



Ovarian Cysts

The **ovaries** are two small organs located on either side of the **uterus**. An ovarian **cyst** is a sac or pouch filled with fluid or other tissue that forms on the ovary. In most cases, cysts do not cause symptoms and go away on their own. In other cases, they may cause pain or other problems and need treatment.

This pamphlet explains

- *types of ovarian cysts*
- *ovarian cysts and cancer*
- *symptoms*
- *diagnosis and treatment*

Types of Ovarian Cysts

Ovarian cysts are very common. They can occur during the childbearing years or after **menopause**. Most ovarian cysts are **benign** (not cancer).

Functional Cysts

The most common type of ovarian cyst is called a **functional cyst**. A functional cyst forms as a result of **ovulation**. Each month, several eggs begin to mature within the ovary. Each egg is encased in a sac called a **follicle**. During ovulation, one of the eggs fully matures and is released from its follicle into the **fallopian tube**. The now-empty follicle starts making a **hormone** called **progesterone**. At this stage, the follicle is called the **corpus luteum**. If the egg is not fertilized by a **sperm**, the corpus luteum shrinks.

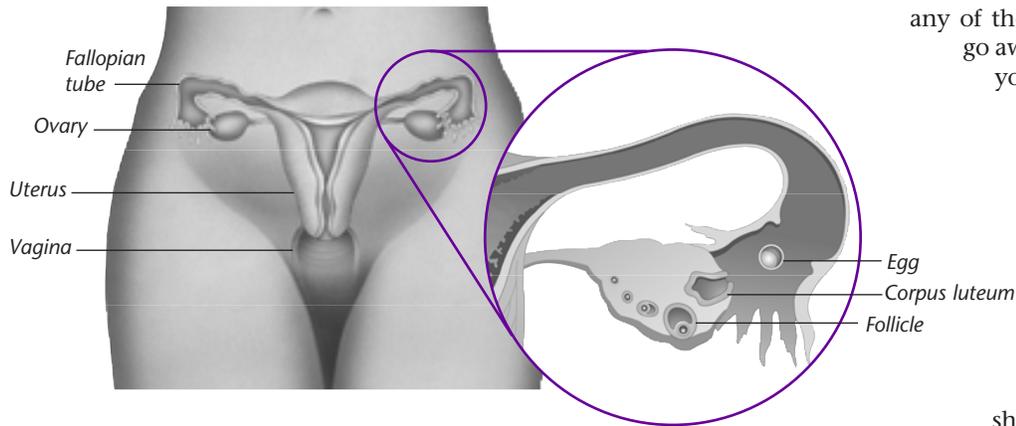
There are two types of functional cysts:

1. Follicle cysts form when the follicle does not open to release the egg. Fluid builds up inside the follicle, causing a cyst.
2. Corpus luteum cysts form when the empty follicle seals off after the egg is released. These cysts can contain blood and other fluids.

Both types of cysts usually cause no symptoms. Sometimes, they cause mild discomfort or pain on one side of the lower abdomen. Most functional cysts go away without treatment within 6–8 weeks.

Teratomas

A **teratoma** is a cyst that contains different kinds of tissues that make up the body such as skin and hair.



The ovaries are located on either side of the uterus. Each month, an egg is released from one of the ovaries into one of the fallopian tubes. This process is called ovulation.

These cysts may be present from birth but can grow during a woman's reproductive years. They may be found on one or both ovaries. In very rare cases, some teratomas can become cancer.

Cystadenomas

A **cystadenoma** is a cyst that develops from cells on the outer surface of the ovary. Sometimes they are filled with a watery fluid or a thick, sticky gel. They usually are benign, but they can grow very large.

Endometriomas

An **endometrioma** is an ovarian cyst that forms as a result of **endometriosis**. In this condition, endometrial tissue—tissue that usually lines the uterus—grows in areas outside of the uterus, such as on the ovaries. This tissue responds to monthly changes in hormones. Eventually, an endometrioma may form as the endometrial tissue on the ovary continues to shed with each menstrual cycle.

Ovarian Cysts and Cancer

Sometimes, a cyst may be **malignant** (cancerous). Age is an important risk factor for ovarian cancer. Ovarian cancer is very rare in young women. Most cases of ovarian cancer occur in women older than 55 years.

Another important risk factor is a family history of breast or ovarian cancer. **Hereditary breast and ovarian cancer syndrome** is a type of familial cancer. It often is caused by a change in the **BRCA1 and BRCA2** genes. There also are other genes that can cause ovarian cancer. About 15% of all cases of ovarian cancer occur in women who have gene changes. Women with a family history of ovarian and breast cancer can be tested to see if they have these changes. Other risk factors for ovarian cancer include never having given birth, getting your first period at an early age, and late onset of menopause.

