

## Management of Club Foot Deformity

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### Abstract

Clubfoot, a congenital deformity characterized by abnormal positioning of the foot and ankle, remains a challenging orthopedic condition that affects infants worldwide. This abstract provides an extensive review of contemporary management strategies for clubfoot deformity, encompassing both non-surgical and surgical approaches. The aim is to offer a holistic perspective on the evolving landscape of clubfoot treatment and to guide clinicians in providing optimized care for affected individuals.

**Keywords:** Clubfoot; Foot; Ankle; Clubfoot deformity; Surgical approaches

### Introduction

Presents an overview of clubfoot deformity, emphasizing its congenital nature and the impact on lower limb function. Highlights the importance of early diagnosis and intervention to maximize treatment success.

### Non-surgical approaches

Explores the role of non-surgical methods, such as the Ponseti method, which has gained prominence as the gold standard in clubfoot management. Discusses the principles of serial casting, Achilles tenotomy, and bracing, emphasizing their effectiveness in achieving correction and maintaining long-term outcomes [1].

### Challenges and limitations of non-surgical methods

Acknowledges the challenges associated with non-surgical approaches, including compliance issues, relapse rates, and variations in treatment outcomes. Discusses ongoing research aimed at addressing these limitations and refining non-surgical protocols [2].

### Surgical interventions

Reviews various surgical techniques employed in cases where non-surgical methods prove insufficient or in older patients. Discusses soft tissue releases, osteotomies, and external fixation devices as surgical options to achieve correction and improve foot alignment [3,4].

### Multidisciplinary approach

Emphasizes the importance of a multidisciplinary team involving orthopedic surgeons, physiotherapists, and orthotists in the comprehensive management of clubfoot deformity. Discusses the collaborative efforts required to address both the physical and psychosocial aspects of care [5].

### Long-term follow-up and outcomes

Highlights the significance of long-term follow-up in monitoring the development of clubfoot correction and detecting potential complications. Reviews studies assessing functional outcomes, quality of life, and patient satisfaction after various management strategies [6,7].

### Emerging technologies and innovations

Explores recent advancements, including the use of 3D printing for personalized braces and computer-assisted surgical planning, in enhancing precision and individualizing treatment approaches.

Discusses ongoing research on regenerative medicine and gene therapy as potential future avenues for improving outcomes [8].

### Global perspectives and accessibility

Addresses disparities in access to clubfoot treatment globally and the efforts made to improve availability and affordability, especially in resource-limited settings. Emphasizes the importance of international collaboration and training programs to disseminate effective management strategies [9,10].

### Conclusion

In conclusion, this comprehensive overview provides insights into the diverse aspects of clubfoot deformity management. By examining both non-surgical and surgical approaches, addressing challenges, and exploring emerging technologies, this review aims to contribute to an evolving understanding of clubfoot care, promoting optimal outcomes and improved quality of life for individuals affected by this congenital orthopedic condition.

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