N432 Focus Sheet5—Newborn, RKC Ch 17, 18, 23,24; ATI Ch 23-27; Newborn PowerPoint

RKC 17 & 18; ATI Ch 23

1. What does APGAR stand for?

- Apgar stands for "Appearance, Pulse, Grimace, Activity, and Respiration." In the test, five things are used to check a baby's health. Each is scored on a scale of 0 to 2, with 2 being the best score: Appearance (skin color) Pulse (heart rate).

2. When are APGAR scores assigned?
- An Apgar score is assigned based on a quick review of systems that is completed at 1 and 5 min of life. this allows the nurse to rapidly assess extrauterine adaptation and intervene with appropriate nursing actions.

3. What is a “normal” APGAR score versus a score that requires an intervention?
- 0 to 3 indicates severe distress- intervention is needed
- 4 to 6 indicates moderate difficulty- intervention may be needed
- 7 to 10 indicates minimal or no difficulty with adjusting to extrauterine life

4. Describe the Initial assessment of a newborn immediately after birth?

- External assessment: Skin color, peeling, birthmarks, foot creases, breast tissue, nasal patency, and meconium staining (can indicate fetal hypoxia)
- Chest: Point of maximal impulse location; ease of breathing; auscultation for heart rate and quality of tones; and respirations for crackles, wheezes, and equality of bilateral breath sounds
- Abdomen: Rounded abdomen and umbilical cord with one vein and two arteries
- Neurologic: Muscle tone and reflex reaction (Moro reflex); palpation for the presence and size of fontanels and sutures; assessment of fontanels for fullness or bulge
- Other observations: Inspection for gross structural malformations

5. What are the normal expected ranges for a newborn for each of the following

weight	25x00-4000g (5.5-8.8lb)
Length (crown of head to to heel of foot)	45-55cm (18-22in)
Head circumference (occipital to frontal)	32-36.8cm (12.6-14.5in)
Chest circumference (nipple line)	30-33cm (12-13in)
Temperature	37C (98.6F)
Pulse	110-160/min

Respiration	30-60 bpm
Blood Pressure	60-80/40-50

6. What does the New Ballard Scale (gestational age assessment) assess?
    - Neuromuscular and physical maturity

7. Define AGA, SGA, LGA, IUGR, term, preterm or premature, post term or postdate, postmature.

a. Appropriate for gestational age (AGA): weight is b/w the 10th & 90th percentile
b. Small for gestational age (SGA): Weight is <10th percentile, less than 2500 g
c. Large for gestational age (LGA): Weight is >90th percentile
d. Intrauterine growth restriction (IUGR): Growth rate doesn't meet expected norms
e. term: birth b/w the 37th & 42nd week
f. preterm/premature: birth before the 37th week
g. post-term/postdate: born after the 42nd week w/ placental aging or insufficiency

8. Review and summarize each component of the physical exam (Also see power point slides)

Posture:
Skin: look at skin for texture, jaundice, Mongolian spots, rashes
Milia- pearly white/ pale yellow unopened sebaceous glands in mouth or gums- epstein pearls
Telangiectatic nevi-
Nevus flammeus
Erythema toxicum- newborn rash, benign, idiopathic, generalized transient rash- a form of neonatal acne
Head: head circumference, look and feel the scalp, caput succedaneum, cephalohematoma, abrasions, sutures, fontanelles
Caput Succedaneum – identify any swelling or redness on top of head. Typically midline in area that initially went through birth canal
Cephalohematoma- assess for any blood under skin in same area as the caput succedaneum
Eyes: 20
Ears: formed, pits, tags, rotation, position, size
Nose: nares are patent bilaterally
Mouth: check for clefts (lips and palate), arched palate, neonatal teeth, epstein pearls
Neck: range of motion, goiter, cysts, clefts
Chest: should be barrel shaped, clavicles should be intact, absence of retractions, breast nodules 3-10 cm, nipples prominent
Abdomen: look at and inspect first, listen for bowels next then lastly feel tummy(palpate for liver, spleen, kidneys, and presence of masses.
Anogenital: meconium passed within 24-48 hours after birth, meatus is located in male's penile tip

