HYSTERECTOMY

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The ***hysterectomy*** (hyster=uterus, ectomy=to remove) is one of the most common surgeries performed in the U.S., second only to the cesarean section, but edging out removal of the gall bladder. Over 700,000 hysterectomies are performed each year. It is estimated that 1 in 4 women in the United States over 50 years of age has had a hysterectomy. Hence, you probably know several women who have had their uterus removed. The commonness of this operation, however, doesn't make it any less stressful when it is you that may need the surgery. If a hysterectomy may be in your future, there are probably a lot of questions and concerns that should be addressed. This handout has been prepared to (hopefully) answer these questions and help you understand the procedure and its risks and expectations. In doing so, you and your physician can make the best decision regarding your future treatment.

THE PROCEDURE--(See illustration #1) the uterus is a hollow organ, composed of smooth muscle (different from skeletal muscle). The inner cavity is lined by glandular tissue (cells that secrete mucous-like substances),which monthly, during a woman's child-bearing years, prepares for pregnancy. If no egg is fertilized, the lining loses its hormonal support and sloughs (falls) off, giving the usual period or menstrual flow. (In the average women, this process occurs around 400 times during her life). From either upper corner of the uterus arise the fallopian tubes, whose sole job is to transport the egg from the ovary to the uterus. The ovaries sit at either tubal end (the fimbriated end). Various supportive ligaments connect the uterus to the pelvic side walls and bones. As far as we can tell, the only (but very important) purpose of the uterus is to carry babies. The ovaries are not only the source for the eggs, but they contribute several hormones including estrogen, progesterone, and testosterone which maintain the female's sexual organs (including uterus, vagina, and breast), bone mass and cardiovascular system.

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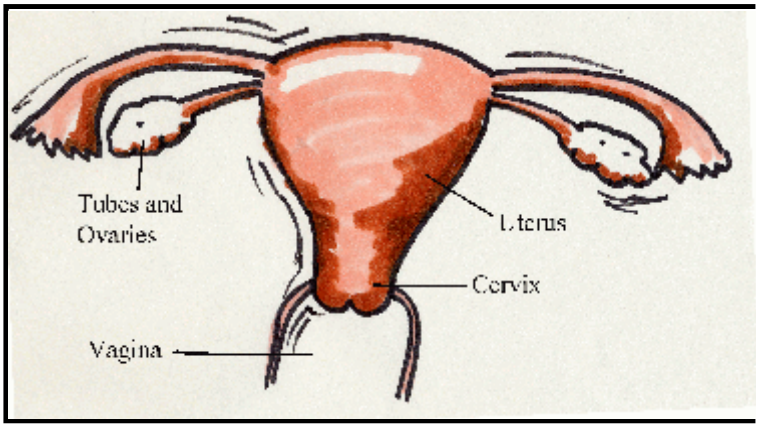


Several factors determine the type of hysterectomy as well as the route of surgery that a patient will have. The indication (reason) for the surgery, size of the uterus, risks of previous pelvic scar tissue and adhesions, patients health, weight, age, as well as the preference of the surgeon and patient all contribute to the final decision. There are 2 routes to removing the uterus (and ovaries if needed). The abdominal approach is performed through either a horizontal (bikini) or vertical (midline or "up and down") incision. The vaginal route is performed vaginally (of course), with no abdominal incision. The laparoscopic assisted vaginal hysterectomy (LAVH) is partly performed through the laparoscope whereby the uterine vessels and ligaments are stapled or cauterized and cut, with the remainder of the surgery performed through the vagina, similar to the regular vaginal hysterectomy. A new version of laparoscopic approach, the Laparoscopic Supracervical Hysterectomy (LSH), offers the advantage of a "less invasive" surgery, but retains the cervix while the entire procedure is performed through the laparoscpe. Advantages and disadvantages are outlined below. You should discuss these with your gynecologist.

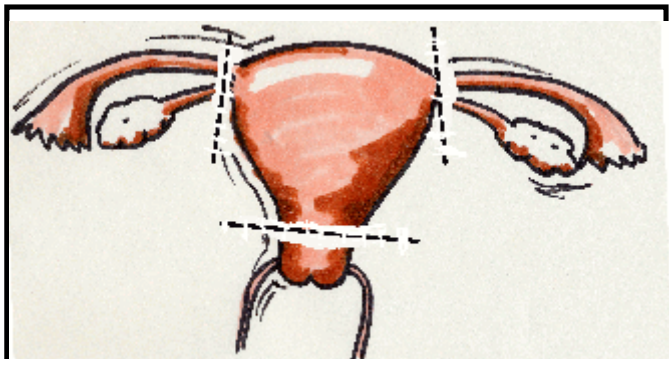
In some diseases, the abdominal hysterectomy is the only option for treatment. These include severe endometriosis or any disease with a large amount of scar tissue or adhesions, large uterine fibroids, or cancer.

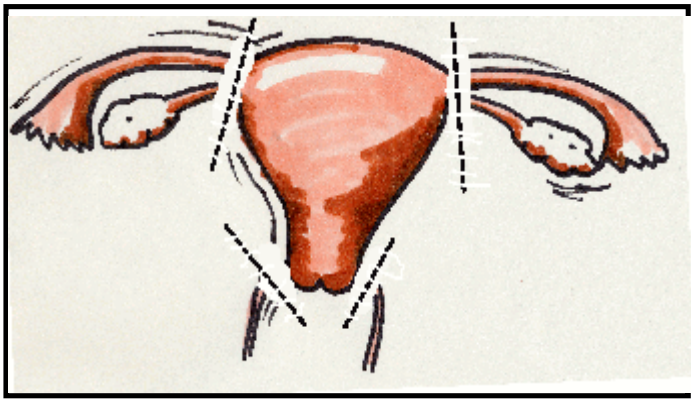
The LAVH, and now the LSH, is useful in cases where the patient would otherwise be a candidate for a vaginal hysterectomy, but because of a variety of factors, a vaginal hysterectomy would not be possible. These include the possible presence of scar tissue from previous surgery or infection, the requirement that the ovaries must be removed, or the lack of uterine descent into the vagina. (The uterus and its supporting ligaments must be relaxed enough to allow the uterus to drop into the vagina for surgery. This typically occurs after several pregnancies and deliveries). These women would otherwise require an abdominal hysterectomy, which for some is not acceptable due to loss of work time and need for quicker recuperation. The LAVH and LSH, however, is not always necessary for a vaginal approach, nor is it always possible. Your gynecologist will discuss this with you.

