcare providers also evaluate the patient's overall health, including their cardiovascular, respiratory, and neurological status, to ensure they are fit for surgery.

Education and counseling are important components of the preoperative phase. Patients and their families need to understand the nature of the deformity, the proposed surgical plan, potential risks, and expected outcomes. Psychological support is also vital, as anxiety and fear about the surgery and its implications are common among patients.

Operative phase: The operative phase is the most critical part of the patient journey. It involves the actual surgical correction of the spinal deformity, which can range from relatively straightforward procedures to highly complex and lengthy operations. Intraoperative monitoring, including neuromonitoring, is often employed to ensure the safety and integrity of the spinal cord and nerves during surgery.

Anesthesia management is an important aspect of the operative phase. Anesthesiologists play a key role in maintaining the patient's vital functions, managing pain, and ensuring a smooth recovery from anesthesia.

Postoperative phase: The postoperative phase involves recovery and rehabilitation. Pain management, wound care, and monitoring for potential complications are primary concerns immediately after surgery. Patients may experience discomfort, restricted mobility, and emotional distress during this phase.

Rehabilitation is a critical component of the postoperative phase. Physical therapy helps patients regain strength, flexibility, and mobility. Occupational therapy may also be required to assist patients in adapting to any functional limitations and improving their ability to perform daily activities.

Psychological impact

Spinal deformity can have an extreme psychological impact on patients. The visible nature of the deformity can lead to body image issues, low self-esteem, and social isolation. Children and adolescents, in particular, may experience bullying or negative peer interactions, further exacerbating their emotional distress.

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Received: 11-Jun-2024, Manuscript No. RCR-24-33070; **Editor assigned:** 14-Jun-2024, PreQC No. RCR-24-33070 (PQ); **Reviewed:** 02-Jul-2024, QC No. RCR-24-33070; **Revised:** 09-Jul-2024, Manuscript No. RCR-24-33070 (R); **Published:** 16-Jul-2024, DOI: 10.35841/2161-1149.24.14.411

Citation: Sanchez V (2024) Patient Experience and Non-Surgical Management of Spinal Abnormalities. *Rheumatology (Sunnyvale)*. 14:411.

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The decision to undergo spinal deformity correction surgery can also be a significant psychological burden. Fear of the unknown, concerns about surgical risks, and anxiety about the outcome are common emotions. Preoperative counseling and support from mental health professionals can help patients and their families navigate these challenges.

Additionally, recovering from surgery can be stressful for the mind. Adjusting to changes in physical appearance, dealing with pain and discomfort, and adapting to new physical limitations can all contribute to emotional stress.

Rehabilitation and recovery

Rehabilitation is a fundamental of successful spinal deformity correction. It involves a multidisciplinary approach that includes physical therapy, occupational therapy, and psychological support. The goals of rehabilitation are to restore function, improve mobility, and improve the patient's quality of life.

Physical therapy: It is vital for improving strength, flexibility, and range of motion. It typically begins shortly after surgery and continues for several months. Physical therapists work with patients to develop individualized exercise programs that target specific areas of weakness and promote overall physical health. These programs may include stretching exercises, strength training, and aerobic conditioning.

Occupational therapy: It focuses on helping patients regain independence in their daily activities. This may involve teaching patients how to perform tasks in a way that minimizes strain on the spine, recommending adaptive devices, and providing strategies for managing pain and discomfort. Occupational therapists also work with patients to improve fine motor skills and coordination.

Psychological support: It is important throughout the rehabilitation process. Mental health professionals can help patients examine emotional and psychological challenges, develop coping strategies, and improve their overall mental well-being. Support groups and peer counseling can also provide valuable social support and encouragement.

Non-surgical management

It plays an important role in the initial treatment of spinal deformities, particularly in mild to moderate cases. It includes physical therapy, bracing, and pharmacological interventions. Physical therapy aims to improve strength, flexibility, and posture, helping to alleviate pain and prevent further progression of the deformity.

Bracing is commonly used in the management of scoliosis, especially in growing children and adolescents. The goal of bracing is to halt the progression of the curvature and, in some cases, achieve partial correction. Various types of braces are available, each designed to address specific patterns of deformity. The effectiveness of bracing depends on factors such as the patient's age, skeletal maturity, and compliance with the prescribed regimen.

Pharmacological interventions include pain management and treatment of underlying conditions that may contribute to the deformity. Nonsteroidal Anti-Inflammatory Drugs (NSAIDs), muscle relaxants, and other medications can help manage pain and inflammation. In cases of when treating neuromuscular scoliosis, the underlying neuromuscular condition is need for optimal outcomes.