RKC 17 & 18; ATI Ch 23

1. What does APGAR stand for?

   Activity- muscle tone, flexion, strong movement
   Pulse- absent, below 100, above 100
   Grimace- absent, weak, or strong cry
   Appearance- cyanotic, acrocyanotic, pink
   Respiration- absent, weak/irregular, strong

2. When are APGAR scores assigned?

   1 and 5 minutes after birth

3. What is a "normal" APGAR score versus a score that requires an intervention?

   7-10 is normal
   4-6 may be of concern. Recheck at 5 minutes, may require intervention
   0-3 is bad and requires immediate intervention

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

   APGAR scores assigned, regular vitals, check reflexes, lanugo, head and chest circumference, height and weight

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

weight	5.5-8.8 lbs (2500-4000 g)
Length (crown of head to to heel of foot)	18-22 in (45-55 cm)
Head circumference (occipital to frontal)	12.6-14.5 in (32-36.8 cm)
Chest circumference (nipple line)	12-13 in (30-33 cm)
Temperature	97.7-99.5 F (36.5-37.5 C)
Pulse	110-160 bpm
Respiration	30-60 rpm
Blood Pressure	60-80 / 40-50

6. What does the New Ballard Scale (gestational age assessment) assess? (There is a PPT in the Resources with a link to at U-tube video on the New Ballard Scale and an Alexander Street video on Newborn Assessment)

   Neuromuscular and physical maturity
      Assessment parameters through 6 ranges of development
      Each range assigned value between -1 and 6
      Scores added to give maturity rating in weeks of gestation

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

AGA: weight between 10-90 percentile
SGA: weight less than 10th percentile
LGA: weight above 90th percentile
Intrauterine Growth Restriction: growth rate does not meet expected norms
Term: born between 37 and 42 weeks
Preterm: born prior to 37 weeks
Post-term: born after the completion of week 42
Postmature: born after week 42 with signs of placental insufficiency

8. Review and summarize each component of the physical exam (Also see power point slides) (There is a PPT in the Resources with a link to at U-tube video on the newborn reflexes)

Posture: lies in curled position, hands and arms in moderate flexion, resistant to extension of extremities
Skin: deep red to purple, acrocyanosis is normal. Color should fade to race. Jaundice may appear on day 3 of life from increased bilirubin. Quick skin turgor. Dry, soft, smooth, well hydrated skin. May have cracks in hands and feet.
Milia: small raised pearly white spots on chin, nose, forehead normal. Disappear spontaneously.
Telangiectatic nevi: flat pink/red marks that blanch easily on back of neck, nose, upper eyelids, middle of forehead. Fade by second year of life.
Nevus flammeus: capillary angioma below skin surface. Purple or red. Varies in size and shape. Does not blanch or disappear. Most commonly on face.
Erythema toxicum: Pink rash, appears suddenly anywhere on body in first 3 weeks.
Head:
Caput succedaneum: localized swelling of soft tissues, crosses midline
Cephalohematoma: collection of blood between periosteum and skull, does not cross midline
Eyes: symmetry, inner to outer canthus, lacrimal glands, jerky movement
Ears: skin tags, divots, cartilage firm, well formed. Lack of firm and formed cartilage is indicative of prematurity. Issues with ears may mean there are issues with the kidneys.
Nose: midline, flat, broad with lack of bridge, mucus but no drainage, sneeze to clear passage, obligate nose breathers
Mouth: assess palates, lip movement symmetry, sucking strength, scant saliva, Epstein pearls (small whitish yellow cysts on gums, junction of hard/soft palates), freely moving symmetrical tongue.
Neck: short and thick with skin folds, move freely side to side. Absent head control can indicate prematurity or down syndrome
Chest: barrel-shaped, clavicles intact, absence of retractions, prominent, well-formed and symmetrical nipples, 3-10mm breast nodules
Abdomen: odorless umbilical cord with no intestinal structures, dome shaped abdomen, bowel sounds present
Anogenital: present patent anus, rugae on mal scrotum, testes in scrotum, vaginal blood tinged discharge normal
Extremities: ROM, soles well lined over most of feet, flex, assess for bowed legs and flat feet
Spine: straight, flat, midline, easily flexed
Reflexes:
Sucking & rooting reflex: stroke cheek, infant will turn towards that side. Disappears after 3-4 months, may last a year.
Palmar grasp: grabbing objects in palm, lessens by 3-4 months
Plantar grasp: toes curl when rubbing foot, lessens after 8 months
Moro reflex: Startle reflex. Makes a C with arms outstretched over chest
Tonic neck reflex (fencer position): head turned to the side and the same arm reaches out
Babinski reflex: toes fan out when sole of foot is stroked

