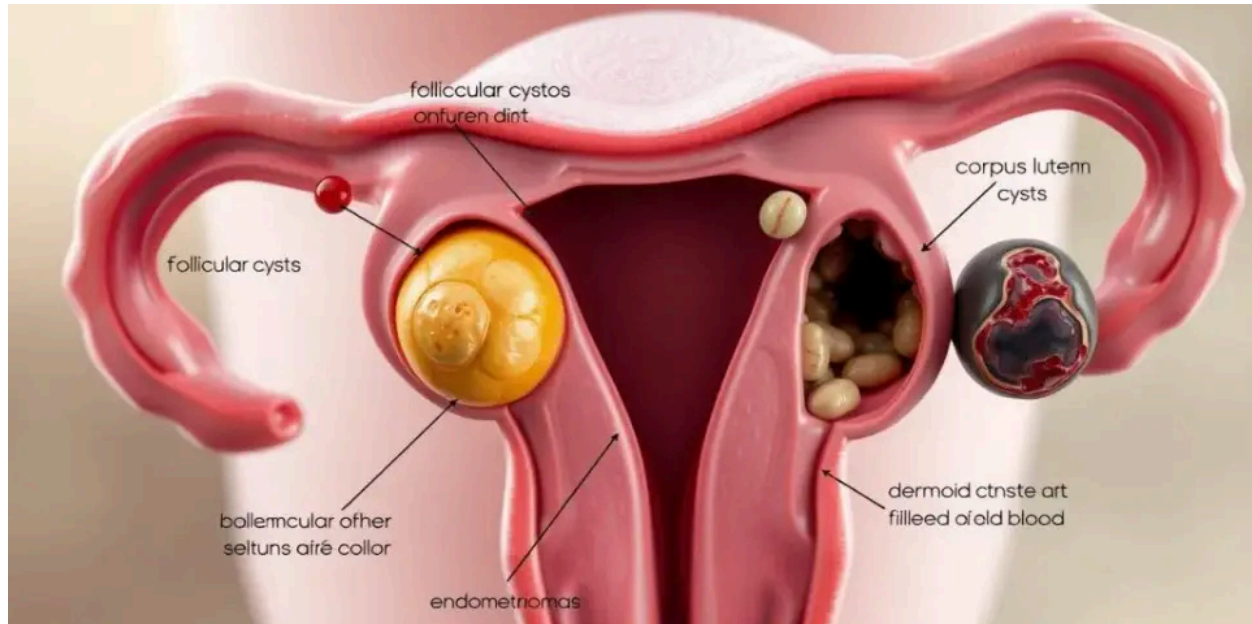


Ovarian Cyst

Ovarian Disorders



1. Introduction

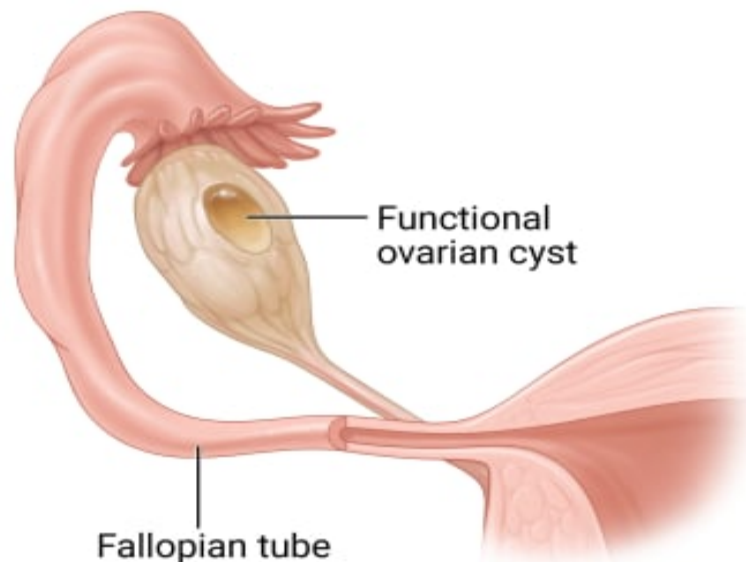
An ovarian cyst is a small sac filled with fluid or semisolid material that forms on or within one or both of your ovaries. Cysts are extremely common in women of reproductive age, often arising as part of the normal menstrual cycle. In most cases they are harmless and disappear without treatment. A simple ovarian cyst may contain clear liquid and typically causes no symptoms.

