N433 Focus Sheet #4 - Fall 2019

Integumentary-Gastrointestinal-Genitourinary

RKC Chapter 45-ATI Ch 30 & 31--Integumentary

1. List the differences in anatomy & physiology of pediatric clients' integumentary system compared to adults.

- Infants epidermis is thinner and blood vessels are closer to the surface.
- Infants skin contains more water.
- Infants skin is less pigmented, resulting for being more at risk for UV damage.

2. What are the circumstances that make children more at risk for disorders and complications from integumentary disorders or injury by age range:

Infants: Exposure to infectious organisms.

Toddlers: Exposure to infectious organisms**.**

Preschoolers: Hypersensitivity reactions.

School-age: Hormonal influences.

Adolescents: Injury.

3. Lab and diagnostic tests.

Laboratory/diagnostic procedure	**What does it test**	**Nursing implications**
CBC with differential	Measures WBC, RBC, platelets, hemoglobin, hematocrit	Determine the reason for the abnormal values.

Erythrocyte sedimentation rate (ESR)	Measures how quickly RBC's settle at the bottom of a test tube that contains a blood sample	ESR is not specific so a raised ESR could need further testing
Cultures of wound or skin drainage	Tests for bacteria, viruses, or fungi in a wound	Send sample immediately, as sitting may cause false results.
Immunoglobulin E (IgE)	Measure the level of IgE (an antibody made by the immune system to protect the body from bacteria)	Notes sensitivities.
Patch or skin testing	Allergy test used to identify certain substances that cause contact dermatitis	When allergy is determined the nurse can update the chart or post signs about the allergy to prevent reaction

4. Health history and nursing assessment will be part of questions on specific disorders but a general knowledge of what to look for with any integumentary disorder will help you know and understand the specifics of any disorder. Ex: if a child presents with a rash or reddish macule that becomes vesicular, what questions would the nurse want to ask regarding the history of the rash.

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History of present illnesses.

- Symptoms the patient is experiencing.
- Overall state of health.
- Usual care routines.

- Amount of sun exposure.

5. Medications:

Medications	Actions/Indications	Side Effects	Nursing Implications
Antifungals (topical)	Infections such as candida, nail, jock itch, ringworm	Burning stinging, swelling, irritation, redness, pimple-like bumps, tenderness, or flaking	Apply as prescribed. Watch for side effects
Antibiotics (topical)	Treats minor wounds and can prevent skin infections	Burning, redness, or irritations	Should be applied using swabs, wash hands before and after
Antibiotics (systemic)	Chronic wounds	Mild rash, soft stools, upset stomach, loss of appetite, yeast infection	Continue therapy for the full duration
Corticosteroids (topical)	Rash, dermatitis, itching, eczema, or psoriasis	Atrophy, striae, bruising, enlarged blood vessels	Can suppress the immune system so use good hand hygiene
Isotretinoin	Severe acne	Itching, change in skin and nail texture, dry mouth, wt loss, nausea	Advise patients to avoid alcohol, caution to use sunscreen and protective clothing to prevent

			photosensitivity reactions
Prednisone, dexamethasone, methylprednisolone	Arthritis, blood disorders, breathing problems, severe allergies, skin diseases, cancer, eye problems, and immune system disorders	Insomnia, mood changes, increased appetite, wt gain, acne, increased sweating, dry skin, slow wound healing, HA, dizziness, bloating	Establish a baseline BP, I&O, wt, fasting blood glucose level, and sleep pattern. Be alert to masked infection and delayed healing
Antifungal (systemic): **griseofulvin, ketoconazole**	Can treat ringworm, jock itch, or athlete's foot	Rash, numbness, yeast infections of the mouth, diarrhea, heartburn, nausea, vomiting	Give with a high fat meal, whole milk, or ice cream.
Coal tar preparations	Psoriasis or seborrheic dermatitis	Skin and scalp irritation, tar acne, allergic reaction	Check label to see if shaking is indicated before using. Apply 1-4 times a day. Dosage is based on medical condition
Silver sulfadiazine 1%	Prevent or treat wound infections	Pain, burning, itching, rash, cell death of the skin, localized eruption of skin, transient skin discoloration, destruction of RBCs	Watch for burned tissue, assess for skin rash frequently, discard cream if it becomes dark

6. What are the common Nursing diagnosis for children/adolescents with integumentary disorders and interventions related to these?

