

# CLUB FOOT



# Definition

- A club foot is a foot that has been twisted out of its normal shape or position in utero and is fixed, meaning that it cannot be moved to an overcorrected position.



## Incidence

- 1 in 700 to 1 in 1000 live births.
- Boys are affected twice often as girls.

## Etiology

- Exact cause is unknown.
- It can be a mixed genetic and environmental causation.

## Types

- **Talipes varus-** heel is turned inward from the midline of the leg. Only the outer portion of the sole rests on the floor.
- **Talipes valgus-** heel is turned outward from the midline of the leg. Only the inner portion of the sole rests on the floor.
- **Talipes equinus-** the toes are lower than the heel.
- **Talipes calcaneus-** the toes are higher than the heel.

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**Talipes Varus**



**Talipes Valgus**



**Talipes Equinus**



**Talipes Calcaneus**

# Types

- **Talipes equinovalgus-** heel is elevated and turned outward from the midline of the leg.
- **Talipes equinovarus-** Occurs in 95% of cases. the foot is fixed in plantar flexion and deviates medially, i.e., the heel is elevated. The child walks on the toes and the outer border of the foot.

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Talipes equinus



Talipes calcaneus



Talipes cavus



Talipes varus



Talipes equinovalgus



Talipes calcaneovarum



Talipes valgus



Talipes calcaneovalgus



Talipes equinovalgus

## Types

- **Talipes calcaneovarus-** heel is turned inward from the midline of the body and the anterior part of the foot is elevated. Only the heel rests on the floor.
- **Talipes calcaneovalgus-** less common type. The foot is dorsiflexed and deviates laterally, i.e., the heel is turned outward from the midline of the body and the anterior part of the foot is elevated on the outer border. The child walks on the outwardly turned heel and the inner border of the foot.



# Pathophysiology

# Diagnostic findings

- History collection
- Physical examination
- Radiologic examinations

# Management

## 1. Manipulation of the foot

- The “Ponseti” method—manipulating the foot into correct position without joint surgery—is the standard treatment, and usually begins shortly a baby is born. The method involves:
  - a two to three-month regimen of stretching and casting
  - surgery (tenotomy) to release and lengthen the Achilles tendon
  - several years of bracing

## 2. Apply cast

- It includes gradual corrections.
- Infants grow rapidly, so the cast may be changed every 1 to 2 weeks.

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# Management

## 3. Denis Browne splint

- This splint is made of 2 foot plates attached to a cross bar.
- When the splint is fitted to the feet, varying positions of angulation can be maintained.
- As the infant kicks, the feet are automatically moved into a corrected position.

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## Denis-Browne splint



## Corrected clubfeet



# Management

## 4. Corrective surgery

- If the casting is ineffective, surgery may be done.
- To release the Achilles tendon, capsules of the ankle joints, joint capsules and medical ligaments.

## 5. Clubfoot shoes

- After the surgery the position of the foot is maintained by the use of shoes.
- As the child walks, the muscles of the foot and leg are strengthened.

# Nursing Management

1. Manipulation of the foot
  - Parents to be taught the procedure and supervised in practice until they can do correctly.
2. Care of an infant or child in cast
3. Care of an infant in Denis Browne splint
  - Assist the parents in applying splint.
  - If shoes are worn, socks should be used to protect the feet.
  - Check the skin of feet for reddened areas.
  - Teach how to tighten the shoes against Denis Browne splint if they become loose.
4. Parent Education
  - Educate about follow up care
  - Educate about splint
  - Give encouragement to continuous treatment.