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Managing Gastrointestinal Intolerance in Tube Fed Patients at Home

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Disclosure

- The content of this program has met the continuing education criteria of being evidence-based, fair and balanced, and non-promotional.
- This educational event is supported by Abbott Nutrition Health Institute, Abbott Nutrition.
- Consultant for Coram Healthcare and Baxter Healthcare.



Objectives

1. Discuss three primary components related to discharging a patient home on tube feeding for nutrition support.
2. Review key considerations for tube feeding formula selection.
3. Identify three issues related to tube feeding complications including GI intolerance, and appropriate prevention/interventions.
4. Describe two monitoring parameters for optimizing patient outcomes after discharge to home.

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Objective #1

Discuss three primary components related to discharging a patient home on tube feeding for nutrition support.



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Transitioning from Hospital to Home



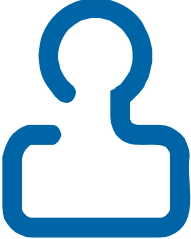
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- ✓ Accessibility to clinicians – 24/7
- ✓ Support/Education
- ✓ Policies and procedures
- ✓ Experienced dietitians
- ✓ Experienced home nutrition support clinicians

Our goal – a safe and appropriate discharge so, once home, the patient stays home!

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Patient must be stable.


- ✓ No major changes in medical status
- ✓ Laboratory data is within normal “acceptable” limits including:
 - Glucose
 - Sodium
 - Potassium
 - Complete Blood Count
 - Liver function

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Feeding access should be related to the length of therapy.

– Long term:

- Percutaneous Endoscopic Gastrostomy (PEG)
- Gastrostomy tube
- Percutaneous Endoscopic Jejunostomy (PEJ)
- Jejunostomy feeding tube



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Is a caregiver/
carepartner available?


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Establish Goals:

- Is this a lifetime therapy?
- Is this short term for recovery or treatment?
- Is this palliative care?



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Diagnoses associated with tube feeding:

- Dysphagia
- Neurological disorders
- Cancer
- Gastroparesis
- GI fistulas
- Malabsorption/Failure to thrive

Ireton-Jones C. Home enteral nutrition. Oley Foundation website. Accessed on Feb 17, 2013. <http://www.oley.org/lifeline/henND.html>
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Objective #2

Review key considerations for tube feeding formula selection



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GI tract evaluation

- Mouth/Throat
- Esophagus
 - Swallowing?
 - Obstruction?
- Stomach
 - Gastrectomy?
 - Obstruction?
 - Motility?
- Small intestine
 - Length?
 - Function?
 - Ileocecal valve?
- Colon
 - Present?

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AGA Medical Position Statement: Guidelines for the Use of Enteral Nutrition
Gastroenterology 1995;108:1280-1301

DeLegge, Mark H. Access for Home Enteral Nutrition. Handbook of Home Nutrition Support. Sudbury MA. Jones and Bartlett. 2007. pp 59-82.

Ireton-Jones, Carol. Home Enteral Nutrition in Adults. Handbook of Home Nutrition Support. Sudbury MA. Jones and Bartlett. 2007. pp 83-102.

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Tube feeding formulas - Standard

- Contain whole protein and mix of carbohydrate and fat sources
- Used with patients who can absorb intact nutrients
- Meet most patients' requirements
- Energy Density: 1.0 -2.0 kcal/ml
 - Nutrient dense formulas 1.5 – 2.0 kcal/ml for fluid restriction, volume sensitive
 - 1000 kcal of a 1.0 kcal/ml formula contains approximately 850 ml of water in 1000 ml of formula
 - 1000 kcal of a 2.0 kcal/ml formula contains only 350 ml water in 500 ml of formula

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Tube feeding formulas - Standard

- Protein: 14% to 16% of total calories
 - Very high protein formulas for increased protein needs, i.e. wound healing, anabolism, protein energy malnutrition
- Fiber - With/without – introduce fiber slowly if changing formula
- Low to moderate osmolality - (300 to 700 mOsm/kg water)

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Tolerance tip:

- Adequate free water?
- Flavored formula?
- Fiber content?
- Would a calorically dense formula decrease feeding time?



