Tube Feeding Toolbox:
Practical tips for enteral complications
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Objectives

- Identify some typical complications when receiving home enteral nutrition (EN)
  - GI
  - Tube site
  - Mechanical
- Identify frequent cause of complications
- Give practical modifications or solutions to help improve issues

RD's - #1 Goal

- For each patient to meet their nutritional needs in the best way possible for them individually
  - Determine barriers that make this goal unattainable and work towards finding strategies to eliminate them
• Diarrhea, Constipation, Nausea, Vomiting, Gas, Bloating, Reflux

What is diarrhea?

• How many loose stools in a day for how many days?
  > 2 loose stools per day on 2 consecutive days
  10% of tube fed patients

Typically BM’s be different on TF than oral diet
  Softer, more frequent
  Shouldn’t be:
  • So many in a day that your life is disrupted
  • Increase urgency that you can’t make it to the bathroom

Medications
  • Contains Sugar Alcohols
  • Lactulose
  • Antibiotics
  • Chemotherapy / Radiation
  • C-diff
  • GI surgery history/ Malabsorption
  • Short Bowel Syndrome
  • Lack of ileocecal valve
  • Pancreatic Insufficiency
  • Sterility of feeding system
**Diarrhea - Strategies**

- Tube Feeding adjustments
  - Rate of infusion
  - Slow it down
  - Formula Temp
  - Osmolality
  - Lower fat or Peptide based formula
  - Fiber Content / Prebiotics
    - Prebiotic FOS (banana flakes, psyllium, guar gum)
  - Probiotics
    - Florastor or Lactinex

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**Constipation**

- Having infrequent and hard to pass stool
- Constipation can be different for everyone
- Can lead to:
  - Abdominal pain
  - Abdominal Distension
  - Gas/Bloating
  - Nausea

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**Constipation - Causes**

- Inadequate fluid intake
- Medications
  - Antacids
  - Ca / Iron supplements
  - Anti-Depressants
  - Pain Medication
**Constipation - Strategies**

- Adequate fluid intake
- Prune or Pear Juice flush
  - 4 oz daily
  - Flush with 30 ml water before and after!
- Fiber
  - Assess normal fiber intake
  - 25-30 g/day
  - DO NOT ADD FIBER if you have:
    - GI dysmotility
    - Neuromuscular disorders
    - Chronic Opiate use
    - Pelvic Floor disorders
- Increase physical activity when possible
- Stool Softener or laxative

**Gas/Bloating/Fullness/Distension**

- 13% of patient on EN
- Irritable Bowel
  - FODMAPS: fermentable oligosaccharides, disaccharides, monosaccharides and polyols
    - Inulin (chicory root extract)
    - FOS
    - Fructooligosaccharides
    - Raffinose
- Volume of feeds
  - Spread out feedings – try less volume more frequently

**Nausea/Vomiting**

- Volume of feeding
- Tube feeding administration
  - Gravity – Bag/Syringe
  - Syringe Push
  - Pump
- What's going on in the GI tract
  - Diarrhea/constipation?
**Nausea/Vomiting**

- Keep your HOB > 30 degrees for at least 30 mins to an hour after feeding
- Open your tube to drain and vent gas
- Lying on right side may improve gastric emptying
- Environment
  - Relax
  - Avoid sight/smells which may trigger nausea
- Fiber and Fat can slow GI transit time
  - Try alternate formula

**Hydration**

- Dehydration:
  - Headache, Lethargic, Dry Skin, Increased Heart Rate, Low BP, Constipation
- Overhydration:
  - Edema ascites

**Hydration**

- Daily fluid needs
  - General rule is to receive ~ 1 ml water per calorie
  - 25-30 ml per kg body weight
  - 30 ml in 1 ounce of fluid
  - TF typically contains ~80% water but you still need additional water to meet fluid needs anywhere from 2-4 more cups/day (480-960 ml)
**Hydration**

- Increased Sweating/vomiting/diarrhea – need more water
- Chronic high output: ostomy, G-tube, diarrhea
  - Oral Rehydration Solutions
  - Oley website has recipes and tips
- Store-bought sports drinks DO NOT adequately hydrate and replace high output losses

**Tube Site Issues**

- Healing, Leakage, Irritation, Fungal/Yeast Infection, Hypergranulation tissue

**Tube Site**

- 2-6 weeks initial healing time for stomal tract
- Pain, crusting and oozing at tube site are normal initially but should decrease slowly over time
- External bolster should snug, but NOT Tight, for the first 2-3 weeks then can be loosened.
Leakage/Irritation