Prevalence : Almost half of women will have an ovarian cyst at some time. Cysts occur mostly before menopause; they are rare after menopause unless due to cancer. Risk factors include having regular menstrual cycles (you ovulate) and conditions like endometriosis or polycystic ovary syndrome (PCOS). Regular pelvic exams can help detect cysts early.

2. Types of Ovarian Cyst

Ovarian cysts come in many varieties. The most common are functional cysts, which form during the menstrual cycle. Other types arise from abnormal tissue growth, endometriosis, or disease. Key types include:

2.1. Functional cysts (Simple Cyst) : They aren't disease-related. They occur as a result of ovulation. These cysts can be a sign that your ovaries are functioning as they should. Functional cysts generally shrink over time, usually within 60 days, without treatment. Sometimes, functional cysts are called simple cysts.



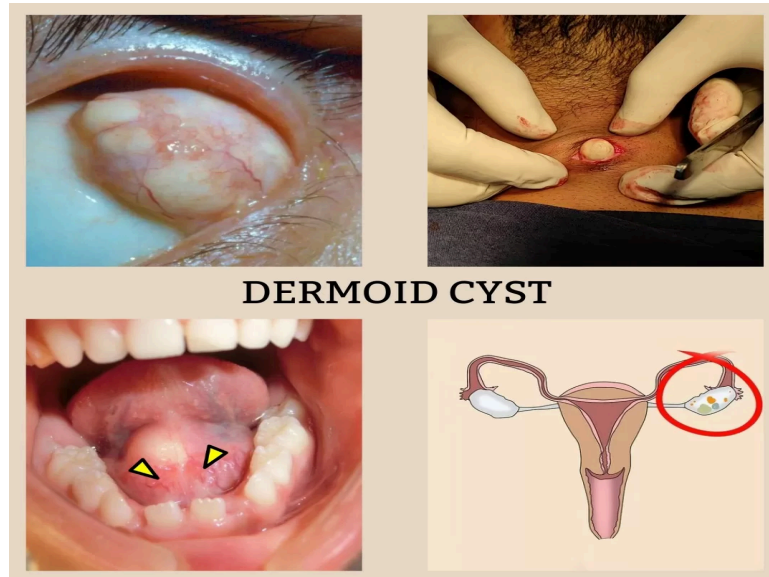
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Functional cyst can be of types :

2.1.1. Follicular cysts : It occurs when an ovarian follicle fails to release its egg and instead fills with fluid.

2.1.2. Corpus luteum cysts : (Corpus means 'body' and Luteum means 'yellow', a temporary endocrine gland in the ovary that produces progesterone to support potential pregnancy.) It forms after ovulation if the empty follicle (now a corpus luteum) seals shut and accumulates fluid. Functional cysts often shrink on their own within 2-3 menstrual cycles and rarely cause symptoms.

2.2. Dermoid cysts (Mature cystic teratomas) : These grow from germ cells and can contain hair, skin, or teeth. They are usually noncancerous. Dermoid cysts often require surgical removal if large or symptomatic.



Here teratomas means a type of germ cell tumor containing mature, fully formed tissues like hair, skin, teeth, and bone, derived from all three embryonic germ layers (ectoderm, mesoderm, endoderm)

2.2.1. Ectoderm (The "Outer" Layer) :

This layer is responsible for the body's exterior and communication systems.

- What it becomes: Skin, hair, nails, sweat glands, tooth enamel, and the nervous system (brain, spinal cord, and nerves).
- Found in dermoid cysts as: Abundant hair, oily sebum (from skin glands), and occasionally brain tissue

2.2.2. Mesoderm (The "Middle" Layer) :

This layer develops into the structural and circulatory components of the body.

- What it becomes: Muscles, bones, cartilage, fat (adipose tissue), blood vessels, the heart, and the kidneys.

