DECEMBER 2, 2014
TALKS ON TUESDAYS WEBINAR

"Before Feeding, Consider the Plumbing!"

PRESENTED BY

Kim Geissinger, OTR/L

Partnership for People with Disabilities — Linking people. Changing lives.
Integrated training collaborative
VCU VIRGINIA COMMONWEALTH UNIVERSITY

AUDIO DETAILS:
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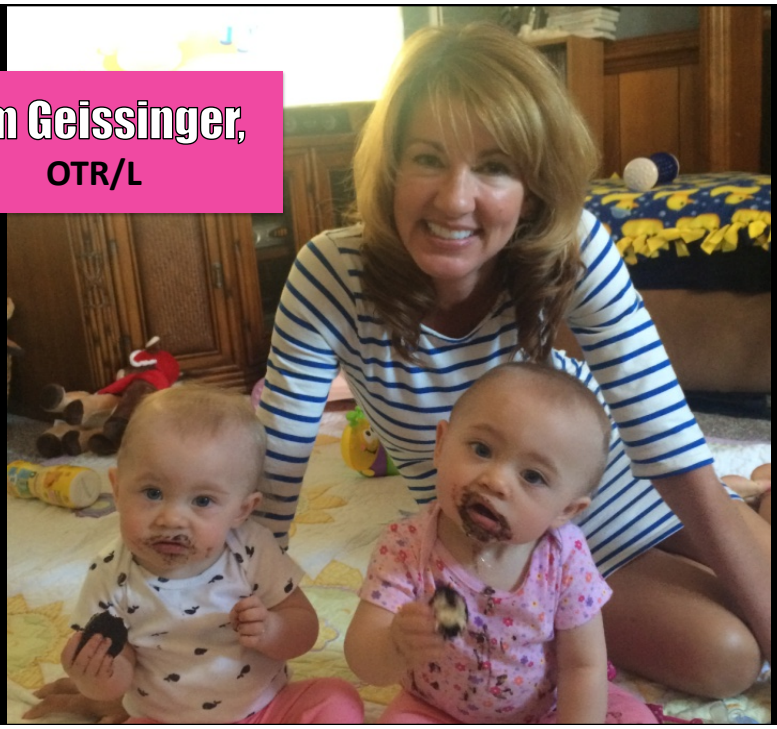
Kim Geissinger, OTR/L



Have you treated a patient with a gastrointestinal problem?

Let's see a show of hands.

Identify the GI issue in chat.

