

PEDIA LECTURE (January 19, 2021)

- 40-70 bpm (considered normal bpm for premature babies)
- 35-55 bpm (considered normal bpm for babies 0-3 months old)

ACCORDING TO GESTATIONAL AGE:

- Less than 37 weeks → preterm
- 42 weeks and beyond → post term
- Greater than 34 weeks and less than 37 weeks → late preterm
- Less than 32 weeks → very preterm
- Less than 28 weeks → extremely premature baby

ACCORDING TO WEIGHT:

- Less than 2500 grams → low birth weight
- Less than 1500 grams → very low birth weight
- Less than 1000 grams → extremely low birth weight

APGAR SCORING SYSTEM:

- Activity (muscle tone)
- Pulse
- Grimace (reflex irritability)
- Appearance (skin color)
- Respiration

0-3 severely depressed	
4-6 moderately depressed	
7-10 excellent condition	
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0 absent	
1 weak and irregular	
2 good	

RESPIRATION – most important in APGAR scoring

COMMON PROBLEMS:

1. RESPIRATORY DISTRESS SYNDROME (RDS)

- Common to premature babies (< 28 weeks old)
- LUNG SURFACTANT – chemical in the lung that decreases surface tension, aids in the alveoli expansion and recoil
- RDS meaning there is not enough lung surfactant
- At 35 weeks gestation, there is mature (enough) levels of lung surfactant present in an infant
 - o DEXAMETHASONE (12mg / IM)
 - o BETAMETHASONE (6mg / IM)
 - Two drugs that are administered intramuscularly (IM) that helps hasten the production of lung surfactant
- Monitor for presence of grunting, intercostals and subcostal retraction (malamim na paghinga), nasal flaring (lumalaki yung butas ng ilong), and cyanosis (increase in deoxygenated hemoglobin) can be noted
- DIAGNOSIS: chest x-ray: fine reticular granularity and air bronchograms
- LABS: <O₂, >CO₂, Acidosis (request for ABG Test (Anterior Blood Gas Test) – blood extraction from vein, NOT the artery)
- Need for supportive management, NICU admission with continuous monitoring and proper oxygenation

2. TRANSIENT TACHYPNEA OF THE NEWBORN

- Transient meaning 'temporary'
- Common to Preterm, term and cesarean sections (CS)
- There is a slow absorption and expulsion of fetal lung fluid
 - **a way to expel lung fluid is through the VAGINAL CANAL
- Monitor for presence of grunting, tachypnea, retractions and cyanosis
- DIAGNOSIS: chest x-ray: prominent vascular markings, over aeration
- Need for supportive management

- Rapid recovery of the infant (3 days)

3. MECONIUM ASPIRATION

- Common in Post Terms (babies that surpassed at least 42 weeks and beyond)
- During prolonged labor and difficult deliveries
- Respiratory distress within the 1st hour with presence of tachypnea, retractions, grunting and cyanosis observed in severely affected infants
- DIAGNOSIS: chest x-ray: coarse streaking of both lung fields, >AP diameter, flattening of the diaphragm
- Supportive care and standard management for respiratory distress
- Condition usually improves within 72 hours

APPEARANCE

- Normal Color should be **PINK** (meaning there is ample oxygen)
- **CYANOSIS** – **BLUISH** discoloration of an infant (meaning there is decreased oxygen and an increase in deoxygenated hemoglobin level)
 - o **TWO TYPES OF CYANOSIS:**
 - **GENERAL/CENTRAL CYANOSIS** – affects the face, trunk and extremities
 - **PERIPHERAL CYANOSIS** – affects only the extremities (upper, lower or both)
 - o **CHOANAL ATRESIA** (disappearance)/**STENOSIS**(narrowing)
 - Decreased or lack of passageway (nasal)
 - o **METHEMOGLOBINEMIA** – increased methemoglobin in blood
- **LETHARGY**
 - o May be caused by:
 - Infection
 - Asphyxia (oxygen deprivation)
 - Hypoglycemia (decreased blood glucose)
 - Sedation from maternal analgesia or anesthesia
 - Cerebral defect (defect in the cerebrum) – causes increased intracranial pressure that leads to decreased level of consciousness

SEIZURES/TREMORS – pertains to the status of the CNS, sign of a CNS problem

CLUES OF HAVING A PROBLEM WITH THE CNS:

- Mental status of the newborn (subjective)
 - o assessed by CONSCIOUSNESS, RESPONSIVENESS and SLEEPING PATTERN
- Head circumference
 - o assessed by ANTHROPOMETRIC MEASURES; most important measure = head circumference
 - Term Baby – 34-35 cm at birth
 - 6 mos. – 44 cm
 - 1 year – 47 cm
 - o If head circumference is less than normal, then it is considered as MICROCEPHALY, meaning, there is an underdeveloped brain
 - o If head circumference is larger than normal, then it is considered as MACROCEPHALY, meaning, there could be an increased CP (Intracranial Pressure)
- **NEWBORN JITTERNESS**
 - o Normal in certain age groups of children

DIFFERENCE BETWEEN JITTERNESS AND SEIZURE:

	JITTERNESS	SEIZURE
Movement	Fine and Symmetrical	Irregular, coarse
Can it be stopped?	Yes; can be controlled	No
V/S (Heart Rate)	Normal; no change	It can increase; tachycardic

MORO REFLEX – also known as STARTLE REFLEX

- Extension of the head (abduction of head) and upper extremities
- One of the primitive reflexes that is developed, followed by SUCKING REFLEX
- Can happen as early as 28 weeks, until 5-6 months
- DELAYED reflexes may be an early sign of MENTAL RETARDATION
- **ASYMMETRICAL MORO REFLEX:**
 - o **CLAVICULAR FRACTURE** due to macrosomic baby, having difficulty in fitting in a **narrow birth canal**
 - o **BRACHIAL PLEXUS PALS**Y – innervates the upper extremities
 - o **HEMIPARESIS** – paralysis on one side of the body
- **DECREASED TONE/WEAK MORO REFLEX:** could be **HYPOTONIA**
 - o **Spastic** – continuous contraction of muscle
 - o **Flaccid/floppy** – muscle is not contracting

SPINA BIFIDA – a neural tube defect -> there is a problem in the structure of brain and spine

- Underdeveloped spine; congenital = happens in utero, can be prevented by taking FOLIC ACID (B9) and vitamin B12

3 TYPES OF SPINA BIFIDA:

- o **SPINA BIFIDA OCCULTA** – occult = hidden; opened posterior vertebral body, meninges is sealed by the skin
- o **MENINGOCELE** – protrusion of the meninges; meninges is protruding outside the spine
- o **MYELOMENINGOCELE** – protrusion and opened spinal cord; kasama na lumabas yung spinal cord; most dangerous type of spina bifida