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PROCEDURE EDUCATION LITERATURE

We recommend that you read this handout carefully in order to prepare yourself or family members for the proposed procedure. In doing so, you will benefit both the outcome and safety of the procedure. ***If you still have any questions or concerns, we strongly encourage you to contact our office prior to your procedure so that we may clarify any pertinent issues. "An educated patient is the best patient."***

MYOMECTOMY

Definition
Leio = denoting smooth
Myoma = benign tumor of muscle
Ectomy = denoting surgical removal of a segment or all of a part or an organ

A leiomyoma is a benign (non-cancerous) tumor made up of smooth muscle and connective tissue and can arise in any part of the body containing smooth muscle. There are numerous terms used to refer to leiomyomas, such as myomas, fibromas and, most frequent or *fibroids,* or *fibroid tumors.* The discussion here pertains to leiomyomas of the uterus, the most common tumors of the uterus and female pelvis.

Almost half of all women will have uterine myomas of some size, though most women will not have any symptoms from them. The symptoms of uterine leiomyomas are abnormal uterine bleeding, pelvic and vaginal pressure, pain, abdominal distortion, spontaneous miscarriage and infertility. Risk factors for symptoms are size, location, number, and rapid growth.

Risk factors for the development of fibroids appear to be:

- African American ethnicity (two to three times as frequent as white women)
- Obesity
- First period when younger than age 12

Uterine myomas can be divided into those occurring beneath the lining of the uterus (submucous), within the muscle of the uterus (intramural), and those on the "outside" surface of the uterus (subserous).

A myomectomy refers to the surgical removal of one or more uterine leiomyoma(s). Myomectomy is intended to remove fibroids from the uterus that are responsible for symptoms such as those listed earlier. This operation can be performed using three different methods:
Hysteroscopy: operating within the uterine cavity with telescopic vision and small instruments to remove submucous fibroids (see *D&C/Hysteroscopy)*
Laparoscopy: operating through the abdomen with telescopic vision and small instruments to remove or ablate (destroy) fibroids on the abdominal surface and within the uterine muscle
Laparotomy: traditional "open" abdominal surgery to remove larger fibroids or many small fibroids.

Leiomyomas do not require treatment. Only when symptoms from fibroids appear will a recommendation for treatment be made. Treatment of fibroids can include observation, myomectomy, hysterectomy, and in recent decades, procedures to destroy (ablate) the tumors or to deprive them of their blood supply to cause them to die (uterine artery embolization). Medications to shrink fibroid tumors can be given for a short period and sometimes are use prior to myomectomy.

The approach to management of your leiomyomas will depend on your symptoms, the size, location and number of fibroids, treatment goals and the preference of you and your doctor. The pros and cons of each will be discussed with you in your consultation.

Preparation
As with all procedures in which general anesthesia is administered, you will be asked not to eat or drink anything after a certain time, usually midnight, on the evening prior to your surgery. You may brush your teeth in the morning but should not swallow the water. If you are on medications that must be taken, you will have discussed this with us and/or the anesthesiologist and instructions will have been given to you. The procedure will not be performed if you are currently taking, or have recently taken any medication that may interfere with your ability to clot your blood ("blood thinners, aspirin, anti-inflammatory medicines, etc..."). The most common of these medications are aspirin and all related pain relievers or anti-inflammatory compounds (whether prescription or over-the-counter). *Please* ***refer to the attached list and tell us if you took any*** *of* ***these within the past 10 days.*** If your new medication is not on the list, alert us immediately so that we may ensure optimal procedure safety. We will have reviewed all of your current medications with you during the pre-operative/pre-procedure consultation. You are obligated to inform us if anything has changed (medication or otherwise) since your previous visit.

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Procedure
For hysteroscopic and laparoscopic surgery you will be lying on your back with your knees and hips bent and heels in stirrups much like you would for a pelvic examination; for abdominal surgery you will be lying on your back with your legs extended. The procedure can take from between 30 minutes and 3 hours depending on the size, number and location of fibroids as well as the type of surgery. General anesthesia is administered, and you will "go to sleep" for the duration of the surgery.

Hysteroscopy: The procedure begins by gently cleaning the vagina and then placing a speculum in the vagina to hold it open. The cervix is grasped with an instrument to hold it still, while the opening is gradually dilated with surgical instruments until the hysteroscope ("telescope" for the uterine cavity) or resectoscope (hysteroscope for operating) can be inserted without force.

