Management Tips for Short Gut or High Output Ostomies

Carol Rees Parrish MS, RD
Nutrition Support Specialist
Digestive Health Center of Excellence
University of Virginia Health System
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Case

- 68 year old female came into GI nutrition clinic with SBS and failure to thrive
- Medical/surgical history: colon cancer with resection followed by radiation and chemotherapy.
  - Multiple small bowel obstructions until she required an extensive small bowel resection
- Medications: questran, lomotil, tincture of opium, centrum silver, potassium, vitamin C, nexium, metamucil
Case cont.

- Ht - 5’0’’
- Weight history:
  - 128# (2/07)
  - 107# (5/07)
  - 83# (9/08)
- Diet: Regular, limited sweets, low fat, 6 small meals
- Liquids: 10 glasses of water /day
- 24 hour urine & ostomy output: 875 mL & 1440 mL
- Labs: albumin = 4.5; B12 & Vitamin D deficient

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If your patient looks like this,

asking for albumin or prealbumin is like asking for a torch to see the sun…

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Case cont.

- Where do we start?
What is Short Gut?

There is not enough bowel (or working bowel) left to support the nutrient and fluid needs for an individual consuming what should be normal amounts of food and fluids.
The Consequences of SBS

- Dehydration
- Loss of electrolytes
- Metabolic acidosis
- Nutrient malabsorption
- Osteoporosis
- Medication malabsorption
- Quality of life issues
Goals of Management

1) Provide nutrients, water and electrolytes to maintain health and/or growth
2) Reduce the severity of intestinal failure and maximize absorptive capacity of remaining bowel.
3) Prevent and treat complications
4) Maximize quality of life
Data Collection

- Patients anatomy?
- Past medical/surgical history
- Serial weights
  - Need to gain, lose, maintain weight?
- Current medications
  - Which ones
  - Dosing
  - Frequency
Data cont.

- **Diet/ usual intake including:**
  - Types of fluids
  - Use of supplements
    - Ensure, Boost, etc.
    - Herbals, protein powders, probiotics
  - Vitamins and minerals
Data cont.

- **Chief “complaints” AND goals?**
  - If you don’t tell, your health care provider won’t know…
  - Loss of sleep?
  - Hassles of TPN/ infections
    - Run time of TPN, etc.
  - Emptying ostomy bag too often
Nutrition Therapy - General

- Smaller, frequent meals
- Chew foods well
- Avoid concentrated sweets
- Limit lactose?
  - Found in milk & milk products
- Medium chain triglycerides (MCT oil)?
- Limit or avoid enteral stimulants such as alcohol and caffeine
Nutrition Therapy - Specific

- **No Colon**
  - Higher fat (30-40% calories)
  - Lower carbohydrate (40-50% calories)
  - Isotonic fluids/oral rehydration therapy
  - More salt

- **Colon Segment Present**
  - Lower fat (20-30% total calories)
  - Higher carbohydrate (50-60% of total calories)
  - Some fiber (soluble)
  - Avoid oxalates
Signs of Dehydration

- Thirst!
- Feeling tired all the time
- Rapid weight loss
- Urine looks dark in color
- Decrease in urination
  - Urine output is < five cups
    - Note: 1 cup = 8 ounces
  - = 40 ounces or 1200mL per day

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Dehydration cont.

- *Dry mouth*, sticky or thick saliva
- Stool output that is more than the total amount of fluid you drink
- Kidney stones
- Worsening kidney function
- Poorly controlled diabetes mellitus
Common Causes of Increased Stool Output

- Clostridium difficile ("C. Diff.") infection or other GI infection
- Initiation of a new medication
- Sudden discontinuation of an important medication that helps decrease stool losses
  - "My prescription ran out…"
- Drinking too much fluid in some patients
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Data cont.

- Baseline 24 hour urine/stool output
Hydrating

- **Avoid** hypotonic/hypertonic fluids such as:
  - Water, tea, coffee, fruit juices/drinks, alcohol, sport drinks, sodas
- Separate solids from liquids
- Trial of nighttime nutrition or ORT by feeding tube
- Addition of IV fluids as last resort
Oral Rehydration Therapy (ORT)

- A solution of that contains *both* sugar and salt *in the proper amounts*.
  - Too little or too much of either salt or sugar can be ineffective & worsen diarrhea.

- It is not a magic bullet...

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# Commercial ORT Solutions

## Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Cost/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedialyte</td>
<td>$5.49</td>
</tr>
<tr>
<td>Wal-Mart (Parent’s Choice)</td>
<td>$3.50</td>
</tr>
<tr>
<td>Target (Pedia Electrolyte)</td>
<td>$3.54</td>
</tr>
<tr>
<td>WHO formula</td>
<td>$0.55</td>
</tr>
<tr>
<td>Jianas Brother’s (carton of 100)</td>
<td>$0.55</td>
</tr>
<tr>
<td>Ceralyte (if buy case of 260)</td>
<td>$2.60</td>
</tr>
<tr>
<td>CVS (Pediatric Electrolyte Oral Maintenance Solution)</td>
<td>$4.49</td>
</tr>
</tbody>
</table>
Sip Instead of Gulp

- Sipping is always better than gulping
  - Think, “how can I give the food and fluid I consume the best chance to be absorbed?”

- A vicious cycle results otherwise
  - → excess intake of liquids due to thirst
  - → increases stool output
  - You become more thirsty, then drink more
  - More out, and deeper into dehydration you go.
Summary Guidelines

- *One* intervention at a time, then observe
- It is *ALL* about the details
  - Don’t assume anything…
More Resources

- NEW ➔

*Patient’s* Guide to Managing a Short Bowel

- [http://www.shortbowelsupport.com/default.htm](http://www.shortbowelsupport.com/default.htm)
Resources

- University of Virginia Health System GI Nutrition Webpage:
  
  www.ginutrition.virginia.edu
  

- Oley Foundation
  
  www.oley.org or 800/776-6539

- Oxalate and Hyperoxaluria Foundation
  
  www.ohf.org/diet.html

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