

# Infant Newborn Handout

## Newborn reflexes

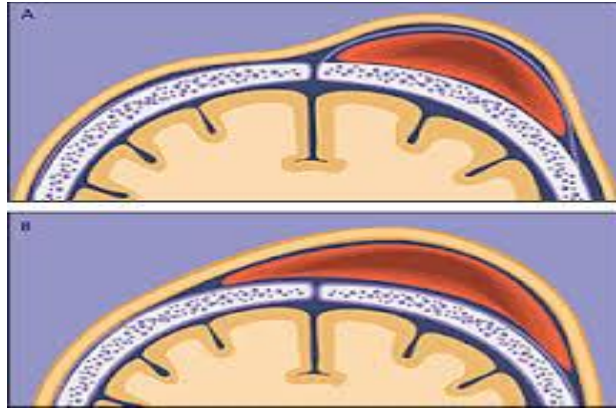
- Sucking – present at birth
- Rooting – infant's head turns to stroking and mouth opens
- Palmar grasp
- Plantar grasp
- Babinski – Plantar extension of toes when stroking bottom of foot, is positive until one year of age. If remains positive sign of upper motor neuron damage
- Stepping reflex



## Newborn Reflexes cont.

- Galant reflex – truncal incurvation , hip turns with stroking of back, symmetrical
- Startle reflex (moro) presence critical to determine intact nervous system
- Tonic neck reflex – (fencing reflex) May not be present until one month of age.





## Cephalohematoma-Does not cross Caput-Does Cross (everything has gone caput)

### Normal Findings

- AF: 2-5 cm at birth
- AF closes: 18-24 mo
- PF: 1-2 cm at birth
- PF closes: 6 weeks-2 mo
- Overriding sutures until 5-6 mo
- Skull shape
  - Skull deformities from birth will straighten by 3 months
- Always check parent's heads
- Hair distribution and color

### Head

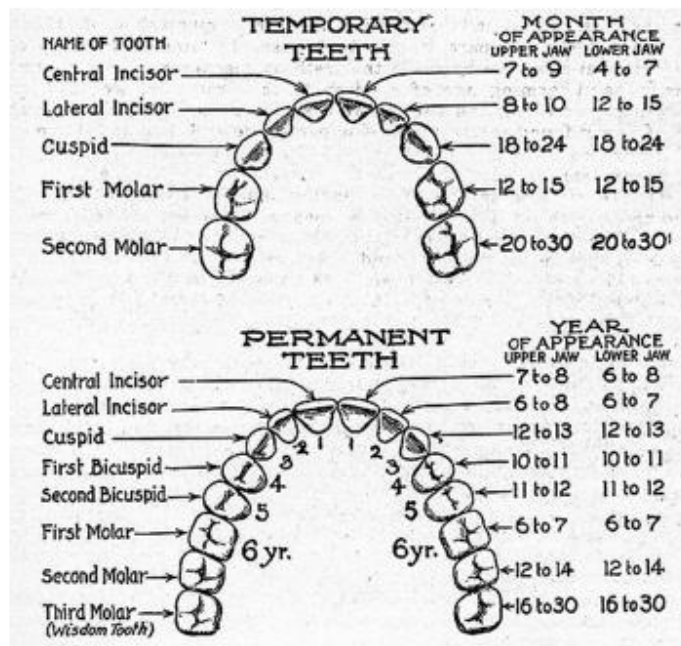
### Abnormal Findings

- Micro-/ macrocephaly
- Craniosynostosis
  - premature closure sutures/ fontanelles
- Dolicocephalic
  - Long and narrow
- Plagiocephalic
  - Positional
- Hair
  - White forelock
  - Whorls

## Visual Development: Infancy

Age	Developmental Stage of Vision	Visual Acuity
Birth	Awareness of light and dark	
2 weeks	Intermittent fixation	
4 weeks	Follows moving object	
6 weeks	Fixates and follows moving object	
8 weeks	Convergence beginning to stabilize	
4 months	Looks at hands and feet	20/300
6 months	Retrieves small objects; hand-eye coordination appears	
9 months	Binocular vision established; depth perception	
12 months	Interested in pictures; fusion is established	20/180

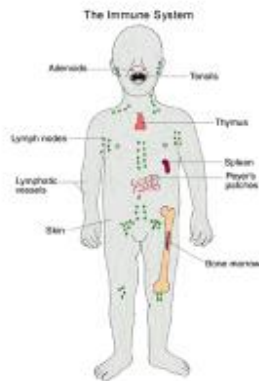
Duderstadt, K. (2019). *Eyes. Pediatric physical examination: An illustrated handbook. Elsevier; St. Louis, Mo. (p. 178)*



# Lymph

## Normal Findings

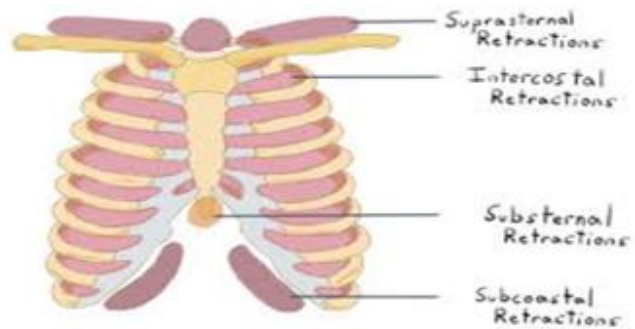
- Lymph system includes:
  - Lymph nodes
  - Tonsils
  - Adenoids
  - Thymus
  - Spleen
- Children have very reactive lymph tissue.
- Shotty, non tender, mobile lymph nodes are common



