



Maternal Final Review

Maternal Child Health Nursing (Rasmussen University)

2513 Exam Blueprint

Modules:

Dosage calculation

7 (Chp 34, 38, 40, 41): Interventions for hospitalized peds client, Respiratory, Cardiac Diseases/Disorders

- **What are techniques for administration of ear drops (less than 2 versus older than 2)**
 - Turn the child or ask the child to turn onto his or her back or use restraint as necessary. Turn the child's head to one side
 - For children 2 and under, pull pinna down and back
 - For children over the age of 2, up and back
 - Administer at room temperature or warm- preventing severe vertigo
 - Instill drops into ear canal
 - Hold child's head in that position to ensure it fills entire canal
- **What are tips for helping a child take oral medication?**
 - In infants, oral medication can be given with a medicine dropper or a unit-dose oral syringe
 - Gently restrain the child's arms/head by holding the child against your body with the head raised. gently open the mouth by pressing on the child's chin or gently squeezing the child's cheeks. Be certain the end of the syringe or dropper rests at the side of the infant's mouth to help prevent aspiration
 - Infants may be given with a small spoon or cup
 - May associate syringes with needles
 - Preschoolers and early school-age children respond well to rewards such as stickers or small prizes each time they take their medicine.
 - Older children- hand them the cup of liquid or tablet medicine and offer favorite fluid
- **What are teaching tips for use of a metered-dose inhaler?**
 - shake the canister, exhale deeply, activate the inhaler and place it in their mouth as they begin to inhale, take a long slow inhalation, and then hold their breath for 5 to 10 seconds.
 - Caution them to take only one puff at a time, with a 1-minute wait between puffs
 - Younger children can use an MDI attached to an aerochamber with a mask.
 - All children taking inhaled corticosteroids need to use aerochamber to avoid thrush
- **What's important to know about the newborn/infant nose and breathing? What assessments are important? p. 932**
 - Infants are obligate nose breathers. They cannot coordinate mouth breathing, so they become disturbed when the nose is temporarily blocked to check for patency;
 - To avoid discomfort, assess patency momentarily

- What are signs of dehydration? (see below)
 - Prolonged capillary refill- more than 2 seconds
 - Absence of tears
 - Dry mucous membranes
 - Sunken eyes
 - Abnormal skin turgor- tenting
 - Abnormal respiratory pattern
- What are interventions for mild/moderate versus severe dehydration from gastroenteritis? pp. 1062-1063; <https://www.aafp.org/afp/2009/1001/p692.html>
 - Mild/moderate dehydration- oral rehydration therapy
 - Severe dehydration- IV fluids until stable
 - NS or Lactated Ringer's
 - Should also do electrolyte measurement
- What are therapeutic interventions to manage croup (bronchiolitis)?
 - Laryngotracheobronchitis (croup)- inflammation of the larynx, trachea, and major bronchi usually caused by parainfluenza virus. Develop barking cough, inspiratory stridor, and marked retractions.
 - Cool moist air combined with a corticosteroid or racemic epinephrine given via nebulizer
 - Supplemental oxygen
 - Antipyretics as needed
 - Provide measures for a child to remain calm using distraction, toys, etc.
 - Stridor can worsen with agitation
 - Place child semi-upright
- What are symptoms of streptococcal pharyngitis and complications/risks?
 - More severe and present more suddenly than viral pharyngitis
 - Symptoms:
 - Back of throat and palatine tonsils are markedly erythematous (bright red)
 - Enlarged tonsils
 - White exudate in the tonsillar crypts
 - Petechiae on the palate
 - Child appears ill- fever, sore throat, headache, stomach ache, difficulty swallowing
 - Some develop a sandpaper line rash (scarlatiniform rash)
 - Usually no cough, congestion, rhinorrhea, or conjunctivitis
 - Complications/Risk
 - Acute rheumatic fever
 - Glomerulonephritis
- What are post-tonsillectomy nursing cares?
 - Removal of the palatine tonsils due to tonsillar hypertrophy or frequent throat infections
 - Observe for loose teeth before surgery
 - After- observe vital signs for indications of hemorrhage
 - Increased pulse or respirations

- Frequent swallowing/throat clearing
 - Feeling of anxiety
- Liquid analgesics
- Frequent sips of clear liquid, popsicles, or ice chips
 - Avoid acidic and citric juices, carbonated beverages, and red fluids
- If site is bleeding- elevate the child's head and notify provider
- Instruct parents to watch for danger signs
 - Frequent swallowing, clearing of throat, bleeding, increasing restlessness, severe pain
 - Restrict activity for a period of time until follow-up
 - Eat only soft foods after initial post op period after 24-48 hours
- What are signs/clinical manifestations/assessment findings in a child with pneumonia?
 - Infection and inflammation of the alveoli
 - Productive, harsh cough
 - Decreased breath sounds
 - Elevated fever
 - Appear acutely ill
 - Tachycardia
 - Chest or abdominal pain
 - Chills
 - Signs or respiratory distress
 - Breath sounds often diminished, crackles may be present
 - Dullness on percussion- total consolidation
 - Initial 24-48 hours- may have blood-tinged sputum that transitions to thick, purulent sputum
- What are signs/symptoms and treatments of viral pneumonia?
 - Generally caused by viral infections of the upper respiratory tract progressing to diminished breath sounds and fine rales on auscultation
 - Rest and antipyretics
- What are treatments and teaching topics for management of cystic fibrosis?
 - Treatments
 - Pancrelipase enzyme replacement
 - Humidified oxygen
 - Aerosol therapy for antibiotics, bronchodilators, and mucolytics
 - Chest physiotherapy 3-4 times a day
 - Encouraging activity- frequent position changes
 - Adequate dental hygiene for respiratory hygiene
 - Teaching
 - High-calorie, high-protein, moderate-fat diet
 - Supplement vitamins A, D, E
 - May add salt on hot months of years to replace lost salt through perspiration
 - Breastfed infants may supplement with a high-protein formula
 - Do not add enzymes to hot food or bottle of formula
 - Administer enzymes before or with meals and snacks
 - Adolescents will need additional caloric intake due to growth
 - Monitor for overheating and offer water frequently