Make a Match

ASCENDING COLON

CAECUM

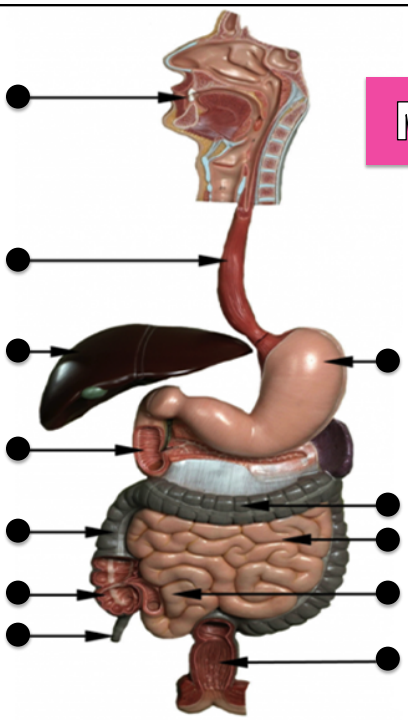
ORAL CAVITY

LIVER

OESOPHAGUS

DUODENUM

APPENDIX



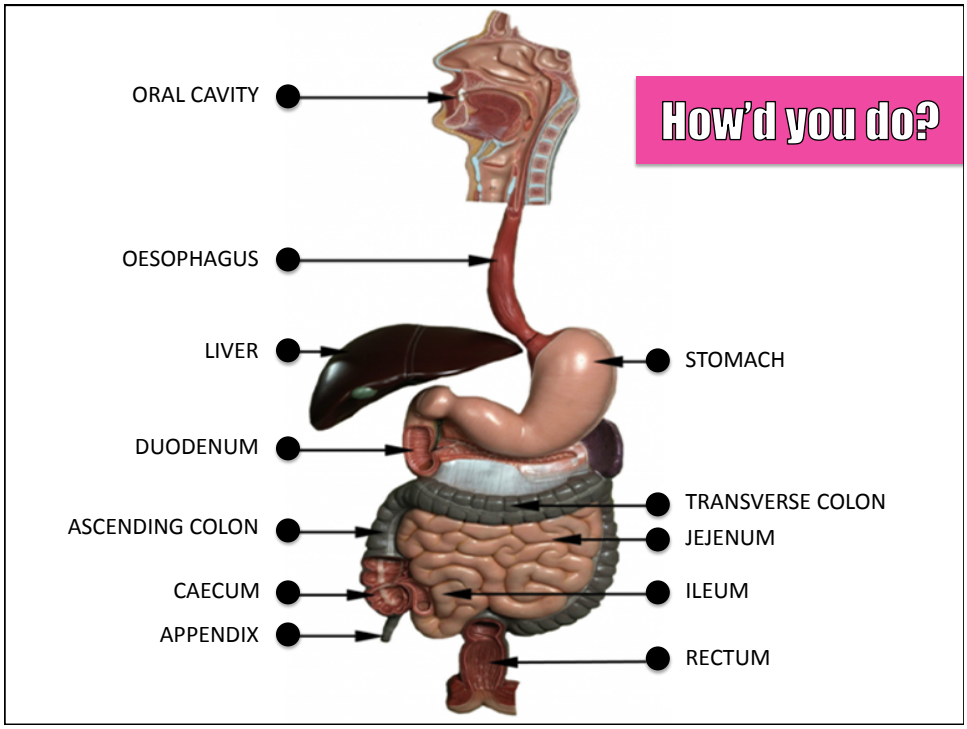
JEJENUM

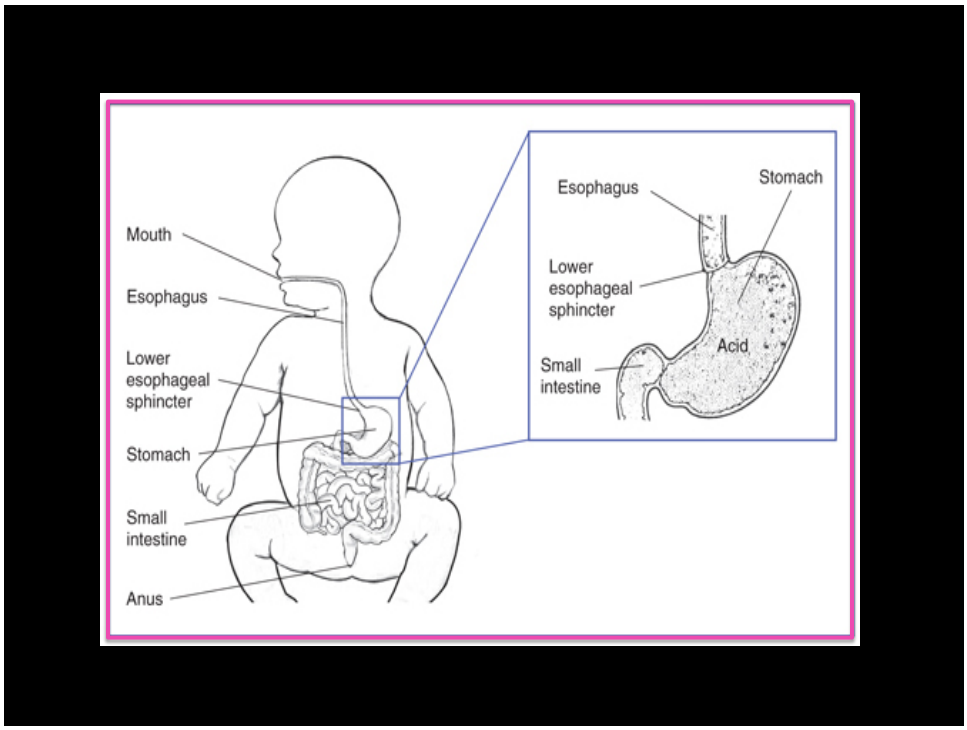
RECTUM

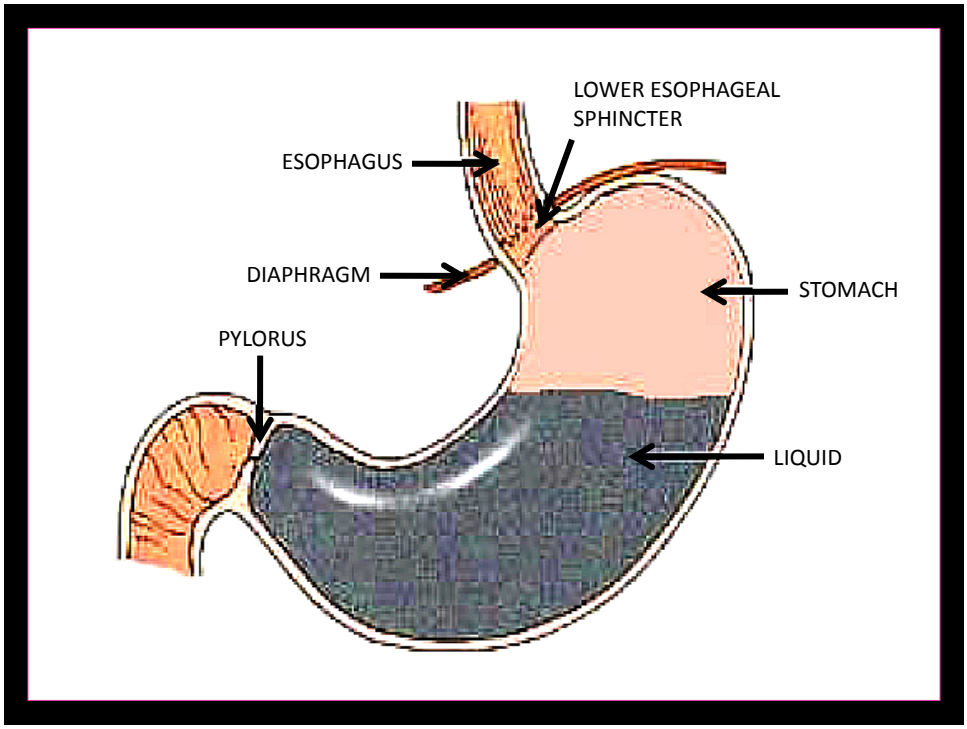
ILEUM

STOMACH

TRANSVERSE COLON


How'd you do?
ORAL CAVITY
OESOPHAGUS
LIVER
DUODENUM
ASCENDING COLON
CAECUM
APPENDIX
STOMACH
TRANSVERSE COLON
JEJENUM
ILEUM
RECTUM


Mouth
Esophagus
Lower esophageal sphincter
Stomach
Small intestine
Anus
Esophagus
Stomach
Lower esophageal sphincter
Acid
Small intestine

