

Pelvic Adhesions

When you undergo a hysterectomy, cesarean section, dilation and curettage (D&C)—any type of gynecologic or abdominal surgery, in fact—you have a risk of developing post-surgical adhesions—also known as pelvic adhesions. Adhesions occur when bands of scar tissue in the abdominal cavity get “stuck” to pelvic or abdominal organs, similar to how plastic wrap clings to itself.

They can cause serious consequences, but few women are aware of them.

Prevalence of Adhesions

The risk of adhesions ranges from 67 to 93 percent after general surgical abdominal operations (like appendectomy and gall bladder surgery) up to 97 percent after gynecologic surgery requiring an abdominal incision, such as hysterectomy.

Questions to Ask Your Health Care Professional

Before you agree to pelvic or abdominal surgery, use these questions as a starting point for a discussion with your surgeon about your risk of adhesions:

1. How likely is it that adhesions will form as a result of this procedure?
2. What can you do during the procedure to prevent adhesions?
3. Will you be using an adhesion barrier? How well does it usually work?
4. Are there any symptoms of adhesions I should be aware of during and after recovery?
5. Is there anything I can do to prevent the formation of adhesions after surgery?
6. What types of surgery are less likely to cause adhesions and will these types of surgery work for my symptoms?
7. What can I do, if anything, to ensure this surgery has the best results?

Formation of Adhesions

Not all adhesions are surgical. You can even be born with adhesions. They can also form as a result of internal infections or injuries, such as appendicitis, endometriosis (when the uterine lining grows outside of the uterus), sexually transmitted diseases or pelvic inflammatory disease. Some women develop adhesions after using an IUD.

The most common cause of adhesions, however, is gynecologic and abdominal surgery. The type of surgery doesn't matter; although adhesions are slightly less likely to occur with laparoscopic surgery (in which a surgeon makes very small incisions in the abdomen instead of one large incision), they still occur at a fairly high rate.

Adhesions form as a result of injury or trauma to the peritoneum, the clear membrane that covers the inside of the abdomen and all abdominal and pelvic organs, except the ovaries. When healthy, this membrane is slippery. Once injured, however, the immune system kicks in to repair things, leading to inflammation and the production of sticky scar tissue called a fibrin matrix.

Normally these bands of scar tissue dissolve through a biochemical process called fibrinolysis, just like a cut on your finger and any resulting scab eventually heal. But surgery reduces levels of blood chemicals needed for fibrinolysis, mean-

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- Formation of Adhesions
- Preventing Adhesions
- Questions to Ask

ing these fibrous bands may not dissolve; instead, they develop into adhesions.

Adhesions may form within a couple of weeks after surgery or not for months or even a year or more.

Adhesions and Cesarean Section

Although all gynecologic and abdominal surgeries can cause adhesions, cesarean sections, particularly repeat cesarean sections, carry a very high risk. One study found that women having their third or more cesarean section were almost twice as likely to experience dense adhesions as those undergoing their second (46.1 percent vs. 25.6 percent). Both groups, however, experienced a significant rate of adhesions.

Complications from Adhesions

Many women develop adhesions after surgery and don't know it because the adhesions aren't problematic. But for other women, adhesions can cause numerous complications, including:

- **Pelvic pain:** One study found that 82 percent of 224 patients suffering from chronic abdominal pain had adhesions and no other disease. Other studies find that adhesions are the most common reason for chronic pelvic pain in women. This pain occurs because adhesions bind normally separate organs and tissues together. As you move throughout the day, these tissues stretch, affecting nearby nerves and causing pain.
- **Pain during intercourse:** Adhesions can also cause pain during intercourse (a condition called dyspareunia).
- **Infertility:** Adhesions that form as a result of certain types of gynecologic

Resources

American Association of Gynecologic Laparoscopists

1-800-554-2245
www.aagl.org

American College of Obstetricians and Gynecologists

202-638-5577
www.acog.org

American College of Surgeons

1-800-621-4111
www.facs.org

American Society for Reproductive Medicine

205-978-5000
www.asrm.org

American Urogynecologic Society

202-367-1167
www.augs.org

Endometriosis Association

414-355-2200
www.endometriosisassn.org

International Adhesions Society

972-931-5596
www.adhesions.org

National Uterine Fibroids Foundation

1-800-874-7247
www.nuff.org

Society of Gynecologic Oncologists

312-235-4060
www.sgo.org

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surgery, especially tubal surgeries and surgeries to remove fibroids (myomectomies), are a common cause of infertility. Adhesions between the ovaries, fallopian tubes or pelvic walls can prevent an egg from the ovaries from getting into and through the fallopian tubes. Adhesions around the fallopian tubes may make it difficult or impossible for sperm to reach the egg. One study found adhesions in 37 percent of 733 infertile women; in 41 of these women, adhesions were the only reason for their infertility. Overall, some experts suspect that pelvic adhesions may be responsible for up to 40 percent of infertility.

- **Bowel obstruction:** Adhesions are one of the leading causes of intestinal blockages in the world, responsible for 30 to 60 percent of all cases. Such obstruction limits or stops passage of feces through the intestines, leading to pain, nausea and vomiting, possibly resulting in infection and additional surgery.

Adhesions can also make subsequent abdominal surgeries more challenging. They may make it impossible to perform a laparoscopic procedure, meaning you must undergo an open abdominal incision—which typically has a greater risk of complications and pain and requires a longer recovery time. Adhesions can also make subsequent surgeries longer, increasing the time you have to be anesthetized.

Preventing Adhesions

It is difficult to prevent adhesions entirely, but surgeons can reduce the number of adhesions, as well as mini-

mize the risk that they'll cause problems in the future in several ways. The best time to prevent adhesions is with your first surgery. However, anytime you face a decision about gynecologic surgery it's worth discussing with your surgeon how adhesion risk can be minimized, including:

- Creating barriers between damaged tissues so they don't stick. Today there are several approved devices, liquids, gels, films and other substances surgeons can use as "adhesion barriers." Some have been found to result in adhesions rates 40 percent lower or more compared to surgeries not using any barrier.
- Using certain types of sutures found to be less likely to cause adhesions.
- Administering medications to reduce inflammation.
- Closing the peritoneum after a caesarian section. Several studies find this significantly reduces the risk of adhesions during subsequent cesareans.

Treating Adhesions

The only way to treat adhesions is to surgically remove them during a procedure called adhesiolysis. This can be performed through an open abdominal incision or laparoscopically. Ironically, since the procedure itself damages the peritoneum, it can cause even more adhesions. Adhesions often reform after adhesiolysis, although there is a slightly lower risk of reformations with laparoscopic adhesiolysis and, if they do form, they tend to be smaller and less prevalent than with abdominal incisions.

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