- Avoid cough suppressants and codeine
 - Change diapers immediately to prevent skin breakdown from fatty stools
 - Encourage quarterly communications with healthcare team
 - Encourage periods of rest during the day, before meals, and before chest physiotherapy
 - Encourage attending regular school and participating in sports as much as possible, encourage socialization
 - Routine immunizations are necessary
 - Include children in shared decision making for control and self-efficacy
 - Adolescents are candidates for transplants
- What are the mechanisms of asthma and assessment findings you will note? p. 1114
 - Mechanisms
 - Inflammation, airway hyperresponsiveness, and airway obstruction
 - Triad: inflammation, bronchoconstriction, and increased mucus production
 - Assessment findings
 - Recurrent wheezing, breathlessness, chest tightness, and coughing
 - Episode begins with a dry cough then develops increasing difficulty exhaling
 - Dyspnea and wheezing
 - Lung sounds hyperresonant to percussion
 - Air trapping- expiration becomes longer than inspiration phase
 - Retractions
 - Construction becoming more acute- sound of wheezing decreases
 - Orthopnea
- When would digoxin be used for a heart condition and what effect/action does it have?
 - Used to increase the strength of heart muscle contraction- positive inotropic effect
 - Also decreases afterload to ensure perfusion/decrease work of heart
 - Heart Failure
- What are safety considerations when caring for a child with a chest tube? (*Can read on CTs in book, pp. 1152-1153, but you'll probably find this answer in your ATIs*)
 - Keep system closed and below chest level
 - Fluid filled system- ensure bubbles are in the chamber
 - Monitor for bubbles in the water seal chamber- can indicate leak in drainage or air leak from lungs
 - Document the **amount, color, and consistency** in drainage system
 - Report changes in volume, color or bloodiness
 - Do not aggressively milk or strip chest tubes- must be freely draining
 - Adequate pain control
 - Important for child to get out of bed, ambulate, cough, or perform pulmonary toilet maneuvers (pain control necessary for this)
- What will heart sounds sound like with a patent ductus arteriosus? Where can this murmur be heard? P. 1140 and <https://www.youtube.com/watch?v=LduljbtF7kA>
 - When fetal shunt fails to close after several days of life
 - Systolic murmur early in life -> continuous murmur with age

- Machine hum
 - Second intercostal space, left upper sternal border or out to the left clavicular area
 - Subclavicular thrill, bounding pulses, widened pulse pressure, HF, rales
- What are signs you'll note in a newborn with coarctation of the aorta (CoA) and what are important assessments to do to help confirm your suspicions of this anomaly?
 - Aortic narrowing near ductus arteriosus insertion
 - Signs
 - Elevated blood pressures noted on the right arm
 - Bounding pulses in the upper extremities
 - Decreased BP in the lower extremities
 - Cool skin of the lower extremities
 - Weak or absent femoral pulses
 - HF in infants
 - Dizziness, headaches, fainting, or nosebleeds in older children
 - Significant- systolic murmur
 - Important assessments
 - Assess pulse equality in upper and lower extremities while supine
 - Palpate right radial and femoral pulses concurrently- should be felt simultaneously without delay with no difference of absence or weakness
 - Obtain blood pressures in the right arm and either leg
 - Pressures should be fairly equal with lower extremity systolic pressure slightly lower
 - 10 mmHg higher BP in right upper extremity compared to lower -> indicates CoA
- What is a position to have a child with Tetralogy of Fallot (TOF) go into if they show signs of respiratory distress/altered oxygenation? Why does this help?
 - Four components: pulmonary artery stenosis, VSD, overriding aorta, and right ventricular hypertrophy -> cyanosis, "Tet" spells
 - Knee-chest position, calm child
 - Helps to increase systemic vascular resistance, reducing right-to-left shunt and resulting in more blood flow through the lungs
- What are teaching points/assessments/nursing cares for post-cardiac catheterization?
pp. 1155-1156
 - Let children know after that pressure dressing will be placed over the catheter insertion site to reduce the risk of bleeding
 - Keep the extremity flat and straight to prevent bleeding
 - Notify provider immediately for any loss or change in pulses
 - Activity restrictions- will miss a day or two or school while the leg site continues to heal
 - Non-toilet trained- if dressing becomes soiled, the site should be cleaned well with soap and water
 - Educate family and child regarding symptoms of infection
 - Omit tub baths or water submersion until site is healed- may take sponge baths or shower

8 (Chp 16-21, 37): Prioritized interventions for GI, Immune, Infectious, Hematological, Sensory, Neuro, Musculoskeletal Disorders Note: The chapters addressing these topics are really Chapters 42-45, 49, 51

- In illness, when are antibiotics used, and when are they not used?
 - For bacterial infections (strep, whooping cough, UTI, sepsis)
 - NOT for viruses: colds/runny nose, sore throat, flu, bronchitis, sinus infection, ear infections
- What are priority questions to ask in obtaining a health history on a child presenting with illness?
 - When presenting with allergies
 - Family history
 - Exact symptoms
 - Rhinitis- can be related airborne antigen
 - Urticaria (swelling and itching)- often caused by ingested antigens
 - Contact dermatitis- caused by something contacting the skin
 - Time of year the allergy occurs
 - All year- could be dust mites, pet dander
 - Just spring- tree pollen
 - Early summer- grass pollen
 - Fall- ragweed
 - Have parents keep a diary of when symptoms get better and worse
- What are some teaching points for parents of an immunocompromised child?
 - Children with HIV are more susceptible to TB
 - Should receive routine immunizations at the usual schedule
 - Strict personal hygiene to avoid opportunistic infection
 - Frequent hand washing
 - Avoid close contact with child and ill people
- When would bronchoscopy be used? What are important assessments/cares surrounding this procedure? p. 1035

The procedure is used with children who have aspirated a foreign object, **to instill certain medications, or to take culture and or biopsy specimens** ([Singh & Singhal, 2015](#)). Typically, the throat is sprayed with a local pharyngeal anesthetic to numb the area. Moderate sedation is then administered, and continuous monitoring of vital signs is standard care. Different types of bronchoscopes are used depending on the age of the child and/or the size of the endotracheal tube being used. Procedural complications are not common but may include compromise to the airway such as hemorrhage, pneumothorax and airway edema. After the procedure, continue to assess the child's respiratory function and airway patency. Post procedure complications may include bronchospasm, stridor, desaturation, or respiratory distress. Observe children carefully the first time they drink after the procedure to assess that their gag reflex is intact and they do not choke.

- What's important to know about stool specimen collection? p. 1040
analyze for blood, bacterial or viral infections, or ova and parasites. Ask children who are toilet trained to use a potty seat or to place a collector cap device on a toilet.

