Diabetic Ketoacidosis
-Treatment differences
- True Na: adjust upward 1.6 mlEq/L for every 100 mg/dL increase in blood glucose
- Potential serious CNS effects; 2-5% mortality rate
- Correct dehydfration (there's more here)

Correction of Hypernatremia
-Rapid fall in serum concentration (Na)
-she did not talk about how this is corrected in kids

Water Intoxication
- Baby: gets it from diluting formula, giving baby water in a bottle
- Kids swimming in pools and drinking the water
- Hazing occurs with older adolescents (college fraternities and such)

Altered Fluid Requirements
- Children have increased needs for
    - Fever
    - Vomiting, diarrhea
    - DI
    - High output renal fialure
    - TachyP
    - Burns (1st 24 horus)

Decreased needs for fluids in:
- CHF
- Meningitis/neuro injury
- Mechanical ventilation
- Post-operatively
- Oliguric renal failure

Venous Access Devices
- Peripheral: peripheral IV or SL
- Central Venous Access: PICC, tunneled catheters, implanted ports
- Can also be Intraossous!

Kids are different than adults...obviously!
- Infants prone to hypoglycemia
- Newborn stomach capacity is only 10 to 20 ml….expands to 200ml by one month
- Fast emptying time
- Faster metabolic rate
- Regurgitation is common

Obstructive Disorders
- Hypertrophic Pyloric Stenosis
- Gastro Esophageal Reflux
- Intussusception
- Hirschsprung disease

Pyloric Stenosis
- Incidence and etiology: males > females
- Pathophysiology: pyloric sphinctor is too tight. Food goes into stomach, but does not empty readily.
- Clinical manifestations: baby cries, nonbilious projectile vomiting b/c no place for food to go
- Symptoms develop between the 2nd and 4th week of life

- Vomiting increases in frequency and becomes projectile
- Baby feels better after vomiting
- Diagnosis
  - History, ultrasound, barium swallow, nuclear scan
  - Palpated olive-shaped mass
- Treatment
  - Surgery: pyloromyotomy
  - After surgery give small feedings, see how it goes
- Nursing management
  - Assessment
  - Nursing diagnoses prior to surgery
    - Inadequate nutrition: less than
    - Dehydration

GERD
- Gastro-esophageal reflux
- Clinical manifestations
  - Weight loss
  - Apnea (ALTE)
  - Vomiting/Regurgitation
- Diagnosis
  - History
  - pH probe: another step….put a little something in the nose, and it measures the pH of the esophagus; mom has to keep a log
  - Barium swallow
- Treatment for GERD
  - Dietary modifications: can try to change the diet to lactose-free or various other adjustments; add rice cereal to give weight to food; switch formula around to see what works; if breastfeeding, mom may need to alter diet
  - Positioning: feed upright, back to sleep
  - Medications: multiple meds; kids gain weight really fast so you have to go up on the doses of meds.
- GERD Treatment
  - Reglan: increases stomach motility; gets the food out of the stomach
  - Tagamet/Zantac: stops the acid secretion?
  - Protonix: Stops acid from being produced (proton pump inhibitor)
- Surgery
  - Nissen Fundoplication; used for kids that are at very serious risk for aspiration; downside is that the child can no longer vomit effectively, so they will probably also have a GT.

Intussusception (usually occurs around 2 years old)
- Clinical manifestations
  - Colicky
  - Intermittent abdominal pain
  - Vomiting
  - Currant jelly stools (red jelly-like, mucus and blood mixed together)
- Diagnosis: parent's history of child's symptoms, air enema or barium enema
- Treatment: air enema or barium enema
- Nursing management & family teaching
  - Carefully interview parents for symptoms, frequency, etc...

Hirschsprung's Disease
- Clinical manifestations
- Fail to pass meconium within 24-48 hours of birth
- Nerve to large intestine hasn't grown in properly, so not enough nerves to get stool out...so the colon gets bigger causing a "megacolon" (aganglionic megacolon)

- Refusal to feed
    - Constipation or foul, ribbon-like stools; complete obstruction
    - Abdominal distention
    - Bile-stained vomitus
- Diagnosis: biopsy of bowel tissue shows lack of ganglions
- Treatment: two-stage surgical procedure
    - Colostomy is the first step; the bowel can heal so the nerves can grow in; colostomy lasts about a year
    - Take-down to put the bowel back together.
- Nursing management and family teaching
    - Preoperative
    - Postoperative