The cavity of the uterus is much like a balloon: when empty it is flat but when inflated space is created inside the balloon where there was none. Performing hysteroscopy involves "inflating" the cavity of the uterus with a liquid or gas (flowing in and out through the "telescope") so that each surface can be seen. Miniaturized instruments can then be placed along with the telescope to remove or destroy the fibroid(s).

Laparoscopy: After cleaning the abdomen, a small incision is made at the belly button and the laparoscope ("telescope" to see in the abdomen) is inserted. Other small incisions are made to allow small surgical instruments to be inserted. Using techniques similar to traditional "open" surgery, the fibroids are removed or destroyed.

Laparotomy: After cleaning the abdomen, an incision large enough to see and reach into the pelvis is made. Large and multiple fibroids can then be removed. Laparotomy permits the easiest access to the uterus, but also requires the longest hospitalization and recovery.

Post Procedure
You will be in the recovery room for a short time before being sent home, in the case of hysteroscopy and sometimes laparoscopy, or to your hospital bed as with laparotomy. Most patients usually will stay one or two nights in the hospital following laparotomy. There may be some discomfort around the incision sites, within the vagina, and on the lower abdomen depending on the procedure you had performed. There will be a small dressing over the abdominal incision site (if one was made), which is to remain until your follow up visit unless otherwise instructed.
There may be small blood staining on the wound dressing. If the dressing becomes soaked, or you see active blood oozing, please contact us immediately. You may shower one day after surgery, but no bathing or swimming (unless otherwise instructed). It is normal to have some bloody discharge from the vagina for a day or two. If you have significant bleeding, you should call our office. We ask that you refrain from any strenuous activity or heavy lifting until your follow up office visit. Every patient has some degree of swelling and bruising, and it is not possible to predict in whom this might be minimal or significant.

Hysteroscopy: Though you may have some discomfort and cramping following the procedure, it is usually not necessary for you to plan time off from work or your normal activities beyond the day of surgery. It is normal to have some bleeding and discharge following hysteroscopy/myomectomy. It is suggested that you use menstrual pads to maintain hygiene and protect your clothing. You are instructed to refrain from vaginal intercourse, douching and tampon use until told you may resume by your doctor.

Laparoscopy: You may have some discomfort and cramping following the procedure, including gas pain and shoulder pain. This discomfort is often due to the gas used to inflate the abdomen for surgery and typically resolves after the first post-operative day. It is not necessary for you to plan an extended time off from work or your normal activities; most women are able to resume activity, other than strenuous activity and lifting, within two to three days. It is normal to have some bleeding and discharge following hysteroscopy/myomectomy. It is suggested that you use menstrual pads to maintain hygiene and protect your clothing. You are instructed to refrain from vaginal intercourse, douching and tampon use until told you may resume by your doctor

Laparotomy: We strongly encourage you to take at least two to three weeks off from work and perhaps more if your occupation requires strenuous activity or heavy lifting. In the first 48 hours, it is to your advantage to minimize activity and to often rest in a lying down position. Periodic walking is encouraged. Some patients have almost no discomfort while others are somewhat uncomfortable for a few days to weeks. Severe pain is unlikely but possible. We may provide you with a prescription for pain medication to alleviate most of the discomfort. Take this medication as prescribed and as needed. An antibiotic prescription may also be given and should be taken until completion. If any side effects occur, contact our office immediately.

**You must refrain from any strenuous activity or heavy lifting until we tell you otherwise. Sexual actives of any sort is absolutely prohibited (usually four to six weeks) until we tell you that you may resume.*

Expectations of Outcome
The goals of myomectomy are the relief of symptoms while keeping the uterus. Many women will notice a reduction in symptoms, while others will not. The success of myomectomy for long-standing infertility depends largely on the age of the patient, the size/number of fibroids, and other factors affecting fertility.

Myomectomy is complicated by bleeding that requires hysterectomy in 10% of cases. Within 20 years of myomectomy, 2.5% of women will have hysterectomy for recurrent leiomyomas.