Transfer the specimen to a laboratory collection cup using tongue depressor blades. To obtain a specimen from a child who is not toilet trained, scrape stool from a diaper using tongue depressor blades and place it in a stool collection cup. Some stool specimens need a preservative added to the container. If it is important to keep urine from contaminating the stool specimen, place a separate urine collector bag on the infant. Ask an older child to void first into the toilet and then defecate into the potty seat or collection device.

Specimens should be sent to the laboratory promptly so they do not dry and have to be collected a second time because most children need at least 24 more hours to produce a stool specimen. If the stool specimen is for ova and parasites, do not refrigerate it because refrigeration destroys the organisms to be analyzed.

- What are signs of anaphylaxis and what are treatments for anaphylactic shock? p. 1184-1186

- S/s of anaphylaxis:

- **Breathing:** wheezing, SOB, throat tightness, cough, hoarse voice, chest pain/tightness, trouble swallowing, itchy throat/mouth, nasal stuffiness/congestion
 - **Circulation:** bradycardia, paleness or blue color, dizziness, lightheadedness, hypotensive, shock, loss of consciousness
 - **Skin:** Hives, swelling, itch, warmth, redness, rash
 - **GI:** n/v, diarrhea, cramps
 - **Other:** anxiety, impending doom feeling, itchy/red/watery eyes, headache, cramping, uterine cramping

- Tx for anaphylactic shock:

- epinephrine (IM) [standard of care]
 - Vastus lateralis of thigh or unaffected arm
 - 911 or cardiac arrest team
 - administer oxygen via mask or NC if hypoxia is present
 - Anticipate IV vasopressors like dopamine and fluids
 - Restoring BP
 - Insect sting- apply tourniquet above bite
 - administer diphenhydramine (Benadryl) IM or IV if urticaria (itch or swell) is present
 - Antihistamines, steroids, and albuterol can help treat the symptoms as well.
 - Seizures- turn child to the side and administer anti seizure med
 - Keep child and family calm to prevent further bronchospasm

- What is atopic dermatitis and what are therapeutic managements for it? pp. 1189-1191

Atopic dermatitis (AD) - a highly pruritic, chronic inflammatory skin disease that's often the 1st manifestation of allergic disease. *Food allergies

are a major trigger of AD in infants.* AD can also be triggered by sweating, heat, tight clothing, contact irritants, seasonal climate changes. AD causes papular & vesicular skin eruptions with surrounding erythema. Those vesicles then rupture & exude yellow, sticky secretions that form crusts on skin as they dry. Intense pruritus occurs which can make the child scratch and irritate lesions, causing linear excoriations.

Therapeutic Managements - reduce amount of allergen exposure, use of elimination diets, hydrating the skin, antihistamine to reduce itching, steroids, topical applications.

- What personal protective equipment (PPE) is needed for various infection control precautions? p. 1204
 - ❖ Standard precautions - washing hands, disinfect equipment.
 - ❖ Airborne precautions - negative-pressure isolation room, N95 mask
 - ❖ Droplet precautions - isolation room, wear surgical mask.
 - ❖ Contact precautions - isolation room, wear gloves and gowns, designate equipment just for that one patient.

Droplet precautions for exanthem subitum (Roseola infantum), rubella (German Measles), measles (rubeola) [droplet & airborne], mumps (epidemic parotitis), scarlet fever, diphtheria

Contact precautions for chickenpox (varicella), erythema infectiosum [droplet & contact], herpesviruses, mononucleosis (epstein-barr), impetigo, whooping cough (pertussis) [contact & droplet], tetanus (lockjaw)

Airborne precautions for smallpox (variola)

- What are important teaching points for iron supplementation for iron-deficiency anemia?
pp. 1240-1242
 - Breastfeed or use iron-fortified formula
 - Introduce iron-fortified cereal as the first food
 - Administer on an empty stomach with water to enhance absorption
 - If causes GI irritation, administer it after meals
 - Avoid giving it with milk or tea- can interfere with absorption
 - Liquid preparation
 - Mix with water or juice to mask taste
 - Drink through straw to avoid staining of teeth
 - Give with citrus juices to help absorption (OJ)
 - May turn stools black
 - Encourage high-fiber foods to minimize constipation
 - Thorough brushing to prevent staining
 - Remind of need for follow-up to evaluate effectiveness
- What are important interventions for a child in sickle cell crisis? What are ways to decrease risk for a crisis in a child with sickle cell anemia (SCA)? pp. 1243-1248, especially 1247-1248
 - Interventions for child in sickle cell crisis

- Three primary needs: pain relief, adequate hydration, oxygenation
 - Bed rest
 - Strong analgesia
 - Assess oxygen saturation
 - Administer folic acid and hydroxyurea
 - IV rehydration
 - Correct acidosis with electrolyte replacement
 - Blood transfusion may be necessary
- Ways to decrease risk for crisis
 - Children who receive frequent blood transfusions- no supplementary iron
->Hemochromatosis- can stain body tissue or cause fibrotic scarring
 - Oral folic acid may help rebuild hemolyzed RBC
 - Learn about dietary sources of high folic acid
 - Monitor urine output
 - Ensure they receive childhood immunizations
 - Bring child to healthcare facility at first indication of infection
 - Attend regular school and participate in all school activities
 - But avoid contact sports and long-distance running
 - Summer- offer the child drinks frequently
 - Caution against taking child on board an unpressurized aircraft
 - Simple operations/surgeries- alert provider about condition
 - Possible puberty delay- may need counseling for acceptance
 - Support and positive reinforcement to enhance self-esteem
 - Bed wetting may be part of disease- encourage baths in the morning
 - Have school nurse call for any signs of illness
- What are signs of increased intracranial pressure? What are early signs? What are signs of increasing pressure? What vital sign changes will occur? p. 1384
 - increased head circumference
 - anterior fontanelle tense and bulging, closing late
 - vomiting
 - in the absence of nausea or upon awakening
 - possibly projectile
 - eye changes
 - diplopia (double vision)
 - white of sclera evident over pupil (setting sun sign)
 - unilateral dilated pupil
 - strabismus, nystagmus
 - inability to follow the light into any quadrant
 - absent “doll’s eye” reflex
 - limited visual fields
 - papilledema
 - pain- headache
 - upon wakening and standing
 - with straining/Valsalva maneuvers
 - holding breath
 - Irritability and altered level of consciousness