- Impaired skin or tissue integrity- monitor site of impaired tissue integrity at least once a day
- Pain or discomfort- administer medications if necessary
- Risk for infection- use hand hygiene and take necessary lab draws
- Risk for social isolation- identify reason for socialization, appropriate diversional activities, encourage patient to verbalize feelings
- Ineffective peripheral tissue perfusion- check fluid balances, apply IV fluids if necessary

7. Common disorders in children:

Disorder	**Causes**	**Expected Assessment Findings/ labs/X-rays**	**Treatments**	**Complications**	**Nursing Implications/ interventions**
Acne	Hormones Diet bacteria Stress Certain medications	Whiteheads, blackheads, small, red tender bumps, pimples, nodules, cystic lesions	OTC acne treatments and washes Retinoids Antibiotics Salicylic acid Oral contraceptive	Emotional distress Facial skin scarring	Educate patient and parent on medication/treatment regimen Educate patient that treatment may take up to 12 weeks to show improvement
Atopic dermatitis	genetics/environmental factors Triggers: pollen, pet dander, peanuts, stress, infection	Red, blotchy, itchy skin typically on the face, inside of elbows and behind	Topical steroids Topical calcineurin inhibitors Phototherapy	Skin infections Sleep disturbances	Provide adequate skin Use cool compresses to decrease irritation

		the knees	Methotrexate cyclosporine		
CA-MRSA	Methicillin-resistant staphylococcus aureus RF: contact sports, crowded living conditions, IV drug use	Swollen, painful wound resembling pimple or spider bite that is warm to the touch, full of pus/drainage - quickly can turn into deep abscesses Fever	Superficial drainage Antibiotics	Large pus fill abscess needed I&D Sepsis	Keep wound covered - change dressing as prescribed Frequent hand hygiene Administer antibiotics/analgesics as prescribed
Diaper Dermatitis	Overhydration of the skin due to prolonged contact with urine/feces	Red, irritated, inflamed diaper area	Zinc oxide ointment	Skin breakdown	Keep the skin clean and dry Provide diaper education Wash area with warm water and mild soap Apply topical ointments after washing and as needed
Lice	Direct transfer of lice from the hair of one person to another	Itching Visible lice/nits on scalp	Permethrin Pyrethrin Benzyl alcohol	Pruritic rash on neck and behind ears Skin infection	Assess the scalp for nits/lice Use PPE when examining the patient

				Loss of sleep anxiety/distress	
Tenia pedis	Fungal infection due to excessive sweating in confined shoes	Scaly, itchy rash Stinging and burning between toes blisters/ulcers	antifungal ointment/powder PO antifungal medications for severe infections	Spreading to other areas of the body - hands, nails, groin Spreading to other individuals	Apply topical ointments/powders as ordered Educate patient on transmission and prevention
Urticaria	Allergens - foods, medications, insect stings	Red bumps over skin Itching	Antihistamines Anti-inflammatories steroids	Anaphylaxis Throat swelling	Administer medications as prescribed Provide cool compresses to decrease discomfort

8. What should the Nurse's response be to urticaria? In what order of priority?

1. Assess airway
2. Monitor for signs of anaphylaxis
3. Administer antihistamine
4. Provide skin comfort measures - cool compresses, ointments

What should the nurse teach the child and parents/caretakers regarding hypersensitivity reactions? **(This is also covered to some degree under emergency measures in Chapter 51.)**

- Call 911 for signs/symptoms of anaphylaxis
- Seek emergency medical attention if heart begins to race or develop severe abdominal pain
- Call PCP if fever develops or hives persist
- Carry epipen at all times
- Wear med alert bracelet

- Avoid known triggers

9. Categories/level of burns

Category	**Causes**	**Expected Assessment Findings/ labs/X-rays**	**Treatments**	**Complications**	**Nursing Implications/interventions**
Superficial	Hot object like iron or skillet, hot liquid, electricity, chemicals, flames	Red, glistening pain, no blisters, and brisk cap refill	Soak in cool water, aloe vera cream or antibiotic ointment	Wound infections, inhalation injury, pulmonary problems, shock/systemic sepsis	Cover the burn with a clean cloth to prevent infection, cleanse with mild soap and tepid water, use antimicrobial ointment
Partial thickness	Overexposure to sun, hot object, flames, hot liquids, burning gasoline or kerosene	red , appear wet, and/or shiny, painful to the touch, and will have blisters	Soak in cool water for 15 minutes	Wound infections, inhalation injury, shock/systemic sepsis, pulmonary problems	Apply dressing, provide warmth, provide analgesia, educate family to avoid greasy lotions or butter, check immunization status and determine if they need immunization
Deep partial thickness	Fire, hot objects, scalding liquids, rare circumstance of lightning strike	Splotchy red or waxen and white, wet, and not form blisters	Soak burn in cool water for 15 minutes	Wound infections, inhalation injury, shock/systemic sepsis, pulmonary problems	Monitor vital signs, maintain cardiac output, initiate IV access with large bore catheter, fluid replacement is important within the first 24 hours

