

iThrive

TUBE FEEDING FOR DYSMOTILITY CONSUMERS

Presented by:

Kristen R. Roberts, PhD, RD
ThriveRx Clinical Specialist

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Nutrition Support Options for Consumers with GI Dysmotility



Diet

- Nutrient-specific: low fiber, low fat
- Hydration: Increasing fluid intake to promote adequate hydration
- Ingestion modifications: small meals, eating more frequent meals, drinking fluids with solid food

Enteral Nutrition (EN)

- Nocturnal hydration/feeding
- Supplement specific nutrients to achieve nutritional goals

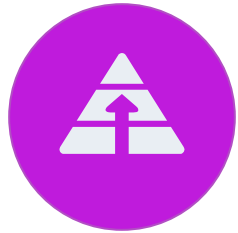
Parenteral Nutrition (PN)

- Nutrition infused intravenously to meet up to 100% of nutritional needs

Intravenous Hydration

- Fluid and electrolytes administered intravenously

Benefits of Nutrition Support



Nutrition support provides alternatives to delivering nutrients when eating is not possible or not enough calories can be absorbed



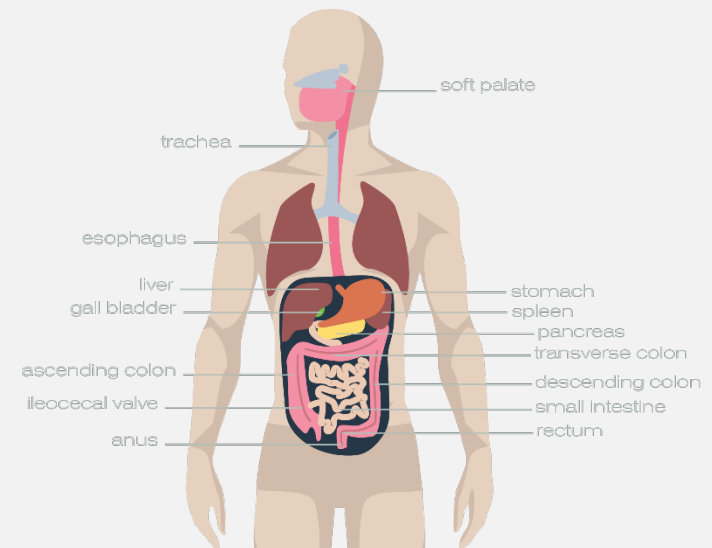
Nutrition support provides bowel rest when needed



Nutrition support can improve surgical results for malnourished individuals

Initiating Nutrition Support

- 1 A plan starts with an evaluation of the GI function in order to determine nutritional treatment options.
- 2 A thorough assessment of the overall nutritional status should be completed that includes:
 - Diet and weight history
 - Food allergies
 - Meal patterns
 - Medication history
 - Laboratory data
 - Bowel movement patterns
- 3 Symptom evaluation and identification of trigger points in effort to provide a nutritional plan that minimizes negative symptoms.



Benefits of Enteral Nutrition



Maintains the health of the gastrointestinal (GI) tract

Reduces the inflammatory process

Stimulates the growth of the villi lining the small intestine

Improves GI transit time

Cost-effective

Enteral Nutrition: Tube feedings



Selection of EN formula depends on many factors:

- Bowel anatomy
- Area of the GI tract affected by the underlying condition
- EN formula characteristics

Enteral formula characteristics:

Intact: intact nutrients (similar to food)

