

CONGENITAL DISLOCATION OF THE HIP



Definition

- Developmental Dysplasia of the Hip (DDH) refers to a malposition of the head of the femur in the acetabulum.
- It was previously called as Congenital dislocation of the hip
- Dislocation may be either
 - Partial or complete
 - Unilateral or bilateral



Incidence:

- More common in females than males.
- Girls are affected 8 times more than boys.
- Recurrence risk among siblings is greater when one child in the family has been affected.



Etiology

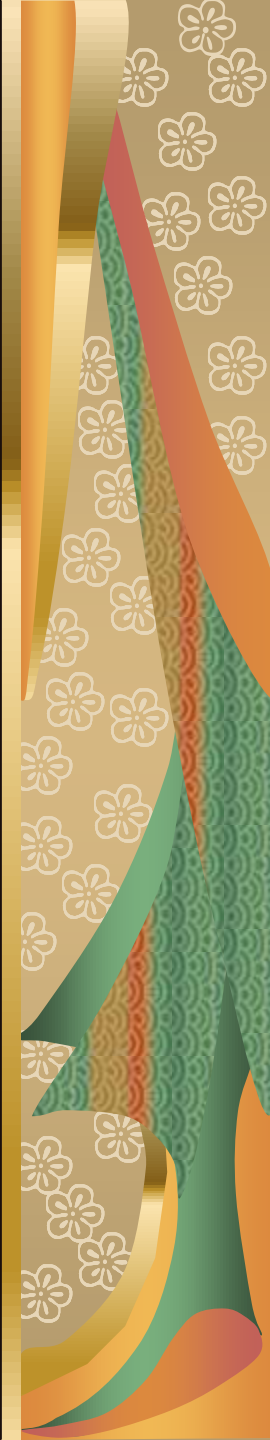


Unknown



Possible causes are-

- a) Abnormal development of the joint caused by:
 - i. Fetal position
 - ii. Genetic factors
- b) Abnormal relaxation of the capsule and ligaments of the joint caused by hormonal factors.
- c) Environmental factors such as breech delivery.



Pathophysiology

Genetic factor/in utero development



Defective acetabulum femoral head is out of joint and positioned posterior and superior to acetabulum



Abnormal development of hip



Affected leg shorter in older infant and child inability to abduct leg



Unstable hip and weight bearing



Delayed walking with a limp
contracture of hip abductor and flexor muscles



Surgical
Reduction
And spica
cast

reduction of
traction and
casting

Environmental factors



Intrauterine malposition breech
birth/caesarean birth
ligament relaxing hormone by mother
prior to birth



joint laxity in young infant



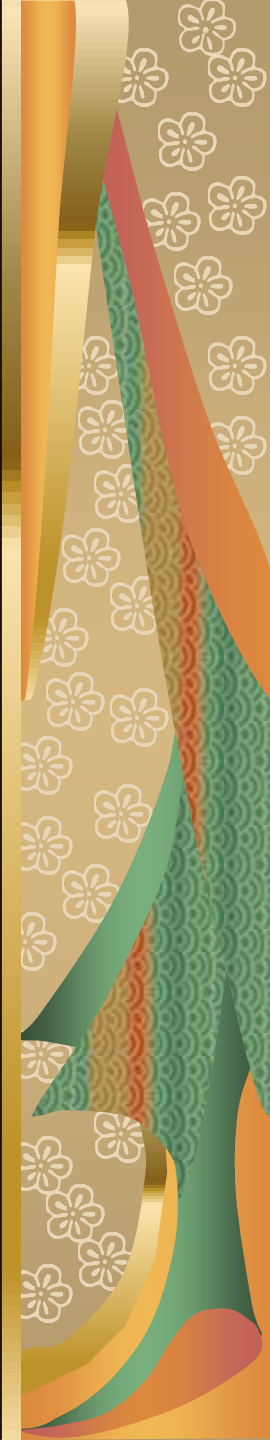
femoral head in contact with
acetabulum



splinting of hip with femur in
acetabulum



pavlik harness
double/triple diapering



Types

1. Acetabular dysplasia:

The head of the femur is well seated in the acetabulum, and the capsule is tight.

2. Subluxation:

The capsule is sufficiently lax so that the head of the femur may be partially displaced from its normal position in the acetabulum.