Full thickness	Scalding liquids, flames, steam, acids, electricity	Skin will be white, black, brown, charred or leathery appearance	Extra fluids, surgery, medications, skin grafts, feeding tube	Shock/systemic sepsis, wound infections, inhalation injury, pulmonary problems	Maintain airway and ventilation, monitor for manifestations of septic shock and notify provider of findings, fluid replacement is important within the first 24 hours

RKC Ch 42. GI ATI Ch 22 Acute Infections Gastrointestinal Disorders & 23 Gastrointestinal structural & inflammatory disorders.

-Breanna GI 1-6.

1. **Define these key terms:**

   Dysphagia- Difficulty swallowing
   Guarding-Protect stomach against damage or harm.
   Icteric-Being jaundice.
   Protuberant-bulging.
   Rebound tenderness-pain or tenderness that occurs when there is a sudden relief of pressure.
   Regurgitation-Bring swallowed food up again into the mouth.
   Steatorrhea-oily stool

2. **List the differences in the anatomy and physiology of the gastrointestinal system between children and adults**

- Mouth is highly vascular
- Esophagus is not fully developed.
- Stomach capacity is 10-20ml
- Small intestine are not mature at birth
- Liver is larger at birth

3. **What do you assess when doing a GI assessment and in what order do you do the assessment?**

- Auscultation: The bowel sounds in all four quadrants.
- Percuss: The abdomen
- Palpate: The abdomen for any rebound tenderness.

4. Common laboratory tests done for GI disorders: pp1582-1583

Laboratory/diagnostic procedure	What does it test?	Nursing implications
Barium enema	Allows visualization of the colon.	Bowel preparation prior to examination. Stool will be light colored from barium for a few days.
Electrolytes	Determines the extent of dehydration.	Bun and Creatinine may be elevated with dehydration.
Hemoccult	Checks for occult blood in the stool.	Indicates bleeding in the GI Tract.
Stool cultures	To determine the bacteria cause of diarrhea.	Requires a minimum of 48 hours for growth. Possibly, several days to weeks in some cases.

5. **Know the indicators and the contraindications for common diagnostic tests used for GI disorders**

Diagnostic tests may involve Endoscopy, x-rays, CT Scan, MRIs and barium studies.

Screen for pregnancy before each diagnostic test as teratogenic effects can occur.

6. **Discuss common medical treatments for infants and children with gastrointestinal disorders**

- Fluid therapy
- Cleansing enema, bowel preparation
- Feeding tubes, intravenous therapy
- Ostomy
- Oral rehydration therapy
- Probiotics
- TPN

7. Recognize risk factors associated with various gastrointestinal illnesses.

Category-	Acute or Chronic	Expected Assessment	Treatments	Complications	Nursing Implications/interventions

	?	Findings/ labs/X-rays			
Dehydration- **Mild** **Moderate** **Severe**	acute	Increased thirst, dry mouth, dry skin listless/irritable, tachycardia, decreased peripheral pulses, prolonged cap refill, tachypnea, sunken fontanelles, decreased urine output Altered mental status, tachycardia, thready peripheral pulses, prolonged cap refill, hypotension, tachypnea, sunken fontanelle, oliguria	Increased oral fluid intake as tolerated IV fluids and electrolytes	Fluid and electrolyte imbalances Weight loss	Administer IV fluids as prescribed Provide frequent oral care Monitor fluid and electrolyte levels
Electrolyte imbalance	acute	Confusion, weakness,	Electrolyte replacement (PO/IV)	Seizures	Administer electrolytes and

		cramping, muscle spasms, difficulty breathing, dizziness, tachycardia		Arrhythmias Decreased perfusion	fluids as prescribed Monitor for complications Monitor electrolyte levels
Nutritional deficiencies	Acute if due to malnutrition; sometimes chronically deficient	Fatigue, weakness, dizziness, SOB, weight loss, nausea, anorexia, pale/yellowish skin, irritability, unusual food cravings, sleepiness, palpitations	vitamin/mineral replacement/supplementation Dietary changes	Stunted growth Depression Rickets Anemia Osteoporosis	Administer supplements as prescribed Educate patient/parents on proper nutrition
Infectious Gastroenteritis	acute	Diarrhea, vomiting, abdominal pain, cramping, fever, nausea, headache	Supportive care - IV fluids, nausea medications	dehydration	Administer fluids as prescribed Encourage oral fluid intake Monitor for signs of dehydration
Diarrhea	acute	Frequent watery, loose stools; abdominal pain and cramping	IV fluids anti-diarrheals	Dehydration Electrolyte imbalances Nutritional deficiencies	Monitor for signs of dehydration Provide good skin care to prevent breakdown Administer fluids as prescribed

