

NB Musculoskeletal System Anomalies Outline

Congenital Clubfoot

- I. Definition- deformity in which the foot is twisted out of its normal shape or position
- II. Types
 - A. Talipes varus- inversion
 - B. Talipes Valgus- eversion
 - C. Talipes equinus- plantar flexion
 - D. Talipes calcaneous- dorsiflexion
- III. Categories
 - A. Positional- from intrauterine crowding
 - B. Syndromic – associated with other congenital anomalies
 - C. Congenital Clubfoot - true clubfoot, idiopathic, bony abnormalities
- IV. Patho
 - A. exact cause unknown
 - B. family tendency, arrested development, amniotic banding theory?
- V. Diagnosis
 - A. Ultrasound may detect during fetal development
 - B. Visibly apparent at birth, confirmed with xray for bone abnormalities
- VI. Therapeutic Management
 - A. Initiate management as soon as possible, early in the NB period for better outcomes
 - B. 3 Stages- Correct deformity, Maintenance of correction until normal muscle balance is regained, and follow up to prevent recurrence.
 - C. Ponseti Method- frequent cast changes
 - D. Denis Browne splints used after correction
 - E. PT- stretching, massage
- VII. Nursing considerations
 - A. Cast care teaching
 - B. Adherence to treatment
 - C. Prognosis

Developmental Dysplasia of the Hip

- I. Definition
 - A. Previously known as congenital dislocated hip
 - B. Improper formation and function of the hip socket
 - C. Degrees/Types of mal-formation
 - Acetabular dysplasia (preluxation)- shallow acetabulum
 - Subluxation- Incomplete dislocation of hip
 - Dislocation- femoral head loses contact with acetabulum
- II. Etiology/ patho
 - A. Cause unknown
 - B. Physiologic factors- hormones?
 - C. Mechanical factors- breech baby, LGA
 - D. Genetic factors- positive family history
- III. Clinical Manifestations & Diagnostics
 - A. detect in newborn period if possible
 - B. affected leg may appear slightly shorter than normal one
 - C. unequal number of skin folds on posterior thighs
 - D. Ortolani Test- The examiner's hands are placed over the child's knees with his/her thumbs on the medial thigh and the fingers placing a gentle upward stress on the

lateral thigh and greater trochanter area. With slow abduction, a dislocated and reducible hip will reduce with a described palpable “clunk.”

- E. Barlow test- The Barlow Maneuver is done by guiding the hips into mild adduction and applying a slight forward pressure with the thumb. If the hip is unstable, the femoral head will slip over the posterior rim of the acetabulum, again producing a palpable sensation of subluxation or dislocation.
- F. Older Infant and Child
 - 1. Delayed walking
 - 2. Trendelenburg sign
 - 3. ultrasound or MRI, xray
- IV. Therapeutic management
 - A. Goal- position the hip into a flexed abducted (externally rotated) position to press the femoral head against acetabulum and deepen its contours by the pressure
 - B. Pavlik Harness
 - 1. most widely used
 - 2. adjustable chest halter that abducts the legs
 - 3. Worn continuously, full time wear except for daily care times
 - 4. Promotes gentle reduction of hip
 - C. Spica Cast
 - 1. used if hip fully dislocated or severe subluxation
 - 2. Maintains externally rotated hip position
 - D. Surgery- as needed for final corrections
- V. Nursing considerations
 - A. Long term treatment, requires frequent ortho visits
 - B. maintain general health visits, immunizations
 - C. parent teaching-

Skeletal Limb Deficiency

- I. Definition - underdevelopment of skeletal elements of the extremities
 - A. Types:
 - 1. Amelia – absence of entire extremity
 - 2. Meromelia- absence of partial extremity
 - 3. Phocomelia- seal limbs. No long bone.
 - B. Pathophysiology
 - 1. Defect occurs at the time of limb bud formation or later stages of differentiation and growth
 - 2. Chorionic villi sampling, drugs, heredity, amniotic banding syndrome
 - C. Therapeutic Management
 - 1. fit with prosthetic device early
 - 2. may need surgery to prepare for the device if severe deformity
 - D. Nursing Considerations- specialized center, support, independence encouraged