Issues with Physical development
- Cleft lip and palate
- Esophageal atresia with tracheoesophageal fistula
- Imperforate anus
- Hernias - umbilical, inguinal, diaphragmatic

Cleft Lip and Palate
- Incidence and etiology
- Pathophysiology: maxillary and nasal tissue fail to fuse
    - Unilateral or bilateral

Cleft Lip and Palate, cont'd
- Diagnosis: she didn't go over this
- Treatment: surgery
- Assessment: she didn't go over this
- Nursing diagnoses: she didn't go over this
- Preoperative
    - Altered nutrition: less than bodyrequirements
    - Pot. altered parenting
    - Body image
    - Risk for aspiration
- Postoperative Care
    - Risk of injury and infection: keep suture line clean
    - Pain
    - Deficient knowledge
    - Alteration in Growth & Development

Esophageal Atresia (esophagus doesn't go into stomach) and Tracheoesophageal Fistula
- Diagnosis
    - Baby will be drooling a lot
    - History of maternal polyhydramnios (can usually see this on sonogram)
    - Prenatal sonogram
- Radiographic studies
- Treatment = surgery
- Nursing management
    - Do not feed them
    - Prep for surgery

Constipation
- Functional constipation: no cause found
- Obstipation: extremely long intervals between poops
- Encoporesis: fecal soiling

Anorectal Malformations (there are pictures)
- Incidence and etiology
- Pathophysiology
- Clinical manifestations
- Usually obvious at birth
- Can be normal-appearing anus
- Can see thin translucent anal membrane
- Possible deep anal dimpling

Acute Gastroenteritis
- Incidence and etiology
- Rotavirus –most common, spread by contact
- Pathophysiology: damages endothelial lining of GI tract
    - Infection damages epithelial lining of intestine
- Clinical manifestations of Acute Gastroenteritis
    - Water-loss stools, N/V
    - Abdominal pain
    - Dehydration
- Diagnosis for Acute Gastroenteritis: I think a stool sample is needed
- Treatment
- Nursing management
    - Monitor fluid status, electrolytes
    - No antiemetic or anti-diarrheal medications
    - ORT if mild to moderate dehydration
    - BRAT diet not recommended

Biliary Atresia
- Incidence & etiology
- Pathophysiology: biliary tree gets inflamed and then is obliterated
    - Hepatic ducts replaced with fibrous tissue
- Clinical manifestations
    - Light colored stools b/c there is no bile in them
    - Jaundice
- Diagnosis (she did not go over this)
- Treatment
    - Kasai procedure; done as soon as possible on infant, attach small intestine to liver
    - Liver transplant (most kids end up needing a transplant)
    - These kids used to not live past 10 years...but treatments are getting bettter.
- Nursing management (she did not go over this)

Hernias
- Incidence and etiology (she did not go over this)
- Pathophysiology (she did not go over this)
- Umbilical – through belly button
- Inguinal – through inguinal canal or scrotum
- Diaphragmatic – through diaphragm into thoracic cavity
    - hear bowel sounds in lung fields
    - respiratory distress
- Clinical manifestations
    - History of FTT, light colored stools, irritable
- Diagnosis (she did not go over this)
- Treatment (she did not go over this)
- Nursing management (she did not go over this)

Short Bowel Syndrome
- Incidence and etiology
  - Kids have damaged bowel d/t treatments (short-bowel resection for necrotizing enterocolitis or some other bowel-damaging disease)
  - Length is < 30% of normal length
- Child does not absorb food correctly, we see them for FTT
- Treatment for SBS
  - TPN (may be on TPN for the rest of your life if you have less than 40 cm of bowel)
  - Enteral feedings
- Nursing management
  - Nutrition
  - Prevent infection
  - Home nursing care

GI Acute Care Needs
- Orogastric (OG)
- Nasogastric (NG) Tube
  - For feeding and/or decompression

Gastrostomy tubes (she did not go over this)
- TPN/Lipids
- Use pump
- Wean on and off
- Glucose checks

Hockenberry, Marilyn J.. *Wong's Essentials of Pediatric Nursing*. Seventh Edition ed. St. Louis: Mosby, 2005. Print.

Parsh, B. (2010, March 11). Pediatric GI Disorders. Pediatric Nursing. Lecture conducted from CSU Sacramento, Sacramento

Sampson, J (2010, March 11). Pediatric GI Disorders Pediatric Nursing. Lecture conducted from CSU Sacramento, Sacramento.

Tobar, K. (2010, March 11). Pediatric GI Disorders. Pediatric Nursing. Lecture conducted from CSU Sacramento, Sacramento.