

The Child With a Gastrointestinal Condition

Chapter 28
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Overview



Transports and metabolizes nutrients necessary for the life of the cell



Extends from the mouth to the anus



Nutrients are broken down into absorbable products by enzymes from various digestive organs

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Common GI procedures

CBC, ESR,
Blood
Chemistries

Stool cultures,
rectal biopsies

GI series

Barium enema

Endoscopy

Colonoscopy

Sigmoidoscopy

Ultrasound

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Symptoms of GI Disorders

Systemic signs

- Failure to thrive (FTT)—failure to develop according to established growth parameters
- Pruritus (itching) in the absence of allergy may indicate liver dysfunction.

Local signs

- Pain
- Vomiting
- Diarrhea
- Constipation
- Rectal bleeding
- Hematemesis



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Congenital GI Disorders

- Esophageal atresia
- Imperforate anus
- Pyloric stenosis
- Celiac disease
- Hirschsprung's disease
- Intussusception
- Meckel's diverticulum
- Hernias

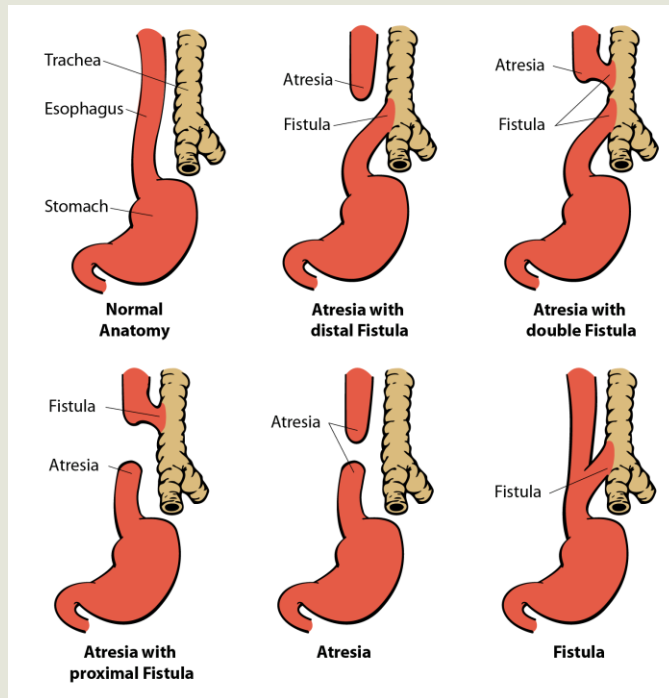


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Esophageal Atresia

- Also called Tracheoesophageal fistula (TEF)
- Failure of the tissues to separate
- Four types
 - Upper esophagus and lower esophagus-blind pouch
 - Upper esophagus-blind pouch, lower esophagus-connects to trachea
 - Upper esophagus-attached to trachea, lower esophagus-attached to trachea
 - Upper esophagus-attached to trachea, lower esophagus ends in blind pouch

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Esophageal Atresia (cont.)

Manifestations

- Develops prenatally- polyhydramnios
- At birth-vomit and choke
- Drooling
- Upper esophagus- coughing, choking, cyanosis, apnea
- Lower esophagus- abdominal distention

Treatment

- Prevention of pneumonia, apnea in newborn
- Surgical repair

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Imperforate Anus

Anus-blind pouch

- Stenosis
- Complete failure of anus to form

Diagnosis

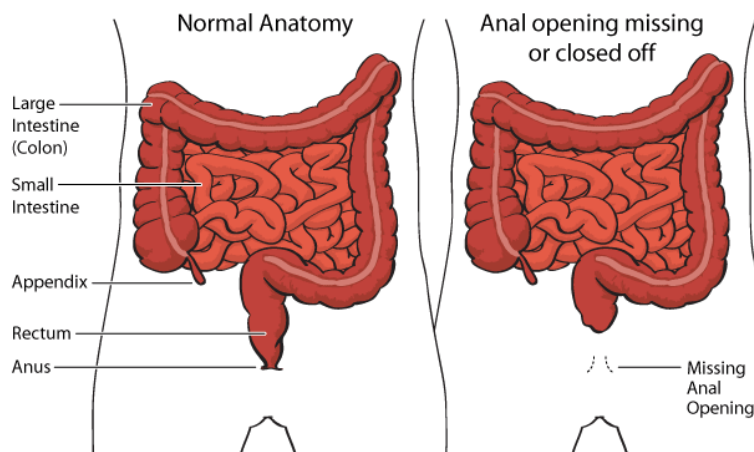
- Rectal temperature
- Failure to pass meconium

