

## Short bowel syndrome

### Definition

Short bowel syndrome is a problem that occurs when part of the small intestine is missing or has been removed during surgery. Nutrients are not properly absorbed into the body as a result.

### Alternative Names

Small intestine insufficiency; Short gut syndrome; Necrotizing enterocolitis - short bowel

### Causes

The small intestine absorbs much of the nutrients found in foods we eat. When two-thirds of the small intestine is missing, the body may not absorb enough food to stay healthy and maintain your weight.

Some infants are born missing part or much of their small intestine.

More often, short bowel syndrome occurs because much of the small intestine is removed during surgery. This type of surgery may be needed:

- After gunshots or other trauma damaged the intestines
- For someone with severe Crohn disease
- For infants, often born too early, when part of their intestines dies
- When blood flow to the small intestine is reduced due to blood clots or narrowed arteries

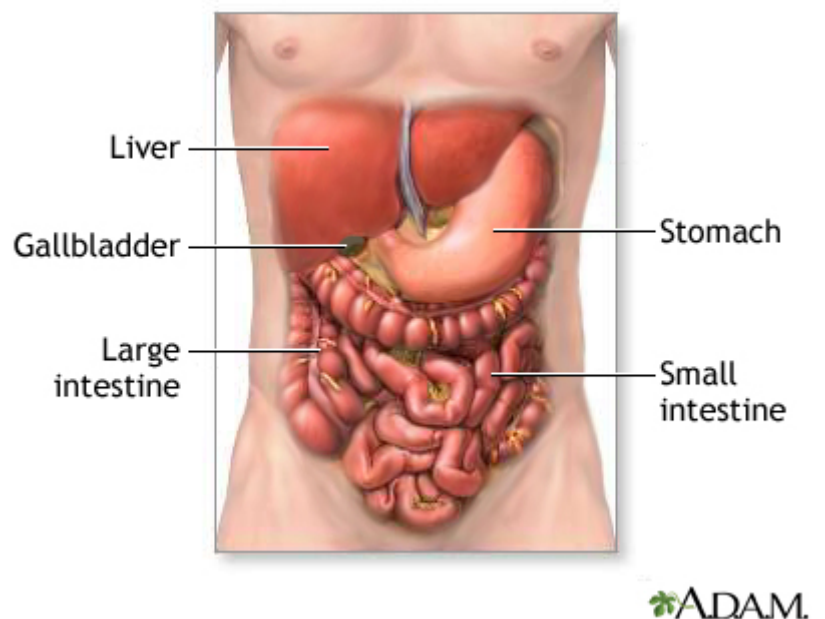
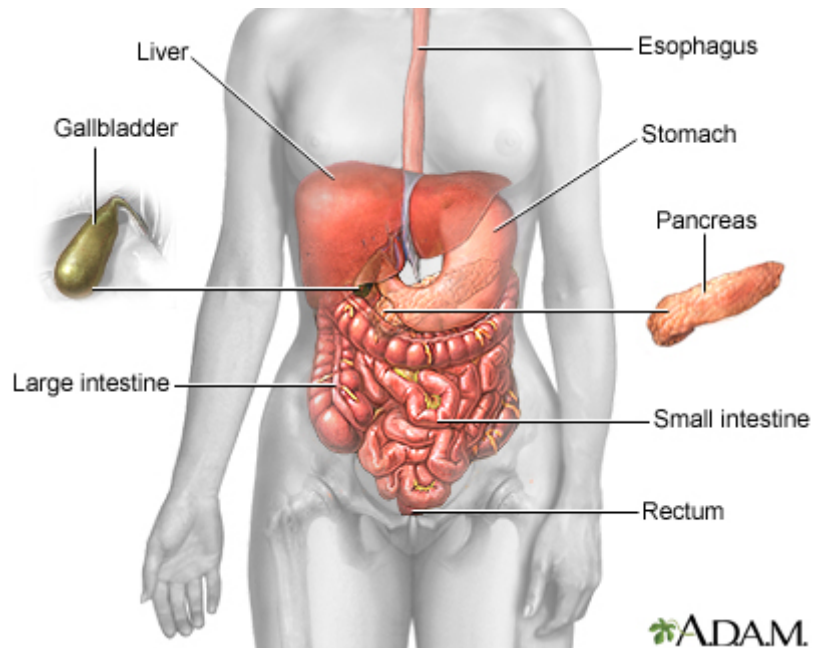
### Symptoms

Symptoms may include:

- Diarrhea
- Fatigue
- Pale, greasy stools
- Swelling (edema), especially of the legs
- Very foul-smelling stools
- Weight loss
- Dehydration

### Exams and Tests

The following tests may be done:





- Blood chemistry tests (such as albumin level)
- Complete blood count (CBC)
- Fecal fat test
- Small intestine x-ray
- Vitamin levels in the blood

## Treatment

Treatment is aimed at relieving symptoms and ensuring the body receives enough nutrients.

A high-calorie diet that supplies:

- Key vitamins and minerals, such as iron, folic acid, and vitamin B12
- Enough carbohydrates, proteins, and fats

If needed, injections of some vitamins and minerals or special growth factors will be given.

Medicines to slow down the normal movement of the intestine can be tried. This may allow food to remain in the intestine longer.

If the body is not able to absorb enough nutrients, total parenteral nutrition (TPN) is tried. It will help you or your child get nutrition from a special formula through a vein in the body. Your health care provider will select the right amount of calories and TPN solution. Sometimes, you can also eat and drink while getting nutrition from TPN.

Small bowel transplantation is an option in some cases.

## Outlook (Prognosis)

The condition may improve over time if it is due to surgery. Nutrient absorption may slowly get better.

## Possible Complications

Complications may include:

- Bacterial overgrowth in the small intestine
- Nervous system problems caused by a lack of vitamin B12 (This problem can be treated with vitamin B12 injections.)
- Too much acid in the blood (metabolic acidosis due to diarrhea)
- Gallstones
- Kidney stones
- Malnutrition
- Weakened bones (osteomalacia)
- Weight loss

## When to Contact a Medical Professional

Call your provider if you develop symptoms of short bowel syndrome, especially after you have had bowel surgery.

## References

Buchman AL. Short bowel syndrome. In: Feldman M, Friedman LS, Brandt LJ, eds. *Sleisenger and Fordtran's Gastrointestinal and Liver Disease*. 10th ed. Philadelphia, PA: Elsevier Saunders; 2016:chap 106.

Kaufman SS. Short bowel syndrome. In: Wyllie R, Hyams JS, Kay M, eds. *Pediatric Gastrointestinal and Liver Disease*. 5th ed. Philadelphia, PA: Elsevier; 2016:chap 35.



Semrad CE. Approach to the patient with diarrhea and malabsorption. In: Goldman L, Schafer AI, eds. *Goldman-Cecil Medicine*. 25th ed. Philadelphia, PA: Elsevier Saunders; 2016:chap 140.

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