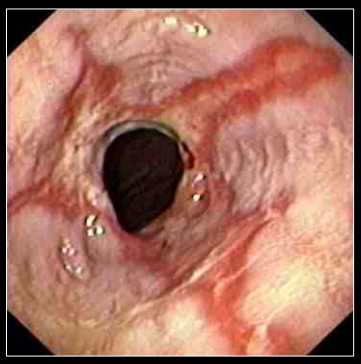


Natural Development of the GI system: Esophagus, Stomach

ESOPHAGUS

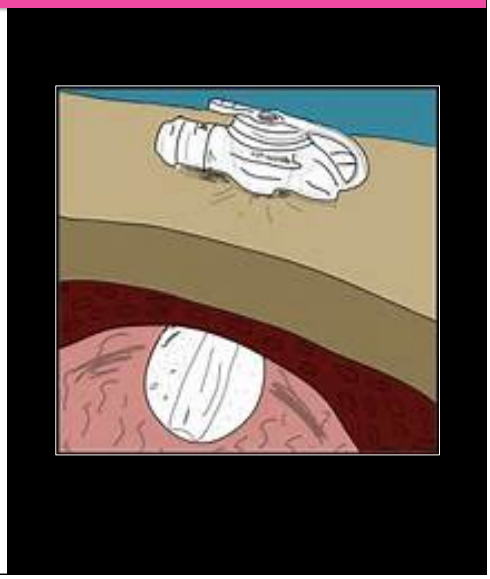
- Begins at the Cricopharyngeal Sphincter
- Ends at the Lower Esophageal Sphincter (LES)
- Hollow tube, peristaltic movement
- Susceptible to erosions
- Eosinophilic esophagitis