Treatment and Nursing Care

- NPO
- Surgical repair
 - Ileostomy: small intestines
 - Colostomy: Large intestines

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FORMS OF ANORECTAL MALFORMATION - FRONTAL VIEW



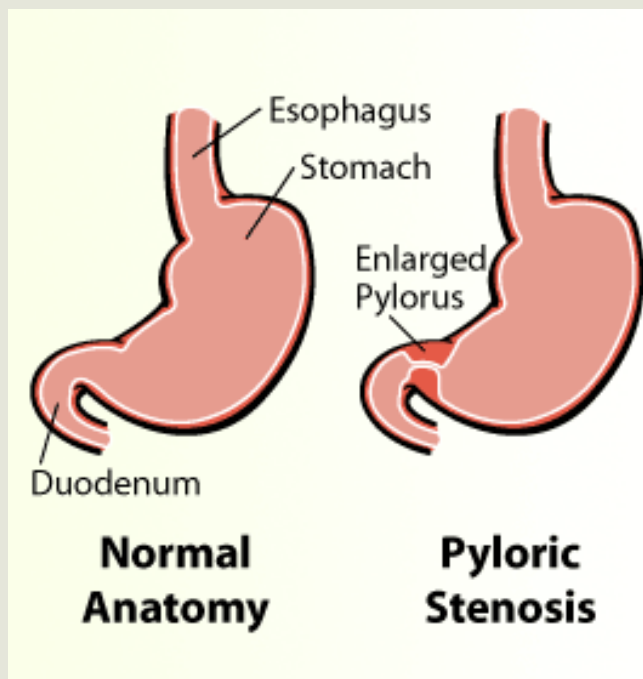
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Pyloric Stenosis

Obstruction of the lower end of the stomach caused by overgrowth of the circular muscles of the pylorus or spasms of the sphincter

- Manifestations
 - Vomiting, projectile
 - Immediately after feeding
 - Constantly hungry
 - Dehydration
 - Sunken fontanel
 - Decrease urine output
 - Poor turgor
 - Malnutrition
- Nursing care
 - IV fluids
 - Thickened feedings
 - Burped frequently
 - Feed slowly
 - Place on right side after feeding
 - Accurate documentation
 - Weight
 - I&O's
 - Postop care, wound care

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Celiac Disease

Autoimmune genetic illness that affects the small intestines because of gluten intolerance



- Manifestations
 - 6 months - 2 years old
 - Repeated exposure to glutens
 - FTT
 - Stools- large, bulky, frothy
 - Irritability
- Nursing care
 - Dietary restrictions
 - Lifelong restrictions to food with gluten: wheat, barley, oats, and rye
 - Patient and family education

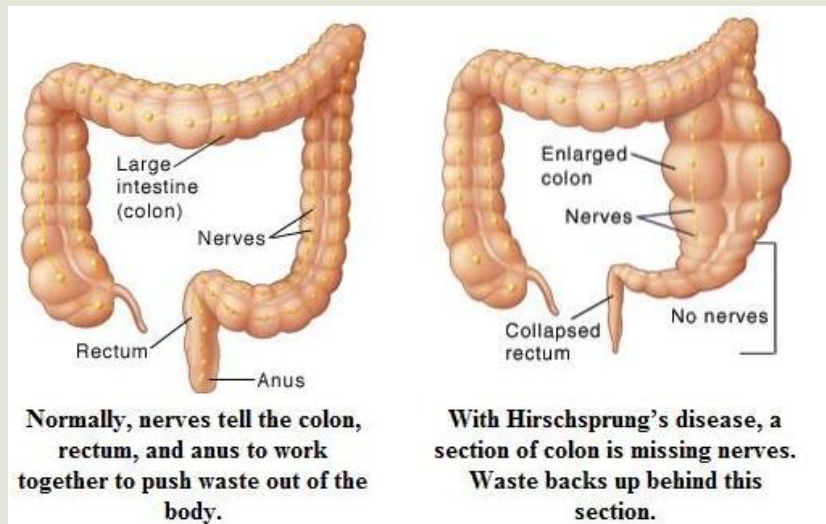
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Hirschsprung's Disease

