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Diseases and Conditions

Uterine fibroids

By Mayo Clinic Staff

Uterine fibroids are noncancerous growths of the uterus that often appear during childbearing years. Also called leiomyomas (lie-o-my-O-muhs) or myomas, uterine fibroids aren't associated with an increased risk of uterine cancer and almost never develop into cancer.

Uterine fibroids develop from the smooth muscular tissue of the uterus (myometrium). A single cell divides repeatedly, eventually creating a firm, rubbery mass distinct from nearby tissue. The growth patterns of uterine fibroids vary — they may grow slowly or rapidly, or they may remain the same size. Some fibroids go through growth spurts, and some may shrink on their own. Many fibroids that have been present during pregnancy shrink or disappear after pregnancy, as the uterus goes back to a normal size.

Fibroids range in size from seedlings, undetectable by the human eye, to bulky masses that can distort and enlarge the uterus. They can be single or multiple, in extreme cases expanding the uterus so much that it reaches the rib cage.

As many as 3 out of 4 women have uterine fibroids sometime during their lives, but most are unaware of them because they often cause no symptoms. Your doctor may discover fibroids incidentally during a pelvic exam or prenatal ultrasound.

In women who have symptoms, the most common symptoms of uterine fibroids include:

- Heavy menstrual bleeding
- Prolonged menstrual periods — seven days or more of menstrual bleeding
- Pelvic pressure or pain
- Frequent urination
- Difficulty emptying your bladder
- Constipation

- Backache or leg pains

Rarely, a fibroid can cause acute pain when it outgrows its blood supply. Deprived of nutrients, the fibroid begins to die. Byproducts from a degenerating fibroid can seep into surrounding tissue, causing pain and, rarely, fever. A fibroid that hangs by a stalk inside or outside the uterus (pedunculated fibroid) can trigger pain by twisting on its stalk and cutting off its blood supply.

Fibroid location, size and number influence signs and symptoms:

- **Submucosal fibroids.** Fibroids that grow into the inner cavity of the uterus (submucosal fibroids) are more likely to cause prolonged, heavy menstrual bleeding and are sometimes a problem for women attempting pregnancy.
- **Subserosal fibroids.** Fibroids that project to the outside of the uterus (subserosal fibroids) can sometimes press on your bladder, causing you to experience urinary symptoms. If fibroids bulge from the back of your uterus, they occasionally can press either on your rectum, causing a pressure sensation, or on your spinal nerves, causing backache.
- **Intramural fibroids.** Some fibroids grow within the muscular uterine wall (intramural fibroids). If large enough, they can distort the shape of the uterus and cause prolonged, heavy periods, as well as pain and pressure.

When to see a doctor

See your doctor if you have:

- Pelvic pain that doesn't go away
- Overly heavy or painful periods
- Spotting or bleeding between periods
- Pain consistently with intercourse
- Enlarged uterus and abdomen
- Difficulty emptying your bladder

Seek prompt medical care if you have severe vaginal bleeding or sharp pelvic pain that comes on suddenly.

Doctors don't know the cause of uterine fibroids, but research and clinical experience point to these factors:

- **Genetic changes.** Many fibroids contain changes in genes that differ from those in normal uterine muscle cells. There's also some evidence that fibroids run in families and that identical twins are more likely to both have fibroids than nonidentical twins.
- **Hormones.** Estrogen and progesterone, two hormones that stimulate development of

the uterine lining during each menstrual cycle in preparation for pregnancy, appear to promote the growth of fibroids. Fibroids contain more estrogen and progesterone receptors than normal uterine muscle cells do. Fibroids tend to shrink after menopause due to a decrease in hormone production.

- **Other growth factors.** Substances that help the body maintain tissues, such as insulin-like growth factor, may affect fibroid growth.

There are few known risk factors for uterine fibroids, other than being a woman of reproductive age. Other factors that can have an impact on fibroid development include:

- **Heredity.** If your mother or sister had fibroids, you're at increased risk of developing them.
- **Race.** Black women are more likely to have fibroids than women of other racial groups. In addition, black women have fibroids at younger ages, and they're also likely to have more or larger fibroids.
- **Other factors.** Onset of menstruation at an early age, having a diet higher in red meat and lower in green vegetables and fruit, and drinking alcohol, including beer, appear to increase your risk of developing fibroids.

Although uterine fibroids usually aren't dangerous, they can cause discomfort and may lead to complications such as anemia from heavy blood loss.

Pregnancy and fibroids

Fibroids usually don't interfere with conception and pregnancy. However, it's possible that fibroids could cause infertility or pregnancy loss. Submucosal fibroids may prevent implantation and growth of an embryo. In such cases, doctors often recommend removing these fibroids before attempting pregnancy or if you've had multiple miscarriages. Rarely, fibroids can distort or block your fallopian tubes, or interfere with the passage of sperm from your cervix to your fallopian tubes.