- Comatose
- Infant- unable to respond to familiar sounds/voices
- Decreased deep tendon reflexes
- Decorticate posturing
 - Arms adducted and flexed onto chest, wrists flexed, hands fisted
 - Lower extremities extended and internally rotated with feet plantar flexed
- Decerebrate posturing
 - Rigid extension and adduction of the arm, pronation of wrists
 - Legs extended with feet plantar flexed
- early signs
 - headache, irritability, or restlessness
 - alert but unable to comprehend surroundings, time, place, or self
 - followed by pulse and RR slowing
- change in vital signs
 - elevated temperature and BP
 - decreased pulse and RR
- What is cerebral palsy (CP)? Regarding the spastic type of CP, what newborn reflexes persist? pp. 1388-1389; <https://www.cerebralpalsy.org/about-cerebral-palsy/sign-and-symptoms#:~:text=Hyperreflexia%20are%20excessive%20reflex%20responses,abnormal%20development%2C%20including%20Cerebral%20Palsy>.
- What are assessment findings in a child with meningitis? p. 1391
 - Irritable
 - Intense headache
 - Nuchal Rigidity
 - Sharp pain when bending their head forward
 - Children may hold their back arches & neck hyperextended (opistotonos)
 - Not able to follow a light through full visual fields
 - Positive Brudzinski & Kernig signs
 - For infants, if fontanelles are open, they bulge upward & feel tense/ if closed, papilledema may develop.
 - Infants s/s: poor sucking, weak cry, or lethargy develop
 - High fevers along with seizure occurring
 - Increased WBCs, & protein levels
 - Increased ICP
 - Blood glucose level less than 60%
- What are safety measures during a seizure? p. 1399
 - Move away furniture or any sharp objects nearby.
 - Turn client on their side to prevent aspiration.
 - Do not restrain.
 - Do not place an object b/w child's teeth to prevent tongue biting.
 - Be aware of showing presence of slight cyanosis during tonic & clonic stages (oxygen not needed).
 - If child passes status epilepticus, oxygen & medicine is needed. Call 911.

- Review pp. 1396-1397 re: seizure types. What are behaviors for an absence seizure?
 - What would be signs of child/family coping/transition with cares for a spinal cord injury. p. 1406
 - What are important teaching points for family when a child with epilepsy is taking valproate (Depakene)/valproic acid? Review the "How should this medicine be used?": <https://medlineplus.gov/druginfo/meds/a682412.html>
 - What assessments should be performed after casting is done for a fracture? What are teaching points for cast care at home? p. 1438-1439
- Assess fingers or toes carefully for warmth, pain, and function after application of a cast to be certain a compartment syndrome is not developing. If signs of compartment syndrome are present, the cast will need to be released immediately to prevent permanent nerve and tissue damage. A fasciotomy (surgically opening the compartment) may be necessary to further prevent nerve damage.**

At home teaching:

Keep the casted body part elevated on a pillow for the first day to decrease swelling.

- Observe the hands and fingers (the body part distal to the cast) for swelling or blueness and ask your child to move her fingers about every 4 hours for the first 24 hours. If she is unable to move her fingers or if she has swelling, blueness, or pain, telephone your healthcare provider. These signs could mean the cast is pressing on a nerve or constricting a blood vessel.
- Encourage usual activities so your child remains active but monitor strenuous activities, such as roughhousing, while the cast is in place.
- Ask your child to think through how wearing a cast will change her day, such as making it difficult to eat at preschool or to join in play at the playground, and brainstorm how to solve these problems.
- Explain to your child not to put anything inside the cast. If itching occurs, blowing some cool air into it from a hair dryer can be comforting.
- Keep the cast dry (cover it with a plastic bag to shower); no swimming is allowed. Remind her not to use magic markers for autographs because fiberglass is a porous material.
- Keep your return appointment for follow-up care because children can outgrow a cast rapidly. Outgrowing a cast can put pressure on nerves and can lead to permanent disability.

- When would skeletal traction be used and what are some creative nursing interventions to help? pp. 1442-1443

The pin or wire can be inserted in an emergency department under local anesthesia if the child can hold absolutely still, but usually, it is done under general anesthesia in the operating room. With skeletal traction, ropes strung

over pulleys and attached to weights exert a pull on the extremity at the pin site. Cotton gauze squares are usually placed around the ends of the pin on the outside. The sites are cleaned with half-strength hydrogen peroxide using sterile technique to keep them free of drainage. Be certain to observe pin sites daily for drainage because odorous or excessive drainage or local erythema may be a sign of infection.

Assess the extremity in traction every 15 minutes during the first hour, hourly for 24 hours, and every 4 hours thereafter for signs of pallor (or blueness), lack of warmth, tingling, absent peripheral pulse, edema, or pain.

Creative nursing interventions: They are not “ill” and still need stimulation. Helping children maintain contact with their school friends through cards, letters, or recorded messages, social media, or texting is also important. If hospitalized, position their bed so they can see unit activities. Whether at home or in the hospital, encourage frequent visitors of their own age to help maintain peer relationships.

- What is Legg-Calve-Perthes Disease? What are treatments based on age? pp. 1446-1447

Legg-Calvé-Perthes disease is avascular necrosis (a lack of blood flow resulting in destruction) of the proximal femoral epiphysis. The disorder occurs more often in boys than in girls and has a peak incidence between 4 and 12 years of age. It usually occurs unilaterally but may occur bilaterally.

A child with Legg-Calvé-Perthes disease looks well and often has no fever. The child is ambulatory and can have a limp, which may be subtle. There is little pain on motion of the hip, but there is guarding of the hip while moving it ([Cook, 2014](#)).

Children with Legg-Calvé-Perthes disease pass through four stages. First is the synovitis stage or a period of painful inflammation. Next is a necrotic stage, during which bone in the femur head shrinks in size and shows increased density on an X-ray. This stage lasts 6 to 12 months. The third stage is a fragmentation stage; resorption of dead bone occurs over a 1- to 2-year period. The fourth stage, a reconstruction stage, marks the final healing, with deposition of new bone.

