SNS COLLEGE OF PHYSIOTHERAPY

AffiliatedToTheTamilNaduDr.MGRMedicalUniversity,Chennai
Coimbatore– 641035

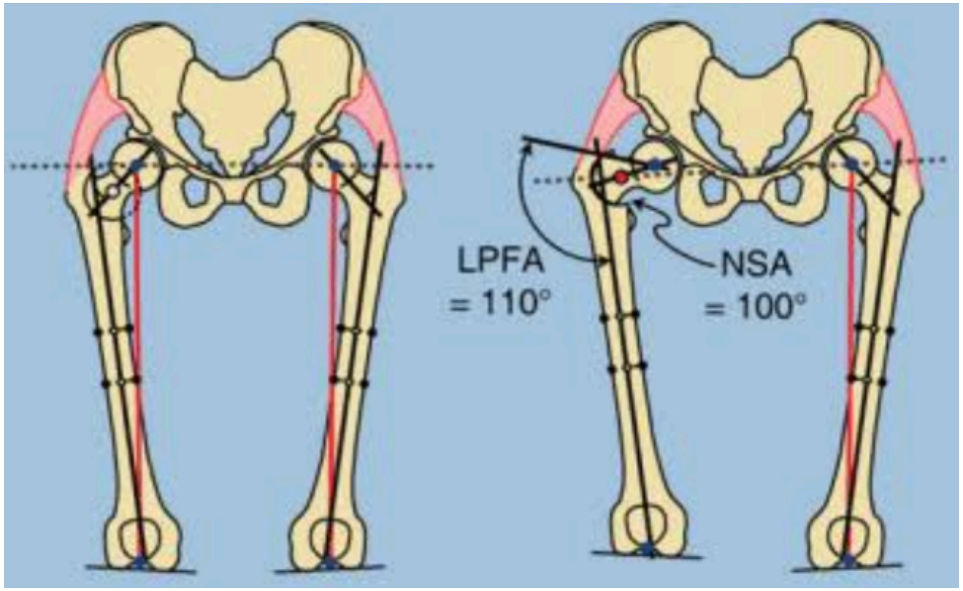
COURSE NAME : BIOMECHANICS

SUBJECT CODE : 6277

TOPIC : HIP JOINT

EMPATHIZE

- **Alters hip biomechanics**
- **Affects gait and joint loading**

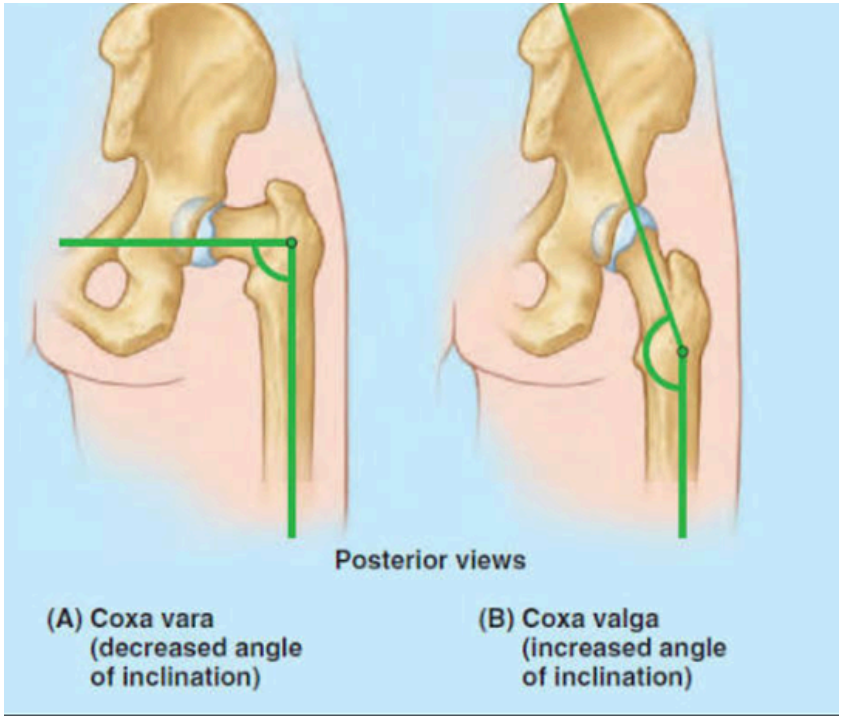


- **Increases injury risk**

IDEATE

Helps in:

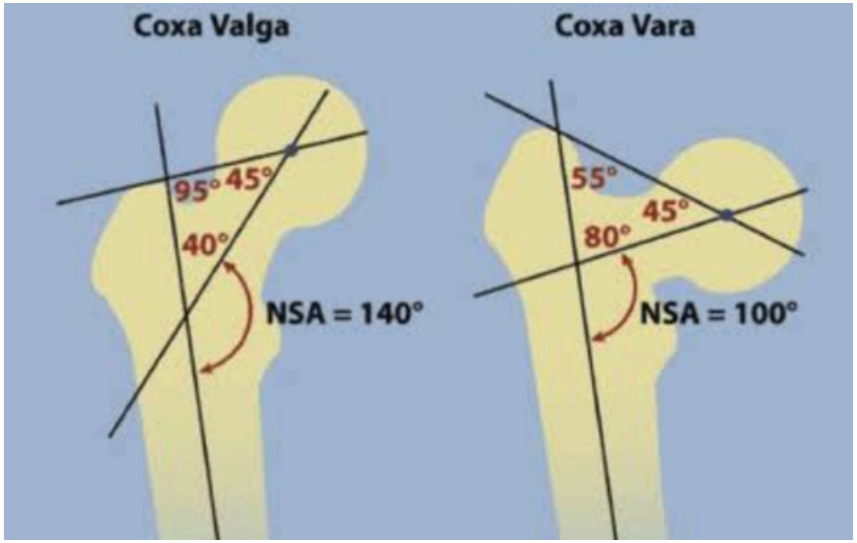
- **Diagnosis**
- **Surgical correction**
- **Rehabilitation planning**



