

# Proximal femoral focal deficiency (PFFD) in pediatric rehabilitation patients

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## Introduction

- Proximal femoral focal deficiency (PFFD) is a complex congenital anomaly with an unknown etiology.
- PFFD affects approximately 1 in every 50,000-200,000 children worldwide.
- The characteristics include malformed or incompletely developed upper portion of the femur bone.
- Current management of PFFD is to improve functional ambulation.
- Management strategies depend on the degree of femoral shortening and the status of the hip and knee joint.

## Case Description

- Two girls with PFFD presented to an outpatient clinic.
- The 7-year-old girl had tibia hemimelia, congenital deformities of the hips, and contractures of the ankles and underwent left lower extremity (LLE) lengthening.
- The 12-month-old girl had torticollis and plagiocephaly.
- Both patients were seen by a pediatric physiatrist regularly and received twice weekly physical therapy. In order to support their ambulation and weight bearing, unique personalized prosthetic devices were developed with a hinged ankle-foot orthosis (AFO) based on their measurements. Foot orthosis lifts were individualized to alleviate the discrepancies in leg lengths in order to help weight bearing on the affected limb.
- Both patients' functional ambulation improved with placement of orthosis and ongoing physical therapy. Patients were able to ambulate without any limping and pain, and subsequently demonstrated markedly improved mobilization.

## Discussion

- PFFD causes the affected leg to be shorter in length than the unaffected leg.
- Functional improvement in PFFD could be achieved with adequate rehabilitation strategies.
- Individualized management and tailored orthotic devices are shown to be effective.
- The goal of rehabilitation is achieving leg length equality and maximizing patients' potential for ambulation.

## Conclusions

- PFFD can be effectively managed with adequate rehabilitation strategies.
- Pediatric physiatrists can offer effective treatment and maximize functional ability of patients with PFFD by individualizing AFOs.

## References

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