CLUB FOOT

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INTRODUCTION

- Clubfoot is a condition in which one or both feet are twisted into an abnormal position at birth.
- Common birth defect
- Other terms Giles Smith Syndrome, congenital talipes aquinovarus (CTEV)
- The condition is also known as talipes. It is a general term used to describe a range of unusual positions of the foot.
- Present at birth and affects the foot and/or ankle.
- There is no known cause for clubfoot
- Most common in male children as it is in female children.
- Most type of clubfoot is present at birth which can happen in one foot or in both feet. In almost half of affected infants, both feet are involved. Although clubfoot is painless in a baby,
- Approximately 50% cases of clubfoot are bilateral

CAUSES

- Family history of clubfoot.
- Position of the baby in the uterus.
- Increased occurrences in those children with neuromuscular disorders, such as cerebral palsy and spina bifida.
- Amniotic Band Syndrome
- Oligohydramnios

MANIFESTATION

- Fixed plantar Flexion of the ankle, characterized by the drawn up position of the heel and inability to bring the foot to a plantigrade (flat) standing position. This is caused by a tight Achilles tendon.
- Adduction, or turning in of the heel or hind foot.
- Adduction turning under of the forefoot and mid foot giving the foot a kidney-shaped appearance.
- Abnormal slightly smaller size of foot & calf muscles.
- The heel cord (Achilles tendon) is tight causing the heel to be drawn up toward the leg.

TYPES

- Structural TEV is caused by genetic factors, such as Edwards syndrome, a genetic defect with three copies of chromosome 18. Growth arrests at roughly 9 weeks and compartment syndrome of the affect limb are also causes of Structural TEV. Genetic influences increase dramatically with family history.

- Postural TEV could be caused by external influences in the final tr imester such as intrauterine compression from oligohydramnios or from amniotic band syndrome. However, this is countered by findings that TEV does not occur more frequently than usual when the intrauterine space is restricted.


Talipes cavus
Talipes equinus
Talipes calcaneus
Talipes valgus
OTHER TYPES
Talipes equinovalgus
Talipes calcaneovalgus
Talipes varus
Talipes cavovarus
Talipes equinovarus
Talipes calcaneocavus

Common Types of Clubfoot

Talipes Varus

Talipes Valgus

Talipes Equinus

Talipes Calcaneus


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Equinus
Varus

PATHOPHYSIOLOGY

Predisposing Factors:

- Family history of clubfoot.
- Position of the baby in the uterus.
- Increased occurrences in those children with neuromuscular disorders, such as cerebral palsy and spina bifida.
- Amniotic Band Syndrome
- Oligohydramnios