3. Dislocation:

The hip joint is lax, with the result that the head of the femur loses contact with the acetabulum



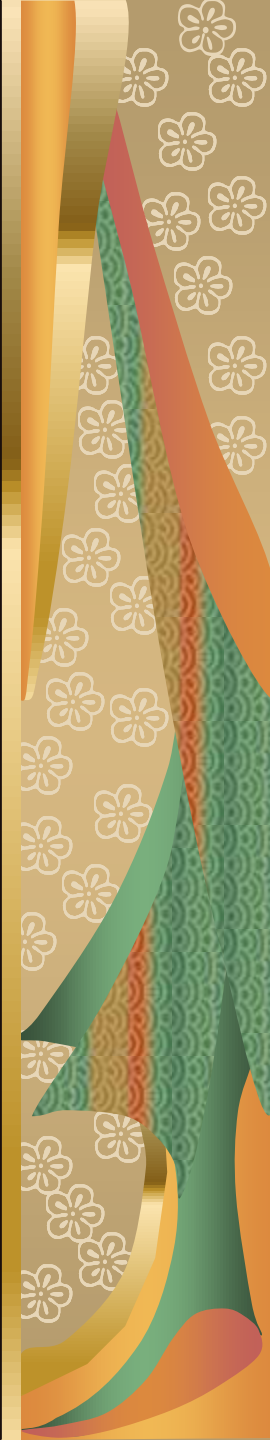
Clinical manifestations

May not be observed until 1 to 2 months of age.

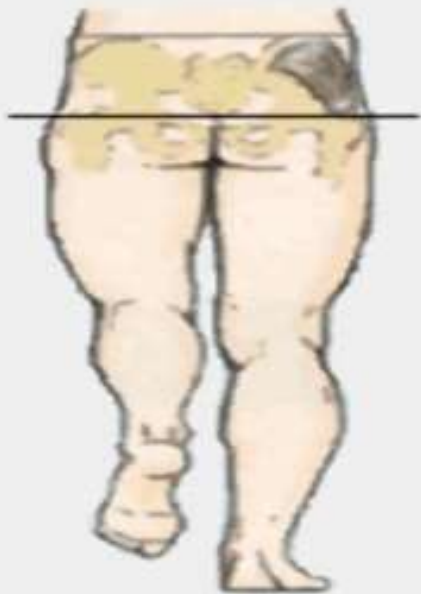
- Asymmetry of the gluteal folds with deeper creases apparent on the affected side.
- Limited ability to abduct the hip when the infant is lying on his back with his knees and hips flexed to 90 degree

Normally, the hips will abduct atleast 65 degree

- **Trendelenburg's sign**- pelvis drops on the normal side if the child stands on his abnormal leg.
- Leg length inequality with unilateral complete dislocation.
- Delayed walking
- Limp
 - Trunk dips when the child puts weight on his involved leg.
 - Waddling gait is observed in children with bilateral dislocation.



Trendelenburg sign



Normal



Trendelenburg Sign
Drop of pelvis when lifting leg
opposite to weak gluteus medius