Polymeric: partially-digested nutrients

Hydrolyzed (semi-elemental and elemental): almost completely-digested nutrients

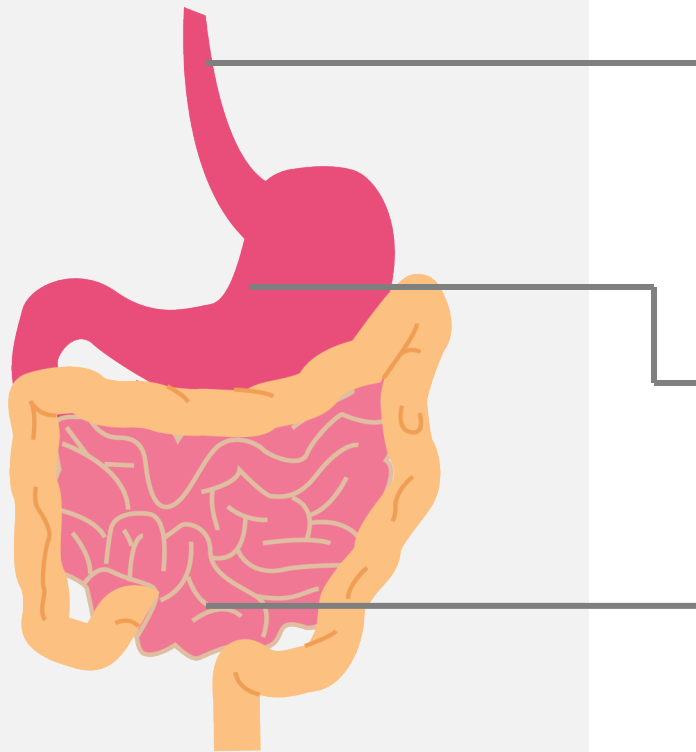
Osmolality: concentration

Fiber content

Delivery of Enteral Nutrition



Enteral Tube Location



Nasogastric

- Through the nose to the stomach

Nasointestinal

- Through the nose to the small intestine

Gastrostomy

- Surgically: through the stomach wall
- Endoscopically (PEG)

Jejunostomy

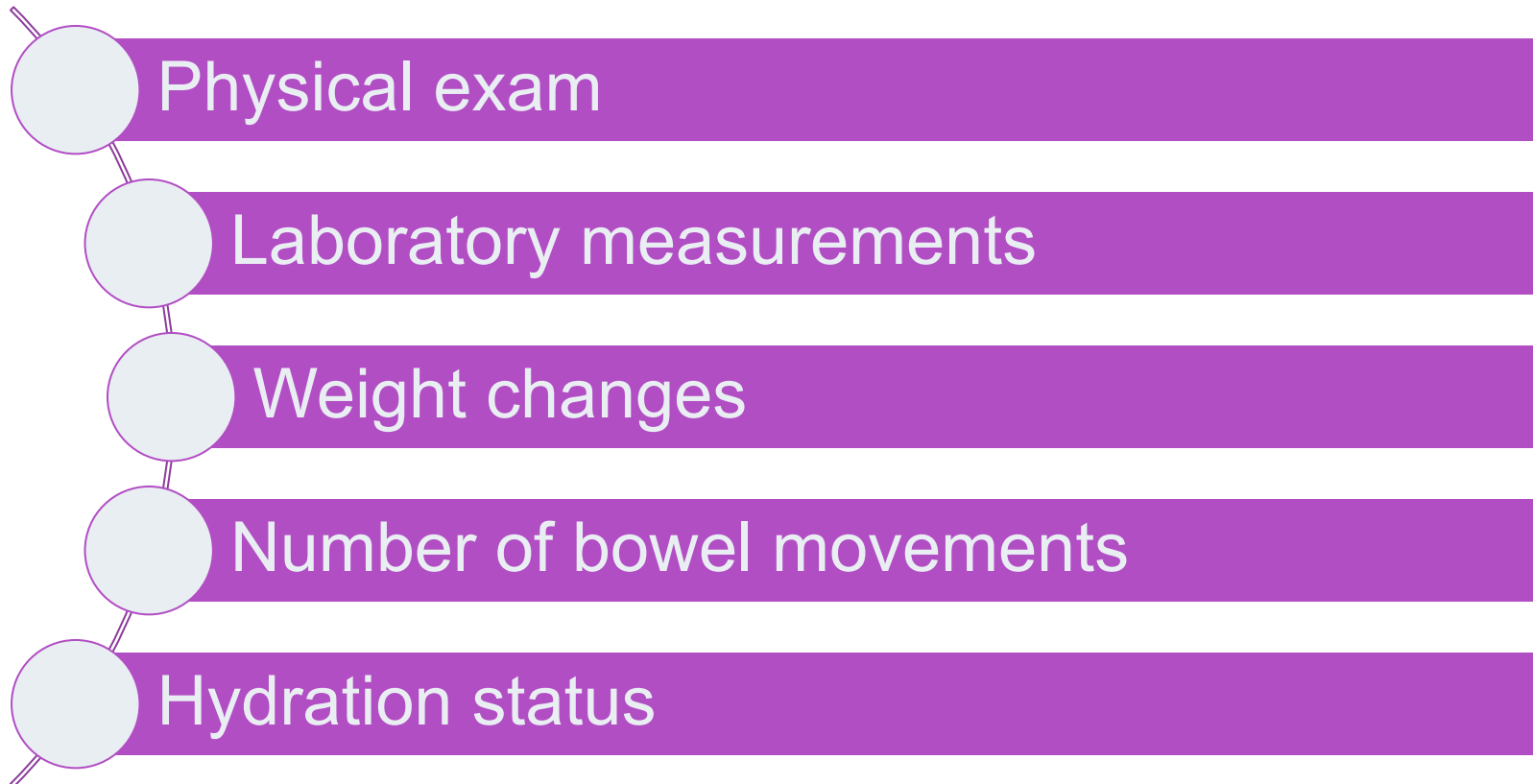
- Surgically: through the abdominal wall to the small intestine
- Endoscopically (PEJ)