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- Found in dermoid cysts as: Hard bone fragments, teeth (which contain mesodermal dentine), and clumps of fat or cartilage.

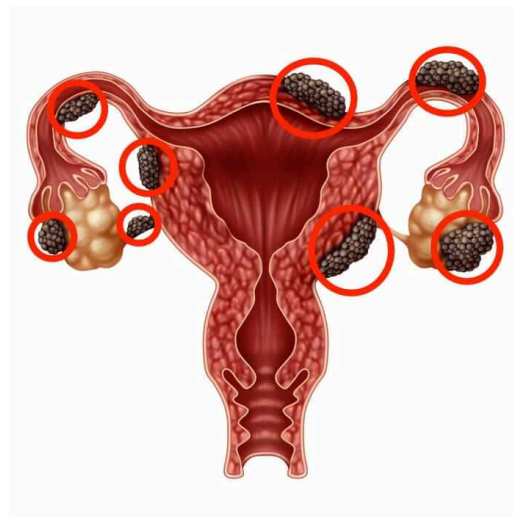
2.2.3. Endoderm (The "Inner" Layer) :

This layer forms the internal linings of the body's major hollow organs.

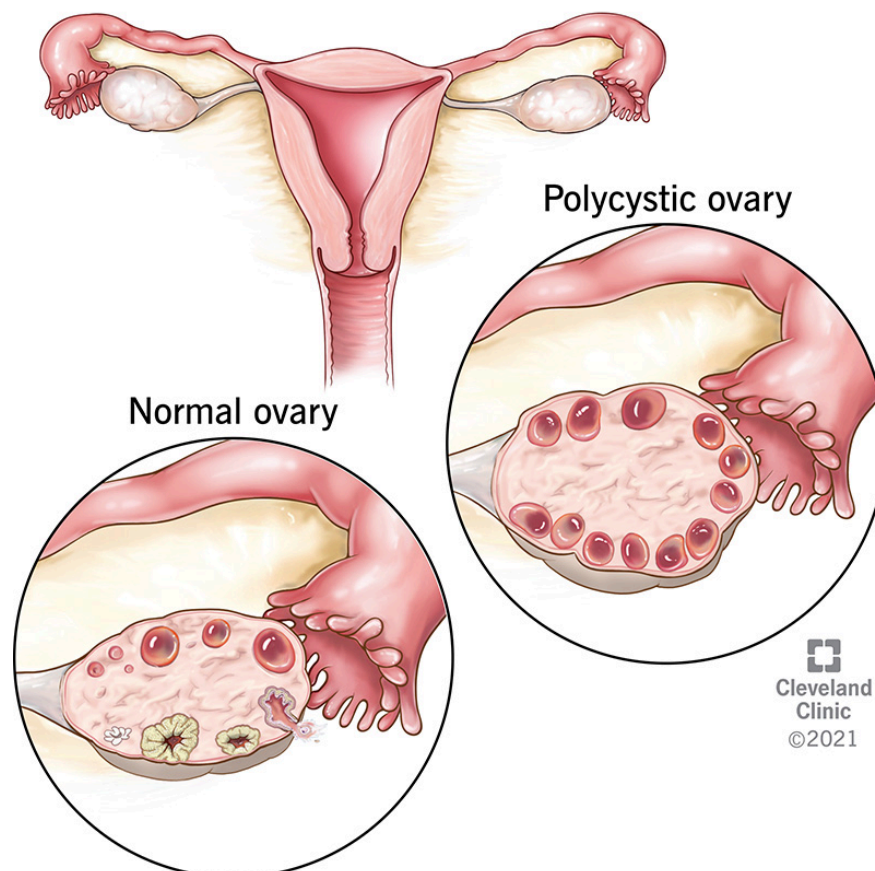
- What it becomes: The lining of the digestive tract (stomach, intestines), the respiratory system (lungs), and organs like the liver, pancreas, and thyroid gland.
- Found in dermoid cysts as: Patches of gastrointestinal or respiratory lining, or even functional thyroid tissue (known as *struma ovarii*).