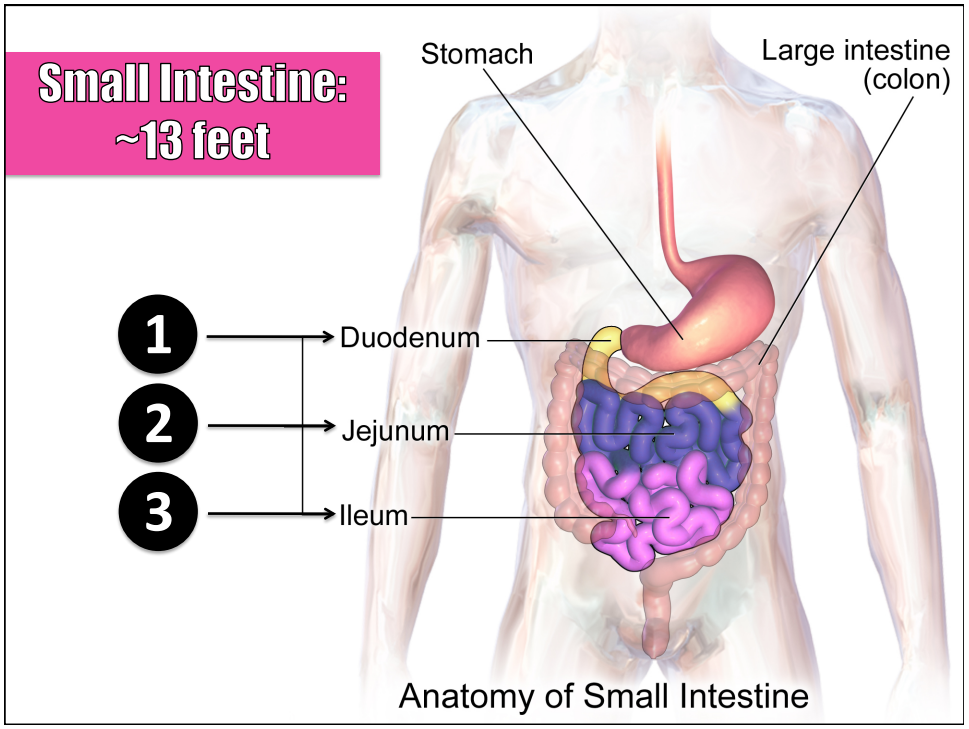
GASTROESOPHAGEAL REFLUX DISEASE

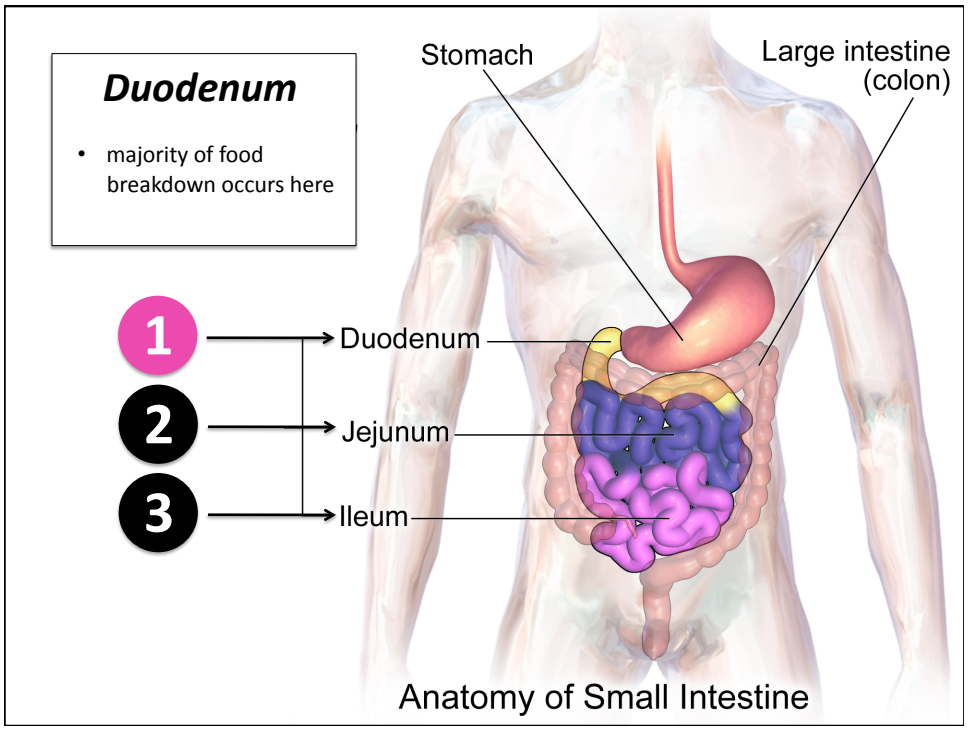


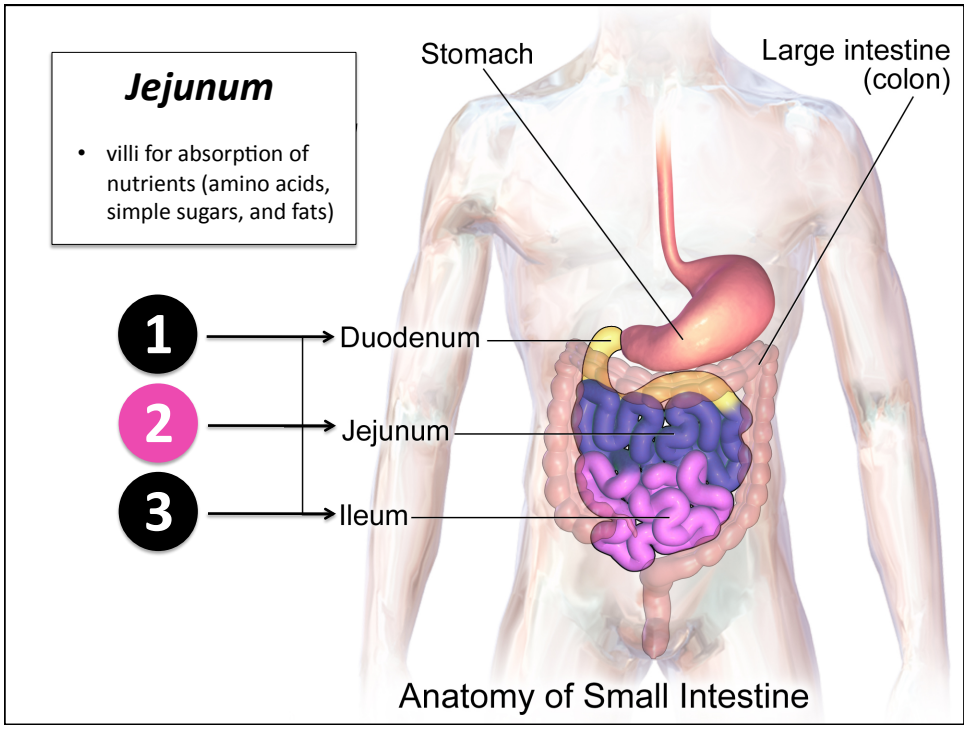
STOMACH

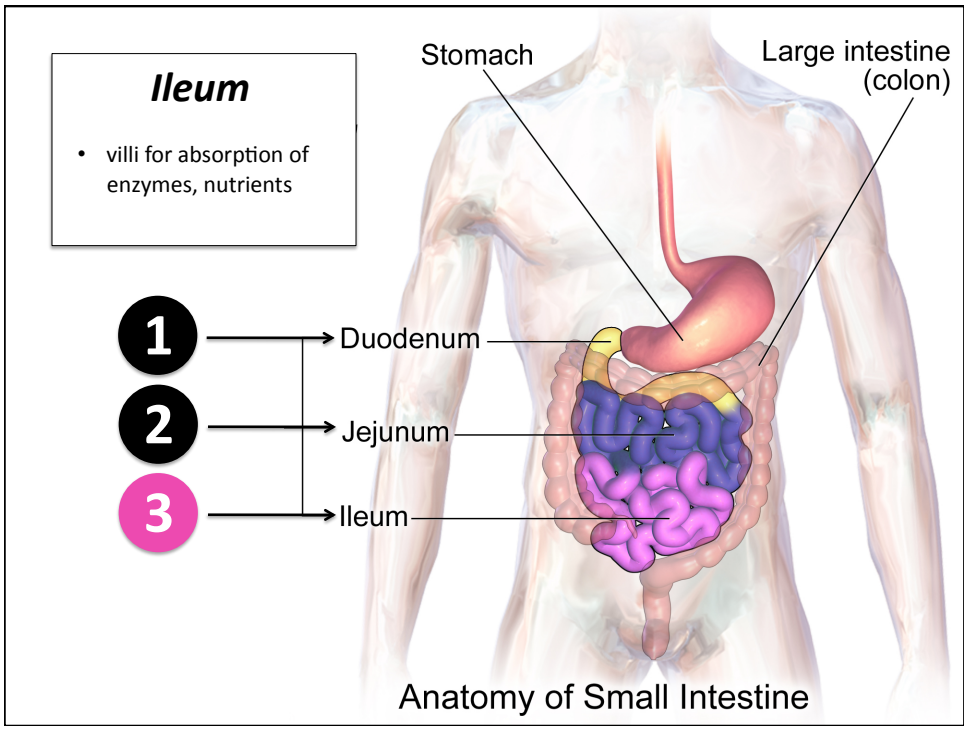
- Below the diaphragm above the small intestine
- Very muscular
- 2 sphincters hold chewed food in place:
  - LES
  - Pyloric Sphincter
  - Location of gastrostomy tube (PEG, Mic-Key, PEJ)

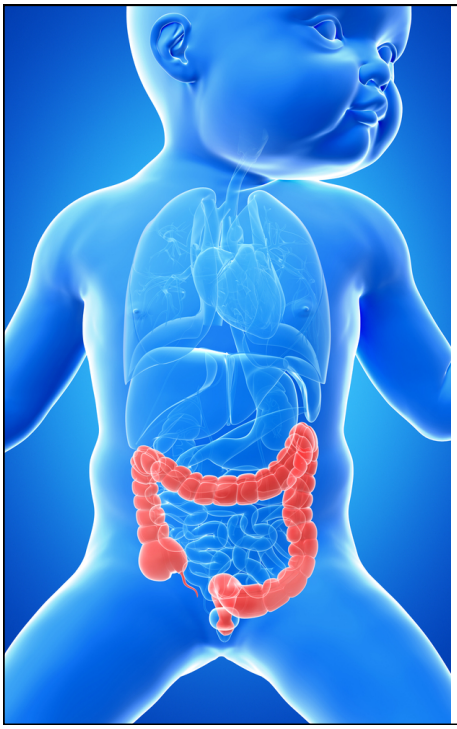



Small Intestine:
~13 feet
Stomach
Large intestine
(colon)
1
2
3
Duodenum
Jejunum
Ileum
Anatomy of Small Intestine