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Tube feeding formulas - Specialized

- Peptide-based/Chemically defined/elemental
 - Malabsorption, impaired gastrointestinal function and/or symptoms of GI intolerance
 - Easily digested forms of carbohydrate, protein and fat
- 2009 ASPEN & SCCM guidelines
 - If evidence of diarrhea, soluble fiber containing or small peptide formulations may be utilized


5/21/2013 McClave SA, et al. *J Parenter Enteral Nutr.* 2009;33:277-316.

Tube feeding formulas - Specialized

- Easily digested forms of carbohydrate, protein and fat
 - Protein: free amino acid and peptides
 - Carbohydrate: mono-, di- and oligosaccharides.
 - Fat: Medium chain triglycerides/LCT

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Tube feeding formulas - Specialized

- Easily digested forms of carbohydrate, protein and fat
 - Protein: free amino acid and peptides
 - Carbohydrate: mono-, di- and oligosaccharides.
 - Fat: Medium chain triglycerides/LCT

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Tolerance tip:
If a powdered formula, is this mixed correctly?
Have symptoms improved?
Is patient receiving adequate nutrient intake?

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Short Bowel Syndrome

Length of Intestine	Tube feeding Formula
<ul style="list-style-type: none"> • less than 50 cm of small bowel with intact colon • less than 100 cm of small bowel with ileocecal valve and some colon present 	Peptide-based
<ul style="list-style-type: none"> • greater than 50 cm small bowel with intact colon 	Peptide-based or standard
<ul style="list-style-type: none"> • less than 50 cm without colon 	Lifelong PN

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Tube feeding formulas - Specialized

- Disease Specific
 - Diabetes formulas: to help manage blood glucose levels compared to standard products
 - Unique carbohydrate blend including slowly digested carbohydrates
 - Renal/hepatic/pulmonary formulas



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Tolerance tip:

*Has patient demonstrated intolerance to a standard formula?
Was the pharmacologic intervention optimized?
Does the patient have insurance coverage for a specialized formula?*

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Home tube feeding access

- Short term
 - Naso enteric
- Long term
 - Gastrostomy
 - Jejunostomy

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Administration Methods

- Pump
 - Continuous
 - Overnight feeding
- Gravity controlled
 - Bolus
 - Intermittent
 - Continuous

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Pump feeding

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Bolus feeding



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Intermittent feeding

- Can we get a picture for this?



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Objective #3

Identify three issues related to tube feeding complications including GI intolerance, and appropriate prevention/interventions.



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What does it mean to tolerate a tube feeding?

- No unusual GI symptoms (nausea, vomiting, diarrhea, constipation, abdominal distention)
- Able to consume $\geq 90\%$ of formula
- Weight is gained or stable (based on goals of therapy)
- Feeding tube is in place and comfortable
- Quality of life is improved

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GI Tolerance considerations

- Nausea/vomiting
- Diarrhea
- Abdominal distention/cramping
- Dehydration
- Delayed gastric emptying

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Tolerance tip:
Remember Prevention Through Education!!


Oley Foundation's Tube Feeding Trouble Shooting Guide

www.oley.org
1-800-776-OLEY

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Diarrhea

- Side effect of a medication?
- Formula too cold?
- Fiber?
- GI tract function –impaired absorption?
- Taking in foods with lactose or simple sugars?



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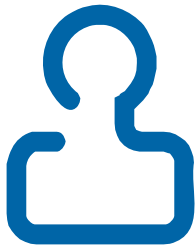
Nausea and Vomiting

- Feeding rate or concentration
- Contamination
- GI tract function change (gastroparesis)
- Someone in the family has “a bug”



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- Tube feeding safety
 - Hand washing
 - Food safety
 - Refrigeration

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Tolerance tip:

Formula too cold, not refrigerated, hanging too long – when in doubt, throw it out!



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Constipation

- Fluid intake
- Fiber
- Activity



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Mechanical complications

- Mechanical – Access
 - Tube
 - Tube site
 - Equipment

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Administration of drugs

- Consider:
 - Drug absorption site
 - Drug/drug and nutrient/drug interactions
 - Sorbitol content and osmolarity
 - Feeding tube lumen size



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Administration of Drugs

- Infuse each drug separately; flush with water before and after each medication
- Do not add drugs to tube feeding formula
 - Stop feeding while giving drugs
- Do not administer bulk forming laxatives

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Tolerance tip:
If it is a liquid drug, read the label – it may be hypertonic!

