CDH
Congenital Dislocation of the Hip
CDH/DDH

- **CDH**  Congenital Dislocation of the Hip
- **DDH**  Developmental Dysplasia of the Hip
- **CDH**  Congenital Dysplasia of the Hip
- **CHD**  Congenital Heart Disease!
Definition

Is a condition in which the Head of the Femur is improperly seated in the acetabulum of the pelvis.

NOT A malformation arising during the period of organogenesis.
A congenital hip dislocation is an abnormal formation of the hip joint that is present at birth.
• Lt. hip is most commonly affected but B/L involvement occurs in >50% cases
Dysplasia and Subluxation

- radiologically difference between subluxated and dysplastic hip is disruption of Shenton’s line
  - subluxation: line disrupted, head is superiorly, superiolaterally or laterally displaced from the medial wall
  - dysplasia: line is intact
Shenton’s line
Etiology

Multi-factorial:

- Physical – ligament laxity
- Genetic – female >6-8 times than male
- Mechanical - Prenatal:
  Breech position
  Oligohydramnious
  Primigravida
Diagnosis: Neonatal Examination

LOOK:

- External rotation attitude
- Wide perineum (in bilateral)
Examination

LOOK:

- Asymmetric thigh folds

posterior

anterior
CDH
Clinical Examination

• **Look:**

  Shortening (not in neonates) of affected leg - in supine

  Galleazi sign
  flex both hips and one side shows apparent femoral shortening
Galeazzi Test
Difference in knee height

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CDH

FEEL: Examination

• Empty groin
• Weak Femoral pulse
• Inability to abduct the hip fully
• Posterior bulging of femoral head
• Positive Trendelenburg’s sign – downward felt of pelvis on affected side
Neonatal Examination

Positive Ortolani sign – forced abduction of hip causes a clicking sound

Feel a Clunk
Hear a click
Positive Barlow’s test – holding the hips & knees at 90 degree angle of flexion, a backward pressure is applied while adducting hips. The femur head is felt slipping out of the acetabulum posteriorly with a click sound indication the test is positive.
HowHipDysplasiaWorks

BarlowManeuver

OrtolaniManeuver
CDH
Clinical Examination
CDH
Clinical Examination
The Walking Child

- unilateral / bilateral (waddling)
X ray, CT Scan, MRI, Arthogram

FIGURE 22-34 Anteroposterior radiographs made after closed reduction of developmental dislo-
CDH

Treatment

• Method depends on Age

• The earlier started, the easier the treatment

• The earlier started, the better the results

• Should be detected EARLY
Treatment

- **Birth to 6 months:** Pavlik harness or hip spica cast
- **6 months – 12 months:** closed reduction
- **12 months – 18 months:** possible closed / possible open reduction
- **Above 18 months:** open reduction and Acetabuloplasty
- **Above 2 years:** open reduction, acetabuloplasty, and femoral osteotomy
- **Above 8 years:** open reduction, acetabuloplasty, and femoral osteotomy
Pavlik Harness

- Chest strap at nipple line
- Shoulder straps set to hold cross strap at this level
- Anterior strap flexes hip 100-110 degrees
- Posterior strap prevents adduction and allow comfortable abduction
- Safe zone arc of abduction and adduction that is between redislocation and comfortable unforced abduction
Treatment

Hip instability in the neonatal period

Most resolve spontaneously

- Observation
- Pavlik harness
- (Double /triple diapers ??)
CDH Treatment

Hip instability in the neonatal period

Double / Triple Diapers

• Often inadequate: therefore inappropriate
• Gives illusion patient is in “treatment” while wasting valuable time
• Most hip instability improves spontaneously in early infancy, giving this ineffective management credit
Treatment - Birth – 6 months
Pavlik harness
Treatment - Birth – 6 months

Other Devices
- Frejka pillow
- Craig
- Von Rosen splint

Soft abduction splints:
Not good enough

Rigid abduction splints:
Treatment

6 – 12 months

- Initially non operative – closed reduction
- Reduction under anesthesia and immobilization in hip spica cast
Treatment - 12 – 18 months

- Possibly closed reduction !!
  when hip stable
- Probably open reduction
  when hip unstable
- Arthrography guided: closed reduction
Treatment
Above 18 months

• Open reduction
Treatment
Above 3 years

• Open reduction

• And acetabulplasty

• And femoral shortening
First cut in femur

Second cut

Femoral Osteotomy
Pelvic Osteotomies

Pemberton

Salter

Steele
Chiari Pelvic Osteotomy

- Hinged at pubic symphysis
- Cut made in ilium
- Screws inserted
- Femur realigned
Pelvic Osteotomies

Staheli
- Bone graft "shelf"

Dial

Acetabulum repositioned
Nursing

- Assessment
- General care
- Manipulation / physiotherapy
- Psychological support
- Nutrition
- Maintenance of skin integrity
- Prevention of complications of immobility
- Pre/post op care
- Follow up/rehabilitation
Complications

• Loss of range of motion
• Leg length discrepancies
• Early osteoarthritis
• Femoral nerve palsy
• Recurrent dislocation/unstable hip
• Iatrogenic complications
Etiology

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- Physical – ligament laxity
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Prevention