

Short Bowel Syndrome: Diet, Hydration and Treatments Webinar Q&A

“What are the specific issues a person without an ileum would have, and how would you suggest addressing them?”

Vitamin B12 by injection should be given lifelong if you have had greater than 100 cm of your terminal ileum resected. Bile acid binding resins (cholestyramine and colestipol) are used for bile salt diarrhea, which occurs in individuals having less than 100 cm of terminal ileum resected. If you have more than 100 cm resected and you're on this treatment then you should consider stopping it because these resins also bind to vitamins and minerals and may result in nutritional deficiencies.

“Is there any trick to keeping yourself hydrated? I have been in the hospital numerous times for dehydration. The hospital staff says to always have a glass of water beside you, but this doesn't always help. What do you suggest?”

Water is really the wrong thing to take, as it is hypotonic. The key is to take an oral rehydration solution (ORS), and to sip them slowly (see slides for a list of ORS). Some patients like to freeze ORS in an ice cube tray to make an ORS slushy. ORS can also be infused through a feeding tube. Your digestive system normally secretes about seven liters of fluid every day. Eating and drinking can stimulate that output. Because of this, drinking more may cause greater dehydration. In some cases, it is better for SBS patients to hydrate using IV fluids.

“Does the fluid level measured in a blood test actually show whether you are hydrated or not?”

Many lab tests can be affected by more than one condition so they should be interpreted with other test results and clinical factors. As an example, blood urea nitrogen (BUN) elevation can indicate the presence of dehydration but it can also occur with kidney injury or a large dose of protein or amino acids. If you are trying to assess whether you are adequately hydrated then vital signs (blood pressure and heart rate) should be normal and urine output should be adequate. An elevated sodium may indicate dehydration; however, this lab abnormality occurs when fluid is lost through excess perspiration that occurs with fever and exercise. Patients with short bowel syndrome lose through diarrhea which is rich in sodium and therefore dehydration can occur without a change in serum sodium.

“What are the indicators to increase or decrease IV fluids- besides the obvious signs of dehydration? Are there any subtle proactive indicators? What is the role of exercise? Are there any formulations or calculations”

In addition to the factors discussed above, measuring daily weight is a good way to follow if you are adequately hydrated, especially if a weight changes over a few days. We ask patients to contact us if they gain or lose 1 pound in weight on 2 successive days to make sure that they are not over or under hydrated. On the other hand, gradual weight change can be a measure of change in nutritional status or hydration.

“How can someone with short bowel syndrome manage significant thirst? If I drink too fast, it all runs right through.”

Excess thirst can be caused by dehydration or it can be a side effect of several medications, especially those with anticholinergic and narcotic activity. If thirst is due to dehydration then it may be corrected through diet modifications and the use of oral hydration or it may require IV fluid. As discussed in the seminar, solutions that are dilute (hypotonic, for example water) or concentrated (hypertonic, for example fruit juices and sodas) can result in worsening diarrhea. It is also important to sip beverages slowly throughout the day in order to maximize absorption. [Click here](#) for information that may help you with the management of a dry mouth.

The next question comes from someone who has a jejunostomy with 120cm of remaining intestine that has been radiated. “I am extremely active person. I currently hydrate with two liters of normal saline with 2 gms of magnesium a day. Sometimes more as needed. I have trouble with leg and gluteal cramps—mild to very severe—and mostly at night. My magnesium levels are checked weekly and have been normal. Are there fluid and electrolyte shifts at night? How would you manage this? Would quinine help?”

If you are dehydrated (inadequate urine output which I define as having less than 1000 mL’s daily) then extra intravenous fluid may help. If you are adequately hydrated (between 1000 and 1500 mL’s per day) then a supplemental dose of oral magnesium might help. You should also make sure that your vitamin D level is adequate. Quinine is no longer recommended because it may result in significant side effects.

“I have Lynch syndrome and recurrent colon cancer, so I am not a candidate for Gattex. Are there any other new treatments?”

There are currently no new treatments other than the ones discussed in today’s presentation.

“I have 100 cm of small intestine which comes to the surface in the form of an ileostomy. I’m getting TPN 6 nights a week and hydration on the 7th day. I’m on maximum doses of Codeine, lomotil and Loperamide for diarrhea. I’ve been told to reduce liquid intake to no more than 1 liter a day of non sugary drinks, such as gastrolyte, water, and decaf tea and coffee. I have nothing but high output and it is all liquid 24/7. Can you name six foods I could start with that are least likely to provide liquid outputs?”

Consumption of complex carbohydrates such as rice, pasta, potatoes, bread and plain cereals should be tried first. These may aid in slowing down the output. Minimize fluid intake and sip all fluids throughout the day.

Anti-diarrheal medications should be taken 30-60 minutes before meals. He may sprinkle crushed tablets or content of capsules in a small amount applesauce to help promote absorption of these medications. If this does not work and her output remains excessive, you may be a candidate for octreotide. We generally consider octreotide when there is 3 or more liters of stoma output each day.

“Thank you for this great program. Dr. Seidner, have you or your patients had any challenges in prescribing or accessing some anti-diarrheal medications considering all of the attention on the opioid epidemic?”

Most patients who take anti-diarrheal medications do not develop signs of addiction or tolerance and so they can remain on a stable dose of these medications for many, many years. The main issues that occur when codeine or tincture of opium is prescribed is that some pharmacies do not maintain this medication in their on-site pharmacy. Tincture of opium has also been affected by drug shortages.

“Is Gattex available for pediatric patients?”

A phase 3 clinical trial will be completed soon that the company will present to the FDA for approval. An article about research on Teduglutide in pediatric SBS patients was published in the January/February 2017 *LifelineLetter* available at www.oley.org (in the 2017 newsletter tab).

“For small intestine bacterial overgrowth, is it better to first kill the ‘bad’ bacteria with Rifaximin and then replenish with ‘good’ bacteria via probiotics?”

The answer to this question is unknown. We know in general terms that certain bacteria are associated with better health while others are associated with some diseases. Having said this, we need to keep in mind that everyone’s intestinal flora is different and can change over time, especially if you are exposed antibiotics. Current treatment of small intestinal bacterial overgrowth is not refined enough to modify the bacteria in the way that you described. While it makes sense to you would like to get rid of the bad bacteria with antibiotics and replenish the good ones with probiotics or prebiotics, there are no studies that I am aware of that has done this. A treatment that achieves this goal is fecal microbiota transplant (FMT), a therapy that is widely used to treat refractory *Clostridia difficile* infection. There are many other conditions that are being treated with FMT through research studies, but SBS is not one of them.