Duodenum
• majority of food breakdown occurs here
Stomach
Large intestine
(colon)
1
2
3
Duodenum
Jejunum
Ileum
Anatomy of Small Intestine


Jejunum
• villi for absorption of nutrients (amino acids, simple sugars, and fats)
Stomach
Large intestine (colon)
1
2
3
Duodenum
Jejunum
Ileum
Anatomy of Small Intestine


Ileum
• villi for absorption of enzymes, nutrients
Stomach
Large intestine (colon)
1
2
3
Duodenum
Jejunum
Ileum
Anatomy of Small Intestine



COLON

- Last Part of gastrointestinal system
- Absorbs water from waste products
- Compacts the waste for elimination
- Gathers vitamins created by (good) bacteria
  - 3 sections: Cecum, Colon, Rectum
    - Cecum: appendix attaches here
      - Possible function is a reservoir for bowel flora
    - Colon (ascending, transverse, descending and sigmoid colon)
    - Rectum

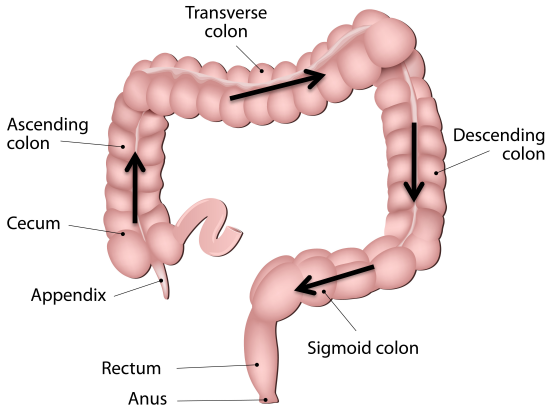
COLON

Ascending: Begins with the Cecum moves upward and ends at the hepatic flexure

Transverse: Below belly button across body, up und stomach

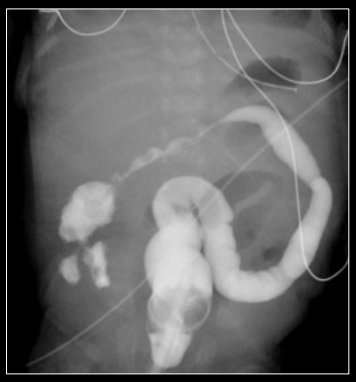
Descending: Begins at splenic flexure, down lateral side of body to empty into the Sigmoid

Sigmoid: end of colon, pushes formed stool into rectum



RECTUM

- Located at the end of the Sigmoid colon
- Temporary storage
- Stretch receptors
- Peristaltic waves
- Internal and external sphincters allow exit of stool
- Hirschsprung's Disease- rare
- Fecal impaction- common



Functional Gastrointestinal Disorders

- Age dependent
- Chronic or recurring symptoms without other associated problems
- Some are normal
- Others stem from maladaptive responses to internal feelings or from environmental stimuli
- Parents seek help depending on their experiences, expectations, coping, and perception of their child's illness
- Conscious/unconscious fears

INFANT REGURGITATION

INFANT RUMINATION SYNDROME

CYCLIC VOMITING SYNDROME

INFANT COLIC

FUNCTIONAL DIARRHEA

INFANT DYSCHEZIA

FUNCTIONAL CONSTIPATION

INFANT REGURGITATION

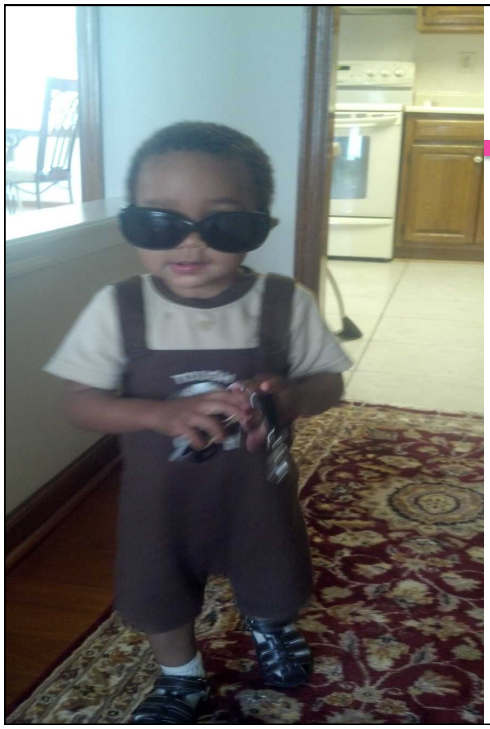
- Very common, **normal** in infants: 67% of healthy 4 month olds
- Developmental issue, not a disease
- Involuntary return of swallowed food/secretions into/out of mouth
- Differs from vomiting; CNS reflex, involving autonomic and skeletal muscles
- 3 weeks-12 months; >2/day for >3 weeks
- No retching, blood, aspiration, FTT, apnea, feeding/swallowing problems, abnormal posturing, excessive crying

INFANT RUMINATION

- Rare
- Voluntary, habitual regurgitation for self-stim
- Usually a disorder caused by social deprivation (orphanages)
- Can be spit out, re-chewed and or re-swallowed
- Begins 3-8 months, does not stop with restraints, meds, formula changes, N-G feeds
- No distress or signs of nausea
- Does not occur during sleep