Extremities: digits (number and abnormalities), arms and legs (range of motion, tone, asymmetry), clavicles (feel for fracture), Hips (Barlow and Ortaloni exam, clicks are common and benign due to estrogenic effect, clunks are indicative of hip dislocation/ relocation and can represent developmental dysplasia of the hip)
Spine: flip infant onto your forearm and look at the entire spine, feel for bony defects, examine sacral area closely- clefts, hairy tufts, change in pigmentation. Look at gross defects like meningomyelocele, teratomas, sinus tracts
Reflexes:
Sucking & rooting reflex: finding expected: elicit by stroking the cheek or edge of mouth, usually disappears after 3-4 months but may last a year
Palmar grasp: grabbing anything you put in their palm, this is normal, lessens by 3-4 months
Plantar grasp ; toes should curl in when rubbing, lessens after 8 months
Moro reflex: Ex. when you bump into a baby in its crib and it freaks out and cries, this is normal
Tonic neck reflex (fencer position): turn the baby head to one side and those limbs on that side extend, lessens after 3 months
Babinski reflex: rub side of feet and feet should fan outward. lessens after 1 year
Stepping reflex: tapping their feet on a surface when close enough, this is normal
Senses:
Vision: should focus on objects 8-12 inches away, can see objects up to 2.5 feet away, eyes are sensitive to light
Hearing: selective listening should hear once amniotic fluid drains
Touch: mouth most sensitive to touch
Taste: prefer sweet, salty, sour or bitter
Smell: prefer sweets, can smell mother, high smell senses
Habitation: accustomed to stimuli, response to repetitive stimuli decreases allowing for newborns to have continued learning , avoiding overload

9. How is a newborns blood type determined?
    - Cord blood

10. What are the normal Expected laboratory values for a newborn?

HGB	14-24
Platelets	150,000-300,000
HCt	44-64%
Glucose	40-60
RBC count	4.8-7.1
Bilirubin 24 hr 48 hr 3-5 days	 24 h - 2-6 48 h - 6-7 3-5 days - 4-6
Leukocytes	9,000-30,000

11. What are the 3 primary complications noted with newborns?

- airway obstruction related to mucus, hypothermia, inadequate oxygen supply

What are the nursing interventions for each of these complications?

airway obstruction - suctioned with a bulb syringe, gentle percussion over the chest to help loosen secretions

hypothermia - monitor axillary temperature every hour, place NB in radiant warmer, maintain skin temperature, early skin-to-skin contact with mom, all exams under a radiant warmer or skin-to-skin contact

inadequate oxygen - monitor respirations and skin color, stabilize body temperature or clear airway as indicated, administer oxygen, prepare for resuscitation

RKC Ch 18; ATI Ch 24

1. Summarize the physical assessment of a newborn

vital signs every 30 min for 1 hour, every hour for 2 hours, and then every 8 hours, weight checked daily at the same time, inspect umbilical cord, in the first 6-8 hours observe for periods of reactivity, use pain assessment tool every 8-12 hours and following painful procedures

2. When and how is the Neonatal screening (sometimes called metabolic screening) done?

capillary heel stick done 24 hours following birth

What is the importance of this test? - tests for PKU, a defect in protein metabolism in which the accumulation of the amino acid phenylalanine can result in mental retardation

Describe the collection sample procedure. clean gloves, warm heel, cleanse area, dry, spring activated lancet, outer heel used, no deeper than 2.4 mm, apply pressure with dry gauze, cuddle and comfort

3. What are the signs of respiratory distress in the newborn?
nasal flaring, retractions, grunting, gasping, labored breathing
4. Summarize the interventions for stabilization of the newborn immediately after birth and resuscitation of airway.

