

## What are the Indications for Hysterectomy?

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***At the Center for Endometriosis Care, our primary goal is to treat our patients with individualized care that will treat all the causes of their pain, while trying to minimize the risk of subsequent surgery. Many patients attempt to avoid hysterectomy and in general, our goal is to be as conservative as possible so that they can meet reproductive goals and personal desires.***

For most of our patients, we can achieve this goal through the use of laparoscopic excision of endometriosis (LAPEX) and other procedures, which may include excision of endometriomas, lysis of adhesions (removal of scar tissue), appendectomy, etc., when appropriate. However, there are occasions when a hysterectomy may also be in the patient's best interest. I will briefly go over those situations.

The most common reasons that we encounter the need to perform a hysterectomy can be broken down into two main categories: pelvic pain and heavy bleeding.

When a patient has pelvic pain, there are situations in which the patient's endometriosis is so severe that to be able to completely excise all the endometriosis and scarring that is present, a hysterectomy may be indicated. Fortunately, in our hands the risk of a hysterectomy due to a patient's severe endometriosis is relatively uncommon – only 3-5% of our endometriosis patients receive a hysterectomy due to severe endo.

More commonly, there is a subset of patients that also have adenomyosis. Adenomyosis is a condition in which the endometrium (the tissue lining the inner portion of the uterus) has penetrated and started to grow in the muscle (myometrium) layer of the uterus. When this occurs, the muscle portion of the uterus is soft and tender. It also has a tendency to contract less efficiently and this can lead to heavier periods. Patients with adenomyosis typically have **heavy, crampy periods which may include clotting**. On physical examination, they may have a tender, boggy uterus which is mildly enlarged. This is very important (and usually easily diagnosed) during a careful, targeted pelvic exam in which the doctor specifically tries to localize the pain during examination to either the uterus or to other causes. Often, after the exam, the patient will continue to complain of aching, which may even last hours or even a day or two.

Other symptoms that may occur in patients with adenomyosis include daily pain or generalized pelvic pain, pelvic pressure, low backache, painful intercourse, and even bowel or bladder symptoms in some. As you can see, there is a lot of overlap with patients with endometriosis. Two of the most discriminating symptoms, in my opinion, are low backache and painful intercourse. Often, the pain during intercourse may persist for hours or even a day or two as well. When we see this, we are particularly suspicious of adenomyosis.

While adenomyosis is often more likely to be seen in patients in their mid thirties and older, usually after having had children, we have seen adenomyosis in young women including teenagers, although this is more rare.

By far, the best tool to diagnose adenomyosis is history and physical examination. However, skilled radiologists can also diagnose it during either ultrasound or MRI examination with the use of contrast.

The best time to try to make the diagnosis with either ultrasound or MRI is shortly before your period, when the areas of adenomyosis within the uterus may be more visible. With ultrasound, the radiologist may see areas within the muscle layer that are heterogeneous (made up of muscle and endometrium) or even large pockets of adenomyosis called adenomyomas. Adenomyomas may be amenable to local resection, leaving the bulk of the uterus intact. However, they are much less common, and the majority of the time, the adenomyosis is diffuse and not easily resected. During MRI, the doctor is looking for an area between the endometrium and myometrium called the “junctional zone”. When this layer is enlarged or completely disrupted, it is very suspicious for adenomyosis. Other features may include diffuse pockets of adenomyosis within the myometrium as well. Medications may affect the ability to make the diagnosis of adenomyosis. These medications include GnRH agonists such as Lupron, Zoladex or Synarel; progestins such as Depo-Provera, Provera, Aygestin, or norethindrone; birth control pills and patches; and aromatase inhibitors such as Arimidex. They will all decrease the sensitivity or ability of the ultrasound or MRI to detect adenomyosis, and it may be best to have these studies performed after being off these medications for at least 3 months. Alternatively, the sensitivity may be increased by taking low dose estrogen for a month or longer, which may stimulate the areas of adenomyosis within the uterus.

While hysterectomy may be required for the treatment of adenomyosis, there may be certain medical and surgical treatments, which may be helpful in managing the adenomyosis before hysterectomy becomes necessary. Medically, the best-studied option is the progesterone-coated IUD called Mirena. This intra-uterine device is coated with a slow-releasing progestin called levonorgestrel and once inserted can remain in the uterus for up to 5 years. Mirena may be able to delay or even prevent hysterectomy by acting locally on the uterus to shrink the areas of adenomyosis and decrease pain and bleeding. It is extremely effective in preventing pregnancy (>99% effective in preventing pregnancy). The most common side effects are spotting and bleeding which decreases over time, and ovarian cysts which usually resolve on their own. Surgically, one can perform a procedure to decrease the sensory input from the uterus. A pre-sacral neurectomy, which involves removing a small group of nerves that send signals from the uterus to the spinal cord, may be effective in decreasing the pain associated with adenomyosis, but will not necessarily help with bleeding.