Treatment for Legg-Calvé-Perthes disease in children younger than 6 years of age usually focuses on pain reduction with nonsteroidal anti-inflammatory drugs (NSAIDs) plus keeping the head of the femur within the acetabulum by a containment device. The acetabulum then acts as a mold to preserve the shape of the femoral head and maintain range of motion. In children older than 6 years of age, reconstructive surgery (an osteotomy to center the femur head in the acetabulum followed by cast application) is

most often prescribed. This technique returns the child to normal activity within 3 to 4 months in contrast to many months of restricted activity required by non-weight-bearing devices

- What is osteomyelitis and how is it treated? pp. 1447-1448
Osteomyelitis is an infection of the bone. *Staphylococcus aureus* in older children and by *Streptococcus pyogenes* in younger children. Children with sickle-cell anemia have a special susceptibility to *Salmonella* invasion in long bones.
Medical therapy includes a limitation on weight bearing on the affected part, bed rest, immobilization, and a short administration of an intravenous (IV) antibiotic such as oxacillin, as indicated by the blood culture. IV therapy is usually initiated in the hospital and then continued at home for as long as 2 weeks by use of an intermittent infusion device or peripherally inserted central catheter (PICC). After this, the child will be prescribed an oral antibiotic for 3 to 4 more weeks.
- What are treatments of a fractured femur? p. 1462 What signs will you see if infection happens post-surgery? pp. 1447-1448.

OB/Newborn

What does GTPAL mean? In a case scenario, how will you number a woman's pregnancy/birth history?

- G – How many pregnancies (including if currently pregnant)
- T - the number of **full-term** infants born (infants born at 37 weeks or after)
- P - the number of **preterm** infants born (infants born before 37 weeks)
- A - the number of spontaneous miscarriages or therapeutic abortion
- L - the number of living children

How is a due date calculated by Naegle's rule?

- Add seven days to the first day of your LMP and then subtract three months.

If Leopold's maneuvers help us determine how baby laying/presenting so we know where the head and back are to monitor baby's heart tones best, what part of the abdomen would be the best place to hear if the baby is vertex versus breech?

- With a breech presentation, fetal heart sounds usually are heard high in the abdomen
- If heartbeat is heard below bellybutton, baby is vertex

What are the differences between placenta previa and placental abruption? How will each manifest/what signs will you notice with each?

- **Placenta Previa**
 - placenta is implanted abnormally in the lower part of the uterus
 - It is detected early on in pregnancy
 - later in pregnancy, the bleeding is usually abrupt, painless, bright red, and sudden. The bleeding is an emergency

- **Placenta Abruptio**

- Unlike placenta previa, the placenta appears to have been implanted correctly.
- It suddenly detaches and bleeding occurs
- A woman experiences a sharp, stabbing pain high in the uterine fundus as the initial separation occurs.
- If labor begins with the separation, each contraction will be accompanied by pain over and above the pain of the contraction. Tenderness can be felt on uterine palpation.

What are the assessment criteria for each component of the Apgar score? pp. 436-437

APGAR SCORING SYSTEM

	0 Points	1 Point	2 Points	Points totaled
Activity (muscle tone)	Absent	Some, weak, limp	Active, unassisted	
Pulse	Absent	Below 100 beats	Over 100 beats	
Circulation (color)	Flaccid	Some blueness of extremities	Active, motion (extremes, a rough, full cry)	
Appearance (skin color)	Blue, pale	Bluish, pink, extremities blue	Completely pink	
Respiration	Absent	Slow, irregular	Vigorous cry	

Severely depressed	0-3
Moderately depressed	4-6
Excellent condition	7-10

If the purpose of the infant's fontanelle (3-4 cm anterior opening) and cranial bones is to be movable for the birthing process, when does the anterior fontanelle close? p. 445

- **The anterior fontanelle normally closes at 12 to 18 months of age.**

What is the Moro reflex? How is it elicited and how long before it fades (as neuromuscular maturity increases)? p. 434

- Also known as the startle reflex
- Can be elicited with a loud noise or by jarring the bassinet
- The most accurate method of eliciting the reflex is to hold a newborn in a supine position and then allow the head to drop backward about 1 in. In response to this sudden backward head movement, the newborn first extends arms and legs, then swings the arms into an embrace position and pulls up the legs against the abdomen
- It is strong for the first 8 weeks of life and then fades by the end of the fourth or fifth month.

If a mother is using a substance (either Rx or illicit), what are the risks to baby? Besides the need to assess toxicology on mom and baby, what other assessments/cares are necessary? pp. 584, 709-710.

- Here's an interesting link about urine testing for drugs in pregnancy (and possible legal consequences). Urinalysis for toxicology....

<https://womensmentalhealth.org/posts/how-do-we-respond-to-mothers-who-use-drugs-during-pregnancy/>

- What are risk factors for postpartum hemorrhage? Think of reasons that make the uterus have to work harder to contract back down to size.
- What are signs of respiratory distress in a newborn? Is acrocyanosis a normal finding? Why?
- Pitocin (oxytocin) can be used to induce (or augment) labor. If too much is given, little rest time between contractions (we like at least 1 minute) means baby will have less circulation since a contraction really slows blood flow through the uterus. It's like baby is holding their breath during the contraction. Think back to your discussion on Pitocin. What are safe ways to use this high-risk medication? pp. 603-604 (Note: Hyperstimulation is now called tachysystole, and in real life, laying to the right or left side helps uteroplacental circulation/prevent supine hypotension...not just the left side).

9 (Chp 46, 48, 53): Renal, Urinary, Reproductive, Endocrine, Metabolic Disorders, Chronic/Terminal Illness

Note: The topic of reproductive is include but chapter 47 was not in the assigned reading.

- What are the Kubler-Ross stages of grief and examples of each?
- What are treatments/recommendations for treatment of UTIs?
- What is a voiding cystourethrogram (VCUG) and how is it performed?
- Regarding post-op kidney transplant care, what are important teaching points? (p. 1317-1319)
 - What is the etiology (cause) of acute glomerulonephritis?
 - What is the therapeutic management for growth hormone (GH) deficiency?
 - What are comfort measures (pharmacological/non-pharmacological) for dysmenorrhea? p. 1329-1330
- What causes “salt-losing form of congenital adrenogenital hyperplasia” and what are the consequences/manifestations? (p. 1357)
- What are manifestations (signs) noted with Cushing syndrome?
- What is the disease process/what manifestations will occur with the onset and progression of Type 1 Diabetes Mellitus prior to diagnosis and management?
- What are risk factors for Type 2 Diabetes? What is the pathophysiology compared to Type 1 DM?
- What are details of the therapeutic management of diabetes with insulin? How/what types of insulin are used to manage glucose levels and what are techniques for administration? pp. 1360-1366
 - Why can hypocalcemia occur in newborns and how will it manifest (what will you see)? p. 1369
 - What are recommended cares for a child with neutropenia? What's the best way to take a temp? Consider neutropenia, stomatitis...p. 1511
 - What are ways to prevent skin cancer? What increases risk for skin cancer?