2.3. Cystadenomas (less common) : Arising from ovarian surface cells, these may be filled with watery (serous) or mucous fluid (Mucinous). Cystadenomas can grow very large and typically need surgical removal. It is a non cancerous tumour, and forms a cyst with an epithelial lining that has small finger-like growths inside. It is mostly found in the ovaries but can also occur in organs like the pancreas or liver(biliary cystadenoma).

2.4. Endometriomas ("chocolate cysts") : In women with endometriosis, uterine lining tissue can grow on the ovary and form a blood-filled cyst. These often require treatment of the underlying endometriosis (hormonal therapy or surgery) as well as removal of the cyst.



2.5. Polycystic ovaries (PCOS) : PCOS is a hormonal disorder in which many small fluid-filled follicles (sometimes called cysts) develop on enlarged ovaries. These are actually immature follicles, not true cysts, but PCOS leads to many cyst-like structures and anovulation. PCOS is one of the most common causes of infertility.



2.6. Hemorrhagic cysts (hemorrhage means bleeding) : When a blood vessel breaks inside a functional cyst, it can fill with blood. This may cause sudden pain but usually resolves on its own. It mainly contains blood or blood clots. They are typically a variation of “corpus luteum” cyst. Because they are functional, they usually resolve on their own within 6 to 8 weeks (two menstrual cycles).

2.6.1. When should you worry?

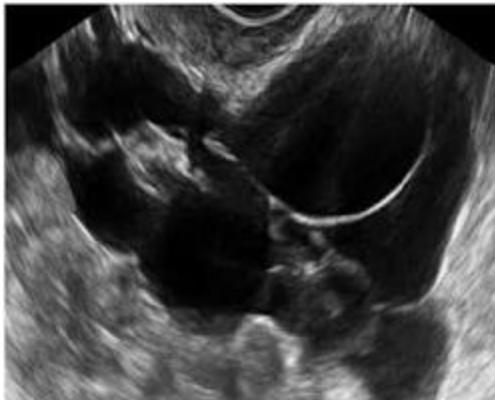
While most resolve naturally, you should seek medical attention if you experience:

- Sudden, severe pelvic pain (especially if accompanied by nausea).
- Dizziness or fainting (can be a sign of internal blood loss).
- Fever (which could indicate an infection).
- Size: If the cyst is very large (usually over 5cm), a doctor may monitor it more closely or suggest surgery to prevent it from twisting the ovary (ovarian torsion).

2.6.2. Follow-up Process : Ensure that the body is reabsorbing the blood and the cyst is shrinking.

2.7. Peritoneal inclusion cysts (The “Entrapped Ovary” : rare) : Fluid trapped by adhesions after surgery or infection.

This is a specific type of cyst that is actually outside the ovary but often mistaken for an ovarian cyst.

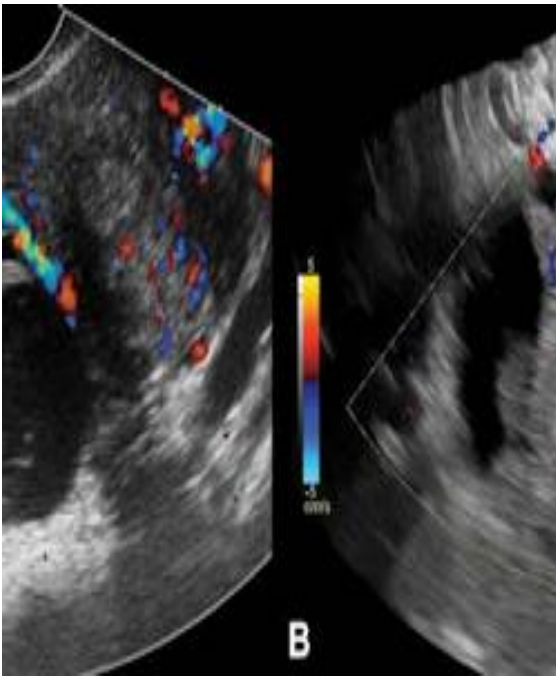


2.7.1. How it forms: It happens when the peritoneum (the lining) cannot properly absorb the natural fluid produced by the ovaries during ovulation. This fluid gets trapped by scar tissue (adhesions) from previous surgeries, endometriosis, or pelvic infections.

