Home Nutrition Support: Challenges with EN and PN Support

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6.2.2017
Disclosures

• Melissa Anderson
  – Nothing to disclose

• Mandy Corrigan
  – Nothing to disclose
Objectives

- Outline common challenges nutrition support clinicians face when managing home enteral nutrition (HEN)

- Outline common challenges nutrition support clinicians face when managing home parenteral nutrition (HPN)

- Identify resources for clinicians that manage home EN and PN patients
Home EN Topics

• Home EN Challenges
  – Blended formulas
  – Enteral specific insurance coverage
  – Feeding devices
Blended Formulas

• Commercially Prepared Formulas
  – Liquid Hope
  – Nourish
  – Real Food Blends
  – Kate Farms
  – Compleat

• Blended at home
Blended Formulas

• Pump vs. bolus
  – Formula separation/hang time
  – Clogged lines

• Flushing

• Transition slowly

• Insurance coverage
  – B4149 HCPCS code
EN Specific Insurance Coverage

- Medicare guidelines
  - >90 days
  - Sole source
  - GI impairment
- Medicaid and commercial insurances
- Plan exclusions

- RD documentation
  - Oral intake percentage
  - Tolerance, specific examples
  - Calories provided
- MD notes
  - Mirror RD/RN notes
  - LMN not guaranteed
- Very specific
Enteral Feeding Devices

- **ENFit® transition**
  - Delayed
  - Requires different supplies
  - Communicate to home care company

- **Adapters**
- **Multiple tube brands**
- **Enteral detectives**
Cook Enteral Adapter
Creative Adapter Use
Missing Med Cap
Patient & Caregiver Resources

• Oley Foundation
  www.oley.org

• Feeding Tube Awareness Foundation
  www.feedingtubeawareness.org

• Feeding Matters
  www.feedingmatters.org
Home Parenteral Nutrition (HPN) Topics

• HPN Challenges
  – Monitoring
  – Infection / infection prevention
  – Quality of Life
  – Insurance coverage
HPN – Quick History

• Jeejeebhoy 1973
  – First report of long term HPN patient (23 months) in Canada without complication

• Ross 2016
  – 29 site cohort of 1,046 US patients from 2011-2014
    • CLABSI 0.87/1000 PN days

HPN and Monitoring

- Lack of evidence based or professional society guidelines to monitor HPN
- Individualized to patient
- Expert opinion
- Common practices
  - Book chapters
  - Institutional protocols
  - Home infusion agency protocols
What to Monitor?

- Nutrition
  - Goal weight
  - Nutritional status / weight changes
  - Oral intake / absorption
  - NFPE
- Goals of HPN Therapy
- Vascular Access Device
- Clinical status
  - Primary disease state, comorbidities, other clinical symptoms
- Biochemical monitoring
- Hydration status
  - Physical signs/symptoms & labs
- Solutions
  - Drug nutrient interactions (Medications via HPN)
  - Compatibility / stability
- Psychosocial
- Compliance
  - Identification of barriers
<table>
<thead>
<tr>
<th>Parameter</th>
<th>New Patients</th>
<th>Stable Patients</th>
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<tr>
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<td>Baseline</td>
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<td>Hepatic Panel</td>
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<td>Magnesium, Phosphorus</td>
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<td>CBC</td>
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<tr>
<td>Trace Elements</td>
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<tr>
<td>Phospholipid Fatty Acid Profile</td>
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<td>Water soluble vitamins $^a$</td>
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<td>Fat soluble vitamins $^a$ (25-hydroxy vitamin D, Vitamin A, Vitamin E)</td>
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<td>Iron indices</td>
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</tbody>
</table>

Konrad et al. ASPEN Core Curriculum. 2017 in press. Adapted from Cleveland Clinic Home Nutrition Support Service

$^a$=if deficiencies are suspected based on NFPE findings
Infectious Complications

• Catheter sepsis
  • Fever and rigors with PN infusion
  • Elevated WBC
  • Possible elevation of liver enzymes (nonspecific for CRBSI, but general elevation seen in infection/sepsis)
## Infection Prevention