					Administer medications as prescribed
Appendicitis	Acute	Abdominal pain in the RLQ. Abdominal CT Scan CBC-elevated wbc	Antibiotic therapy for one week-10 days Abdominal surgery at a later time in some cases	Rupture of the appendix.	Pre/post op education. Teaching on antibiotic therapy.
Pyloric Stenosis	Acute	Vomiting that can be blood tinged, constant hunger, olive shaped mass in RUQ of the abdomen, failure to gain weight, signs of dehydration	Pylorotomy	Complications are rare	Prepare child for surgery, provide IV fluids, monitor daily weights and I&O, administer analgesic for pain, assess for signs of infection
Intussusception	Chronic	Sudden episodic abdominal pain, screaming with drawing knees to chest, abdominal mass, stools mixed with	Air enema	Reoccurring intussusception	Offer emotional support to family, IV fluids and antibiotics

		blood and mucus, vomiting, fever, tender distended abdomen			
Cleft lip/Cleft palate	Chronic	Cleft lip- visible separation from the upper lip toward the nose Cleft palate- visible or palpable opening of the palate connecting the mouth and the nasal cavity May be diagnosed by prenatal ultrasound	Surgery	Ear infections and hearing loss, speech and language impairment, dental problems	Instruct parents about proper feeding and care, assess ability to feed, position infant upright when cradling the head during feeding, used specialized bottle with a one-way valve and a specially cut nipple, burp infant frequently
GERD	Chronic	Recurrent vomiting, weight loss, irritability in infants, respiratory symptoms, hoarseness/sore throat, heartburn, abdominal	Appropriate positioning, smaller more frequent meals, medications, if not getting better a nissen fundoplication is done	Recurrent pneumonia, weight loss, and failure to thrive	Offer small frequent meals, thicken infants formula, avoid caffeine citrus, peppermint, spicy or fried foods, assist with weight control, position with HOB elevated after feeds

		pain, hematemesis, dysphagia Upper GI endoscopy. 24 hour intraesophageal pH study			
Hirschsprung's disorder	Chronic	Distended abdomen, failure to thrive, constipation, vomiting, undernourished, anemic appearance, visible peristalsis, palpable fecal mass	Surgical removal of the aganglionic section of the bowel or temporary colostomy	Enterocolitis, anal stricture and incontinence	Monitor for enterocolitis, bowel prep with saline enemas, assess bowel sounds and bowel function, provide ostomy care if appropriate
Celiac disease	Chronic	Diarrhea, steatorrhea, constipation, failure to thrive or weight loss, abdominal distention or bloating, poor muscle tone, irritability and listlessness, dental disorders,	Gluten-free diet	Malnutrition	Strict gluten free diet that does not include rye, barely, and possibly oats, consult family to a dietician,

		anemia, delayed onset of puberty or amenorrhea, and nutritional deficiencies			

8. List 5 gluten-free foods

- All fruits and fruit juices
- Plain vegetables
- All meats, poultry, fish and shellfish
- Peanut butter
- Beans and nuts

9. What are nursing interventions commonly used for gastrointestinal illnesses?

a. Increase fluid intake
b. Monitor fluid and electrolyte levels
c. Administer antiemetics and anti-nausea medications as prescribed
d. Administer antipyretics if necessary
e. Reduce infection transmission
f. Promote skin integrity

10.Describe the psychosocial impact that chronic gastrointestinal illnesses have on children and their families.

- Children are considered medically fragile for lengthy periods
- There is a lot of anxiety associated with bowel resection
- Long term hospitalization is usually required- parents may miss work and time with other children.
- Encourage families to be experts on their children's needs and conditions with education and participating in care.
- Provide teaching so the family is better able to care for their child in an outpatient setting.

RKC Ch 43, ATI Ch 24, 25, 26: Genitourinary

1. **Define the key terms:**

Anuria-Failure of the kidneys to produce urine.
Bacteriuria-the presence of bacteria in the urine.

Dysuria-Difficulty urinating.
Hematuria-Blood in the urine.
Oliguria-Production of abnormally small amounts of urine.