2.7.2. The "Spider Web" Sign: On an ultrasound, these often look like a "spider web" or "lace" because the fluid is trapped in pockets of scar tissue around the ovary.

2.7.3. Is it dangerous? These are almost always benign (non-cancerous), but they can cause a heavy, dull ache because they take up space in the pelvic cavity.

2.8. Malignant cysts (Ovarian Cancer : Rare) : Less than 1% of ovarian cysts are cancerous. Ovarian cancer cysts are solid or complex and occur more often after menopause.



Solid Components: Unlike a simple cyst, a malignant cyst often has solid, irregular tissue growing inside or along the walls (appearing grey/white).

Thick Septations: These are thick internal "walls" or dividers within the cyst.

Papillary Projections: Small, finger-like growths sticking out from the inner wall of the cyst.

Increased Blood Flow: Using "Doppler" ultrasound (often shown in red and blue), doctors look for high blood flow directed toward those solid areas, which suggests a tumor is feeding itself.

2.8.1. Distinguish between Malignant from Benign

Because a "cyst" just means a sac, doctors look for specific "complex" features on an ultrasound or MRI to determine if it is suspicious for malignancy:

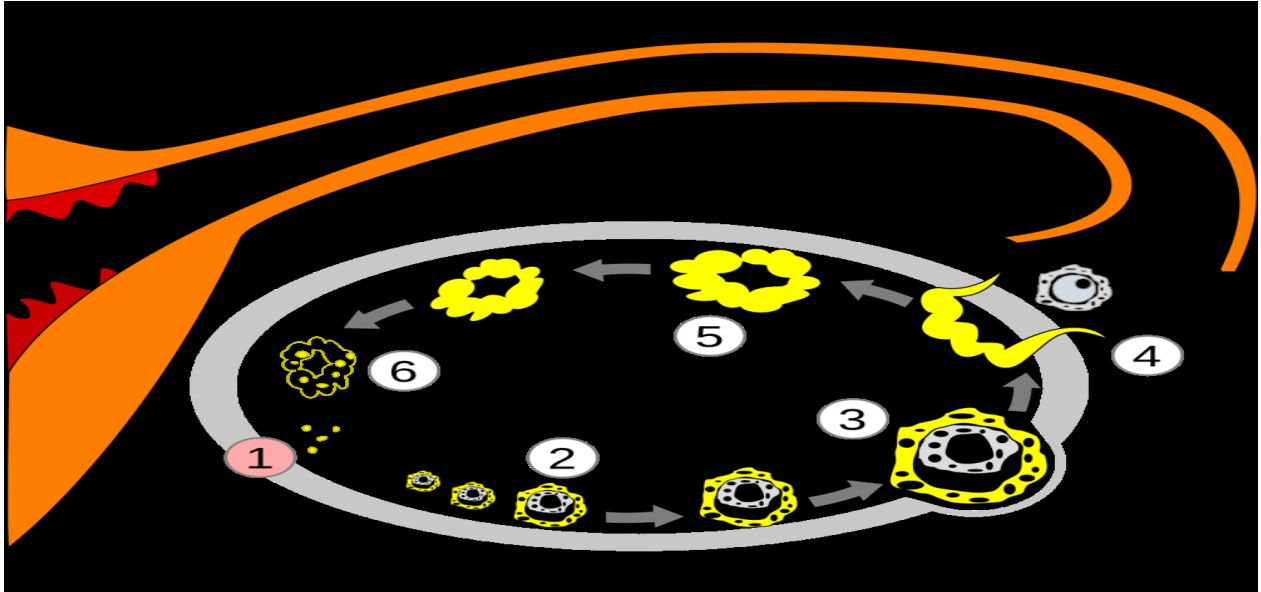
Feature	Likely Benign	Suspicious for Malignant (Complex)
Contents	Purely fluid (looks black)	Solid parts, thick "walls,"

	on ultrasound).	or partitions (septa).
Blood Flow	Little to no blood flow within the cyst.	Increased blood flow to the solid parts (seen on Doppler).
Borders	Smooth, well-defined edges.	Irregular, "shaggy," or poorly defined borders.
Growth	Often shrinks or stays the same size.	Grows rapidly or progressively over time.
Ascites	No extra fluid in the belly.	Often accompanied by "ascites" (free fluid in the abdomen).