## Abnormal Findings

- **ALWAYS WORRY ABOUT SUPRACLAVICULAR AND SUPRASTERNAL LYMPH NODES**
- Nodes >1-2 cm, firm, immobile, tender, with overlying redness are concerning for lymphadenitis
- Nodes that are hard, matted, and immobile concerning for malignancy

# Retractions



# Newborn Status Assessment

- **Large for Gestational Age**
  - Health risks: hypoglycemia, broken clavicles, brachial plexus injury, skull injury, facial palsy, polycythemia, meconium aspiration
- **Small for Gestational Age**
  - Health risks: respiratory distress, poor feeding, hypothermia, hypoglycemia
- **Blood Sugar: 40 - 80 mg/dl**
  - $\leq 40$  mg/dL: think infection, IDM, LGA infant
  - $\geq 80$  mg/dL: think neonatal stress

# Assessment of the Newborn

## Integumentary

- Physiologic Jaundice - Bilirubin deposited on skin, peaks at day 3-5 of life- usually resolves by day 10 of life
- Estimating bili level by progression
  - Cephalocaudal- beginning with sclera and mucous membranes
  - Estimated 5 if nipple line
  - Estimated 10 if hips
  - Estimated  $> 12$  lower extremities
  - Verify with lab work

<https://pediatrics.aappublications.org/content/pediatrics/114/1/297.full.pdf>

## Physiologic Hyperbilirubinemia

- Treatment
  - Hydration and feeding
  - Phototherapy
    - at or above 15 mg per dL in infants 25 to 48 hours old
    - At or above 18 mg per dL (308 mol per L) in infants 49 to 72 hours old
    - At or above 20 mg per dL (342 mol per L) in infants older than 72 hours
  - Exchange Transfusion

# Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation

- Promote and support successful breastfeeding.
- Establish nursery protocols for the identification and evaluation of hyperbilirubinemia.
- Measure the total serum bilirubin (TSB) or transcutaneous bilirubin (TcB) level on infants jaundiced in the first 24 hours.
- Recognize that visual estimation of the degree of jaundice can lead to errors, particularly in darkly pigmented infants.
- Interpret all bilirubin levels according to the infant's age in hours.
- Recognize that infants at less than 38 weeks' gestation, particularly those who are breastfed, are at higher risk of developing hyperbilirubinemia and require closer surveillance and monitoring.
- Perform a systematic assessment on all infants before discharge for the risk of severe hyperbilirubinemia.
- Provide parents with written and verbal information about newborn jaundice.
- Provide appropriate follow-up based on the time of discharge and the risk assessment.
- Treat newborns, when indicated, with phototherapy or exchange transfusion.



## Atypical Newborns

- **Drug exposure/Signs of Withdrawal**
  - General:
    - high-pitched cry, poor feeding and sleeping, ↑ muscle tone, tremors, sweating, excoriation of heels, elbows
  - Cocaine (Crack):
    - SGA and IUGR, ADHD & LD, delayed growth, feeding difficulties, irritability, tremors
  - Alcohol:
    - SGA, MR, delayed growth, heart & CNS problems, dysmorphic facial features



## Fever

- The child's age makes a difference—fever in a child less than 90 days of age is more worrisome and requires a workup
  - <30 days: LP, blood cultures, UA, UC, CXR
  - 30-60 days: UA, UC, maybe blood cultures
  - 60-90 days: UA, UC
- Look at the “whole picture”—how sick does the child look and act? This is much more important than how high the fever is.
- Try to determine the source of the fever or at least convince yourself that it is nothing bad.



## Anticipatory Guidance: 2 months

- \*Breastfeeding still best
  - avoid fish containing mercury
- Back to sleep
  - no more swaddling unless held
- Breastfeeding
- Non-nutritive sucking
  - pacifiers decrease incidence of SIDS
  - need to get hands to mouth
- Babies may be crying more: learn to self soothe.
- Assess babe/ parent relationship
- Assess for maternal depression
- "Don't shake the baby" discussion
- Tummy time
- Talk, sing, & read to baby
- Childcare
- Car seat safety
- Firearm safety
- Burns/ hot liquids
- Immunizations

## Anticipatory Guidance: 4 months



- Increased drooling: teething?
- Think about starting solids
- Discourage bottle propping
- Needs non-nutritive sucking
- Sleeping through the night
- Able to self soothe
- Tummy time
- Back and forth talking
- Reading is important
- Use name of objects
- No walkers
- Child-proofing
- Immunizations

## Anticipatory Guidance: 6 months

- Feeding
  - Breast is best
  - No more night feedings
  - No bottle in bed
- Introducing solids
  - Structured mealtimes with family
  - Give spoon and cup to infant
  - Normal messiness
  - Iron, zinc, vitamin D
- Teeth
  - Brush and floss
  - Fluoride
- Sleeping
  - Work on sleeping thru night
- Cognitive
  - Name activities as you do them
  - Cause and effect toys
  - Interactive games
  - Reciprocal play
- Safety
  - Car seats
  - Burns/ hot surfaces
  - Child-proofing
  - Child care
  - Immunizations



## Anticipatory Guidance: 9 months

- Feeding:
  - Predictable, healthy meals & snacks
  - Transition to cup/ self feeding
  - Weaning (start thinking about it)
- Sleep:
  - Sleeping through the night
  - Easily disrupted (busy day, vacation, etc.)
- Cognitive
  - Predictability is important; consistent
  - Praise good behavior
- Oral Care
  - Brush and floss teeth; fluoride
  - Dental home visit
- Language
  - Social referencing (look to parents as reference)
  - Uses gestures
- Motor
  - Playing is important (cause and effect)
  - Rapid development 9-12 months
- Safety
  - Water (bath, pool, etc.)
  - Ingestion/ poison safety
  - Firearm safety
  - Stair safety /home safety
- Use “No” carefully
- Immunizations