routine suctioning, mechanical suctioning, back blows and chest thrusts

5. Apply the nursing process to thermoregulation components and list appropriate nursing interventions

preheat radiant warmer, warm stethoscope, pad a scale before weighing NB, place bassinet out of the direct line of a fan or AC, swaddle NB, keep the head covered, any procedure should be done under radiant heat, keep temperature of nursery at 72-78 degrees, gently rub NB dry with a warm sterile blanket after delivery

6. What would you teach parents regarding:

Bathing: Bathing can begin once the newborns temp has stabilized to at least 97.7 F. Complete spongebath should be given within the first 1-2 hours after birth under radiant heat source to prevent heat loss. First bath will be postponed until thermoregulation stabilizes. Gloves should be worn until the newborn's first bath to avoid exposure to body secretions.

Diaper changes: clean perineal area after each change, pat dry can use mild soap, avoid alcohol on the area, may use ointment, jelly, or zinc oxide

Feeding: Formula feeding usually started around 2-4 hours of age. Newborns are fed on demand, which is normally q3-4h for bottle fed newborns, and more frequently for breastfed newborns.

Newborn Sleep: Newborns sleep approximately 16-19 hr/day with periods of wakefulness gradually increasing. Newborns need to be supine when they're sleeping, as this promotes "safe sleep" and decreases the incidence of sudden infant death syndrome (SIDS).

Elimination: Monitor elimination habits. Newborns should void once within 24 hr. of birth. They should void 6-8 times per 24 hours after day 4. Meconium should be passed within the first 24-48 hr. The newborn will then continue to pass stool 3-4 times a day depending on whether he/she is being breast-or bottle-fed. Breastfed newborns stools can be yellow and seedy. They should have at least 3 stools per day for the first month.

Infection control: Essential in preventing cross-contamination from newborn to newborn and between newborns and staff. Newborns are at risk for infection during the first few months of life d/t immature immune systems. Provide individual bassinets equipped with a thermometer, diapers, t-shirts, and bathing supplies. All personnel who care for newborn should scrub with antibacterial soap from elbows to fingertips before entering the nursery. In between care, the nurse should follow faculty hygiene protocols.

Umbilical cord care: Cord clamp stays in place for 24-48h. Clean the cord with water during the initial bath of the newborn. Assess stump and base of the cord for erythema, edema, and drainage with each diaper change. The newborn's diaper should be folded down and away from the umbilical stump. Bathing infant by submerging in water should not occur until the cord has fallen off. Most cords fall off within 10-14 days.

7. Medications to know:

Medication	Indications (why is this needed for THIS patient?)	Nursing Implications (what are you watching for?)	Dose
Erythromycin	Prophylactic eye care to prevent ophthalmia neonatorum.	Watch for swelling, redness, drainage, and temporary blurred vision for	Single-dose (1-2 cm ribbon)

		24-48 h.	
Vitamin K (Aquamephyton)	Administered to prevent hemorrhagic disorders since vitamin K is not produced in GI tract until day 7.	Do not give in same spot as Hepatitis B shot.	0.5-1 mg
Hepatitis B	Provides protection against hepatitis B	Do not give in the same spot as Vitamin K.	recommended dose schedule at birth, 1 month, 6 months

8. Why is it important to monitor newborns for cold stress?

Can lead to hypoxia, acidosis, and hypoglycemia.

What signs and symptoms are noted with this?

Cyanotic trunk, depressed respirations

What treatment is used?

Newborn should be warmed slowly over a period of 2-4 hours. Correct hypoxia via administration of O2. Correct acidosis and hypoglycemia.

9. Why is it important to monitor newborns for hypoglycemia?

- If a babies blood sugar is low, their temperature decreases as well. This can cause abnormal thermoregulation.

What are the signs and symptoms?

- Jiterrness, cyanosis, apnea, hypothermia, lethargy, seizures.

What is the treatment?

- Promt IV dextrose and feeding.

ATI Ch 25

1. Describe the key nutritional needs of the newborn.

Healthy newborns need a fluid intake of 100-140 mL/kg/24H.