2. Compare **anatomic** and **physiologic** differences of the genitourinary system in infants and children versus adults. **(you can divide this** into two parts)

The kidney is large in relation to the size of the abdomen until the child reaches adolescence. Blood flow through the kidneys is slower in the infant and younger toddler compared with the adult. The kidney is less able to concentrate urine and reabsorb amino acids, placing the infant and young toddler at increased risk for dehydration. The renal system usually reaches functional maturity around 2 years of age. Bladder capacity is 30 mL in the newborn and it increases to the usual adult capacity of 270 mL by 1 year of age. By the age of 3 the average number of voids per day is the same as the adults which is 3 to 8. The reproductive organs are immature at birth and the gonads are not mature until adolescence.

3. Describe genitourinary disorders common in infants, children, and adolescents.

Category-	**Structural or Acquired?**	**Expected Assessment Findings/ labs/X-rays**	**Treatments**	**Complications**	**Nursing Implications/ interventions**
Hypospadias **Epispadias**	Structural	Abnormal stream of urine	No circumcision, surgically repair after one year of age.	Infertility issues.	Post Op care and parent education.
Phimosis	structural	Painful urination Foreskin is unable to retract	Gentle daily manual retraction, topical corticosteroid ointment, circumcision	Infection	Provide analgesics as prescribed Provide adequate hygiene

Hydronephrosis	Structural	Pelvis and calyces of the kidneys are dilated	Repair cause if possible.	UTI	Administer IV fluids if indicated Encourage adequate oral fluid intake Monitor for signs of infection
Nephrotic Syndrome	Acquired	Edema, foamy urine, weight gain, fatigue, anorexia	Treat the underlying cause	Thrombus, malnutrition, HTN, AKI, CKD, infection	Administer medications as prescribed Administer IV fluids as prescribed Encourage adequate oral fluid intake
Post Streptococcal Acute Glomerular Nephritis	Acquired	Dark red-brown urine, edema, decreased urinary output, fatigue, protein in urine, HTN	Symptom management - diuretics; hypertension medication	CKD, kidney failure	Administer medications and IV fluids as prescribed Encourage oral fluid intake
Enuresis	Structural	Repeated bed-wetting, wetting in the clothes, wetting at least twice a week for approximately 3 months	Depends upon cause.	Scheduled voiding, bladder training	Education and routines on how to prevent.

Urinary Tract infection (UTI)	Structural	Fever, irritability, vomiting or foul smelling urine	Antibiotics, fever management.	Pyelonephritis	Teaching guidelines on how to prevent.
Chronic Glomerular Nephritis	acquired	Pink or brown colored urine, foamy urine, HTN, edema/fluid retention	Treat the underlying cause - treatment depends on severity of symptoms	AKI, CKD, HTN, nephrotic syndrome	Administer medications as prescribed Administer IV fluids as prescribed Encourage adequate fluid intake

1. Identify appropriate nursing assessments and interventions related to medications and treatments for pediatric genitourinary disorders

Medications	**Actions/Indications**	**Side Effects**	**Nursing Implications**
Antibiotics (systemic)	Kill bacteria or arrest their growth.	Mild rash, soft stools, upset stomach, loss of appetite, yeast infection	Continue therapy for the full duration
Furosemide	Inhibits reabsorption of sodium and chloride leading to increased excretion of water.	GI Upset Photosensitivity	Administer with food or milk to decrease GI upset. Monitor blood pressure, renal function and electrolytes.

Calcium gluconate	Used to treat renal causes of hypertension.	Significant hypotension may occur.	Adminiter with food, avoid grapefruit juice. Extended release tablet shell may pass in stool
Prednisone	Arthritis, blood disorders, breathing problems, severe allergies, skin diseases, cancer, eye problems, and immune system disorders	Insomnia, mood changes, increased appetite, wt gain, acne, increased sweating, dry skin, slow wound healing, HA, dizziness, bloating	Establish a baseline BP, I&O, wt, fasting blood glucose level, and sleep pattern. Be alert to masked infection and delayed healing
Albumin 25%	Increases intravascular oncotic pressure, results in the movement of fluid from interstitial to intravascular space.	Vascular overload due to rapid infusion.	May require a filter Monitor vital signs, observe for pulmonary edema and cardiac failure.

5. Describe the psychosocial impact of chronic genitourinary disorders on children
Children with chronic genitourinary disorders face many of the same psychosocial impacts as children with other chronic illnesses. These impacts include delays in development, feelings of sadness, depression, or being overwhelmed, socially isolated, and restricted in activities. Children with genitourinary conditions may also have feelings of embarrassment, low self esteem, or poor body image.

Remember to do the ATI program on a Child with Dehydration as your preparation for class.