2.8.2. Risk Factors for Malignancy

- Age: The risk of a cyst being malignant increases significantly after menopause.
- Tumor Markers: Doctors may order a CA-125 blood test. While this level can be high in benign conditions like endometriosis, a very high level in a post-menopausal woman is a red flag.
- Genetics: A family history of ovarian or breast cancer (such as the BRCA gene) increases the risk.

3. How Cysts Develop (Causes)



Normally, each menstrual cycle one ovarian follicle matures, ovulates (releases an egg), and then regresses. The above diagram outlines these steps (1–6) of the cycle. A cyst forms when this process goes awry. For example, if a follicle fails to rupture, it may continue to grow into a follicular cyst. If the corpus luteum (the leftover follicle after ovulation) seals off instead of breaking down, fluid can accumulate and form a cyst.

3.1. Other causes :

Abnormal cell growth on the ovary can form cystadenomas or dermoids. Endometriosis tissue on the ovary leads to endometriomas. High hormone stimulation (as in fertility treatments or pregnancy) can create theca lutein cysts. PCOS causes multiple immature follicles/cysts due to hormonal imbalance. Pelvic infections (PID) can trigger cysts from inflammation. Age is a factor – cysts are common during reproductive years and become less so after menopause. Previous cysts, obesity, or smoking can also increase risk.

4. Symptoms and Effects

Most ovarian cysts cause no symptoms and are found incidentally on exam or ultrasound. When symptoms occur, they may include:

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- Pelvic pain or pressure: A dull ache or sharp cramp in the lower abdomen, often on one side. Pain may come and go with the menstrual cycle.
 - Fullness or bloating: A feeling of heaviness or swelling in the pelvis or belly.
 - Painful periods or intercourse: Cysts can worsen menstrual cramps or cause discomfort during sex.
 - Urinary/bowel symptoms: A large cyst might press on the bladder (frequency) or rectum (constipation).
 - Anxiety and stress: Learning one has a cyst can cause worry about health or fertility. As one women's health advocate notes, many women feel "*worry, confusion, and perhaps fear*" when diagnosed with a cyst. For example, actress Kate Beckinsale publicly shared that her ruptured ovarian cyst "*really hurts*" and required strong pain medication. Severe sudden pain, dizziness or fainting can signal a ruptured or twisted cyst – medical attention is critical in those cases.

5. Diagnosis

Doctors may suspect a cyst from pelvic exam (feeling a mass). Confirmation is by imaging: ultrasound is the main tool. Ultrasound shows cyst size, location, and whether it is fluid-filled or solid. In some cases MRI or CT scans are used. Blood tests (like CA-125) and watching symptoms help distinguish benign from cancerous cysts. Rarely, laparoscopy (a minor surgical procedure with a camera) is done both to diagnose and remove a cyst.

5.1. Blood test (CA-125)

The CA-125 test is a blood test that measures the amount of a protein called Cancer Antigen 125.

Why CA-125 is "Tricky"

The CA-125 protein is produced by the lining of the pelvis and abdomen. Anything that irritates or inflames that lining will cause CA-125 to leak into the bloodstream.

Non-cancerous things that cause high CA-125:

- Hemorrhagic Cysts: When a cyst bleeds, the blood irritates the pelvic lining, which can spike CA-125 levels.

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- Endometriosis: This is one of the most common causes of very high CA-125 in younger women.
 - Your Period: Testing during menstruation can cause a temporary rise.
 - Pelvic Inflammatory Disease (PID): Infection causes significant inflammation.
 - Pregnancy or Fibroids: Both can naturally increase the protein.