Stepping: feet are placed on surface, will make a stepping motion
Senses:
Vision: focus on objects 8-12 inches away, sensitive to light
Hearing: adult levels when amniotic fluid drains from canals, selective listening for familiar voices, turns toward sound
Touch: respond to pain and touch. Most sensitive areas are mouth, hands, soles of feet
Taste: prefer sweet to salty, bitter, or sour
Smell: prefer sweet smells, recognize mothers smell
Habitation: accustomed to environmental stimuli, constant stimulus response is decreased, allows to select stimuli to learn and avoid overload

9. How is a newborns blood type determined?

   Blood taken from umbilical cord through needle in vein or drained after birth. Only test when mom is Rh -

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

HGB	14-24 g/dL
Platelets	150,000-300,000/mm^3
HCt	44-64%
Glucose	40-60 mg/dL
RBC count	4.8 X 10^6 – 7.1 x 10^6
Bilirubin 24 hr 48 hr 3-5 days	 2-6 mg/dL 6-7 mg/dL 4-6mg/dL
Leukocytes	9,000-30,000/mm^3

11. What are the 3 primary complications noted with newborns? What are the nursing interventions for each of these complications?

Hypoglycemia- check blood glucose according to protocol

Jaundice- phototherapy

Maintaining a patent airway- suction baby's mouth with a bulb syringe

RKC Ch 18; ATI Ch 24

1. Summarize the physical assessment of a newborn

   Nasal flaring, chest retraction, grunting on exhalation, labored breathing, abnormal breath sounds, abnormal respiratory rate, flaccid body posture, cyanosis, pallor, apneic episodes, abnormal heart rates, abnormal newborn size
2. When and how is the Neonatal screening (sometimes called metabolic screening) done?

Blood taken from infants heel shortly before discharge, typically done around 24 hours after birth

What is the importance of this test?

Detect PKU, hypothyroidism, galactosemia, sickle cell disease

Describe the collection sample procedure.

Drops of blood taken from baby's heel and applied to testing card which is sent to the lab

3. What are the signs of respiratory distress in the newborn?

Nasal flaring, cyanosis, chest/abdominal retractions, grunting, gasping, labored breathing

4. Summarize the interventions for stabilization and resuscitation of airway.

Routine suctioning with bulb syringe to clear out excess mucous from mouth and nasal passages. Emergency procedures if unable to clear.

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

Conduction- provided by preheated warmer, warm stethoscope/instruments, skin to skin with a warm blanket

Convection- prevent air circulation, swaddle in blanket, keep head covered

Evaporation- dry infant immediately after delivery, avoid bath until body temp 36.5 C, expose one body part at a time to maintain body heat

6. What would you teach parents regarding:

Bathing: postpone until thermoregulation stable, first bath around 24 hours

Diaper changes: completed when baby has urinated or defecated. Line may change colors when soiled. Wipe front to back

Feeding: immediately after birth, initiate breastfeeding ASAP, formula feeding 2-4 hours after birth

Newborn Sleep: 16-19 hours a day. Avoid bumper pads, loose linens, toys. Sleep close but in separate spaces. Educate about SIDS

Elimination: Void once with 24 hours of birth, 6-8 times a day by day 4. Meconium passed within 24 hours after birth, 3-4 times a day depending on feeding. Keep perineal area clean and dry.