Absence of ganglionic innervation to the muscle of a segment of the bowel

- Manifestations
 - Failure to pass meconium - newborn
 - Constipation
 - Ribbon-like stools - infant
 - Abdominal distention
 - Anorexia
 - Vomiting
 - FTT
 - Development- enterocolitis
- Treatment
 - Surgery
 - Possible colostomy
- Nursing Care
 - Age dependent
 - History of bowel habits, nutritional status
 - Enemas- normal saline instead of tap water
 - Postop care

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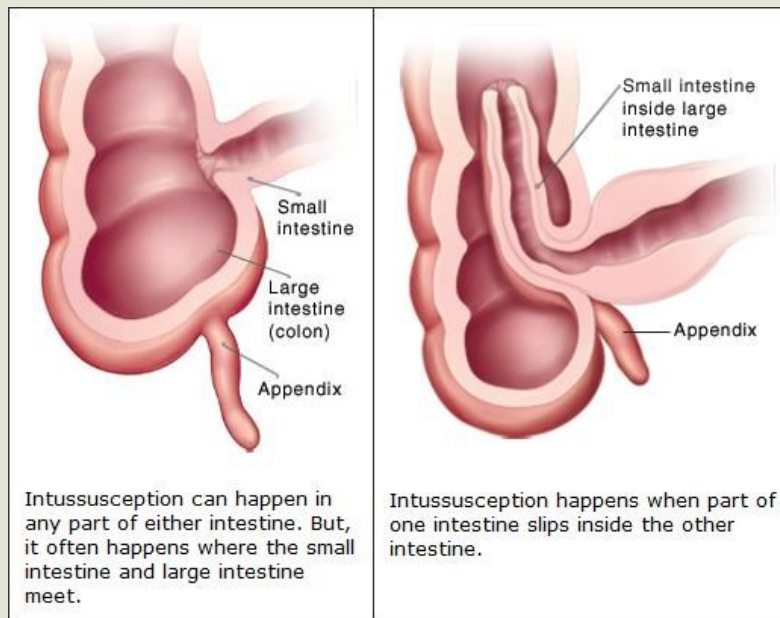
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Intussusception

A slipping of one part of the intestine into another part just below it

- Manifestations
 - Sudden onset
 - Abdominal pain, straining, drawing up legs
 - Pain intervals shorten
 - Vomiting
 - Diminished bowel movements/flatus
 - Stools- currant jelly
 - Temperature elevation
 - Signs of shock
- Treatment and Nursing care
 - Emergency
 - Barium enema
 - Surgery
 - IV fluid hydration
 - Pre and postop care

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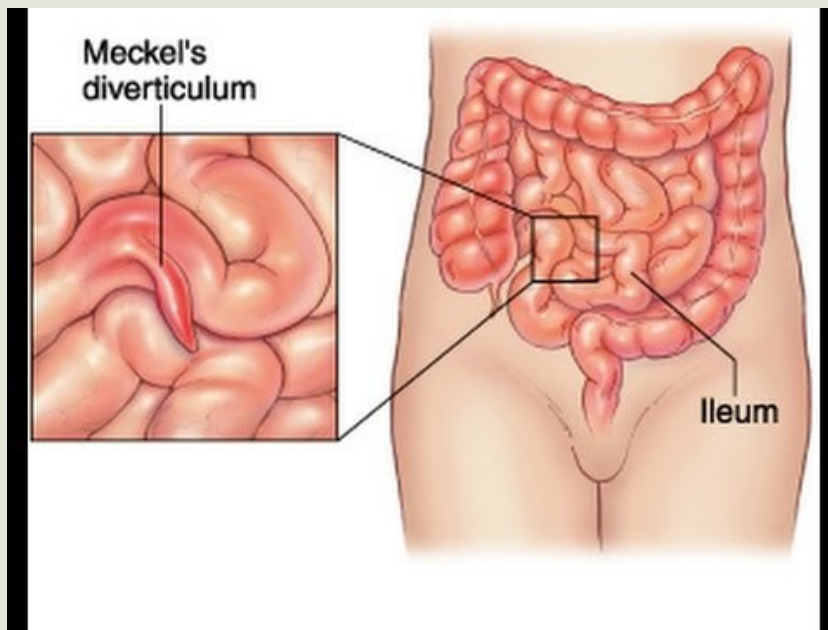
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Meckel's Diverticulum

Small blind pouch forms due to the vitelline duct failing to close or disappear after birth