The Benefits of Early Tube Placement



- Prevention of dehydration and electrolyte abnormalities
- Prevention of weight loss
- Prevention of malnutrition
- Improvement in fatigue
- Low risk associated with placement of an NG or NJ tube

Determining Tolerance to EN



Improving Tolerance to EN



- Modify the oral diet (for consumers on EN and diet)
- Adjust EN formula and/or modulars
- Modify the rate of EN infusion
- Confirm that the head of the bed is at a 30° angle
- Alter medications to improve absorption and transit time

Diet Impacts EN Tolerance



Small, frequent meals are the easiest to tolerate.

Try $\frac{1}{4}$ to $\frac{1}{2}$ c. of a given food at a time and monitor your response.

Continue to add new foods to your diet.

It is ok to re-try foods that you were unable to tolerate previously. Sometimes trying a smaller amount at a later time will allow you to increase the variety of foods in your diet.

Chew your food well.

This is the first step in digestion and can make a huge difference in GI tolerance.

Liquids tend to be easier to tolerate and can improve total caloric intake.

If your fullness increases as the day progresses, try switching over to liquid beverages that contain calories (shakes, juice, milk, etc.).

Don't lie down after a meal.

Try to sit up or walk around to help the food move throughout your GI tract.

Avoiding Dietary Fiber

Why does fiber slow the movement of food throughout the GI tract?

- Fibers can attract water and form a gel within the stomach and intestine, which slows the movement of food throughout the GI tract.
- Extensive research has demonstrated that patients on a high-fiber diet experience more abdominal pain, discomfort, nausea and vomiting.
- An overview of the fiber content within the food groups is outlined in the table below.

FOOD GROUPS	FOODS TO AVOID	FOODS TO CHOOSE
Grains, cereal, pasta	Whole grains, brown rice, popcorn, potatoes with the skin, high fiber cereals, rye bread, whole wheat breads, corn bread	White bread, white rice, crackers, refined grains, pretzels, refined cereals
Fruits, vegetables and legumes	Skins, nuts and seeds of the plant. Avoid uncooked fruits or vegetables. Avoid corn, onion, lentils, peas and beans	Cooked or canned fruits and vegetables with the skin removed, casseroles, Sweet or white potatoes without the skin
Milk and dairy products	Dairy products that are fortified with fiber.	Dairy should be consumed as tolerated as this is a naturally fiber-free food
Meats, fish, eggs and poultry	Tough cuts of meat, processed meats (hot dogs, sausage, cold cuts)	Baked, broiled, tender meats/fish/poultry, tofu, ground meats, smooth peanut butter and any style eggs

Dietary Fat

- Including liquid fats, like oils, or small amounts of fat at each meal are ways to increase fat intake while minimizing discomfort.
- Extensive research has demonstrated that patients on a high-fat diet experience more abdominal pain, discomfort, nausea and vomiting.
- An overview of the fat content within the food groups is outlined in the table below

FOOD GROUPS	FOODS TO AVOID	FOODS TO CHOOSE
Grains, cereal, pasta	Crackers, chips, fried breading	White bread, white rice, crackers, refined grains, pretzels, refined cereals
Fruits, vegetables and legumes	Fruits, vegetables or legumes that are fried or cooked with excessive oil/butter	Cooked or canned fruits and vegetables with the skin removed, sweet or white potatoes without the skin
Milk and dairy products	2% or whole dairy products (milk, yogurt, cheese)	If tolerated, skim or 1% dairy products (milk, yogurt, cheese)
Meats, fish, eggs and poultry	High fat beef/pork/lamb. Avoid meats with visible fat (white-marbling)	Egg whites, skinless chicken or turkey breast, lean pork/beef/lamb/veal, liver, fish, shrimp and crab

Medications for Consumers with Dysmotility



Enteral Nutrition: Hydration



Fluids can be delivered through a feeding tube to help maintain hydration and/or the health of the GI tract

Enteral hydration has been shown to be effective in reducing PN volumes in consumers that are actively rehabilitating their intestine

Consumers that may benefit from enteral hydration include:

- Consumers that can maintain their body weight, but battle with recurrent dehydration
- Consumers unable to meet 100% of their hydration needs with their EN formula
- PN consumers unable to tolerate EN formulas