Your first appointment will likely be with either your primary care provider or a gynecologist. Because appointments can be brief, it's a good idea to prepare in advance for your appointment.

What you can do

- **Make a list of any symptoms you're experiencing.** Include all of your symptoms, even if you don't think they're related.
- **List any medications, herbs and vitamin supplements you take.** Include doses and how often you take them.
- **Have a family member or close friend accompany you, if possible.** You may be given a lot of information at your visit, and it can be difficult to remember everything.

- **Take a notebook or electronic device with you.** Use it to note important information during your visit.
- **Prepare a list of questions to ask your doctor.** List your most important questions first, in case time runs out.

For uterine fibroids, some basic questions to ask include:

- How many fibroids do I have? How big are they?
- Are the fibroids located on the inside or outside of my uterus?
- What kinds of tests might I need?
- What medications are available to treat uterine fibroids or my symptoms?
- What side effects can I expect from medication use?
- Under what circumstances do you recommend surgery?
- Will I need a medication before or after surgery?
- Will my uterine fibroids affect my ability to become pregnant?
- Can treatment of uterine fibroids improve my fertility?
- What other alternative treatments might I try?

Make sure that you understand everything your doctor tells you. Don't hesitate to ask your doctor to repeat information or to ask follow-up questions.

What to expect from your doctor

Some questions your doctor might ask include:

- How often do you experience these symptoms?
- How long have you been experiencing symptoms?
- How severe are your symptoms?
- Do your symptoms seem to be related to your menstrual cycle?
- Does anything improve your symptoms?
- Does anything make your symptoms worse?
- Do you have a family history of uterine fibroids?

Uterine fibroids are frequently found incidentally during a routine pelvic exam. Your doctor may feel irregularities in the shape of your uterus, suggesting the presence of fibroids. If you have symptoms of uterine fibroids, you doctor may order these tests:

- **Ultrasound.** If confirmation is needed, your doctor may order an ultrasound. It uses sound waves to get a picture of your uterus to confirm the diagnosis and to map and measure fibroids. A doctor or technician moves the ultrasound device (transducer) over

your abdomen (transabdominal) or places it inside your vagina (transvaginal) to get images of your uterus.

- **Lab tests.** If you're experiencing abnormal vaginal bleeding, your doctor may order other tests to investigate potential causes. These might include a complete blood count (CBC) to determine if you have anemia because of chronic blood loss and other blood tests to rule out bleeding disorders or thyroid problems.

Other imaging tests

If traditional ultrasound doesn't provide enough information, your doctor may order other imaging studies, such as:

- **Magnetic resonance imaging (MRI).** This imaging test can show the size and location of fibroids, identify different types of tumors and help determine appropriate treatment options.
- **Hysterosonography.** Hysterosonography (his-tur-o-suh-NOG-ruh-fee), also called a saline infusion sonogram, uses sterile saline to expand the uterine cavity, making it easier to get images of the uterine cavity and endometrium. This test may be useful if you have heavy menstrual bleeding despite normal results from traditional ultrasound.
- **Hysterosalpingography.** Hysterosalpingography (his-tur-o-sal-ping-GOG-ruh-fee) uses a dye to highlight the uterine cavity and fallopian tubes on X-ray images. Your doctor may recommend it if infertility is a concern. In addition to revealing fibroids, it can help your doctor determine if your fallopian tubes are open.
- **Hysteroscopy.** For this, your doctor inserts a small, lighted telescope called a hysteroscope through your cervix into your uterus. Your doctor then injects saline into your uterus, expanding the uterine cavity and allowing your doctor to examine the walls of your uterus and the openings of your fallopian tubes.

There's no single best approach to uterine fibroid treatment — many treatment options exist. If you have symptoms, talk with your doctor about options for symptom relief.

Watchful waiting

Many women with uterine fibroids experience no signs or symptoms, or only mildly annoying signs and symptoms that they can live with. If that's the case for you, watchful waiting could be the best option. Fibroids aren't cancerous. They rarely interfere with pregnancy. They usually grow slowly — or not at all — and tend to shrink after menopause, when levels of reproductive hormones drop.