- Manifestations
 - Occurs- before 2 years old
 - Painless rectal bleeding- bright red or dark red
 - Possible abdominal discomfort
- Treatment and Nursing Care
 - Surgery
 - Pre and postop care
 - Emotional support- family

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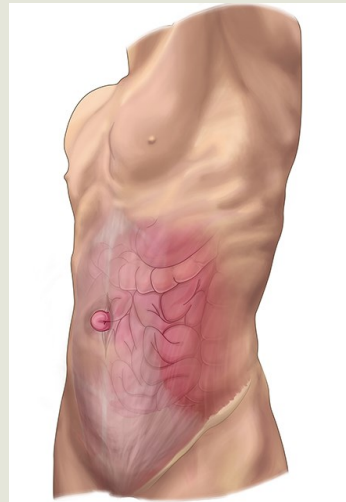
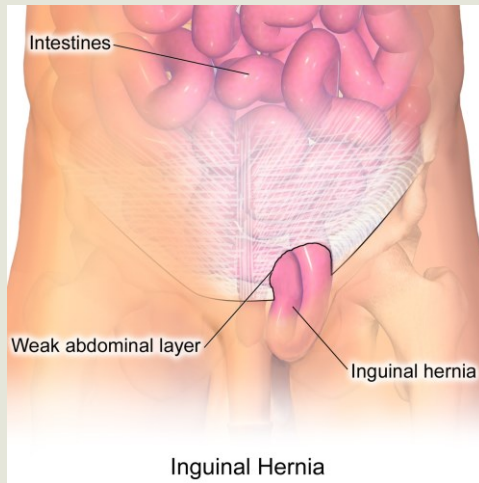
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Hernia

Protrusion

- Manifestations
 - Symptom free
 - Irritability
 - Constipation
 - Strangulation
 - First 6 months of life
 - Vomiting
 - Severe abdominal pain
- Treatment and Nursing Care
 - Possible surgery
 - Pre and Postop care

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Disorders of Motility

- Gastroenteritis
- Vomiting
- Gastro-esophageal reflux
- Diarrhea/constipation
- Fluid and Electrolyte imbalance
- Nutritional deficiencies
- Infections
- Poisoning



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Gastroenteritis



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Gastroenteritis

Inflammation of the stomach and intestines

- Treatment and Nursing Care
 - Identifying and treating the cause
 - Parent/caregiver education
 - Preventing electrolyte imbalance
 - Oral rehydrating solutions
 - Small frequent feedings
- Nursing Care (cont.)
 - Monitor I & O's
 - Skin care
 - Good handwashing techniques
 - Proper food handling
 - Daily weights
 - Observe- dehydration/overhydration
 - Keep warm
 - Enteric/standard precautions

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Vomiting



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Vomiting

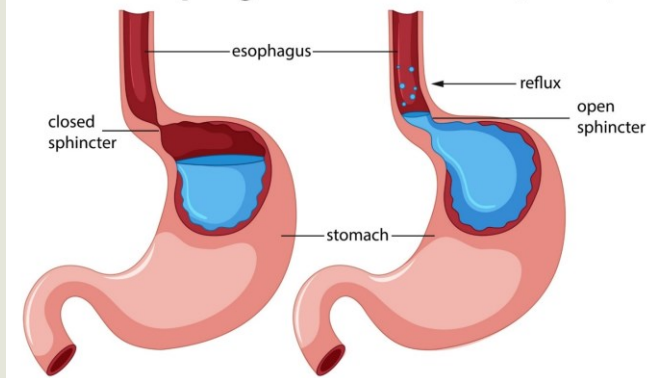
Sudden contraction of the diaphragm and muscles of the stomach

- Treatment and Nursing care
 - Properly feed and burp infant
 - Avoid activity after feedings
 - Handle as little as possible
 - Place on right side
 - Older child- turn head to one side
 - Accurate documentation I & O's, consistency and color, child's response to feedings
 - IV Fluids and drug therapy

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Gastroesophageal Reflux

Gastroesophageal reflux disease (GERD)



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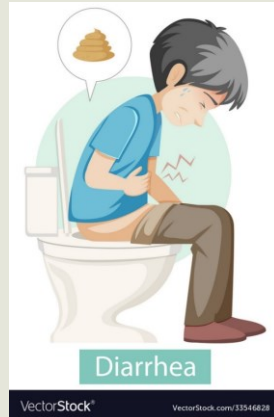
Gastroesophageal Reflux

Lower esophageal sphincter is relaxed or not competent, allowing stomach contents to regurgitate into esophagus.

