

# MINNESOTA Health Care News

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## Uterine fibroids

*Common, but rarely malignant, tumors*

By Jon S. Nielsen, MD

Uterine fibroids, also called myomas or—medically appropriately—leiomyomas, are the most common gynecologic tumor. They are made of normal uterine muscle cells that grow independently to form growths that are usually round and can grow as large as a cantaloupe. They rarely are malignant and are only important if they cause symptoms, which are usually abnormal uterine bleeding or discomfort, or cause infertility or pregnancy complications. The purpose of this article is to increase understanding of this common condition and to outline treatment options when they become necessary.

### Symptoms

The size, location, and number of fibroids usually dictate the severity of symptoms and treatment options. As one would expect, the larger the fibroids, the more pressure they can put on surrounding organs and the more problems they can cause. Typically, fibroids that get to the size of a lemon or larger can cause urinary or bowel difficulties by exerting local pressure. Often they cause a sense of fullness and, when large enough, can be visually apparent by distending the lower abdomen.

The location within the uterus is also important, especially as it relates

to bleeding. Fibroids that are deep in the uterine muscle or on the outside of the uterus usually do not cause bleeding abnormalities, no matter how large. Those that impinge on the inside uterine lining, however, may cause major bleeding abnormalities. This inside uterine lining, the endometrium, is the glandular portion of the uterus and is the area that changes and bleeds with a menstrual period. Very heavy and/or irregular bleeding can occur, even with fibroids only an inch in diameter, when the fibroid interferes with the usual endometrial bleeding cycle by exerting pressure on the endometrium. The bleeding can be excessive, leading to fatigue resulting from blood loss anemia as well as the daily difficulties that accompany unpredictable bleeding. Abnormal uterine bleeding is the most common indication for treatment of fibroids.

### Fertility, pregnancy complications

Fibroids also can cause infertility and pregnancy difficulties. If they are in the cavity of the uterus, fibroids can prevent the fertilized egg from implanting. Large fibroids can cause repetitive miscarriage, or premature labor. They can also obstruct labor by impeding uterine contractions, or blocking the birth canal. These reasons often mandate therapy for fibroids before pregnancy is attempted.

### Fibroid causes unknown

The natural history of fibroids is still poorly understood and the reasons for their development are unknown. They are much more common in certain eth-

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nic groups, most notably blacks and Asians. They require estrogen for maintenance and growth, thus leading to the concept of anti-estrogen therapy as a means of treatment. It is widely suggested that once menopause is reached the fibroids will “go away” and the problems will be over, presumably based on the postmenopausal lack of estrogen in the system. That is frequently not the case, however, especially in women who require estrogen therapy for the postmenopausal estrogen deficiency syndrome (a complex of symptoms including hot flashes, night sweats, and vaginal dryness, among others). Pregnancy, with its massive increases in estrogen, typically makes fibroids grow, sometimes very rapidly. The likelihood that they will get smaller and regress once they have become clinically significant is small. The fibroids usually continue to grow until and unless treated.

### **Treatment**

Treatment of fibroid tumors can be medical or surgical. Medical treatment revolves around efforts to decrease the fibroids’ access to estrogen. Estrogen is necessary to maintain fibroids, so anti-estrogen strategies should be helpful. Oral contraceptives have historically been thought to inhibit fibroid growth, but recent data suggest that effect is minimal. Anti-estrogen therapy in the form of injectable Depo-Lupron is much more effective and has been shown to be able to shrink fibroids up to 50 percent of their mass, but unfortunately these effects are most often short-lived. Recent novel research in anti-progesterone therapy has been promising and may lead to effective long-term management.

A procedural, but not necessarily surgical, approach that has been effective for decreasing the size of fibroids and therefore decreasing their symptoms is a process called uterine artery embolization. It is based on the concept

of decreasing blood supply to the fibroids to make cells die, therefore decreasing the size of the fibroids. This procedure is done by interventional radiologists who, through an arterial access point in the groin, inject non-absorbable particles into arteries leading to the fibroids. This procedure often results in significant shrinkage of the fibroids and symptom relief. However, it is not recommended for women who wish to preserve their fertility and a significant number of patients still end up needing surgical therapy later.

Surgical therapy, usually by hysterectomy, has historically been the main therapeutic measure for symptomatic fibroids. New approaches have revolutionized the surgical treatment of fibroids. Advances in surgical technique now allow fibroids located within the uterine cavity to be removed with an incision-less procedure called hysteroscopy. The approach is through the vagina, with access to the uterus through the cervix. The fibroids can then be removed in pieces through the cervix and the surgery is a minor outpatient procedure.

The largest breakthrough, however, has occurred in the arena of minimally invasive laparoscopic surgery. This surgery is done through abdominal incisions of one-fourth to one-half inch. Gynecologic surgeons with advanced laparoscopic skills are able to do almost all hysterectomies with this technique. The laparoscopic hysterectomy can be done leaving the cervix in place, making it an easier procedure that does not affect pelvic floor support. Or the cervix can be removed in a total laparoscopic hysterectomy. It should be emphasized that these are usually outpatient procedures that last an hour or less and involve much less pain, a shorter recovery period (one to two weeks), and fewer complications than traditional open procedures. Instruments have been developed to morcellate, or cut into pieces, even a very

large fibroid uterus through a ½-inch incision.

Despite technical and instrumental advances, the complex myomectomy (removal of fibroids without removing the uterus, thereby preserving fertility) done laparoscopically remains a challenge—so challenging that few gynecologic surgeons have been willing and/or able to move away from the traditional open approach for treating symptomatic fibroids.

The advent of the daVinci robotic laparoscopic assistance device, approved by the Food and Drug Administration in 2000, has made laparoscopic myomectomy more possible. This tool allows the surgeon, sitting at a remote console with a three-dimensional laparoscopic view, to direct the robot’s laparoscopic tools, giving the surgeon added access and precision. The robot is most helpful in procedures that require operating in very small areas and placing many sutures. Laparoscopic myomectomy is such a procedure, requiring fine tissue dissection, maximum blood loss control, and suturing of the uterine defects after the fibroids have been removed. In comparison with conventional laparoscopy, daVinci robotic myomectomy has been shown to decrease transfusion, blood loss, complications, and hospital length of stay. The disadvantage of the robot is that the surgery takes longer. However, as the surgeon masters the steep learning curve, operative times decrease.

Clearly the trend for surgical therapy for the fibroid uterus is to be “minimally invasive,” whether it is using uterine artery embolization, hysteroscopic resection of intrauterine fibroids, the laparoscopic hysterectomy, or the daVinci robotic myomectomy. ❑

*Jon S. Nielsen, MD, is an obstetrician/gynecologist at Oakdale Obstetrics & Gynecology PA in Minneapolis.*

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