



Short Bowel Syndrome/Intestinal Failure (SBS/IF)

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International Foundation for Gastrointestinal Disorders (www.iffgd.org)

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Short bowel syndrome (SBS), also known as short gut, is described as a condition in which nutrients are not properly absorbed because a large part of the small bowel is missing. This is most often due to defects existing at birth (congenital), or surgical removal of part of the small bowel. There may not be enough functioning bowel or surface area left in the remaining bowel to absorb needed water and nutrients from food. Sometimes, loss of normal function may occur even when the bowel length is intact. Typically, a loss of half or more of the small bowel will result in SBS.

What is Intestinal Failure?

Immediately following surgical resection of the small intestine (small bowel), the intestine begins to adapt on its own for the loss of absorptive surface area. It undergoes various phases to increase absorption and maintain balance. This process, known as adaptation, occurs through structural changes that increase surface area in the remaining bowel. The result of the adaptive period and the remaining small bowel's ability to compensate determines the "type" of short bowel syndrome a person has: either Intestinal Insufficiency or Intestinal Failure. Intestinal Insufficiency is when a patient has a reduced length of small bowel remaining but does NOT require IV nutrition or fluids (Parenteral nutrition). Those that do require such supportive measures would be diagnosed with Intestinal Failure.

Symptoms of SBS/IF

Symptoms of SBS/IF will vary from person to person. They often include:

- Bloating- a buildup of gas or swollen feeling in the stomach or intestines
- Diarrhea- Loose, watery, or frequent bowel movements.
- Unintentional Weight loss
- Extreme tiredness (fatigue) and/or Weakness

- Pale greasy bowel movements (steatorrhea)
- Poor appetite
- Vomiting- bringing food back up from the stomach

Understanding Parenteral Nutrition

Parenteral nutrition bypasses the digestive system. It involves the delivery of fluids, electrolytes, and liquid nutrients into the bloodstream through a tube placed in a vein (intravenous or IV). It is often needed short-term after resection while the remaining bowel adapts. It may be needed long-term depending on the bowel's ability to absorb nutrients. If there is greater than 4 feet of small bowel remaining, then attempts to go from daily parenteral nutrition to a less frequent use can be tried. Parenteral nutrition is a complex therapy. The long-term use of parenteral nutrition significantly impacts quality of life issues such as loss of sleep, mobility, and social interactions. It also increases the risk for infections and other complications. Some complications can be life-

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<https://www.iffgd.org/resources/dietitian-listing.html>

threatening, including liver failure, vein thrombosis (blood clot), and sepsis (bloodstream infection). A specialist in nutrition support will provide detailed instructions on how to use and maintain parenteral, or enteral, nutrition.

Treatment

In recent years, pharmacological hormonal therapy (the use of hormones in medical treatment) has been introduced aiming to stimulate intestinal adaptation after intestinal resections. Clinical research involving growth hormone, glutamine, and glucagon-like peptide 2 growth hormone (GLP-2) have been studied for the treatment of SBS.

- Teduglutide (Gattex[®]), a recombinant analog of human glucagon-like peptide 2, was approved by the U.S. Food and Drug Administration (FDA) for the treatment of adults with SBS who are dependent on parenteral support. Teduglutide works by regenerating cells in the intestinal lining, improving intestinal absorption of fluids and nutrients, and helping reduce the frequency and volume of parenteral nutrition.
- Apraglutide is a peptide analogue of GLP-2 which is currently under development for treatment of SBS-IF, which acts as a full agonist at the GLP-2 receptor.

Both of these medications are given by subcutaneous injection. A subcutaneous injection is a method of administering medication. Subcutaneous means under the skin. In this type of injection, a short needle is used to inject a drug into the tissue layer between the skin and the muscle. Medication given this way is usually absorbed more slowly, than if injected into a vein. Sometimes, it can take up to 24 hours to be fully absorbed.

Working With a Healthcare Team

Managing SBS-IF requires the patient and often family members working together with a team of healthcare professionals. Members of the healthcare team may include primary care physicians, gastroenterologist, surgeons, nutritional specialists, nursing specialists, and pharmacists. Often, the primary care physician will take the lead in managing and coordinating the patient's care. If an intestinal transplant becomes necessary, other specialists may be brought in including social workers, psychologists, and financial counselors to help deal with the complexities of organ transplants.

About IFFGD

The International Foundation for Gastrointestinal Disorders (IFFGD) is a 501(c)(3) nonprofit education and research organization. We work to promote awareness, scientific advancement, and improved care for people affected by chronic digestive conditions. Our mission is to inform, assist, and support people affected by gastrointestinal disorders. Founded in 1991, we rely on donors to carry out our mission. Visit our website at: www.iffgd.org.

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