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, meaning 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...
surgery, especially tubal surgeries and surgeries to remove fibroids (myomec-
tomies), are a common cause of infer-
tility. Adhesions between the ovaries,
fallopian tubes or pelvic walls can pre-
vent an egg from the ovaries from get-
ing into and through the fallopian
tubes. Adhesions around the fallopian
tubes may make it difficult or impos-
sible for sperm to reach the egg. One
study found adhesions in 37 per-
cent 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 per-
cent of infertility.

- **Bowel obstruction**: Adhesions are one of
the leading causes of intestinal block-
ages 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 inci-
sion—which typically has a greater risk
of complications and pain and requires a
longer recovery time. Adhesions can also
make subsequent surgeries longer, increas-
ing the time you have to be anesthetized.

**Preventing Adhesions**

It is difficult to prevent adhesions
easily, 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 sur-
geons 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 caesar-
ian section. Several studies find this
significantly reduces the risk of adhe-
sions during subsequent cesareans.

**Treating Adhesions**

The only way to treat adhesions is to
surgically remove them during a pro-
cedure 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 laparo-
scopic adhesiolysis and, if they do form,
they tend to be smaller and less preva-
 lent than with abdominal incisions.

**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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