Infant Rumination *STRATEGIES*

- Address malfunction of caregiver-child bond
- Hold, comfort, feed infant when hungry
- Identify signs of child withdrawing into self
- Re-direct or engage child
- *Identify and respond to cues



CYCLIC VOMITING

- Recurrent/stereotypic episodes of intense nausea/vomiting
- Lasts week-months
- 1-70/year
- Same time of day
- Commonly night or morning
- Highest intensity-1st hours
- Pallor, weakness, increased salivation, intolerance to light/ noise, blotchy skin
- 80% triggered by emotions, infections, asthma, exhaustion

INFANT COLIC

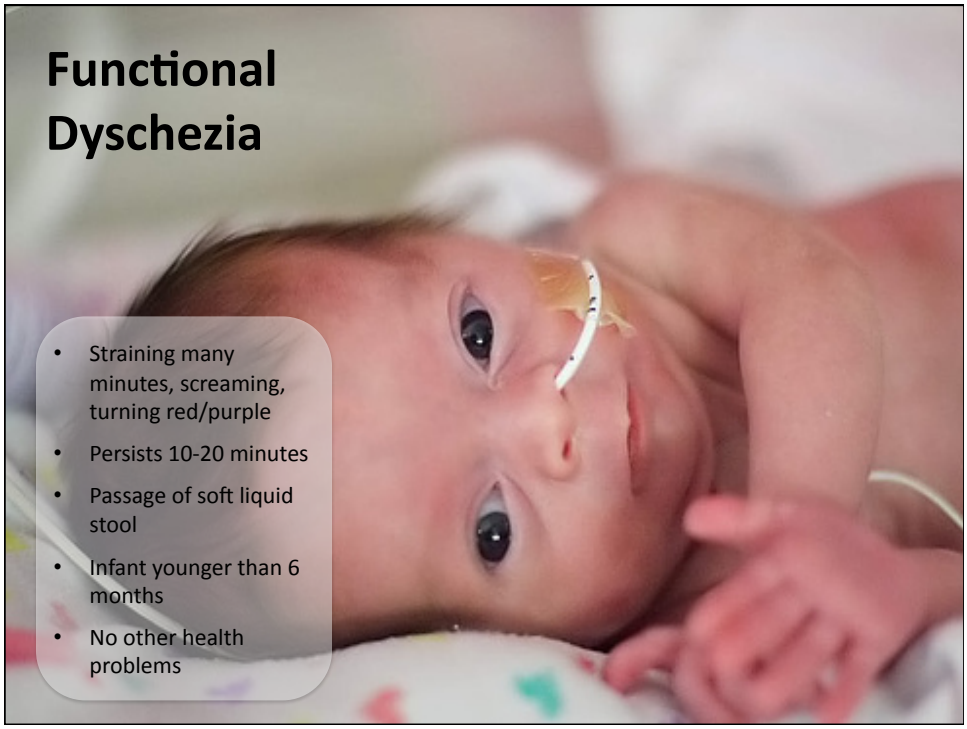
- Behavioral syndrome of early infancy
- Long bouts of crying
- Hard to soothe
- >3 hours, >3 days/week
- Start/stop suddenly
- Occur late in day
- Resolves ~4-5 months
- Crying peaks at 6weeks, diminishes @ 12 weeks
- No FTT
- Non-nutritive soothing, quiet environment, rhythmic rocking/ patting/car ride

Do you know of any tips or strategies for coping with colic?

Let's chat!

FUNCTIONAL DIARRHEA

- Daily, painless, >3 unformed stools
- >4 weeks with onset in infancy or preschool
- Onset 6 months-36 months
- Stool passes during waking hours
- NO FTT
- Good diet
- Child doesn't care
- No Tx
- *BF infants poop >12x/day
- *97% of 1-3 year olds pass stool 3x/day and gradually decrease to 1x every other day



*FUNCTIONAL CONSTIPATION

STRATEGIES

Prune/prune juice
Massage
Warm compress
Leg/rotation exercises
Discuss formula change

Birth – 12 months

- ~40% in 1st year of life
- ~16% of 22 month olds
- <2 movements/week
- H/o stool retention
- H/o painful/hard stool
- Large fecal mass in rectum
- Refuse bottles
- *If resolved by 2, better prognosis

*FUNCTIONAL CONSTIPATION

Toddlers

- Transition to solid food
- Hold onto furniture
- Stiffen legs
- Hide in corner
- Turn red, cry
- Irrational fear of pooping
- Refuse food
- H/o large-diameter stools, may obstruct toilet
- *Need 15-30 ounces liquid/day

STRATEGIES

Fiber 7-15g/day

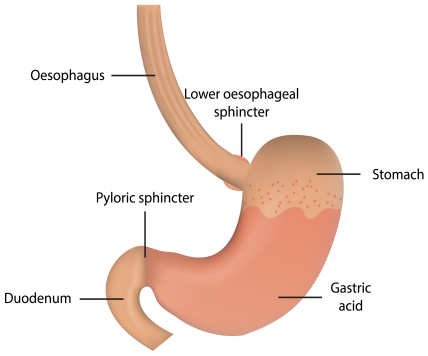
Decrease fatty foods

Exercise

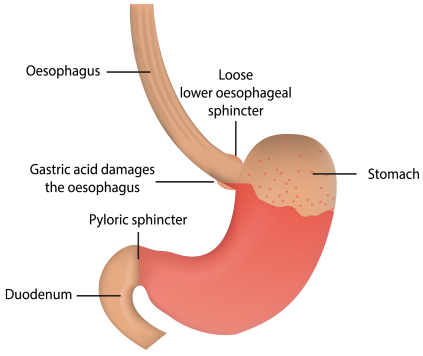
PEG

Gastroesophageal Reflux Disease (GERD)

Healthy



GERD



Gastroesophageal Reflux Disease (GERD)

A big mess or reason to test?