Infection control: immature immune system first few months, provide individual supplies for infant

Umbilical cord care: cord stays in place for 24-48 hours, clean with water during first bath, assess stump/base with each diaper change. Fold diaper below stump. Do not submerge in bath until stump falls off, usually after 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	Antibiotic to prevent ophthalmia neonatorum	Redness, swelling, temporary blurred vision	Single dose of 1-2cm ribbon of ointment/eye
Vitamin K (Aquamephyton)	Prevents hemorrhagic disorders	Given in separate thigh from Vitamin B injection	0.5-1mg IM into vastus lateralis
Hepatitis B	Protection against Hep B	Given separate thigh from Vitamin K, schedule may change for infant whose mother is infected	Birth, 1 month, 6 months. Single injection dose

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

Can lead to hypoxia, acidosis, hypoglycemia

What signs and symptoms are noted with this?

Skin pallor, mottling, cyanotic trunk, tachypnea

What treatment is used?

Warm slowly over 2-4 hours, oxygen administration, feeding

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

Provides energy to the body, maintain infant stability

What are the signs and symptoms?

Jittery, twitching, weak/abnormal cry, irregular respiratory effort, cyanosis, lethargy, eye rolling, seizures, <40 from heel stick

What is the treatment?

Breastfeed, donor milk, formula

ATI Ch 25

1. Describe the key nutritional needs of the newborn.

Adequate calorie intake for energy for growth, digestion, metabolism, activity

Carbohydrates- 40-50%

Fat- 15%

Protein- 9g /day until 6 months

Breast milk contains adequate vitamins

Solids should not be introduced before 6 months

Iron supplements at 4 months for breastfed babies

Iron-fortified cereal at 12 months for bottle fed

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

Q2-3 hours for first 6 months of life, 8-12 times a day

What infant specific benefits have been found with breastfeeding?

400 IU Vitamin D daily from breast milk

Provides IgA antibodies, lysozymes, leukocytes, macrophages, lactoferrin

Provides protein, nitrogen

Improves calcium and phosphorous regulation

Electrolytes, minerals

Easy to digest, reduces SIDS, allergies, obesity

Promotes maternal-infant bonding and attachment

3. List 4 interventions to promote successful breastfeeding.

Skin to skin as soon as possible

Breastfeed every 2 hours even without signs of newborn hunger, will help milk supply

Teach different breastfeeding positions

Whole nipple and some areola for proper latch

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?

Q3-4 hours during the day, Q4 at night until feeding well and gaining adequate weight, then feed-on-demand schedule

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

Maturity level, L&D history, birth trauma, congenital defects, physical stability, state of alertness, presence of bowel sound

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

Hand to mouth movements, sucking motions, rooting reflex

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

Unwrap, change diaper, hold upright, turn from side to side, talk, massage back, rub hands and feet, cool cloth to face

9. What techniques can you teach parents comforting a fussy baby?

Swaddle, hold close, move, gently rock, reduce environmental stimuli, skin-to-skin

10. What is failure to thrive?

Slow weight gain, falls below 5th percentile on growth chart

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.

1. Write up 5 things you would include in the discharge teaching for the newborn.

Bathing, umbilical cord care, circumcision, car seat safety, environmental safety, newborn behaviors, feeding elimination, clinical findings of illness to be reported

RKC Ch 23 & 24; ATI Ch 27

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

Hypoglycemia, respiratory distress syndrome, asphyxia, macrosomic aspiration, preterm, SGA, sepsis, birth trauma or injury, hyperbilirubinemia, congenital anomalies

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

Blood tests: CBC, glucose, TSH, thyroxine, triiodothyronine, drug screen of urine and hair

Interventions: ongoing assessment of abstinence system, elicit and assess reflexes, monitor ability to feed and digest, swaddle with legs flexed, non-nutritive sucking, monitor fluids and electrolytes, skin turgor, mucous membranes, fontanels, daily weight, I/O, reduce environmental stimuli

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

Opioid: morphine sulfate

Anticonvulsant: phenobarbital

4. Hypoglycemia in the newborn is defined as:

<30

5.What does a hypoglycemic infant look like?