In its early stages, ovarian cancer may cause mild symptoms that can be easily mistaken for an upset stomach or urinary tract infection (see box). If you have

any of these signs, and they do not go away or are getting worse, see your ob-gyn or other health care professional.

Symptoms

Most ovarian cysts do not cause symptoms. Many are found during a routine **pelvic exam** or imaging test done for another reason. Some cysts may cause a dull or sharp ache in the abdomen and pain during certain activities. Larger cysts may cause torsion (twisting) of the ovary. Torsion usually causes pain on one side that comes and goes or can start very suddenly. Cysts that bleed or rupture (burst) also may cause severe, sudden pain.

Many other conditions can cause these symptoms, including **ectopic pregnancy**, **fibroids**, and pelvic infections. Infections of the digestive system and kidney stones also can result in lower abdominal pain.

Diagnosis

If a cyst is found during a pelvic exam or an imaging exam, your ob-gyn will ask you questions about your symptoms and your personal and family medical history. Tests may be recommended to provide more information. These tests include a **transvaginal ultrasound** exam or **transabdominal ultrasound** exam and, in some cases, a blood test.

Ultrasound Exam

An **ultrasound exam** is an imaging test that uses sound waves to create pictures of the internal organs. For this test, a slender instrument called a transducer is placed in the vagina or on the abdomen. The views created by the sound waves show the shape, size, location, and whether the cyst is solid or filled with fluid. These features can give useful clues about what type of cyst you have, including whether a cyst is benign or malignant.

Blood Tests

Levels of certain substances in the blood may be present or increased in some women with ovarian cancer. These

Warning Signs of Ovarian Cancer

If you have any of the following symptoms and they do not go away, are frequent, or get worse over time, you should contact your **obstetrician-gynecologist (ob-gyn)** or other health care professional:

- Bloating or an increase in abdominal size
- Pelvic or abdominal pain
- Difficulty eating or feeling full quickly

substances are called tumor markers. A blood test can be done to measure the levels of some of these markers.

These blood tests are not able to diagnose ovarian cancer and should not be used for screening. Results are used to assess the likelihood that a cyst or mass on the ovary is cancer. If test results suggest an increased risk of cancer, you may be referred to a *gynecologic oncologist*, an ob-gyn who specializes in gynecologic cancer. A referral to a gynecologic oncologist does not mean that you have cancer. It means only that you have a cyst that is best evaluated by a specialist.

The most common of these marker tests measures the level of a substance called *CA 125* in the blood. An increased level of CA 125, along with certain findings from ultrasound and physical exams, may raise concern for ovarian cancer, especially in a woman who is past menopause.

The CA 125 blood test has many limitations. About one half of women with ovarian cancer that is in its earliest most treatable stage have a normal CA 125 level. An increased level of CA 125 can occur as a result of many other conditions besides cancer, including pregnancy, fibroids, endometriosis, and liver disease. These conditions most commonly occur in premenopausal women. For this reason, the CA 125 test is a more accurate test for cancer in postmenopausal women.

Several other blood tests can be used to help identify whether a mass on the ovary is concerning for ovarian cancer. Two different blood tests that measure several markers in addition to CA 125 are available. These tests may be more accurate in finding ovarian cancer in both premenopausal and postmenopausal women. More studies need to be done to confirm this.

Treatment

There are several treatment options for cysts. Choosing an option depends on many factors, including family history of ovarian or breast cancer, the type of cyst, whether you have symptoms, how large the cyst is, and your age.

Watchful Waiting

Watchful waiting is a way of monitoring a cyst with repeat ultrasound exams to see if the cyst has changed in size or appearance. Your ob-gyn will decide when to repeat the ultrasound exam and how long this follow-up should last. Most functional cysts go away on their own after one or two menstrual cycles. Even cysts as large as 10 cm may go away on their own. Watchful waiting is an option in many cases.

Surgery

Surgery usually is recommended if your cyst is very large or causing symptoms or if cancer is suspected. The timing, extent, and type of surgery depends on several factors:

- Size and type of cyst
- Your age and whether you have other health problems

- Your symptoms
- Your desire to have children

Removing one or both ovaries can affect a woman's ability to have children. If you need to have surgery and you want to have children in the future, sometimes the cyst can be removed while leaving normal parts of the ovary. This surgery is called *cystectomy*. In other cases, one or both of the ovaries may need to be removed. This surgery is called *oophorectomy*.

Minimally Invasive Surgery

If your cyst is thought to be benign, *minimally invasive surgery* is recommended. Minimally invasive surgery is done using small (usually no more than one half inch long) incisions and a special instrument called a *laparoscope*.

A laparoscope is a long, slender device that is inserted into the abdomen through a small incision. It has a camera attached to it that allows the surgeon to view the abdominal and pelvic organs on an electronic screen. Other instruments that are used during surgery can be inserted through additional small incisions in the abdomen. They sometimes can be inserted through the same skin incision made for the laparoscope. This type of *laparoscopy* is called "single-incision" laparoscopy.