- Site infection
  - Poor cleaning of site
  - Mild Soap and water, pat dry
  - Avoid using Hydrogen Peroxide
  - Discuss with your MD if further systemic antibiotics are needed.
- Excess moisture
  - Avoid gauze around tube
  - Consider foam disk or dressing
- Increased gastric acid
  - PPI (proton pump inhibitor medication)
    - Prilosec, Prevacid, Nexium, Protonix, Aciphex

- Side torsion of feeding tube
  - Tube Stabilization device
- Deflation of internal balloon
  - Internal balloon may have leak or not enough water
  - Learn about your tube
  - Size, balloon size
  - Ask for replacement tubes

Fungal / Yeast Infection

- Redness, White plaque like lesions on skin
- Most often due to excess moisture
- Clean skin with water & soap, pat dry
- Antifungal Powder such as Nystatin – sprinkle on and rub in
- Use skin barrier protection wipe such as Skin Prep, dab over area to create barrier layer
Hypergranulation Tissue

- Bright red, soft, spongy tissue
- May bleed easily or have yellow drainage
- Typically caused by
  - leaking
  - friction at stoma site
  - excess hydrogen peroxide use

Treatment
- Silver Nitrate is the most common treatment for this
  - Have this completed by RN or Wound Care RN can be done in the office
- Cauterization by MD
  - If tissue is too large

Mechanical Issues
- Clogged Tubes, Tubes falling out
Clogged Tube

- Causes
  - Small diameter feeding tubes
  - Thicker, high calorie formulas
  - Fiber supplementation
  - Inadequate water flushing
  - Improper medication administration

Clogged Tube

- Anecdotal Remedies
  (NOT RECOMMENDED)
  - Cranberry juice
  - Cola
  - Coffee
  - Meat Tenderizer
  - Pancrealipase or Papain enzymes
  - Hot water
  - Pipe Cleaners!!! YIKES

Clogged Tube Strategies

- Water
  - Using warm water flush gently with a back-and-forth motion using a syringe
  - G-tube = 30 mL or larger are appropriate
  - Smaller tubes such as J-tube = 60 mL syringe
  - Let water sit in tube for 5-20 mins and repeat flushing until improved

- Enzymes
  - Clog Zapper Solution or
  - Viokace
Clogged Tube Prevention
- Adequate water flushes and Appropriate medication administration
  - Flush tube immediately before and after feeding w/ at least 30 ml of water
  - Flush w/ 30 ml water before and after medication administration
  - Flush w/ at least 5 ml between medications
- All crushable meds (not enteric coated or time released) should be crushed to a fine powder and mixed in 5 ml warm water until dissolved
  - Speak with pharmacist if you are unsure if you can crush your meds.
- Never mix TP formula w/ medications, TP modular or Fiber unless instructed to do so by your MD or RD

Tube Falls out
- New Tubes:
  - If the tube falls out in the first 6 weeks before tract matures must be replaced in 1-4 hrs to avoid closure
- Bumper style tubes:
  - Cut off bumper and replace tube in tract until able to get the tube replaced
- Balloon style tube:
  - Check for leaks in the balloon and even inflation of the balloon
  - Place tube in tract uninflated if needed until new tube able to be placed
  - Ask for replacement tubes from Home Health if able
- When tube is placed back in tract temporarily DO NOT USE until tube is assessed and replaced by MD.

Other Issues
- Feeling Overwhelmed, Anxiety, Appointments, Needing Help
Other Issues

- Feeling overwhelmed and Anxiety
  - Find others like you to share experiences
  - Oley Foundation
  - Tube Feeding Awareness Foundation
  - Facebook groups
  - Local support groups through hospital or clinic
  - Try meditation or relaxation apps

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Other Issues

- Simplify Tube Feeding Plan
  - Avoid nighttime feedings
  - Interrupted sleep
  - Increased need to use bathroom
  - Difficult to keep HOB > 30 degrees
  - Tangling of tube
  - Help with feedings
    - Gravity feeds can be less hands on
    - Feeding Tube holders
    - The Blackbeard
    - Rails Bag/ filled delivery
    - Advice from other tubies

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Most Importantly

- Give yourself grace
- Learn along the way
- Reach out for help
- Listen to your body
- Trust your instincts

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References