- Manifestations
 - Vomiting
 - Weight loss
 - FTT
 - Possible respiratory problems
 - Aspiration
- Treatment and Nursing care
 - Depends on severity
 - Careful burping
 - Avoid overfeeding
 - Upright prone position after feeding
 - Medication
 - Surgical intervention

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Diarrhea



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Diarrhea

Diarrhea in infant is a sudden increase in stools from the infant's normal pattern, with a fluid consistency and a color that is green or contains mucus or blood

- Manifestations
 - Mild to severe
 - Explosive
 - Decrease appetite
 - Possible weight loss
 - Changes in affect
 - Temperature elevation
 - Sunken eyes and fontanels
 - Poor skin turgor
- Treatment and Nursing care
 - Decrease intake of solid foods
 - Avoid fruit juice, gelatin, carbonated drinks
 - Avoid caffeine
 - Brat diet
 - Bananas, rice, applesauce, and toast
 - Pedialyte or Infalyte
 - Gradual introduction- soft, bland diet
 - Resume regular diet- 2-3 days

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Constipation



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Constipation

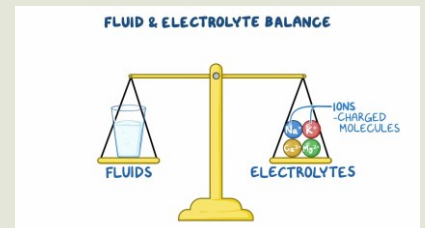
Defecation that is difficult or infrequent, with the passage of hard, dry fecal material.

- Manifestations
 - Diet, culture and social
 - Psychological
 - Familial patterns
 - Hurried or incomplete bowel movements
 - Embarrassment
- Treatment and Nursing care
 - Assess diet history and bowel habits
 - Avoid daily use of laxative and enemas
 - Low iron formulas
 - Parent education
 - Dietary modifications- high fiber foods, whole grains, raw veggies and fruits
 - Increase fluid intake
 - Medications: Stool Softener

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Fluid and Electrolytes

- Oral fluids
 - Preferred if child can tolerate PO
 - Offer frequently and small amounts
 - Optimum oral rehydration
 - Pedialyte
 - Oralyte
 - Infalyte
 - Avoid sodas, juices, fluids high in sodium/sugar
 - Protein and starch feedings
- Parenteral fluids
 - Not given through the GI tract
 - Severe cases of vomiting and diarrhea
 - Safe and effective
 - Supportive care for both child and parents



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Dehydration

Fluid output exceeds fluid intake

- Three types of dehydration
 - Isotonic: R/F shock
 - Hypotonic: R/F water intoxication
 - Hypertonic
- Degrees of dehydration
 - Mild
 - Moderate
 - Severe
- Signs and Symptoms
 - Irritability/lethargy
 - Poor skin turgor
 - Dry mucous membranes
 - Sunken eyes/fontanelles
 - Vital signs
 - Lab tests
- Treatment and Nursing care
 - Maintenance fluid therapy
 - Deficit therapy

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Overhydration

Body receives more fluid than it can excrete

- Signs and symptoms
 - Edema
 - Anasarca
 - Pitting
 - Presacral, occipital, genital
 - Sodium retention
 - Trauma
- Treatment and Nursing care
 - Early detection
 - Accurate I & O's
 - Monitoring of vital signs and daily weights
 - Assessment of edema
 - Monitor IV fluid infusion
 - Assessing the electrolyte needs

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Nutritional Deficiencies

- Failure to thrive-FTT
- Kwashiorkor
- Rickets
- Scurvy



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Failure to Thrive

Fail to gain and often lose weight

- Symptoms
 - Irritability
 - Disturbances in food intake
 - Anorexia
 - Pica
 - Vomiting/diarrhea
 - Neuromuscular disorders
 - Growth and development delays
- Manifestations
 - Disturbance in caregiver/child relationship
 - Inability to establish sense of trust
 - Neglect and physical abuse
- Treatment and Nursing care
 - Prevention
 - Education
 - Management of symptoms