1525-1526

- <https://www.skincancer.org/risk-factors/sunburn/>

10 (Chp 55): Health Promotion Strategies, Mental and Behavioral Health Disorders, Current Issues in Peds Health Care

- What are topics of education/support for preschool health screening from Health People 2020?
- What is nursing's responsibility with suspected abuse?
- What are car seat safety measures to educate families about per child age?
- What are STI risk factors for adolescents?
- What is failure to thrive (FTT)? p. 1567-1568
 - What are nursing diagnoses and goals for FTT?
- What are ways in which physical neglect can occur? pp. 1566-1567
- What are signs of sexual abuse? p. 1570-1571

From Module 6: Growth and Development

- What are ways a parent can respond to a child to help them achieve the Erickson's developmental task of their age? (Infant, toddler)
 - How might the nurse incorporate the developmental perceptions into explaining a test or procedure to a preschool-aged child?
- What growth assessments are done at clinic visits?

Bits and Pieces

- What are rules for making medical decisions or giving consent with single or divorced parents? p. 45
- Have a general understanding of reproduction technology. If there are genetic risks with either the male or female, what are options? p. 145-148
- How quickly does a baby grow? p. 782
- What are teaching topics for positive ideas to help in decreasing obesity in the school-aged child? p. 882, 1167
- When does growth stop of girls/boys? p. 887
- What are some teaching points for adolescents with interest in being sexually active? p. 901
- What are suicide risk factors and warning signs? What interventions can be helpful in preventing suicide? 906-909.
- How can nurses support the developmental needs of an ill and/or hospitalized adolescent? pp. 1006-1007
- What are some interventions to help with separation anxiety in a toddler? Pp. 825-826, 994-995, 1002-1003
- When is myringotomy used and how does this impact hearing? pp. 1430-1431
- What will a burn victim feel with superficial versus deeper burns? p. 1487
 - What are nursing interventions in caring for a child needing burn treatments? pp. 1490-1491
 - What is debridement and its purpose? p. 1493-1494
- What is a child's reaction to impending death? What may their anxieties be? pp. 1589-1592

Physical Exam Skills for dehydration

May not have most current baseline weight prior to illness, so need to go by assessments

Assessment Area	Mild Dehydration 3-5% decrease in weight	Moderate Dehydration 6-9% decrease in weight	Severe Dehydration decrease in weight: $\geq 10\%$
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Pulses	Full	Weak	Weak or unable to palpate
HR	Normal	Elevated	Elevated
SBP Lower limit=70 + age x 2	Normal	Normal to low	Low
Respirations	Normal	Deep, rate may be increased	Deep, tachypnea, or decreased...apnea
Buccal Mucosa	Tacky, slightly dry	Dry	Parched
Anterior Fontanel	Normal	Sunken	Markedly sunken
Eyes	Normal	Sunken	Markedly sunken
Skin Turgor	Normal	Reduced	Tenting
Skin	Normal	Cool	Cool, mottled, acrocyanosis
UOP	Normal or mildly reduced	Markedly reduced	Anuric
Mental Status	Increased thirst	Listless or irritable	Grunting, lethargy, coma

Reference

PEMBlog. (2015, November 6). *Assessing the degree of dehydration on physical exam.* [Video]. YouTube. <https://www.youtube.com/watch?v=TSmxk7rYeAU>

Exam 3 Concept Guide (Modules 6-8)

Respiratory conditions in pediatric patients Chapter 23

- **Cystic Fibrosis (CF)-** How does a person get cystic fibrosis? It is a multisystem disorder, affects respiratory, GI
 - ✓ Genetics; Occurs when two parents have the recessive gene it is INHERITED
 - AUTOSOMAL RECESSIVE DISORDER.**
 - ✓ Production of thick mucus/ inherited recessive gene/
 - ✓ Clinical manifestation: fatty stool, rectal prolapse, crackles and wheezes
 - ✓ When listening to lungs (classic sign) skin will be salty, taste like tears, MECONIUM STOOL (ileus) when it's too sticky and thick gets stuck that's why

- it's called **meconium ileus**- when the meconium gets stuck. (baby's first stool)/it's very thick and sticky/baby has to have surgery,
- ✓ Diminished breath sounds, dry productive cough, tachypnea, hypoxia, and some cyanosis (can see clubbing of fingers because of hypoxia and cyanosis). Can affect respiratory system, GI and reproductive system. Their skin tastes salty.
 - ✓ How does it impact the breakdown of their food? They have an absence of pancreatic enzymes, so they **must take pancreatic enzymes** to help break down foods. Get child involved in meal planning.
 - ✓ Teachings: They should have **respiratory therapy (chest pt, postural drainage)** **before meals** because they will start vomiting.
 - ✓ Diet: should be on a **high calorie diet** (make sure to mix pancreatic enzymes with meals)/ should speak with nutritionist/child/respiratory therapist to pick out meals/ **preventing respiratory infections are crucial to the quality of life** for the child, keep up with treatments/ they should not be inactive/ play games/exercise/stop when they get tired.
 - ✓ Life expectancy is 30's/ early 40's. They need to **avoid respiratory infections**.
- **Asthma**- Common sounds; wheezing, congestion.
- 3 Characteristics of asthma:
- ✓ 1.) Bronchioles smooth muscle spasms
 - ✓ 2.) Inflammation and edema of the bronchial mucosa
 - ✓ 3.) Production and retention of thick tenacious pulmonary secretions/LEAD TO OBSTRUCTION OF AIRWAY
- V/S/S; Prolonged expiratory phase of respiration**
- ü Tachypnea
 - ü Retractions and nasal flaring
 - ü History of allergies
 - ü History of atopic dermatitis
 - ü Nasal polyps
 - ü History of nighttime cough
 - ü Family history of atopy (asthma, allergic rhinitis, atopic dermatitis)
- ✓ WHEN HAVING AN ASTHMA ATTACK. **Administer quick medications immediately/give fluids. Oral fluids LIQUIFIES SECRETIONS** and could cause aspiration (as long as they can tolerate orals **GIVE ORALS**). If can't tolerate give IV. Patients **head of bed should be elevated 30 degrees**/provides comfort and expands lungs. (look at slide 50, Peak flow).
- ✓ Medications; **Albuterol inhaler or a nebulizer**
- **Choanal Atresia**- Congenital malformation of the nose/blockage of both nasal passages (**unilateral or bilateral/posterior part of the nose**) Birth defect. When they are crying, they are pink. When they are quiet, they are blue (lack oxygen)/ When blue expect choanal atresia (nasal passages are blocked).