Adequate caloric intake is essential to provide energy for growth, digestion, metabolic needs, and activity.

Carbohydrates should make up 40-50% of the newborn’s caloric intake. Most abundant carbohydrate in breast milk/formula is lactulose

At least 15% of calories must come from fat. The fat in breast milk is easier to digest than the fat in cows milk.

For adequate growth and development, a newborn must receive 2.25-4 g/kg/day of protein.

Breast milk contains the vitamins necessary to provide adequate newborn nutrition.

Solids are not introduced until 6 months of age. If introduced too early, food allergies can develop.

2. According to the American Academy of Pediatrics, how often should newborns breastfeed?

- Every 1.5 to 3 hour

What infant specific benefits have been found with breastfeeding?

- Reduces the risk of infection by providing IgA antibodies, lysosomes, leukocytes, macrophages, and lactoferrin that prevents infection.
- Promotes rapid brain growth d/t large amounts of lactose.
- Provides protein and nitrogen for neurological cell building and improves the newborns ability to regulate calcium and phosphorus levels.
- Contains electrolytes and minerals.
- Breast milk is easy for the newborn to digest.
- Breastfeeding is convenient and inexpensive.
- Reduces the incidence of sudden infant death syndrome, allergies, and childhood obesity
- Promotes maternal-infant bonding and attachment.

3. List 4 interventions to promote successful breastfeeding.

- Show the mother proper latch-on positions -- have her support the breast in one hand with the thumb on top and four fingers underneath. With the newborns mouth in front of the nipple, the newborn can be stimulated to open his mouth by tickling his lower lip with the tip of the nipple.
- Demonstrate the four basic breastfeeding positions: football hold (under the arm), cradle (most common), or modified cradle (across the lap), and side-lying.
- Explain the let-down reflex
- Place the newborn skin-to-skin on the mother's chest immediately after birth. Initiate breastfeeding as soon as possible or within the first 30 minutes following birth.

4. Breastmilk can be stored in each of the following for how long?

___8__ hr at room temperature

__8___ days refrigerated in sterile bottles

___6___ months in frozen sterile containers in the freezer compartment of a refrigerator

___12___ months in a deep freezer

5. How often should bottle-fed babies be feeding?

3-4 hours

6. What should be assessed when determining proper nutrition for the newborn?

maturity level, history of L&D, birth trauma, maternal risk factors, congenital defects, physical stability, state of alertness, presence of bowel sounds

7. What cues are exhibited by a newborn to show feeding readiness?

Hand to mouth or hand to hand movements, sucking motions, rooting, mouthing

8. What techniques can you teach parents in order to wake a sleepy baby to feed?

- Unwrap the newborn
- Change the newborn's diaper
- Hold the newborn upright, and turn him from side to side
- Talk to the newborn
- Massage the newborn's back, and rub his hands and feet
- Apply a cool cloth to the newborn's face

What about a fussy baby who needs comforted?

- Swaddle the newborn
- Hold the newborn close, move, and rock him gently
- Reduce the newborn's environmental stimuli
- Place the newborn skin-to-skin

9. What is failure to thrive?

- A child that is persistently below the standard of weight range for their developmental stage.

ATI Ch 26

Since the majority of OB is about education/teaching, you are responsible for all information in this chapter, as you will use it clinically and during theory/exam.

RKC Ch 23 & 24; ATI Ch 27

1. Describe what the neonate going through substance withdraw would look like.

- High-pitched screaming, twitching/tremors, inconsolable.

2. How can infants be tested for maternal drug use and what nursing care should be implemented for infants who are withdrawing?

- Cord testing after birth.

3. What medications are often used to help with withdrawal symptoms?

- Morphine or clonidine

4. Hypoglycemia in the newborn is defined as:

- Blood sugars are less than 50mg/dL

5. What does a hypoglycemic infant look like?

- Jittery, inconsolable, cyanotic, hypothermic.

How would they be treated?