DEFINE AND EXPLAIN

Coxa valga: ↑ neck-shaft angle (>135°)

Coxa vara: neck-shaft angle (<120°)



Coxa Valga

- **Reduced stability**
- **Increased mobility**
- **Reduced abductor efficiency**

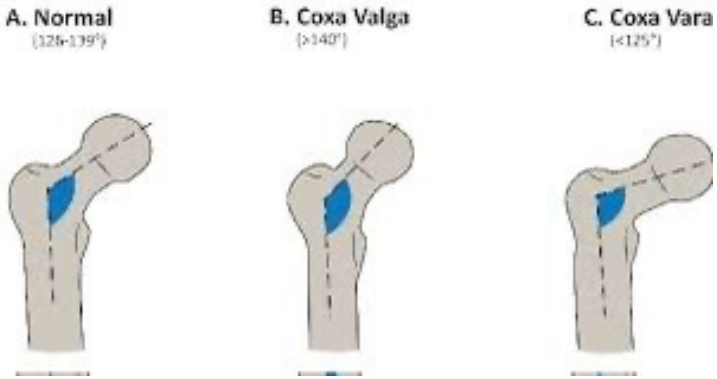
Coxa Vara

- Increased stability
- Reduced mobility
- Increased stress on femoral neck

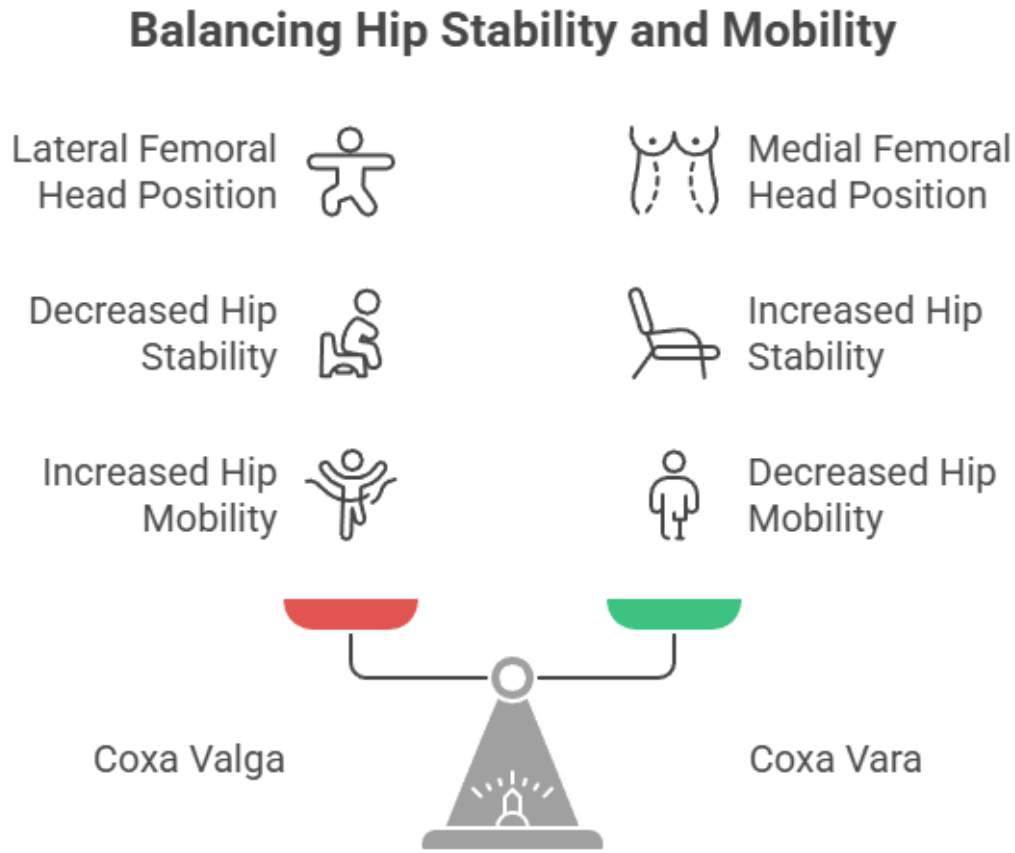
Comparison

Valga: mobility more, stability less

Vara: stability more , mobility less



FLOW CHART


Balancing Hip Stability and Mobility
Lateral Femoral Head Position
Medial Femoral Head Position
Decreased Hip Stability
Increased Hip Stability
Increased Hip Mobility
Decreased Hip Mobility
Coxa Valga
Coxa Vara

In class assessment

1. Define coxa valga and coxa vara.

2. State the normal angle of inclination of the femur.

3. Describe the structural changes seen in coxa valga.

4. Describe the structural changes seen in coxa vara.

5. Explain how coxa valga affects hip joint stability.

In class assessment

6. Explain how coxa vara affects hip joint stability.

7. Compare the effect of coxa valga and coxa vara on hip mobility.

8. Explain the effect of coxa valga on hip abductor muscle efficiency.

9. Explain the effect of coxa vara on hip abductor muscle efficiency.

10. Explain the clinical significance of coxa valga and coxa vara in gait and load transmission.

Thank you