- v Must go to surgery (before surgery insert an oral airway/give gavage feeding or tube feeding to prevent aspiration/to also make sure they have proper nutrition and give IV fluids.
- **Pertussis**- AKA WHOOPING COUGH/ Give D-TAP (ages 2 months they receive). It is a bacterial infection 3 stages:
 - v **Catarrhal stage** - (last 1-2 weeks) kid will have upper respiratory infection (common cold), mild cough, sneezing, low grade temp (less than 101)
 - v **Paroxysmal stage** - (last 2-4 weeks) cough will get really bad/ kid will have protruding tongue, red face, can induce vomiting. This is the stage you will hear the whooping/ can become cyanotic/start sweating/extreme exhaustion.
 - v **Convalescent stage** - (can last 3 weeks to 6 months) symptoms will start to diminish. Coughing will be less severe
- **Croup** – It is a common infection among children and affects ages 3months to 5 years. Mostly around 2 years, more in boys during winter months. **Symptoms of an upper respiratory infections; Nasal congestion, barkey cough and low-grade fever**
- **Bronchiolitis** – Inflammation of bronchioles and small bronchi, common in children younger than 3 years. Elevate head of the bed 30 to 40 degrees, continuous O2 saturation oxygen, cool mist oxygen therapy by hood or tent. Eliminates dyspnea and hypoxia. Education; watch for signs of dehydration, cool mist humidification, providing fluids and controlling fever if applicable. Caused by a viral pathogen.

Gastrointestinal Conditions:

- **Infantile Colic**- aka baby colic, Inadequate burping/ GAS DEVELOPS (make sure baby is burped after every feeding)
 - v Milk allergies can cause colic, over feeding and underfeeding can cause colic. Episodes usually occur at the same time each day, episodes that occur during late afternoon or evening, infant will **pull both legs and arms into a flexed position** while having episode.
 - v **The rule of 3's to assess for colic =**
 - ü Symptoms occur more than 3 weeks,
 - ü During each of the crying episodes they occur more than 3 days of the week/ infant will cry 2-3 hours a day. ALL OF THIS IS CONSIDERED COLIC.
- **Pyloric Stenosis**- Narrowing of the pylorus and occurs in infants (lower structure of your stomach) (slide 59). Manifestations: projectile vomiting right after feeding/still hungry will want to eat again. Must have surgery to correct.
- **Intussusception**- when the intestines invaginates or telescope into another portion of the intestines, usually the ileocecal valve. Will have abdominal pain caused by spasms of the bowel/. Mimic a colic infant/ **Kids with intussusception pull legs towards abdomen** when having pain.

- ✓ Must have surgery/ postop as the nurse give
- ✓ **ORAL REHYDRATION FLUIDS (PEDIPLYTE)**

- **Appendicitis-** Common. Inflammation of the appendix, lab findings may find elevated blood count, fever, vomiting, right lower abdominal pain, rebound tenderness, guarding, fever and vomiting.

Chapter 20 – Caring for the developing child

- **Newborns/Infants**- 0- 1 year
 - ✓ **Normal growth weight for infants:** double their birth weight by 6 months and triple their weight by 1 year.
 - ✓ Infants are **obligatory nose breathers** (they don't know how to breathe through mouth). If you block their nasal passages, they don't know how to open their mouth and breath. Do not put a lot of stuff in their crib, if something falls on their face it can cause SIDS.
- **Toddlers**- 1-3 years old.
 - ✓ **Food JAGS;** This is when they prefer one food item and they are very picky eater. It is very common and normal and the parents should be educated on this.
 - ✓ Use play, objects and toys to communicate with them (let them play with the providers stethoscope/let them listen to the heart on teddy bear)
 - ✓ When administering oral medication, you can let the parents, give it since they will be giving it at home (children are more cooperative with parents). It should be given under the nurse's supervision.
 - ✓ Assess gross motor skills; should be able to run and jump downstairs, **ability to ride a tricycle**, kick a ball, climb stairs and go up and down slide by themselves by the time they are **3 years old**.
 - ✓ Should be able to **hold a spoon** appropriately,
 - ✓ Use a **large crayon appropriately and make artwork**, the artwork should be more representative of the objects they are trying to depict.
- **School Age**- 6-12 years old.
 - ✓ Should have a best friend,
 - ✓ Gain about 4-6 pounds and grow about 2 inches a year,
 - ✓ **Encourage parents to talk about puberty with their kids before it happens** and what's going to happen to their body before it happens. Provide parents with anticipatory guidance.
- **Jean Piaget** – Adolescents –**The formal operational stage**; The stage that they think abstractly, they use logic to solve problems and test out hypothesis. They use logic and

think about thinking. They are concerned with things like morality and social issues. Concerned with philosophy and think outside the box. Project their own thoughts over a long period and starting to make life plans and set long term life period goals. Compare their beliefs with their peers. An example is a child who says that they want to be a neuroscientist and starts attending stem programs and camps.

- **Erikson's Stages of Growth and Development** (Need to know in order for exam (slide 3)

- Trust vs. mistrust: birth–1 year (trust is learned)
- Autonomy vs. shame and doubt: 1–3 years (balance independence and self-sufficiency)
- Initiative vs. guilt: 3–6 years (resourcefulness to achieve and learn new things)
- Industry vs. inferiority: 6–12 years (sense of confidence through mastery of tasks)
- Identity vs. role confusion: 12–18 years (forging ahead and acquiring a clear sense of self)

Age-appropriate activities – ATI nursing care of the child Chapter 4

Parallel play. This is when they play side by side with their peers but do Parallel actually play with them. They would observe each other but not play with each other. They do not like sharing, they are playing with the same objects but playing by themselves. They start out with solitary play which evolves into parallel play.