- IV dextrose and feeding

6. RDS is a result of surfactant deficiency in the lungs causing poor gas exchange and ventilatory failure. What is surfactant?

- A liquid that reduces the surface tension of the pulmonary fluid and air within the lungs.

What complications arise from RDS?

- pneumothorax, pneumomediastinum, retinopathy of prematurity, bronchopulmonary dysplasia, infection, intraventricular hemorrhage

7. What risk factors are included in the assessment for RDS?

- preterm, perinatal asphyxia, maternal DM, maternal use of barbiturates or narcotics, maternal hypotension, c-section without labor, hydrops fetalis, maternal bleeding during third trimester, hypovolemia

8. What does an RDS infant look like?

tachypnea, nasal flaring, expiratory grunting, retractions, labored breathing with prolonged expiration, fine crackles, cyanosis, flaccidity, unresponsive, apnea with decreased breath sounds

9. Describe the order of interventions during the immediate period after the infant is born.presentation and care of the newborn.

airway, breathing, skin-to-skin contact

10. SGA vs LGA, compare and contrast.

	SGA	LGA

Risk factors:	congenital or chromosomal anomalies maternal infections, disease, or malnutrition gestational HTN or diabetes Maternal smoking, drug, or alcohol use multiple gestations placental factors fetal congenital infections	NB who are postmature maternal DM fetal cardiovascular disorder of transposition of the great vessels gentics maternal obesity multiparous
Findings	weight below 10th percentile reduced body dimensions sparse hair wide skull sutures dry, loose skin decreased subcutaneous fat decreased muscle mass thin, dry, yellow, and dull umbilical cord drawn abdomen respiratory distress and hypoxia wide-eyed and alert hypotonia evidence of meconium aspiration hypoglycemia acrocyanosis	weight above 90th percentile large head plump and full-faced from increased subcutaneous fat hypoxia birth trauma sluggishness, hypotonic muscles, hypoactivity tremors from hypocalcemia hypoglycemia respiratory distress meconium aspiration immature lungs dilated pupils vomiting bulging fontanels high-pitched cry
Care considerations	support respiratory efforts, and suction the NB to maintain open airway provide neutral thermal environment to prevent cold stress initiate early feedings administer parenteral nutrition if necessary maintain adequate hydration conserve NB energy level prevent skin breakdown protect NB from infection	prepare for vacuum-assisted or cesarean birth prepare to place client in mcroberts position prepare to apply suprapubic pressure to aid in the delivery of the anterior shoulder assess NB for birth trauma obtain early and frequent heel sticks initiate early feedings or IV therapy to maintain glucose levels provide thermoregulation with an isolette identify and treat any birth injuries

11. Discuss the variations between physiologic and pathologic jaundice.

a. Physiologic Jaundice - benign, resulting from normal newborn physiology of increased bilirubin production d/t the shortened lifespan and breakdown of fetal RBCs and liver immaturity. NB exhibits an increase in unconjugated bilirubin levels 72 to 120 hours after birth, with a rapid decline to 3 mg/dL 5 to 10 days after birth

b. Pathologic Jaundice - result of an underlying disease. Appears before 24 hours of age or is persistent after day 14. NB bilirubin levels increase more than 0.5 mg/dL/hr, peaks at greater than 12.9 mg/dL, or is associated with anemia and hepatosplenomegaly. Usually caused by a blood group incompatibility or infection, but can be the result of RBC disorders.

How are they treated?
Phototherapy

12. Congenital anomalies: Describe patent ductus arteriosus, Tetralogy of Fallot, and Down Syndrome.

PDA - non cyanotic heart defect in which the ductus arteriosus connecting the pulmonary artery and the aorta fails to close after birth

Tetralogy of Fallot - cyanotic heart defect characterized by a ventricular septal defect, the aorta positioned over the ventricular septal defect, stenosis of the pulmonary valve, and hypertrophy of the right ventricle

Down Syndrome - trisomy 21, which is the most common trisomic abnormality with 47 chromosomes in each cell.