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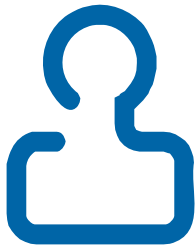
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Objective #4

Describe two monitoring parameters for optimizing patient outcomes after discharge to home.

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Home care monitoring

A recent study found that 72-hour follow up to a home tube feeding patient by an experienced home care clinician, in this case a Registered Dietitian, is important to assure continuity of care.

K. Geraci, et al, ASPEN Clinical Nutrition Week Poster Feb, 2013

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Monitoring tube feeding - early

- Is the hospital formula, rate, regimen right now that the patient is at home?
- Are supplies adequate and does the patient/caregiver understand how to use them?
- When/Will there be follow-up at home?

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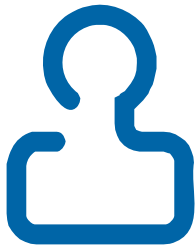
Monitoring tube feeding - ongoing

- Weight changes
- Fluid status
- Compliance
- Comprehension
- Tube feeding access site/device
- Disease progression &/or recovery
- Lab and physical data



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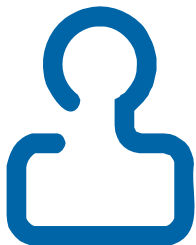


Summary

- **Intervene**
 - as early as possible when a patient is experiencing symptoms of GI intolerance

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Summary

- **Modify:**
 - tube feeding formula, rate, administration

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Summary

- **Avoid**
 - Malnutrition → poor wound healing, post-op complications, ER admission, hospital readmission

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- The Oley Foundation – Don't Go Home Without It!!!
www.oley.org
1-800-776-OLEY (6539)

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Reference Slide

- American Gastroenterological Association Medical Position Statement: Guidelines for the Use of Enteral Nutrition. *Gastroenterology* 1995;108:1280-1301
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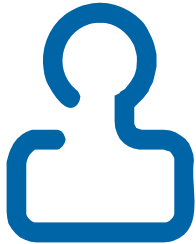
Patient Scenario

- Patient is a 54-year-old male with a small bowel obstruction and is status post a small bowel resection. He had lost 15 pounds prior to hospital admission due to poor intake. Patient now has intermittent diarrhea. He can go home but will require tube feeding for nutrition support as he is not able to eat adequately and has decreased absorptive capacity.
 - What type of access should he have for home tube feeding?
 - What formula should he have at home?
 - Should feedings be given continuously or bolus?



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- What type of access should he have for home tube feeding?
 - Will be long-term so will need gastrostomy or jejunostomy

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- What formula should he have at home?
 - A peptide based formula will be best since she had GI complications and appears to be malabsorbing nutrients with continued diarrhea.

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- Are feedings given continuously or bolus?
 - Bolus feedings may need to be adjusted in volume and therefore calories and carbohydrates.
 - Continuous feeding via a pump will allow for more consistent intake except when the tube feeding is stopped for medication administration or specific activities.

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Patient Scenario



- 70-year-old female with tongue resection due to cancer requiring tube feeding due to swallowing impairment.
- Patient is on Medicare and has met the criteria for dysphagia.
- Weight loss prior to admission but is now cancer-free.
 - What questions would be appropriate?

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Pre-discharge questions

- Will patient have a caregiver at home to help with feedings, at least initially?
- Will patient require a pump or can she use bolus feedings?
- Does she need a specialized formula?

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Pre-discharge questions

- Will patient have a caregiver at home to help with feedings, at least initially?
- With advanced age as well as weight loss, a caregiver at home will be important.

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Pre-discharge questions


- Will patient require a pump or can she use bolus feedings?
- Bolus feedings should be acceptable for this patient

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Pre-discharge questions


- Does she need a specialized formula?
- She should tolerate a standard, 1.0 to 1.2 kcal/ml tube feeding formula with fiber.

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Patient is at home with Husband as caregiver. She is receiving a standard, 1.2 kcal/ml formula with fiber. This translates into 5 cans per day in 4 divided bolus feedings per day.

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After 1 month at home on tube feeding, she spoke to her home care provider and stated that she had “no energy and didn’t feel like she was getting any better. She is often in bed for most of the day.” She was referred to the home care dietitian

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She improved significantly and was able to return to gardening and even went on a “road trip” to visit her son 2 hours away. The intervention and referral to the dietitian improved her outcome and probably avoided an ER visit or re-Hospitalization.

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