Medications

Medications for uterine fibroids target hormones that regulate your menstrual cycle, treating symptoms such as heavy menstrual bleeding and pelvic pressure. They don't eliminate

fibroids, but may shrink them. Medications include:

- **Gonadotropin-releasing hormone (Gn-RH) agonists.** Medications called Gn-RH agonists (Lupron, Synarel, others) treat fibroids by blocking the production of estrogen and progesterone, putting you into a temporary postmenopausal state. As a result, menstruation stops, fibroids shrink and anemia often improves. Your doctor may prescribe a Gn-RH agonist to shrink the size of your fibroids before a planned surgery. Many women have significant hot flashes while using Gn-RH agonists. Gn-RH agonists typically are used for no more than three to six months because symptoms return when the medication is stopped and long-term use can cause loss of bone.
- **Progestin-releasing intrauterine device (IUD).** A progestin-releasing IUD can relieve heavy bleeding caused by fibroids. A progestin-releasing IUD provides symptom relief only and doesn't shrink fibroids or make them disappear.
- **Other medications.** Your doctor might recommend other medications. For example, oral contraceptives or progestins can help control menstrual bleeding, but they don't reduce fibroid size. Nonsteroidal anti-inflammatory drugs (NSAIDs), which are not hormonal medications, may be effective in relieving pain related to fibroids, but they don't reduce bleeding caused by fibroids. Your doctor also may suggest that you take vitamins and iron if you have heavy menstrual bleeding and anemia.

Noninvasive procedure

MRI-guided focused ultrasound surgery (FUS) is:

- **A noninvasive treatment option** for uterine fibroids that preserves your uterus, requires no incision and is done on an outpatient basis.
- **Performed while you're inside an MRI scanner** equipped with a high-energy ultrasound transducer for treatment. The images give your doctor the precise location of the uterine fibroids. When the location of the fibroid is targeted, the ultrasound transducer focuses sound waves (sonications) into the fibroid to heat and destroy small areas of fibroid tissue.
- **Newer technology,** so researchers are learning more about the long-term safety and effectiveness. But so far data collected show that FUS for uterine fibroids is safe and effective.

Minimally invasive procedures

Certain procedures can destroy uterine fibroids without actually removing them through surgery. They include:

- **Uterine artery embolization.** Small particles (embolic agents) are injected into the arteries supplying the uterus, cutting off blood flow to fibroids, causing them to shrink and die. This technique can be effective in shrinking fibroids and relieving the symptoms

they cause. Complications may occur if the blood supply to your ovaries or other organs is compromised.

- **Myolysis.** In this laparoscopic procedure, an electric current or laser destroys the fibroids and shrinks the blood vessels that feed them. A similar procedure called cryomyolysis freezes the fibroids. Myolysis is not used often. Another version of this procedure, radiofrequency ablation, is being studied.
- **Laparoscopic or robotic myomectomy.** In a myomectomy, your surgeon removes the fibroids, leaving the uterus in place. If the fibroids are small and few in number, you and your doctor may opt for a laparoscopic or robotic procedure, which uses slender instruments inserted through small incisions in your abdomen to remove the fibroids from your uterus. Your doctor views your abdominal area on a monitor using a small camera attached to one of the instruments. Robotic myomectomy gives your surgeon a magnified, 3-D view of your uterus, offering more precision, flexibility and dexterity than is possible using some other techniques.
- **Hysteroscopic myomectomy.** This procedure may be an option if the fibroids are contained inside the uterus (submucosal). Your surgeon accesses and removes fibroids using instruments inserted through your vagina and cervix into your uterus.
- **Endometrial ablation and resection of submucosal fibroids.** This treatment, performed with a specialized instrument inserted into your uterus, uses heat, microwave energy, hot water or electric current to destroy the lining of your uterus, either ending menstruation or reducing your menstrual flow. Typically, endometrial ablation is effective in stopping abnormal bleeding. Submucosal fibroids can be removed at the time of hysteroscopy for endometrial ablation, but this doesn't affect fibroids outside the interior lining of the uterus.

Traditional surgical procedures

Options for traditional surgical procedures include:

- **Abdominal myomectomy.** If you have multiple fibroids, very large fibroids or very deep fibroids, your doctor may use an open abdominal surgical procedure to remove the fibroids. Many women who are told that hysterectomy is their only option can have an abdominal myomectomy instead.
- **Hysterectomy.** This surgery — the removal of the uterus — remains the only proven permanent solution for uterine fibroids. But hysterectomy is major surgery. It ends your ability to bear children. And if you also elect to have your ovaries removed, it brings on menopause and the question of whether you'll take hormone replacement therapy. Most women with uterine fibroids can choose to keep their ovaries.

Risk of developing new fibroids

For all procedures, except hysterectomy, tiny tumors (seedlings) that your doctor doesn't detect during surgery could eventually grow and cause symptoms that warrant treatment. This is often termed the recurrence rate. New fibroids, which may or may not require treatment, also can develop.

Some websites and consumer health books promote alternative treatments, such as specific dietary recommendations, enzymes, hormone creams or homeopathy. So far, there's no scientific evidence to support the effectiveness of these techniques.

Although researchers continue to study the causes of fibroid tumors, little scientific evidence is available on how to prevent them. Preventing uterine fibroids may not be possible, but only a small percentage of these tumors require treatment.

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