We do not know what impact adenomyosis may have on fertility although there could be a decrease in the ability to conceive or, more likely, have the embryo implant within endometrium. During pregnancy, there are studies which suggest that adenomyosis may be involved with conditions such as pre-eclampsia, bleeding during pregnancy and pre-term labor may be more likely with adenomyosis.

While adenomyosis is a common cause of pain and bleeding, there are other causes of heavy bleeding which may also occur. Fibroids are benign smooth muscle tumors usually involving the uterus. Fibroids are also called myomas and/or leiomyomas. The cause of fibroids is unknown, but as many as 20-25% of women over the age of 35 may develop fibroids. For unknown reasons, patients of African descent may have a higher incidence. While most women with fibroids do not have symptoms, the most common symptoms when they occur are bleeding, pressure, pain and infertility. Bleeding may be so severe that it can cause anemia (low hemoglobin which can cause weakness, fatigue and even syncope or “passing out”). Pressure symptoms may involve the bladder in which symptoms of urgency, frequency or even the inability to urinate may occur. When involving the bowel, it may lead to constipation. It can also present as abdominal or pelvic pressure, dull or sharp pain, and is often intermittent.

Medical treatments for fibroids may include birth control, progestins and GnRH agonists. Birth control may be effective in controlling bleeding in some patients but often the fibroids get bigger over time. Progestins may slow the growth of fibroids, but may have less impact on bleeding patterns. Finally, GnRH agonists such as Lupron may allow for the fibroids to decrease in size, they usually quickly return to previous size with a few months of coming off of the medication.

Surgical treatments include uterine artery embolization (UAE), myomectomy or hysterectomy. UAE involves placing a catheter into the groin and advancing it up to the arteries that supply the uterus. The uterine artery is then showered with small particles which block the blood supply to the uterus. Pain and cramping can be significant during the procedure and usually requires the use of intravenous pain medication for the first few days and in some cases longer. Fibroids will usually shrink in size over several months time with improvement in symptoms (bleeding and pressure) in up to 90% of women. When fibroids are very large, the results may not be nearly as effective. A small percentage of women will have low grade fever after the procedure. Less than 5% will require a hysterectomy shortly after the procedure or within the first year or two following the procedure. In approximately 1-5% of women, menopause may occur and is more likely to occur in women over the age of 45. While pregnancies have occurred following UAE, there could be a decrease in fertility following the procedure. Therefore, the current recommendation is to consider removal of the fibroids instead of UAE if pregnancy is still desired. If a patient does get pregnant, there is the concern that the wall of the uterus may be weakened by the procedure which could result in rupture of the uterine wall during labor, and a cesarean section is usually recommended.

Myomectomy is the surgical removal of the fibroids. While this was usually performed through a larger abdominal incision, it can usually be performed laparoscopically by advanced laparoscopic. The advantages include shorter, and much less painful recovery and a quicker return to normal activities. It may also result in less pelvic adhesions. Myomectomy may be helpful in reducing bleeding and pressure, and in some cases, improving fertility. Unfortunately, if there are many fibroids, the chances of recurrent fibroids can be quite high. As well, there can be significant blood loss requiring hysterectomy in a small percentage at the time of attempted myomectomy. Finally, as with patients with UAE, C-section may be required in future pregnancies because of the risk of rupture.

The ultimate management of fibroids is hysterectomy or removal of the uterus. What are the advantages of hysterectomy over other treatments? The likelihood of further surgery is much less with hysterectomy than either UAE or myomectomy. If you have completed child bearing, it is much more definitive treatment. If there is very heavy bleeding, or the possibility of other pathology such as adenomyosis or endometriosis at the same time, it may be easier to treat all these conditions at the same time. If patients do not want to experience the pain associated with UAE, then hysterectomy may be a better option. Finally, a patient with a very enlarged uterus is often much more amenable to hysterectomy, since it will be difficult to remove all the fibroids while maintaining a functional uterus.

Another condition which may result in hysterectomy, is a condition called dysfunctional uterine bleeding. This condition is a situation in which the patient has either long heavy periods (menorrhagia) or frequent periods (metrorrhagia) or both heavy, frequent periods. No anatomical cause of the bleeding can be found (such as fibroids or adenomyosis). It is often the result of irregular or less frequent ovulation (anovulation). When women do not ovulate regularly, they can develop very irregular patterns of bleeding. In women who do not have periods for several months, this can lead to pre-cancerous changes within the lining of the uterus called hyperplasia, which can eventually become atypical and ultimately cancerous if left untreated.

An ultrasound may be helpful to diagnose a thickened endometrium, which may be at more risk of hyperplasia and other changes. A biopsy is often required to ensure that there are no pre-cancerous or cancerous changes, and this can often be performed in the office as an endometrial biopsy or in some situations may require a hysteroscopy and/or D&C (a hysteroscopy is an examination using a scope which visualizes the endometrium and a D&C, or dilatation and curettage of the uterus involves dilating the cervix and sampling the lining with a curette). These can be performed in the office or more commonly in the operating room.

While there are other reasons to perform a hysterectomy including uterine, cervical or ovarian cancer; these conditions make up less than 10% of all hysterectomies.