5.2. How Age Changes the Meaning

Doctors interpret CA-125 very differently depending on whether you have reached menopause:

- Before Menopause (Premenopausal): The test is less reliable. Because of cycles, endometriosis, and benign cysts, a high number is frequently a "false alarm."
- After Menopause (Postmenopausal): The test is more significant. Since there is no longer a menstrual cycle or active endometriosis, a high CA-125 combined with a complex cyst is a much stronger indicator that the cyst needs to be surgically investigated.

5.3. The "Risk of Malignancy Index" (RMI)

Because CA-125 isn't perfect, doctors often use a formula called the RMI. They don't just look at the blood test; they multiply the results of three things:

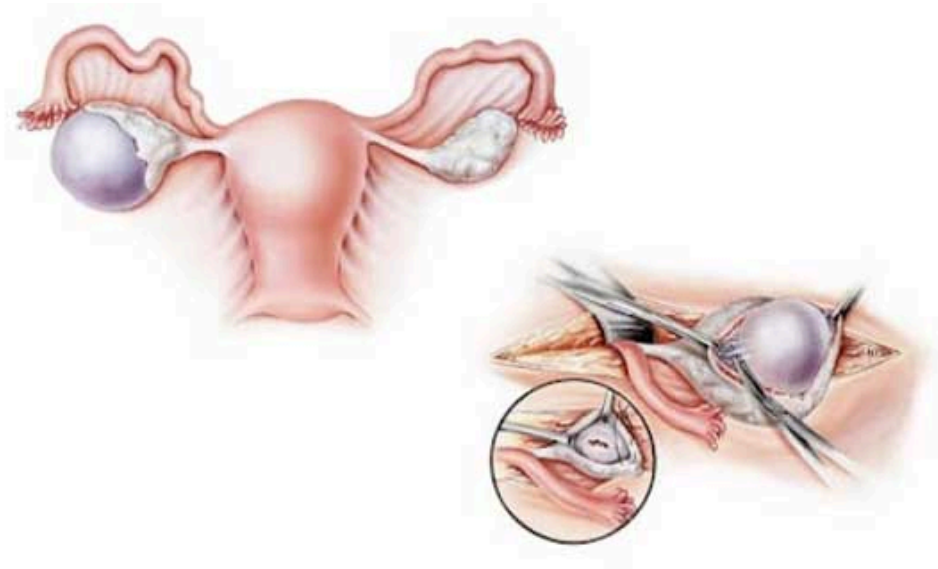
- **Ultrasound Score:** (Are there solid parts? Is there fluid in the belly?)
- **Menopausal Status:** (Pre- or post-menopause?)
- **CA-125 Level:** (The actual number from your blood work.)

6. Treatment and Solutions

Treatment depends on cyst type, size, symptoms and patient factors. Many cysts need no immediate treatment. Options include:

- Watchful waiting: Functional cysts often resolve spontaneously in 1–3 cycles. Doctors will monitor them with repeat ultrasounds. This "wait-and-see" approach is common for simple, asymptomatic cysts.

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- **Hormonal therapy:** Birth control pills or hormone therapies suppress ovulation and can prevent new functional cysts. OCPs are used for PCOS to regularize cycles, and also to reduce endometriosis-related cyst growth. Progesterone courses can shrink certain cysts.
 - **Medications:** In PCOS, metformin (a diabetes drug) can improve insulin resistance and help restart ovulation. Clomiphene or letrozole may be used to induce ovulation in PCOS infertility. Pain relievers or NSAIDs manage discomfort.
 - **Surgery:** Surgical removal is recommended for large, persistent, or suspicious cysts. Minimally invasive laparoscopic cystectomy (removing only the cyst) is preferred when possible. Laparoscopy allows preservation of the ovary. Open laparotomy may be used for very large cysts or when cancer is suspected. Dermoid cysts, cystadenomas and endometriomas are usually removed surgically to prevent complications. In an emergency (ruptured cyst or ovarian torsion), surgery is urgent. Rarely, the entire ovary (oophorectomy) is removed if needed.