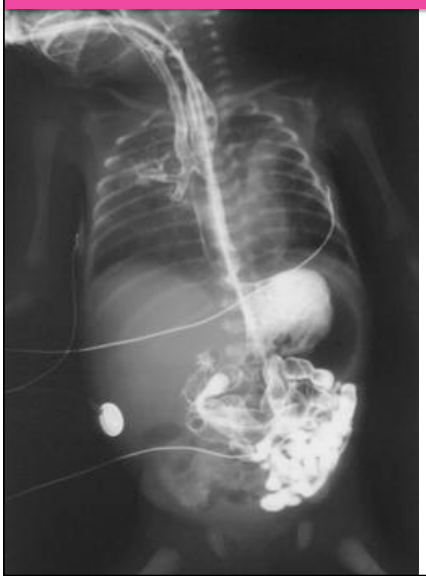
REFLUX

- Passage up esophagus
- Normal in healthy infants
- Episodes are brief, no issues
- Good weight gain
- Common in infants to 18 mo
- No Tx; education
- May thicken feeds
- Left side play or elevated tummy time

DISEASE

- Passage up esophagus
- Esophagitis, Poor weight gain, FTT, respiratory problems
- Reflux > 18 months
- Feeding Refusal
- Stiff body, arching
- Torsion of neck, Sandifer Syndrome-not Torticollis
- Blood in stool/emesis

GERD



INFANTS

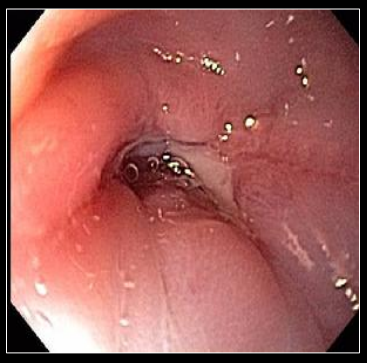
- discuss formula change with MD
- Thicken feeds (not rice cereal) 1 Tablespoon/ 2 ounces liquid
- Anti-reflux positioning (NO car seat)
- Avoid nicotine environment
- Decrease feeding volume, increase frequency, increase calories
- DO NOT over feed
- Start trial of acid suppression
- PPI
- Lifestyle changes

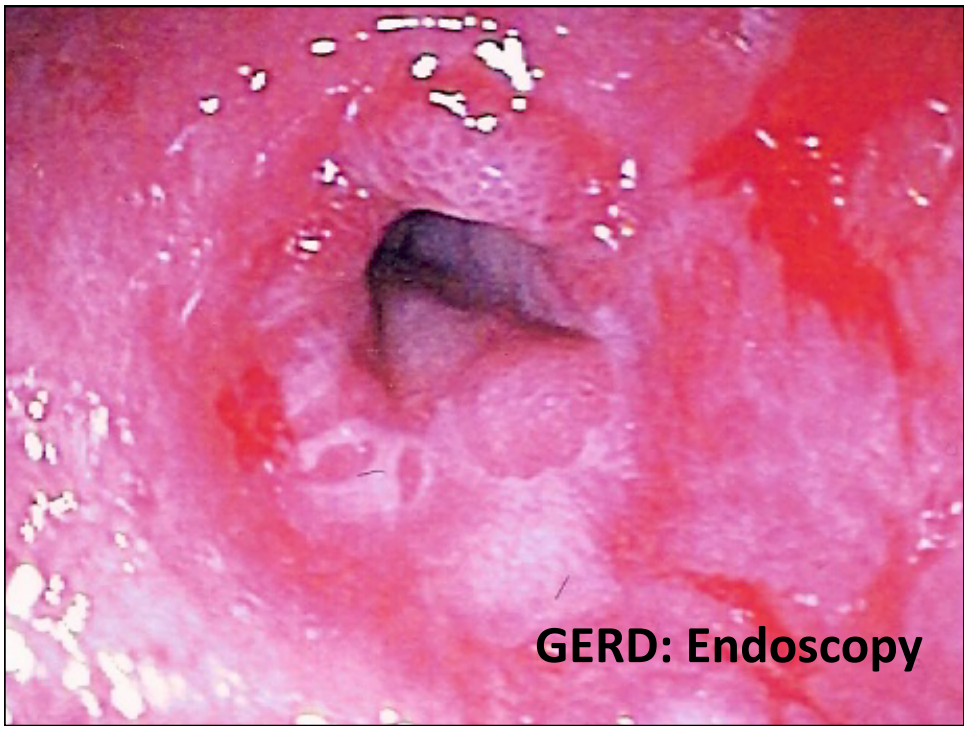
TODDLERS

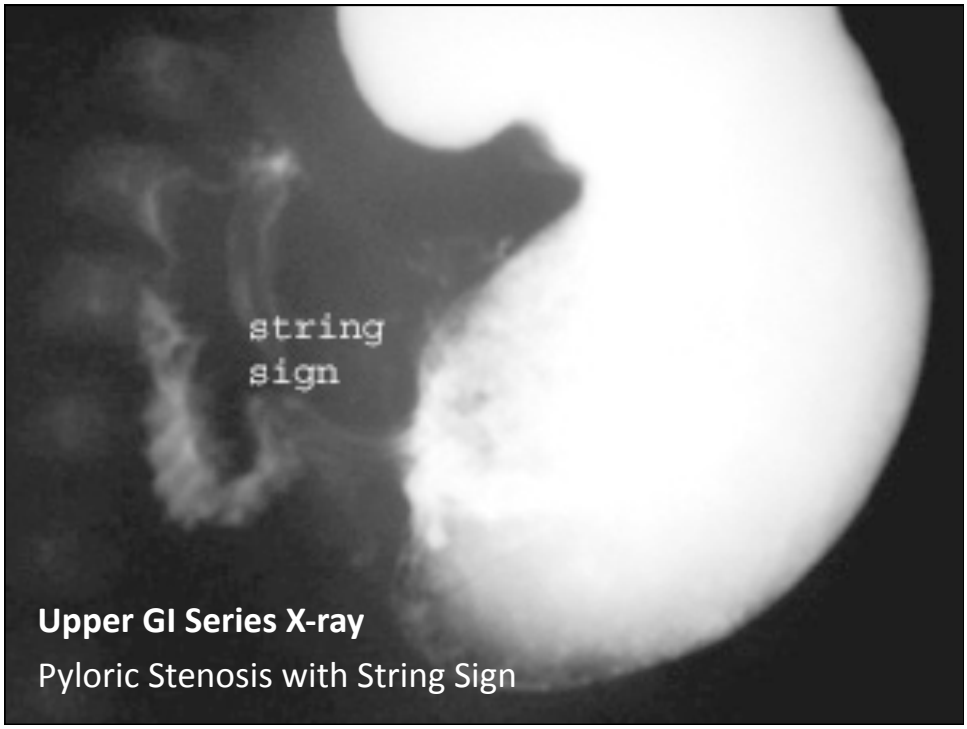
- avoid milk
- As above with intro to solids
- Acid suppression
- PPI
- Lifestyle changes

