

Abdominal Adhesions

National Digestive Diseases Information Clearinghouse



U.S. Department
of Health and
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What are abdominal adhesions?

Abdominal adhesions are bands of tissue that form between abdominal tissues and organs. Normally, internal tissues and organs have slippery surfaces, which allow them to shift easily as the body moves. Adhesions cause tissues and organs to stick together.

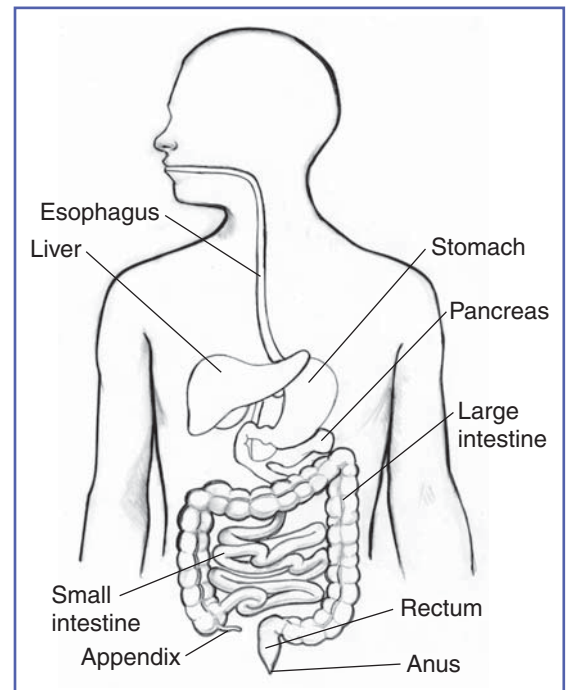
Although most adhesions cause no symptoms or problems, others cause chronic abdominal or pelvic pain. Adhesions are also a major cause of intestinal obstruction and female infertility.

What causes abdominal adhesions?

Abdominal surgery is the most frequent cause of abdominal adhesions. Almost everyone who undergoes abdominal surgery develops adhesions; however, the risk is greater after operations on the lower abdomen and pelvis, including bowel and gynecological surgeries. Adhesions can become larger and tighter as time passes, causing problems years after surgery.

Surgery-induced causes of abdominal adhesions include

- tissue incisions, especially those involving internal organs
- the handling of internal organs
- the drying out of internal organs and tissues
- contact of internal tissues with foreign materials, such as gauze, surgical gloves, and stitches



The intestines are part of the digestive system. Abdominal adhesions can cause an intestinal obstruction.

- blood or blood clots that were not rinsed out during surgery

A less common cause of abdominal adhesions is inflammation from sources not related to surgery, including

- appendicitis—in particular, appendix rupture
- radiation treatment for cancer
- gynecological infections
- abdominal infections

Rarely, abdominal adhesions form without apparent cause.

How can abdominal adhesions cause intestinal obstruction?

Abdominal adhesions can kink, twist, or pull the intestines out of place, causing an intestinal obstruction. An intestinal obstruction partially or completely restricts the movement of food or stool through the intestines. A complete intestinal obstruction is life threatening and requires immediate medical attention and often surgery.

How can abdominal adhesions cause female infertility?

Abdominal adhesions cause female infertility by preventing fertilized eggs from reaching the uterus, where fetal development takes place. Adhesions can kink, twist, or pull out of place the fallopian tubes, which carry eggs from the ovaries—where eggs are stored and released—to the uterus.

What are the symptoms of abdominal adhesions?

Although most abdominal adhesions go unnoticed, the most common symptom is chronic abdominal or pelvic pain. The pain often mimics that of other conditions, including appendicitis, endometriosis, and diverticulitis.

What are the symptoms of an intestinal obstruction?

Symptoms of an intestinal obstruction include

- severe abdominal pain or cramping
- vomiting

- bloating
- loud bowel sounds
- swelling of the abdomen
- inability to pass gas
- constipation

A person with these symptoms should seek medical attention immediately.

How are abdominal adhesions and intestinal obstructions diagnosed?

No tests are available to diagnose adhesions, and adhesions cannot be seen through imaging techniques such as x rays or ultrasound. Most adhesions are found during exploratory surgery. An intestinal obstruction, however, can be seen through abdominal x rays, barium contrast studies—also called a lower GI series—and computerized tomography.

How are abdominal adhesions and intestinal obstructions treated?

Treatment for abdominal adhesions is usually not necessary, as most do not cause problems. Surgery is currently the only way to break adhesions that cause pain, intestinal obstruction, or fertility problems. More surgery, however, carries the risk of additional adhesions and is avoided when possible.

A complete intestinal obstruction usually requires immediate surgery. A partial obstruction can sometimes be relieved with a liquid or low-residue diet. A low-residue diet is high in dairy products, low in fiber, and more easily broken down into smaller particles by the digestive system.

Can abdominal adhesions be prevented?

Abdominal adhesions are difficult to prevent; however, surgical technique can minimize adhesions.

Laparoscopic surgery avoids opening up the abdomen with a large incision. Instead, the abdomen is inflated with gas while special surgical tools and a video camera are threaded through a few, small abdominal incisions. Inflating the abdomen gives the surgeon room to operate.

If a large abdominal incision is required, a special filmlike material (Seprafilm) can be inserted between organs or between the organs and the abdominal incision at the end of surgery. The filmlike material, which looks similar to wax paper, is absorbed by the body in about a week.

Other steps during surgery to reduce adhesion formation include using starch- and latex-free gloves, handling tissues and organs gently, shortening surgery time, and not allowing tissues to dry out.

Points to Remember

- Abdominal adhesions are bands of tissue that form between abdominal tissues and organs, causing tissues and organs to stick together.
- Although most adhesions cause no symptoms or problems, others cause chronic abdominal or pelvic pain, bowel obstruction, or female infertility.
- Abdominal surgery is the most frequent cause of abdominal adhesions.

- Abdominal adhesions can kink, twist, or pull the intestines out of place, causing an intestinal obstruction.
- A complete intestinal obstruction is life threatening and requires immediate medical attention and often surgery.
- Abdominal adhesions cause female infertility by preventing fertilized eggs from reaching the uterus, where fetal development takes place.
- No tests are available to diagnose adhesions, and adhesions cannot be seen through imaging techniques such as x rays or ultrasound.
- An intestinal obstruction can be seen through abdominal x rays, barium contrast studies—also called a lower GI series—and computerized tomography.
- Surgery is currently the only way to break adhesions that cause pain, intestinal obstruction, or fertility problems.

Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases conducts and supports basic and clinical research into many digestive disorders.

Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research. For information about current studies, visit www.ClinicalTrials.gov.

For More Information

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You may also find additional information about this topic by

- searching the NIDDK Reference Collection at www.catalog.niddk.nih.gov/resources
- visiting MedlinePlus at www.medlineplus.gov

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Publications produced by the Clearinghouse are carefully reviewed by both NIDDK scientists and outside experts. This publication was reviewed by James M. Becker, M.D., F.A.C.S., Boston University Medical Center, and Arthur F. Stucchi, Ph.D., and Karen L. Reed, Ph.D., Boston University School of Medicine.

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U.S. DEPARTMENT OF HEALTH
AND HUMAN SERVICES
National Institutes of Health

NIH Publication No. 09-5037
January 2009