- **Treating underlying conditions:** For endometriomas, treating endometriosis with hormonal suppression (e.g. GnRH analogues or continuous birth control) helps prevent recurrence. For PCOS, lifestyle changes are key: losing excess weight and healthy diet/exercise can significantly improve PCOS symptoms. These measures can reduce the frequency of cysts forming and improve fertility. Regular follow-up

with a gynecologist and ultrasound is advised if you've had prior cysts, as they can recur.

7. Prevention and Outlook

There is no sure way to prevent every cyst, but some steps help: using hormonal contraceptives (to stop ovulation) can reduce functional cysts. Managing risk factors (weight, insulin resistance in PCOS, endometriosis) improves outcomes. Most ovarian cysts are benign and resolve. Less than 1% of ovarian cysts turn out to be cancerous. With appropriate care – monitoring small cysts, treating painful or large cysts – women can be reassured. Fertility is usually unaffected; as one fertility specialist notes, most ovarian cysts *“won't prevent you from getting pregnant”*. Indeed, many women with cysts go on to have healthy pregnancies. In summary, ovarian cysts have many causes and types, but the vast majority are harmless and treatable. Key solutions include watchful waiting and birth control for simple cysts, surgery for troublesome cysts, and addressing any underlying hormonal or gynecologic condition. Regular gynecologic care and healthy lifestyle measures help women manage and minimize the impact of ovarian cysts on their health.

8. Patient Experiences on Social Media

Patients with chronic conditions often share their journeys on YouTube, Instagram, and other platforms.

For example, one young woman struggling with PCOS recalls that doctors initially dismissed her teenage acne, weight gain and excess hair as just “a coming of age” issue; she was put on birth control without real answers.

Others describe living with constant anxiety and pain: as one sickle-cell patient put it, “growing up with [the disease], I had a very tough time... I was in the hospital consistently. I suffered with very bad chronic pain”. These honest testimonials highlight both the emotional impact (anxiety, isolation, frustration) and how changes can help.

For instance, a Mumbai doctor shared that after losing 42 kg through diet and running, she effectively “reversed” her PCOS symptoms and vastly improved her health. Such stories, from PCOS to cancer to diabetes and beyond – show that many people on social media turn to lifestyle changes (diet, exercise, stress reduction) and community support as part of their “cure” or management.

9. Frequently Asked Questions (PCOS/PCOD)

- **What is PCOS/PCOD?** It’s a hormonal disorder affecting women of reproductive age. Mayo Clinic explains it involves “few, unusual or very long periods” and often excess androgens (male hormones), with many small fluid sacs (cysts) on the ovaries.
- **What are common symptoms?** By definition, at least two of irregular cycles, high androgen signs, and polycystic ovaries. In plain terms: women often have infrequent or very heavy periods, trouble conceiving, unwanted hair growth (hirsutism), acne, weight gain or difficulty losing weight. Obesity can worsen these symptoms.
- **What causes it?** The exact cause is unknown, but experts link PCOS to insulin resistance, inflammation and genetics. High insulin levels can drive up male hormones in the body, disrupting ovulation. No single factor causes all PCOS, which is why each person’s experience can differ.
- **Is PCOS curable?** There is no “magic bullet” cure. As Mayo Clinic notes, early diagnosis plus lifestyle changes (especially weight loss and diet) can *lower* risks of complications (like diabetes and heart disease), but the underlying hormonal imbalance can be lifelong. In other words, PCOS can be effectively managed – many patients say they have “reversed” symptoms – but it’s considered a chronic syndrome, not something that is simply eradicated.
- **How is PCOS treated?** The first step is usually lifestyle: caloric restriction and exercise to lose weight if needed, which improves insulin sensitivity. Medications are tailored to goals: for women *not* trying to conceive, doctors often prescribe hormonal birth control to regularize periods and reduce androgen effects (acne, hair). For those wanting pregnancy, ovulation-inducing drugs (like letrozole) may be used. Metformin (a diabetes drug) is frequently added to help with insulin

resistance. Specialists emphasize that weight management and diet/exercise are the foundation of therapy.

- **What are risks if untreated?** If unmanaged, PCOS can increase the chance of type 2 diabetes, high cholesterol, sleep apnea and even endometrial cancer. Regular follow-up and healthy habits can mitigate these long-term risks.

10. Sources

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