Laparoscopy has many benefits and fewer risks than "open" surgery, which requires a larger incision. Women who have a laparoscopy have shorter hospital stays, decreased pain, and a quicker recovery compared with women who have open surgery.

Open Surgery

In open surgery, an incision is made horizontally or vertically in the lower abdomen. Open surgery may be done if cancer is suspected or if the cyst is too large to be removed by laparoscopy. In some cases, a laparoscopy is planned but has to be changed to open surgery after the surgery starts.

Finally...

Ovarian cysts are common in women. Most are not cancer. Although most cysts do not cause any symptoms and go away on their own, your ob-gyn will want to keep track of cysts that are not clearly functional cysts to be sure that they do not grow and cause problems. Surgery sometimes is needed if a cyst grows very large or there is a risk that it may be cancer.

Glossary

BRCA1 and BRCA2: Genes that function in the control of cell growth. Changes in these genes have been linked to an increased risk of breast cancer and ovarian cancer.

Benign: Not cancer.

CA 125: A substance in the blood that may increase in the presence of some cancerous tumors.

Corpus Luteum: The remains of the egg follicle that produces progesterone in the ovary after ovulation.

Cyst: A sac or pouch filled with fluid.

Cystadenoma: A cyst that forms from cells on the outer surface of ovary and is usually benign.

Cystectomy: Surgical removal of a cyst.

Ectopic Pregnancy: A pregnancy in which the fertilized egg begins to grow in a place other than inside the uterus, usually in one of the fallopian tubes.

Endometrioma: A cyst that forms on the ovaries from endometrial tissue.

Endometriosis: A condition in which tissue that lines the uterus is found outside of the uterus, usually on the ovaries, fallopian tubes, and other pelvic structures.

Fallopian Tube: One of two tubes through which an egg travels from the ovary to the uterus.

Fibroids: Growths, usually benign, that form in the muscle of the uterus.

Follicle: The sac-like structure in which an egg develops inside the ovary.

Functional Cyst: A benign cyst that forms in an ovary and usually resolves on its own without treatment.

Gynecologic Oncologist: A physician who has special training and experience in the diagnosis and treatment of cancer of the female reproductive organs.

Hereditary Breast and Ovarian Cancer Syndrome: An inherited susceptibility to breast cancer, ovarian cancer, and other types of cancer. Its characteristics can include multiple family members with breast cancer, ovarian cancer, or both; the presence of both breast cancer and ovarian cancer in a single individual; and early age of breast cancer onset.

Hormone: A substance made in the body by cells or organs that control the function of cells or organs. An example is estrogen, which controls the function of female reproductive organs.

Laparoscope: An instrument that is inserted through a small incision to view internal organs or to perform surgery.

Laparoscopy: A surgical procedure in which an instrument called a laparoscope is inserted into the pelvic cavity through a small incision. The laparoscope is used to view the pelvic organs. Other instruments can be used with it to perform surgery.

Malignant: A term used to describe cells or tumors that are able to invade tissue and spread to other parts of the body.

Menopause: The time in a woman's life when menstruation stops; defined as the absence of menstrual periods for 1 year.

Minimally Invasive Surgery: Surgery done through a very small incision.

Obstetrician–Gynecologist (Ob-Gyn): A physician with special skills, training, and education in women's health.

Oophorectomy: Removal of one or both of the ovaries.

Ovaries: The paired organs in the female reproductive system that contain the eggs released at ovulation and produce hormones.

Ovulation: The release of an egg from one of the ovaries.

Pelvic Exam: A physical examination of a woman's reproductive organs.

Progesterone: A female hormone that is produced in the ovaries and that prepares the lining of the uterus for pregnancy.

Sperm: A cell produced in the male testes that can fertilize a female egg.

Teratoma: A cyst formed from the different types of tissues that make up the body.

Transabdominal Ultrasound: A type of ultrasound in which a device is moved across the abdomen.

Transducer: A device that emits sound waves and translates the echoes into electrical signals.

Transvaginal Ultrasound: A type of ultrasound in which a device specially designed to be placed in the vagina is used.

Ultrasound Exam: A test in which sound waves are used to examine internal structures.

Uterus: A muscular organ located in the female pelvis that contains and nourishes the developing fetus during pregnancy.

This Patient Education Pamphlet was developed by the American College of Obstetricians and Gynecologists. Designed as an aid to patients, it sets forth current information and opinions on subjects related to women's health. The average readability level of the series, based on the Fry formula, is grade 6–8. The Suitability Assessment of Materials (SAM) instrument rates the pamphlets as “superior.” To ensure the information is current and accurate, the pamphlets are reviewed every 18 months. The information in this pamphlet does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

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