### Strategies

- Maximum barrier precautions at line placement
- Hand Hygiene
- Selection of line with fewest lumens required
- Prompt removal after IV therapy completed

### Locking Solutions

- Ethanol
- Antibiotics
- Taurloidine
- 30% ethanol/4% trisodium citrate
- Nitroglycerine-Citrate-Ethanol (NiCE)*

### Primary Sepsis vs. Secondary sepsis
Reporting Infectious Data in HPN

• Lack of standardization
• Difficult to compare between studies
• Terms
  • CLABSI vs. CRBSI
  • Per 1000 catheter days
  • Per 1000 PN days
  • Per 1000 days
    – Days = ?HPN or ?Catheter
  • Per patient / year
Quality of Life (QOL)

- Not routinely collected in clinical practice
  - <2% of Sustain HPN registry patients
- Disease specific factors vs. HPN associated factors
- Tools
  - HPN QoL - 49 items – Gold Standard
  - New HPN QoL tool – shorter – good correlation with HPN QoL

### Clinical Considerations
- Cycling of HPN solutions
- Infusion hours
- Timing of infusions
- Infusions per week
- Portable pump
- Home treatment
- Proactive vs. reactive care
- Lab frequency

### Additional Patient Centered
- Ability to maintain employment
- Role in self care
- Swimming
- Travel
- Costs/co-pays
HPN Insurance Coverage

• Medicare
• Medicaid
• Commercial Payors

• Medicare (80% / 20% )
  – Permanent condition (> 90 days of HPN)
  – Condition involving
    • Small bowel and/or exocrine gland impairing absorption of nutrients
    • Disease of stomach/intestine & impaired ability to transport nutrients in the GI tract

  – Specific criteria
TPN Decision Tree

Directions: Start in the far left column and examine medical records as you check for a covered situation. Keep going down the tree as long as you can answer “Yes” to a criterion. If/When the answer is “No” move one column to the right and begin going down that column. Continue checking the medical records against the criteria until you verify that the patient's condition meets a covered situation or you determine that the patient does not qualify for home TPN.

**SITUATION B**
- Pt. has short bowel syndrome
  - Yes
  - Enteral losses exceed 50% of the oral or enteral intake
    - Yes
    - Oral Intake is at least 2.5-3 l/day
      - Yes
      - Urine Output is < 1 liter per day
        - Yes
        - Patient meets Medicare coverage criteria for home TPN therapy under Situation B
    - No
  - No

**SITUATION C**
- Pt. requires bowel rest for at least 3 mos.
  - Yes
  - Pt. is receiving 20-35 cal/kg/day IV
    - Yes
    - Pt. has:
      - *symptomatic pancreatitis* or
      - *severe exacerbation of regional enteritis* or
      - *proximal enterocutaneous fistula* and tube feeding distal of fistula is not possible
        - Yes
        - Patient meets Medicare coverage criteria for home TPN therapy under Situation C
  - No

**SITUATION D**

Check Situation C on page 2

Patient meets Medicare coverage criteria for home TPN therapy under Situation C

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**SITUATION A**
- Pt. had massive small bowel resection leaving ≤ 5 ft. small bowel beyond the ligament of Treitz
  - Yes
  - The surgery occurred within the past 3 months.
    - Yes
    - Patient meets Medicare coverage criteria for home TPN therapy under Situation A
  - No
  - No

Patient does not meet Medicare coverage criteria for home TPN therapy.

Check Situation A

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Patient's condition is permanent (at least 3 mos.)