Possible Complications of the Procedure

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All surgical procedures, regardless of complexity or time, can be associated with unforeseen problems. They may be immediate or even quite delayed in presentation. While we have discussed these and possibly others in your consultation, we would like you to have a list so that you may ask questions if you are still concerned. Aside from anesthesia complications, it is important that every patient be made aware of all possible outcomes, which may include, but are not limited to:

- Urinary Tract Infection or Sepsis: Although we may give you antibiotics prior to and after the operation, it is possible for you to get an infection. The most common type is a simple bladder infection (after the catheter is removed) that presents with symptoms of burning urination, urinary frequency and a strong urge to urinate. This will usually resolve with a few days of antibiotics. If the infection enters the bloodstream, you might feel very ill. This type of infection can present with both urinary symptoms and any combination of the following: fevers, shaking chills, weakness or dizziness, nausea, and vomiting. You may require a short hospitalization for intravenous antibiotics, fluids, and observation. This problem is more common in diabetics, patients on long-term steroids, or in patients with disorders of the immune system.
- Wound Infection: The incision sites can become infected. While it typically resolves with antibiotics and local wound care, occasionally, part or all of the incision may open and require revision.

If you have symptoms suggesting any of the above after your discharge from the hospital, you must contact us immediately or go to the nearest emergency room.

- Scar Tissue Formation: Scar tissue can form within the abdomen (adhesions) or within the cavity of the uterus that can lead to infertility.
- Need for Cesarean Section/Risk of Uterine Rupture: If the incision to remove the fibroid(s) goes from the cavity of the uterus to the abdominal side of the uterus, your doctor might recommend cesarean section without labor for delivery of all future pregnancies.
- Treatment Failure: Many women will see improvement in their symptoms after myomectomy, although these same symptoms can recur at some point in the weeks, months and years after surgery. Twenty-five percent of women will have a hysterectomy for recurrent fibroids.
- Blood Loss Transfusion: The uterus is quite vascular. Usually blood loss in this procedure is minimal to moderate. In some cases blood loss can be significant enough to necessitate hysterectomy to control bleeding or transfusion to replace blood lost to hemorrhage.
- Deep Vein Thrombosis (DVT)/ Pulmonary Embolus (PE): In any operation (especially longer operations), you can develop a clot in a vein of your leg (DVT). Typically, this presents two to seven days (or longer) after the procedure as pain, swelling, and tenderness to touch in the lower leg (calf). Your ankle and foot can become swollen. ***If you notice these signs, you should go directly to an emergency room and also call our office***. Although less likely, this blood clot can move through the veins and block off part of the lung (PE). This would present as shortness of breath and possibly chest pain. We may sometimes ask the medical doctors to be involved with the management of either of these problems.
- Fluid Imbalance: (applies only with Hysteroscopic myomectomy) In addition to water, fluids used to "inflate" the cavity of the uterus for hysteroscopy contain dissolved sugars, starches and salts. These substances give the fluids certain desirable properties for visualization of the uterine cavity. When too much fluid flows from the uterus and enters the abdominal cavity or blood stream, a serious "imbalance" in the water content of the blood may result. Careful choice of fluid and monitoring of fluid delivery make this an uncommon complication.
- Bleeding/ hematoma: When a small blood vessel continues to ooze or bleed after the procedure is over, the area of collected blood is referred to as a hematoma. The body normally re-absorbs this collection over a short period of time, and surgical drainage is rarely necessary.
- Lower Extremity Weakness Numbness: This, too, is a rare event which may arise due to your position on the operating table. It is possible in procedures in which you are in the lithotomy (legs up in the air) for a long period. The problem is usually self-limited, with a return to baseline expected.
- Chronic Pain: As with any procedure, a patient can develop chronic pain in an area that has undergone surgery. Typically, the pain disappears over time, although some feeling of numbness may persist. If persistent, further evaluation may be necessary.
- Unintentional dissemination of an unrecognized uterine malignancy through the use of morcellation technique: Uterine morcellation is commonly performed intracorporeally to remove the uterus through small incisions. Most commonly, morcellation is performed to reduce the size of an enlarged uterus so that it may be removed through small laparoscopic incisions or through the vagina, thus minimizing the morbidity of a larger "open" incision. Less than one out of 1000 women who undergo hysterectomy for fibroids (leiomyomas) will have an underlying malignancy. Currently there is no reliable method to differentiate between benign fibroids from malignant fibroids (leiomyosarcomas or endometrial stromal sarcomas) before they are removed. These tumors have a very poor prognosis even if they are removed intact. The risk of spreading an unknown occult uterine malignancy through morcellation is thought to be very low at approximately 0.1%-0.25%.

_____ _____

Patient Date

_____ _____

Physician Date

_____ _____

Witness Date