

CLUB FOOT (Talipes)



Definition:

- Clubfoot is a deformity of the whole foot that is present at birth.
- There are several types of clubfoot that are jointly known as 'talipes', as the deformity is mostly in the talus (a bone in the ankle).
- The most common of the talipes is known as "talipes equino varus"
- In talipes equino varus, the child is born with the foot pointing down and twisted inwards at the ankle.

Types of club foot:

- **Varus**- inward rotation (walk on ankle)
- **Valgus**- outward rotation (walk on inner ankle)
- **Calcaneous**- upward rotation (walk on heels)
- **Equines**- downward rotation (walk on toes)



Talipes Varus



Talipes Valgus



Talipes Equinus



Talipes Calcaneus



Talipes Varus



Talipes Valgus



Talipes Equinus



Talipes Calcaneus



Talipes Varus



Talipes Valgus



Talipes Equinus



Talipes Calcaneus

Manifestation:

- The foot is turning inwards at the ankle and points down.
- The achilles tendon is tight. The front half of the foot is turned inward, giving the foot a kidney bean shape.
- If not corrected in infancy or if missed (not likely), the infant will walk on the outside of the foot and not be able to get the bottom of the foot flat on the ground.
- There maybe a decrease in size of the calf muscles and the affected foot may be smaller than the unaffected side.

Management:

- The newborn baby's deformed foot is initially treated with plaster or fiberglass casts .
 - The tendons, ligaments, and bones are still quite flexible and easier to reposition.
 - The foot is stretched into a more normal position and a light-weight cast is applied to retain the corrected position.
 - The cast will be removed every week or two so the foot can be further stretched into better position and maintained with a new cast.
 - This serial casting is continued for three or more months and is successful in at least 50% of cases.
- If the casts do not provide enough correction of the clubfoot, surgery is considered.

Surgical management:

- If cast treatment fails or the clubfoot is rigid, surgery may be needed.
- This is not usually done until the child is between four and eight months of age.
- A cast is applied to the foot after surgery to maintain its position while it heals.

- There are a variety of surgical procedures which may be done in isolation or in combination:
 - Soft tissue surgery that releases the tight tissues around the joints and results in lengthening of tendons so the foot can assume a more corrected position
 - Bony procedures such as "breaking bone" and resetting the bone to correct deformities, or fusing joints together to stabilize joints to enable the bones to grow solidly together.
 - Tendon transfers to move the tendons to a different position, so they can move the foot into a corrected position.

Normal



Clubfoot
in baby



Cast



Short tendons
are lengthened



Long tendons
are shortened



Before



After



ADAM

DEVELOPMENTAL DYSPLASIA OF HIP (DDH)

Definition:

- Developmental dysplasia of hip is a disorder or malformation of the hip joint in children that is either present at birth or shortly thereafter.
- In Congenital hip dysplasia, the development of the acetabulum in an infant allows the femoral head to ride upward out of the joint socket, especially when weight bearing begins.