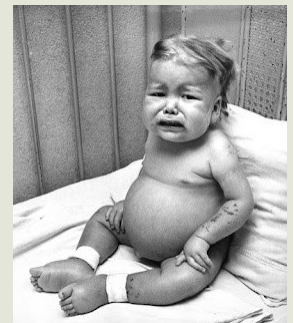


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Kwashiorkor

Protein deficiency

- Manifestations
 - 1-4 years of age
 - Growth and development delays
 - Weak and apathetic
 - Edema in abdomen
 - Vomiting/diarrhea, irritability, anorexia
 - Hair and skin changes
- Treatment and Nursing care
 - Prevention
 - Protein powder
 - Early treatment



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Rickets

Deficiency in Vitamin D

Manifestations

- Bowlegs, knock knees, beading of ribs
- Improper formation of teeth

Treatment and Nursing care

- Vitamin supplements
- Optimum, well balanced diet, exercise
- Exposure to sunlight



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Scurvy

Vitamin C deficiency

Manifestations

- Joint pain
- Bleeding gums, loose teeth
- Lack of energy

Treatment and Nursing care

- Vitamin supplements
- Daily intake of foods rich in Vitamin C
 - Citrus fruits and raw leafy vegetables



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GI Infections

- Appendicitis
- Thrush
- Worms
 - Pinworms
 - roundworms



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Appendicitis

- Manifestations
 - Initially- periumbilical pain
 - Later- right lower quadrant pain
 - Vomiting/diarrhea
 - Fever
 - Guarding
 - Rebound tenderness
- Treatment and Nursing care
 - Diagnostic test
 - Surgery
 - Pre and postop care



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Thrush (Oral Candidiasis)

Infection caused by a fungus in the mucous membranes of the mouth

- Manifestations
 - White patches
 - Painless
 - Anorexia
 - Inflammation of the GI tract
 - Diaper area- bright red

Anything that suppresses the child's immune system can place the child at risk for development of oral thrush.

Antibiotics use kills bacteria in the oral area, which can give fungus an opportunity to invade.

- Treatment and Nursing care
 - Mycostatin
 - Swab mouth between feedings
 - Standard precautions



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Pinworms

Manifestations

- Itching around anal area
- Irritability and restlessness
- Weight loss, poor appetite

Treatment and nursing care

- Medications
- Good handwashing, sanitizing surfaces, keeping fingernails short, and clean underwear that fit snugly to prevent scratching

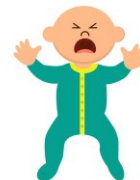
Symptoms Of Pinworm



Severe itching around the anus



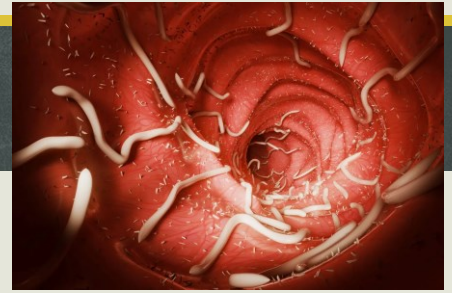
Irritable and fussy



Restless sleep

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Roundworms



- Asymptomatic
- Abdominal pain
- Caused - unsanitary disposal of human feces, poor hygiene
- Symptoms - chronic cough without fever
- Treatment - same as pinworms

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Poisoning

- Types of poisoning
 - Plants
 - Drugs
 - Lead
- General concepts
 - Remove the poison
 - Prevent further absorption
 - Call poison control
 - Supportive care - medical help



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Drug Poisoning

- Acetaminophen
 - Most common
 - Overdose- hepatic destruction
 - Treatment and Nursing care
 - Lavage stomach
 - Induce vomiting- syrup of ipecac
 - Mucomyst antidote
 - Monitor liver enzymes
 - Prevention and education
- Salicylate - Aspirin
 - Not as common
 - Excreted slowly- cumulative affect
 - Timed released- dangerous
 - Treatment and nursing care
 - Vitamin K
 - Peritoneal dialysis

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Lead Poisoning

- Manifestations
 - Gradual symptoms- encephalitis
 - Settles in soft tissues and bones
 - Weakness
 - Weight loss/anorexia
 - Pallor, vomiting, abdominal pain, constipation
 - Anemia
 - Nervous system involvement
- Treatment and Nursing care
 - Diagnostic testing
 - Dietary history
 - Chelating agents
 - Long process
 - Prognosis is variable
 - Prevention is most important

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Foreign Bodies

- 80% FBI- 6 months to 3 years of age
- Most pass through the *GI* tract
- Curiosity of children
- Maintain diet
- Avoid laxatives
- Notify physician- abdominal pain/vomiting
- Prevention