Cardiac:

- **Patent Ductus Arteriosus**- Ductus arteriosus is supposed to close after birth BUT remains open. Shunts that develop inutero, it is supposed to close after birth. Sometimes it closes in 24 hours. High levels of prostaglandin inhibitors.
 - Going to hear a **MURMUR** (MACHINE LIKE MUMUR, LOCATED UNDER THE LEFT SUBCLAVICULAR MARGARINE.) Left side of the heart under the clavicle margarine area.
 - Try to wait for it to close on its own, most of the time it does close on its own/if it doesn't, we give the baby **INDOMETHACIN** (Nsaid/prostaglandin inhibitor) (CLOSES PDA).
 - Last resort will be surgery if this does not work. (not common)
- **Tetralogy of Fallot**- 4 things going on with their heart. The kids are blue
 - 1. right ventricular hypertrophy
 - 2. overriding aorta
 - 3. ventricular septal defect
 - 4. Pulmonary stenosis. Will be BLUE/ even though crying/ GO STRAIGHT TO SURGERY for repair

■ **Bacterial endocarditis**- It is a bacterial infection that gets introduced into the kid's blood stream. It is often seen in kids with unrepaired congenital heart defect or heart disease, normal heart. Can also be caused by invasive procedure such surgery, urological procedures, dental cleaning. S/S; low grade fever, malaise, loss of appetite, muscle ache chills, sweating, back pain. **Blood cultures are used to identify bacteria in blood stream.**

· **Kawasaki's disease** – It is a multi-system disease of unknown etiology. It is not congenital and not contagious If left untreated it can lead to heart failure. s/s; Skin rash, cervical lymphedema, skin peeling, irritation and inflammation of mouth, edema, cracking lips. Strawberry tongue.

✓ Treated with aspirin and coumadin.

✓ They will get an echocardiogram (imaging test) (ECHOCARDIOGRAM)
LOCATES SIZE OF DEFECT of the heart.

· **Heart Failure** – Common medication Furosemide (LASIX). If left untreated, a **diuretic** is given to the kids to prevent heart failure. **A pre load reducing agent**. Look out for fluid and electrolyte imbalance. Look out for fluid and electrolyte imbalance Hypokalemia, hyponatremia, hypo magnesium and dehydration.

Neurology:

· **Cerebral Palsy**- characteristics: can have a normal functioning life/some are so severe that are dependent on someone else for the rest of their life.
✓ Signs and symptoms: muscle rigidity, hypotonia of muscles (low muscle tension) Hypertonia (high tension), ataxia (lack of muscle control), **most common physical disability in children**.

Caring for the Child with a Genitourinary Condition Chapter 31:

Fluid and Electrolyte Balance; Dehydration:

- **Signs and symptoms**- feeling tired, sunken fontanelles (infants), poor skin turgor, lethargy, tachycardia, increased heart rate, dry mucus membranes (no tears, dry lips), weight loss.
- **Common causes**- vomiting and diarrhea, diaphoresis and hemorrhaging, bacterial, viral infections.
- **Treatment**- fluids orally or IV
- **Reliable indicator of fluid loss and recovery**- Body weight is a reliable indicator of fluid loss; stable weight is a reliable indicator of recovery/an indicator that the child is doing better. Assess skin color. **Pediatric patients are at greater risk for fluid loss and electrolyte imbalance than adults because they have a higher percentage of total body weight.** (look at slide 120)
- **Infection Control**- WASH HANDS/ teach parents to teach children helps prevent infection such as gastroenteritis.

Immunological or Infectious Condition Chapter 25:

- **Anaphylaxis** – Most severe allergic reaction possible, can be caused by peanuts, seafoods. Symptoms develop suddenly and need immediate attention, wheezing, tachycardia, hypotension, angioedema, facial edema, anxiety, hives, abdominal pain, abdominal pain, sense of impending doom, vascular collapse, cardiac arrest.
 - ✓ Treatment – Open airway, administer epinephrine, corticosteroids, CPR, keep flat, keep warm.

Caring for the child in the hospital – Chapter 21

- **Pain management**- for kids/ express pain through a pain scale/ lets the child express their pain. USE A PAIN SCALE to assess pain. Table 21;12

MYTHS about pain management for Children

- ✓ Children do not feel pain with the same intensity as adults
- ✓ Children cannot tell you where they hurt
- ✓ People think narcotics are dangerous to children, think they can become addicts and can make them go into respiratory distress.
- ✓ Children can be distracted when they are not in pain.

- **Stress management in the hospital**- Playing games will help them to adhere to medical management. How the nurse can help the pediatric patient after surgery; Coughing and deep breathing -blow bubbles are ways for patients to adhere to care. Proving diversional practices. Have a separate procedure room to eliminate stress and not have any procedures done in their inpatient room.

Vital signs -

- **BMI**- A BMI-for-age plotted below the 5th percentile indicates a child who is underweight; a BMI-for-age between the 5th and less than the 85th percentile is considered a healthy weight; children with a BMI-for-age between the 85th and less than the 95th percentile are considered overweight; and those with a BMI-for-age greater than 95% are considered obese.

Have a lipid panel, glucose, and cholesterol

- **Physical Assessment of child**: Soon as you walk into the room it begins/overall general impressions with what's going on/ take note of interactions with parents/how does the child react to questions/ what is the child's speech like (quiet, pleasant, talkative, uninterested, or angry), is the child listening to the parents/ is the child unruly/ take notes of hygiene and nutritional status. Do they engage in age-appropriate behavior?

✓ **Posterior and anterior fontanelles** close- head assessments with infants' posterior (soft spot on back of head) fontanelles **close within 1-3 months**. Anterior fontanelles (soft spot on top of head) **close at 12-18 months**.

✓ **Abdominal assessment**- inspect first (Look at abdomen first), auscultate (Listen to 4 quadrants), palpate (see if bowel sounds are present)

- **v Skin assessment-** Look for color, sores, lesions, open cuts, bruises, turgor (dehydration). Bruises could indicate abuse.
- **Decreasing stress in the hospital;** Make it like play time. what can you do to help your pediatric patient that just has surgery to deep breath after surgery? Blow bubbles and let them blow on the side table. Provide diversional activities. Create a treatment room for activities. Take them to a different room for procedures, like spinal taps and blood draws.

Calculations:

- Chapter 21 Box Medication: Dosage Recommendations for Acetaminophen

Chapter 21 Table 21-17 Calculation of Daily