Yes

No

Pt. has condition that significantly impairs absorption of nutrients or pt. has severe motility disorder

Yes

No

No

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**Check Situation B**
TPN Decision Tree

**Situation D**
Pt. has complete mechanical small bowel obstruction

- Yes → Check Situation E
- No → Surgery is not an option

- Yes → Patient meets Medicare coverage criteria for home TPN therapy under Situation D
- No → Check Situation F

**Situation E**
Pt. had 10% wt. loss in ≤ 3 months

- Yes → Serum Albumin is ≤ 3.4 gm/dl
- No → Check Situation F

- Yes → Pt. had 72 hour fecal fat test

- Yes → Fecal fat exceeds 50% of oral/enteral intake on a diet > 50 gm fat/day

- Yes → Patient meets Medicare coverage criteria for home TPN therapy under Situation E
- No → Patient meets Medicare coverage criteria for home TPN therapy under Situation E

**Situation F**
Pt. had 10% wt. loss in ≤ 3 months

- Yes → Serum Albumin is ≤ 3.4 gm/dl

- Yes → Pt. is taking maximum doses of prokinetic medication

- Yes → Pt. has daily symptoms of N&V

- Yes → Pt. had diagnostic test that documents motility disturbance

- Yes → *Radioisotope study demonstrates that isotope fails to reach the rt. colon by 6 hrs.*

- No → *X-ray study demonstrates that barium or pellets fail to reach the rt. Colon by 6 hrs.*

- Yes → Pt. is not acutely ill or on any medication which would decrease bowel motility

- Yes → Patient meets Medicare coverage criteria for home TPN therapy under Situation F

- No → Check Situation G/H on page 3
TPN Decision Tree

SITUATIONS G/H

Pt. had 10% wt. loss in ≤ 3 months
AND
Serum Albumin is ≤ 3.4 gm/dl
AND
Altering the nutrient composition of an enteral diet will not maintain the patient’s health status
AND
The patient’s health status cannot be maintained by administering medications to treat the etiology of the malabsorption

Yes

Pt. has moderate abnormality such as:
*72° fecal fat study shows fecal fat is > 25% of oral/enteral intake on a diet ≥ 50 gm fat/day
or
*Dx of malabsorption with objective confirmation by methods other than 72° fecal fat test (Sudan stain of stool, d-xylene, etc.
or
*Gastroparesis demonstrated by study that shows the isotope, barium or pellets failed to reach the rt. colon in 3-6 hr or results or manometric motility study was consistent with abnormal gastric emptying that was unresponsive to prokinetic medication
or
*Small bowel motility disturbance which is unresponsive to prokinetic medication, demonstrated with a gastric to rt. colon transit time between 3-6 hrs
or
*Small bowel resection that left > 5 ft of small bowel beyond the ligament of Treitz
or
*Short bowel syndrome not as severe as Situation B
or
*Mild to moderate exacerbation of regional enteritis or enterocutaneous fistula
or
*Partial mechanical small bowel obstruction where surgery is not an option

Yes

Medical Records document a failed Tube Trial

Yes

Patient meets Medicare coverage criteria for home TPN therapy under Situations G/H

Patient does not meet Medicare coverage criteria for home TPN therapy.
HPN Insurance Coverage

- Challenges
  - Qualification is an ongoing process
  - Coverage criteria not keeping pace with contemporary practice of nutrition support
  - Dated clinical testing (72 hour fecal fat test)
  - EMR documentation by MD

- Coverage & Clinical Need
HPN Resources

Home and Alt Site Care Standards


Reimbursement

- Medicare LCD and Policy Articles (HPN) [https://med.noridianmedicare.com/documents/2230703/7218263/Parenteral+Nutrition+LCD+and+PA/1b7429bc-6645-41dc-8167-88a15ffed946](https://med.noridianmedicare.com/documents/2230703/7218263/Parenteral+Nutrition+LCD+and+PA/1b7429bc-6645-41dc-8167-88a15ffed946)
- HPN Decision Tree. [https://www.nhia.org/members/documents/CIGNATPNDecisionTree050306.pdf](https://www.nhia.org/members/documents/CIGNATPNDecisionTree050306.pdf)
Infection Resources


HPN Tutorials / Text Book Resources

• Ireton-Jones C. Outpatient nutrition care and home nutrition support: practical guidelines for assessment and management. 2016. CRC Press.
• Kumpf. Home parenteral nutrition: safe transition from hospital to home. NCP 2012.
Thank you & Questions