Indications to use parenteral nutrition in dysmotility

- Unable to obtain or maintain enteral access
- GI tract is non-functioning



Using EN and PN at the same time

Uses:

- To bridge a consumer that is transitioning off of PN onto EN
- To feed a functioning lower GI tract when unable to maintain nutritional status without PN

Transitioning from PN to EN



Reduce PN volume/nutrients as EN intake increases



Reduce PN infusion days (PN holiday)



Reducing days of infusion per week



Case Studies

Case Study: Gastroparesis



AC is a 46-year-old male with severe gastroparesis for the last three years, who has had gradual weight loss (84% of goal weight). AC has tried several medications to assist with improving his gastric emptying with little improvement. After meeting with a dietitian on several occasions, AC was placed on a liquid diet. After two weeks of trialing a liquid diet, AC was still having significant vomiting. Laboratory parameters suggested that AC was becoming dehydrated with mild electrolyte abnormalities. After discussion of the plan of care with his nutrition care team, it was determined that the dysmotility was only affecting his stomach and the remaining sections of his GI tract were functioning. Therefore, a trial of a nasojejunal feeding tube was recommended.

Case Study: Gastroparesis



1-month follow-up:

AC was made NPO while his tolerance to the EN was being assessed. A continuous nighttime infusion of a polymeric formula was initiated.



2-month follow-up:

AC was tolerating his EN at his goal rate over 12 hours at night. Since tolerance to his EN formula was established, AC started taking sips of liquids by mouth. He could tolerate up to ½ c. of fluids every few hours without causing increased nausea and vomiting. It was decided to place a PEG-J feeding tube at this time.



3-month follow-up:

AC has made significant improvements in his weight and he is now 95% of his goal weight. AC notes improvements in his chronic fatigue and is able to return to work. He is now able to take in small bites of low-fat, low fiber foods. His gastroenterologist is retrying several prokinetic agents at this time.

Case Study: Mitochondrial Disease



MP is a 26-year-old female with MNGIE syndrome with severe GI dysmotility, failure to thrive and loss of muscle mass. Because of the severe GI dysmotility and failure to thrive, MP has relied on PN for the last four years. Her goal is to reduce her PN infusion days to improve her sleeping habits and quality of life. Recently, she visited an intestinal rehabilitation center due to her complex GI case. After a full assessment of her GI tract, the clinical team suggested placing a nasogastric feeding tube to see if her GI tract could tolerate EN. A polymeric formula was selected for her first EN trial.

Case Study: Mitochondrial Disease



1-month follow-up:

MP tolerates 25% of her EN goals due to mild diarrhea and some nausea. It was decided to progress her feeding tube into the jejunum to see if tolerance would improve.



2-month follow-up:

MP tolerates 50% of her EN goals and her nausea was improved. She did have an increase in her diarrhea, so a soluble fiber supplement was started through her feeding tube. Weight gain was noted and her hydration status was excellent. MP's PN formula was decreased to six days per week for two weeks and then to five days per week for two weeks. A long-term feeding tube was then placed.



3-month follow-up:

MP is able to maintain her weight on 50% EN and it was recommended to decrease her PN to 3 days per week. She was having some difficulty maintaining her hydration status on the days when she was not receiving PN so IVFs were sent to the home for the patient to use as needed. Her weight continues to be monitored and slow adjustments to her EN formula are made in effort to maximize the use of her GI tract. MP reports she is getting better sleep now that her PN frequency is reduced.

Summary



- Many nutrition support options are available for consumers with intestinal failure.
- Transitioning nutrition support takes time to determine tolerance to the nutrition support regimen.
- For complex cases, working with a team of clinicians that specialize in intestinal rehabilitation is critical.

ThriveRx's Mission



ThriveRx's mission is to optimize the nutritional well-being of our consumers through our customized approach, while maintaining the highest standards in service and clinical care. Our mission is fulfilled by our outstanding team, who put our consumers at the center of what we do and work towards improving the quality of their lives.

For more information on ThriveRx's programs and services, call us at: 888-684-7483 or email us at info@thriverrx.net

PEDIATRIC SBS DIET OVERVIEW

Wednesday, Dec. 9, 2015 1:00–2:00 p.m. EST

Please join us to learn more about the best diet for children with short bowel syndrome (SBS), to maximize absorption and reduce the need for nutrition support.

Speaker: Jill Taliaferro, RD, CNSC, ThriveRx clinical nutritionist

To register for this webinar, or to view recordings of previous webinars, visit ThriveRx.net.

CONTACT US:

888.6.THRIVE
info@thriverrx.net
thriverrx.net

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