Asymmetry of the gluteal folds



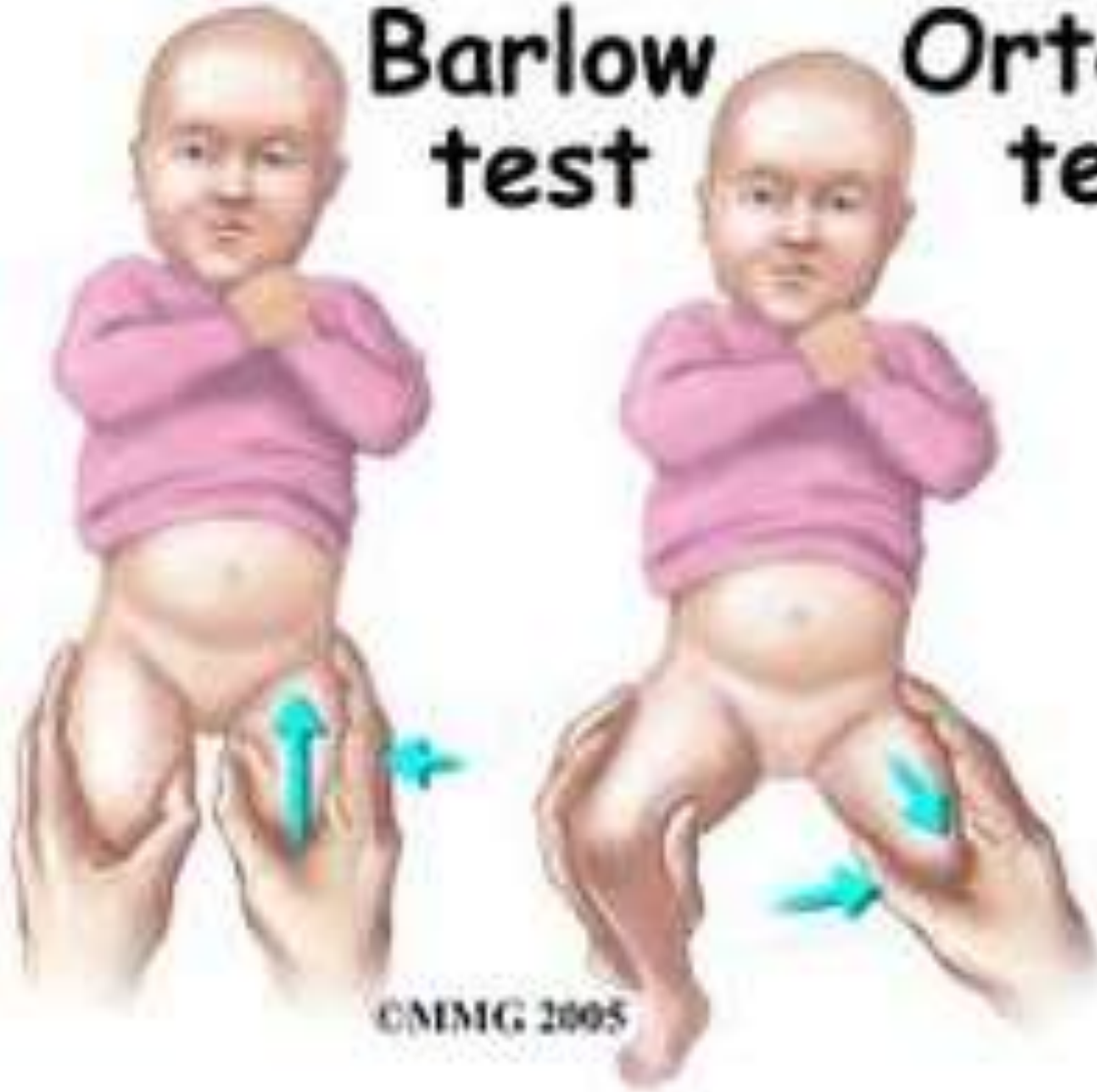
Diagnosis

- Barlow's test
- Ortolani's test
- X-ray- will show:
 - Helpful after the age of 4 to 5 months
 - acetabular angle greater than 40 degree
 - Upward and outward displacement of the femoral head.



Barlow
test

Ortolani
test



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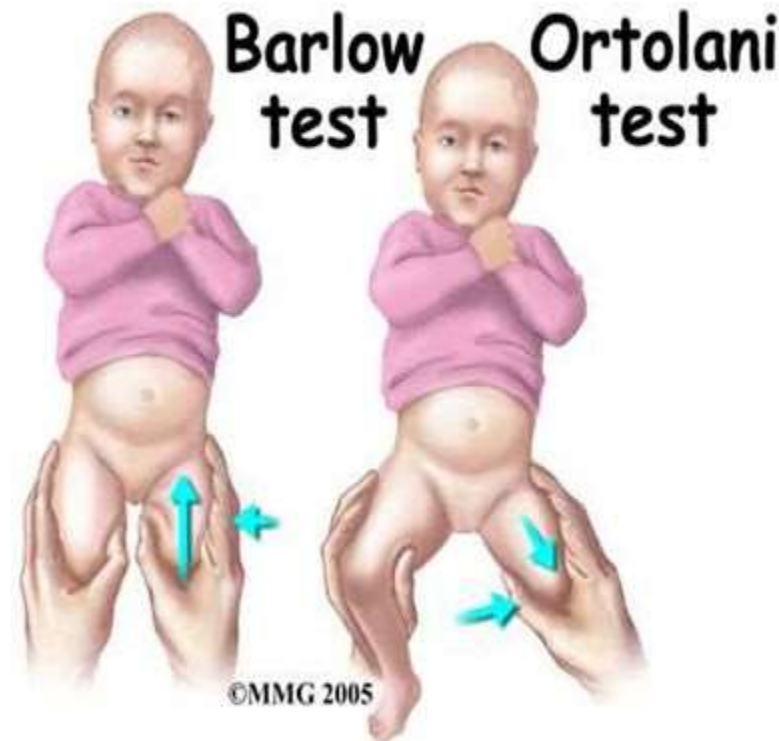
DDH/CHD: diagnosis

□ Ortolani test

- ▣ Abduction of the thighs with external rotation.
- ▣ If the femoral head can be felt to slip forward into the acetabulum on pressure from behind, it is dislocated (positive Ortolani sign)
- ▣ Sometimes an audible “clunk” can be heard.

□ Barlow test

- ▣ Pressure from the front
- ▣ If the femoral head is felt to slip out over the posterior lip of the acetabulum and immediately slips back in place when pressure is released, there is dislocation or “unstable” (positive Barlow sign)



Treatment

■ Varies with age and extent of the defect.

■ Early stages:

- a) Reduction by gentle manipulation
- b) Splinting the hip in abduction by means of double or triple nappies, an abduction splint or cloth harness.

■ Later stages:

- a) Preliminary traction
- b) Closed reduction
- c) Immobilization in a hip spica cast or splint

■ Older child:

- a) Preliminary traction
- b) Possible need for open reduction or osteotomy.
- c) Immobilization in a hip spica cast



Pavlik Harness

Shoulder Strap

Chest Strap

Abduction Strap

Abduction Strap

Leg Strap



Short Leg Hip Spica Cast



Prognosis

- Depends on the age of the child when the condition is diagnosed.
- Delay in diagnosis prolongs treatment and may preclude formation of a normal hip.



Nursing management

- Child care during hospitalization.
- Care when the child is in traction or after application of a hip spica.