Normal hip joint

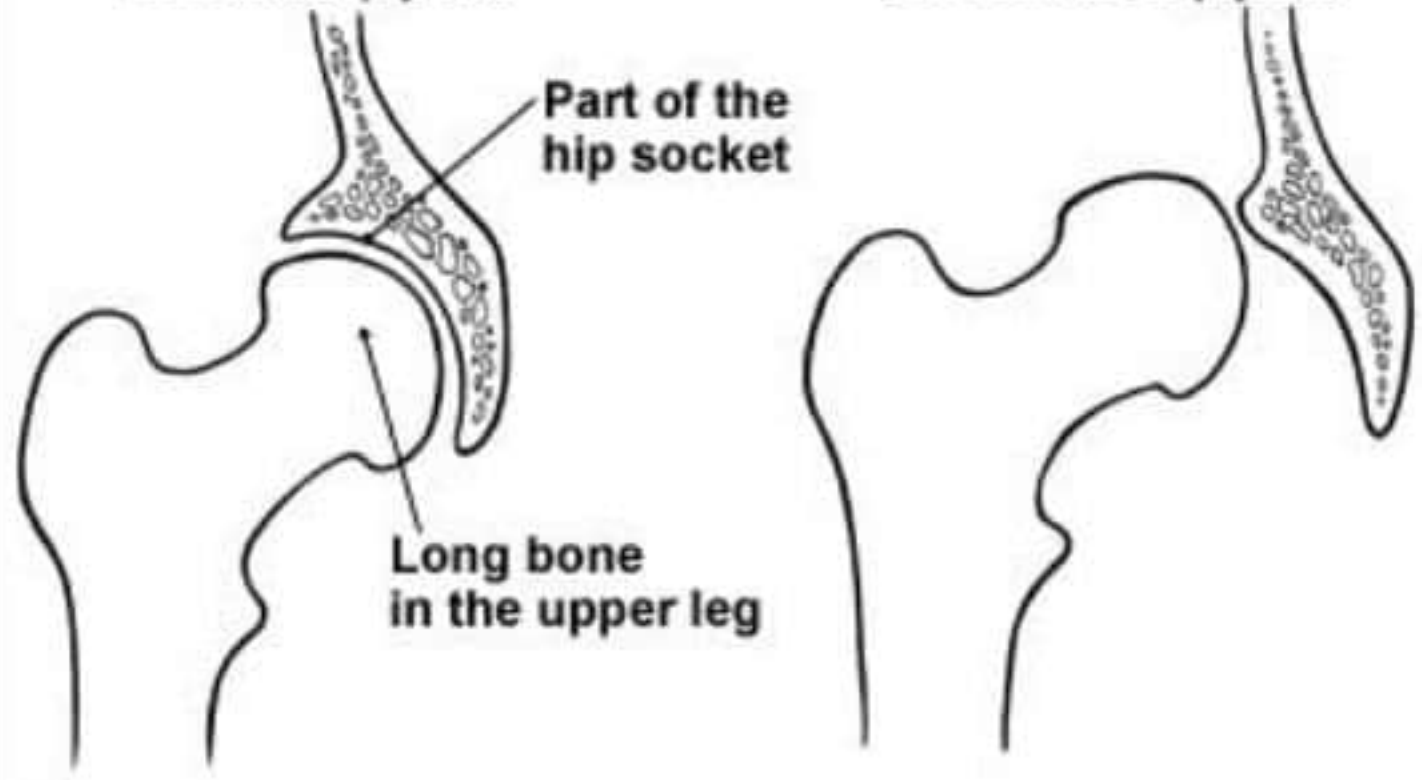
Dislocated hip joint

Part of the hip socket

Long bone in the upper leg

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Causes:

- Genetic factors
- Practice of swaddling and using cradleboards for restraining the infants.
 - This places the infant's hips into extreme adduction (brought together).
- Infants born by caesarian and breech position births

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Symptoms:

- Legs of different lengths.
- Uneven thigh skin folds/asymmetric fat folds
- Less mobility or flexibility on one side.

Diagnosis:

- History
- Physical examination
 - The hip disorder can be diagnosed by moving the hip to determine if the head of the femur is moving in and out of the hip joint.
- Ortolani test
- Barlow test
- X-ray

Ortolani test:

- Test begins with examiners hands around the infant's knees, with the second and third fingers pointing down the child's thigh. With the legs abducted (moved apart), the examiner may be able to discern a distinct clicking sound with motion.
- If symptoms are present with a noted increase in abduction, the test is considered positive.
- It is important to note this test is only valid a few weeks after birth.

Barlow test:

- infant's hip brought together with knees in full bent position.
- The examiner's middle finger is placed over the outside of the hipbone while the thumb is placed on the inner side of the knee.
- The hip is abducted to where it can be felt if the hip is sliding out and then back in the joint.

Barlow
test

Ortolani
test



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- In older babies, if there is a lack of range of motion in one hip or even both hips, it is possible that the movement is blocked because the hip has dislocated and the muscles have contracted in that position.
- Also in older infants, hip dislocation is evident if one leg looks shorter than the other.

Treatment:

- The objective of treatment is to replace the head of the femur into the acetabulum and, by applying constant pressure, to enlarge and deepen the socket.

Pavlik Harness

Pavlik Harness



Pavlik Harness

- Shoulder Strap
- Chest Strap
- Abduction Strap
- Abduction Strap
- Leg Strap



Von Rosen Splint