Poor feeding, jittery/tremors, hypothermia, weak cry, lethargy, flaccid muscle tone, seizures/coma, irregular respirations, cyanosis, apnea

How would they be treated?

Blood from heel stick, dextrose when symptomatic, monitor levels per protocol

Monitor IV if unable to orally feed

Skin to skin for hypothermia

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

Phospholipid assisting alveoli expansion. Keeps alveoli from collapsing, allows gas exchange

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 gestation, perinatal asphyxia, maternal DM, premature ROM, maternal use of barbiturates/narcotics, maternal hypotension, c-section without labor, hydrops fetalis, maternal bleeding in third trimester, hypovolemia, white male

8. What does an RDS infant look like?

Tachypnea, nasal flaring, expiratory grunting, retractions, labored breathing with prolonged expiration, fine crackles, cyanosis, unresponsive, flaccidity, 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.

Suction mouth, trachea, nose prn. Maintain thermoregulation. Mouth and skin care. Correct respiratory acidosis with ventilation support. Correct metabolic acidosis with HCO3, maintain adequate oxygenation, prevent lactic acidosis, avoid oxygen toxicity. Parenteral nutrition PRN, monitor labs, I/O, weight to evaluate hydration status. Decrease stimuli

10. SGA vs LGA, compare and contrast.

	SGA	LGA
Risk factors:	Congenital/chromosomal abnormalities Maternal infections, disease, malnutrition Gestational hypertension, DM, smoking, drugs, alcohol Multiple gestations Placental factors Fetal congenital infection	Postmature Maternal DM during pregnancy Genetics Maternal obesity Multiparity
Findings	Weight below 10th percentile Normal skull, reduced body dimension Sparse hair on scalp Wide skull sutures from inadequate bone growth Dry loose skin, decreased subq fat, decreased muscle mass Thin, dry, yellow umbilical cord Drawn abdomen rather than rounded Respiratory distress, hypoxia Wide-eyed, alert Hypotonia Meconium aspiration Hypoglycemia Acrocyanosis	Weight above 90th percentile Large head Plump, full faced, increased subq fat Tachypnea, retractions, cyanosis, nasal flaring, grunting Birth trauma Sluggishness, hypotonic muscle, hypoactivity Tremors from hypocalcemia Hypoglycemia Respiratory distress from immature lungs, meconium aspiration
Care considerations	Respiratory support Neutral thermal environment Early feedings, parenteral nutrition Conserve energy, prevent skin breakdown, protect from infection Support to family	Possible vacuum assisted, c-section McRoberts position Suprapubic pressure to delivery anterior shoulder Assess for birth trauma Early and frequent heel sticks on newborns

		Early feedings, IV therapy Thermoregulation with isolette

11. Discuss the variations between physiologic and pathologic jaundice.

    Physiologic- benign, shortened lifespan and breakdown of fetal RBCs, liver immaturity
    Pathologic- underlying disease, appears before 24 hours of age or persistent after day 14

    What tests are done to determine the severity of the jaundice (high bilirubin level)?

    Serum bilirubin, blood type, Hgb, Hct, Coombs test

    How are elevated bilirubin levels in newborns treated?

    Phototherapy, monitor vitals

12. What assessments and nursing interventions are done for an infant who is under a bilirubin ultraviolet light or on a bilirubin blanket?

    Bronze discoloration, maculopapular skin rash, pressure area dehydration, elevated temperature. Mask eeys, keep undressed, avoid lotions and ointments, reposition Q2, check lamp energy, turn off phototherapy lights before drawing blood for testing

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

    Patent Ductus Arteriosus: non-cyanotic, ductus arteriosus fails to close between pulmonary artery and aorta after birth

    Tetralogy of Fallot: cyanotic, ventricular-septal defect, aorta positioned over defect, stenosis of pulmonary valve, hypertrophy of right ventricle

    Down Syndrome: Trisomy 21, most common trisomy abnormality. 47 chromosomes per cell