



# What are the Stages of Short Bowel Syndrome? 291

Contributors: Evelin Eichler RD LD, Clinical Dietitian, University Medical Center Texas Tech University; Richard McCallum MD, Professor of Medicine and Founding Chair and Chief of Gastroenterology, Texas Tech University; Harold J. Boutté Jr. MD, Assistant Professor of Medicine, Northwestern University Feinberg School of Medicine



International Foundation for Gastrointestinal Disorders ([www.iffgd.org](http://www.iffgd.org))

🕒 Reading time: 3 minutes

© Copyright 2023 by the International Foundation for Gastrointestinal Disorders

**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 a 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 Happens when SBS Develops?

Immediately following the surgery to remove part of the bowel (surgical resection), 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 (homeostasis). This process, known as adaptation, occurs through structural changes that increase surface area in the remaining bowel. These physiological changes and adaptations can be separated into 3 phases: acute phase, adaptation phase and maintenance phase.

The **acute phase** occurs immediately after bowel resection and may last 3–4 months. Patients will often suffer from large fluid shifts. This occurs when fluids in the body move from one place to another. In SBS this is due to malabsorption which leads to fluctuations in electrolytes. This phase is associated with malnutrition, and fluid and electrolyte losses as high as 6–8 liters/quarts per day. Enteral nutrition (delivery of liquid food to the stomach or small intestine through a feeding tube) may be needed during this phase. If a more significant length of small bowel is removed, then parenteral nutrition (delivery of fluids, electrolytes, and liquid nutrients into the bloodstream through a tube placed in a vein) is required.

Next, the **adaptation phase** begins. This phase can last 12–24 months. During this phase, the remaining small bowel

begins to compensate for its short length by trying to increase its absorptive capacity and slow down the gut's motility. The intestinal villi, the tiny finger-like projections within the small intestine, will grow in length and thickness, which increases surface area. In addition, some increase in the diameter (dilation) of the bowel may occur.

The **maintenance phase** is the last change where the absorptive capacity of the remaining bowel will be maximized. Some patients will still have dependence on parenteral or enteral nutrition. Others will meet their nutritional needs with oral meals, nutrition supplements, and vitamins and minerals, with or without supplements

To learn more about Short Bowel Syndrome (SBS) see, IFFGD Fact Sheet No. 290  
*What is Short Bowel Syndrome(SBS)?*

delivered enterally or parenterally.

## 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](http://www.iffgd.org).

## IFFGD

537 Long Point Road, Unit 101; Mt Pleasant, SC 29464

## About the Publication

Opinions expressed are an author's own and not necessarily those of the International Foundation for Gastrointestinal Disorders (IFFGD). IFFGD does not guarantee or endorse any product in this publication or any claim made by an author and disclaims all liability relating thereto. This article is in no way intended to replace the knowledge or diagnosis of your doctor. We advise seeing a physician whenever a health problem arises requiring an expert's care.

For more information, or permission to reprint this article, contact IFFGD by phone at 414-964-1799 or by email at [iffgd@iffgd.org](mailto:iffgd@iffgd.org)

*This Fact Sheet is being provided in part, by Takeda Pharmaceuticals and VectivBio AG, and donors of IFFGD.*