Distal limb amniotic banding

Amnion forms constrictive bands around a limb in utero

Cutting off the circulation to the limb

Arrest of the fetal development in the fibular stage

Defective cartiliganious anlage of the talus

Resulting in further abnormal or arrested development

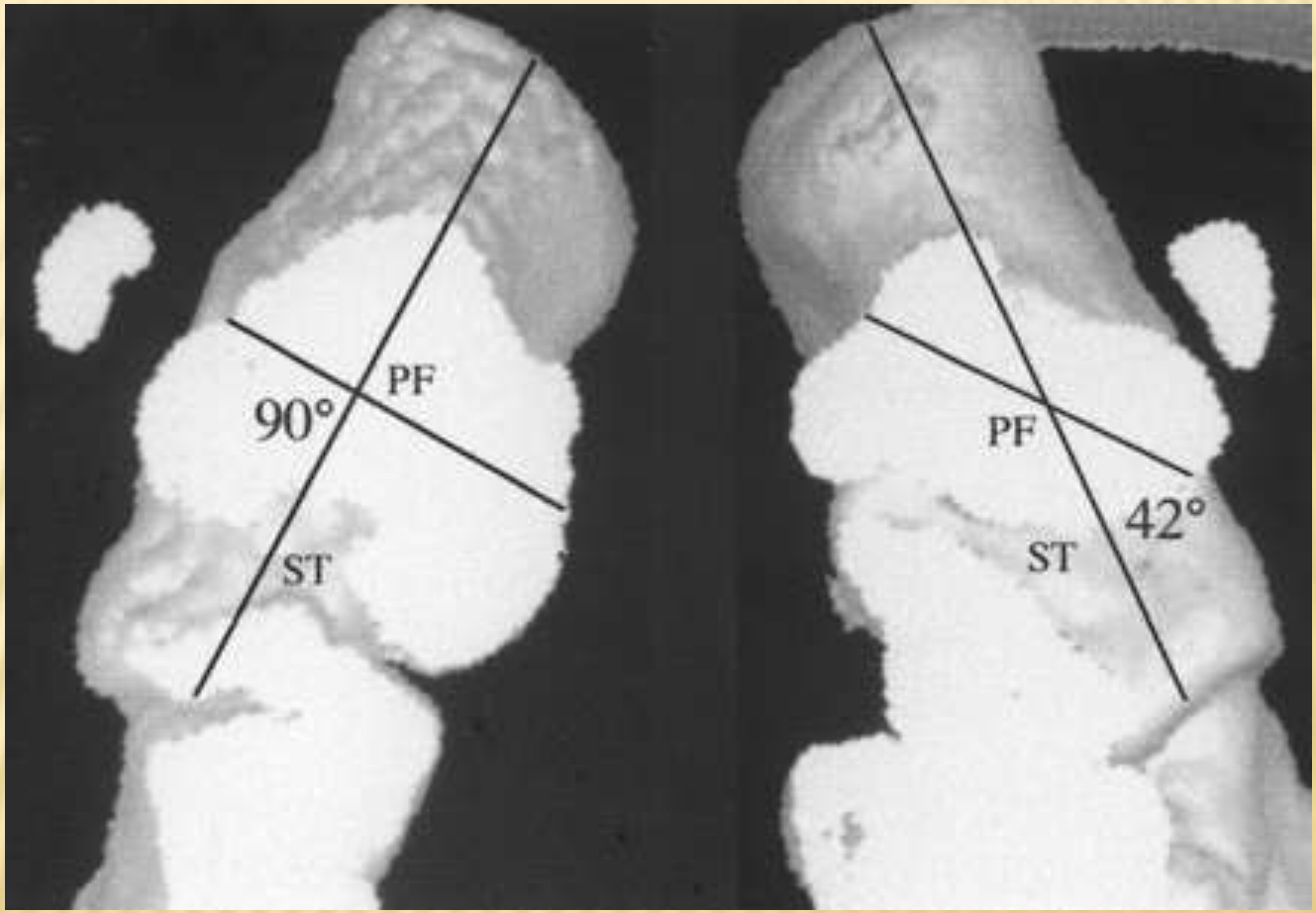
DIAGNOSTIC PROCEDURES

- Ultrasonography
- X-ray
- CT-scan

ULTRASONOGRAPHY

X-RAY

CT-SCAN



TREATMENT

- Stretching and casting (Ponseti Method)
- Stretching and taping (French Method)
- Surgery
- Brace

FUNCTIONAL TREATMENT

- **Stretching and casting (Ponseti method).** This treatment entails manipulating the foot into a correct position and then placing it in a cast to maintain that position. Repositioning and recasting occurs every week for several weeks. After the shape of the foot is realigned, it's maintained through stretching exercises, special shoes or splinting with braces at night for up to three years. For this method to work effectively, you'll need to apply your child's braces according to your doctor's specifications so that the foot doesn't return to its original position.

CASTING / PONSETI METHOD

FUNCTIONAL METHOD

- **Stretching and taping (French method).** This approach involves daily manipulation of the foot, followed by the use of adhesive tape to maintain the correct position until the next day. After two months, treatments are reduced to three times each week until the baby is 6 months old. Once the foot's shape is corrected, parents continue to perform daily exercises and use night splints until their baby is walking age. This method requires commitment to very frequent appointments for six months. Some providers combine the French method and the Ponseti method

TAPING / FRENCH METHOD


Clubfoot treatment over 4 – 6 weeks
Stage 1
Stage 2
Stage 3
Stage 4
Stage 5

BRACE

- Dennis Brown Brace- used when long leg cast is removed after 3 weeks of treatment. The bar is fit shoulder width apart and worn full time for the 1st 2months

DENNIS BROWNE BRACE

PHARMACOLOGIC MANAGEMENTS

- NSAIDS (Ibuprofen)

  Management for pain

NURSING RESPONSIBILITIES

- Review the pathology, prognosis and future expectations to mothers to provideknowledge base from which parents can make informed choice.
- Discuss deformity and expected treatment in terms the parents can understandto rule out misconceptions and to provide information about the deformity.
- Encourage parents to hold and play with child and participate in care to promotebonding.
- Assess and teach parent to assess for signs of excessive pressure on skin,redness, excoriation because these signs require immediate evaluation andintervention.
- Elevate the extremity to promote venous return and prevents edema.
- Check the toes every 1-2 hours for temperature, color, sensation, motion, andcapillary refill time.

- Stimulate movement of toes to promote circulation.
- Insert plastic petals over the top edges of a new cast while it is still wet to keepurine from soaking and softening the cast.
- Provide comfort measures such as soft music, pacifier, teething ring, or rockingto promote relaxation and may enhance patients coping abilities by refocusingattention.
- When the Kite casting method is being used, check circulatory status frequently.Circulation maybe impaired because of increased pressure on tissues and bloodvessels. The equines correction specially places considerable strain onligaments, blood vessels, and tendons.
- Discuss the importance of physical therapist to enhance mobility

NURSING DIAGNOSIS

1. Risk for disproportionate growth related to congenital disorders.
2. Impaired physical mobility related to musculoskeletal impairment.
3. Impaired skin integrity related to musculoskeletal impairment.
4. Disturbed body image related to developmental changes.
5. Social isolation related to alterations in physical appearance

THANK YOU FOR LISTENING