"What Are All These Crazy Tests?"

- Swallow Study
- Modified Barium Swallow
- Upper GI Series
- Small Bowel Follow-Through
- Gastric Emptying
- Esophageal Ph Monitor or Ph Probe
- Endoscopy
- Ultrasound
- Barium Enema







Upper GI Series X-ray

Pyloric Stenosis with String Sign

Medical Treatments

H2 blocker, PPI, Prokinetic , Antibiotic	**Bottle Label Name**
PEPCID →	FAMOTIDINE
REGLAN →	METOCLOPRAMIDE
NEXIUM →	ESOMEPRAZOLE
PRILOSEC →	OMEPRAZOLE
ZANTAC →	RANITIDINE
PREVACID →	LANSOPRAZOLE
EES →	ERYTHROMYCIN

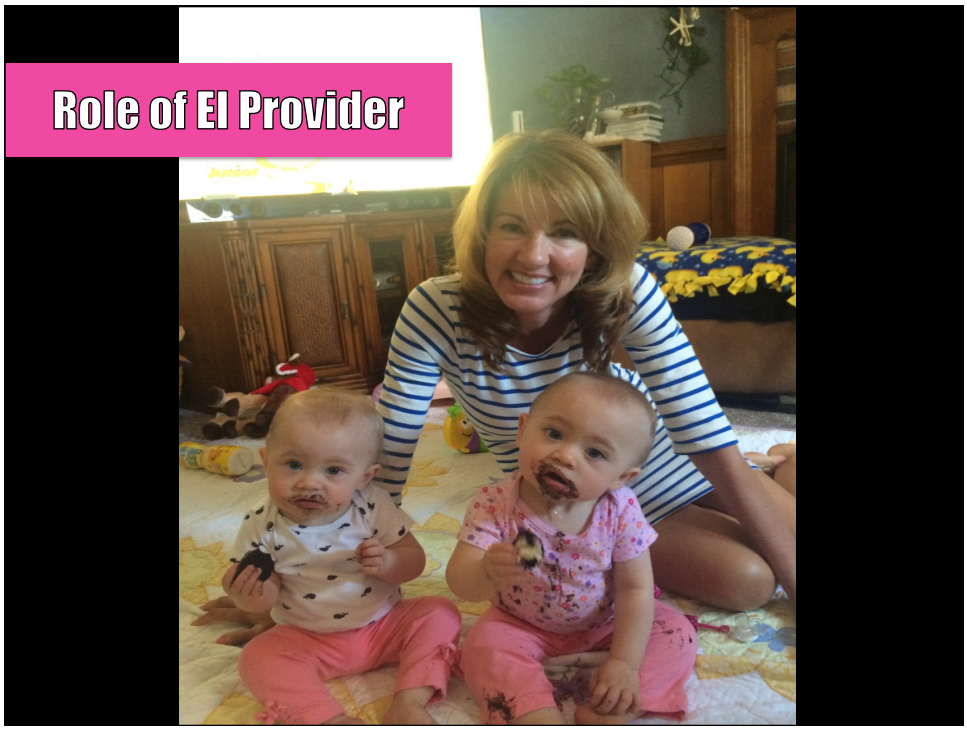
MEDICATIONS

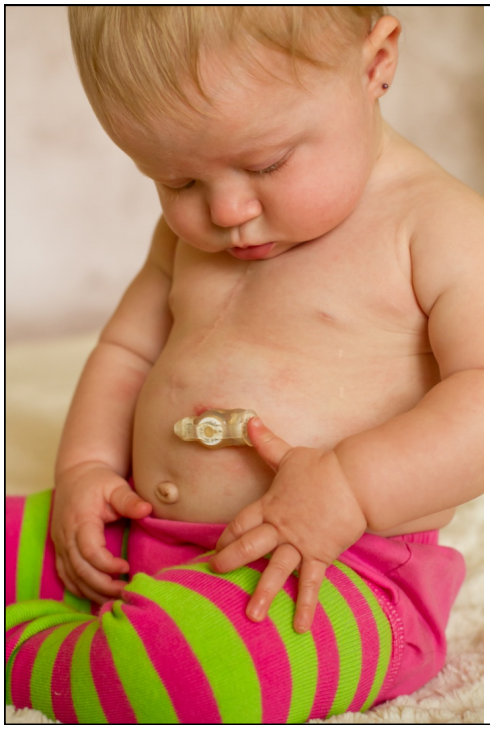
H2 Blocker
- Ranitidine - Zantac
- Famotidine - Pepcid

Prokinetic
- Metoclopramide

Antibiotic
- Erythromycin (EES)

PPI
- Esomeprazole – Nexium
- Omeprazole- Prilosec
- Lansoprazole- Prevacid





Thank You!