3 Total hysterectomy leaving tubes and ovaries

It is also important that you understand the terms used when discussing a hysterectomy. The "partial" hysterectomy refers to the Supracervical (supra=above) hysterectomy, where just the uterine corpus (top of the uterus) is removed, leaving the cervix in place (see illustration #2). This procedure was commonly performed in the past, however, because of the potential risk of cervical cancer, most surgeons prefer to remove the entire uterus

2 Supracervical hyster-ectomy leaving tubes and ovaries

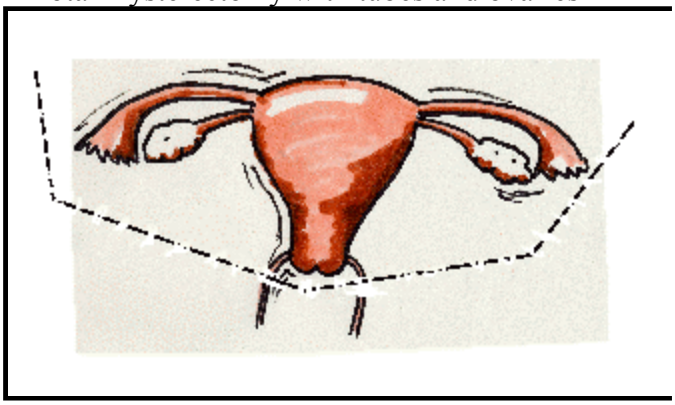




including the cervix (total hysterectomy). Alternatively, some physicians and lay (non-medical) groups advocate leaving the cervix since they feel that its presence may prevent pelvic relaxation (dropped bladder, vagina, etc.) after surgery. They also argue that preserving the cervix will enhance sexual functioning. Unfortunately, there is no concrete evidence to support these claims. One other potential advantage of leaving the cervix is the decreased infection risk following surgery. Typically, when the cervix is left in place, it is because of scar tissue in this area (following previous surgery, infection, or endometriosis) which would make removal of the cervix too difficult or risky. It is agreed, however, that if there have been abnormal pap smears in the patient's past, ther cervix should be removed if at all possible. With a vaginal hysterectomy, the cervix must be removed to perform the surgery. The Total Hysterectomy (either abdominal or vaginal–see figure 3) removes the cervix and uterus. The term "Total" does not refer to the removal of ovaries.

Ovaries may or may not be removed (see below). If they are removed, then the fallopian tubes are also taken (bilateral salpingo oophorectomy--bilateral=both sides, salpingo=fallopian tube, oophoro=ovary, ectomy=to remove --Figure 4). Removal of the ovaries at the time of hysterectomy is an individual decision. In some disease states it may be necessary (i.e. severe endometriosis or cancer). Usually, however, the oophorectomy is an option and should be discussed with your gynecologist. The usual method of making this decision is by patient age and patient desires. If the woman is 40 years of age or less, it is recommended that the ovaries be left in place. This is because the hormone production of the ovaries is vital for the women's health and comfort. Hormone replacement at a younger age may also be more difficult because of the higher doses of hormones required to alleviate symptoms such as hot flashes, irritability, or decreased libido (sexual desire). If the patient is over 45 years of age, usually it is recommended that the ovaries be removed since we're there anyway. The logic behind this is the ever-present risk of ovarian cancer when the ovaries are present. One in 70 women will develop this disease in their lifetime. (This number sounds higher than it actually is). Since the ovaries have only 5 or so years of hormone production left and hormone replacement at this age is easier, the loss of the ovaries is felt to be less important than the risk of ovarian cancer should they be left in place. Women between 40-45 years of age are in a "grey zone". The pros and cons are less well defined in this group making the decision to remove the ovaries an individual decision. A thorough discussion with your gynecologist is important. Statistically, when the ovaries are left in place, 5% of these women will require removal of their ovaries at a later date. This is due to scar tissue or cysts causing pain, or tumors. Also, after hysterectomy, women will undergo menopause 2-3 years earlier than they would have otherwise if the ovaries are retained.

4 Total Hysterectomy with tubes and ovaries



Risks--In any thing we do in life, there are risks. This obviously holds true in the world of medicine. Any decision making process requires us to weigh the risks of the treatment with the potential benefit. Only when the "scale" tips toward the potential benefit do we recommend the treatment. Although relatively safe, the risks and benefits of a hysterectomy must be weighed against the risks and benefits of observation (no treatment), medical treatment (medications--including hormones) or a less involved procedure (for instance, hysteroscopy). Questions to ask include, (but are not limited to), "Will the surgery cure the disease or only help a little bit? Will it give results better than a certain medication? Is the surgery even necessary?" (If not, then it's not worth <u>any</u> risk!!).

$ The risks to any surgery include infection, bleeding, damage to internal organs, risk of anesthesia, and death. Please remember that these risks are not common. The major risks specific to the hysterectomy are as follows: Infection of the incision (wound infection), top of the vagina (vaginal cuff), or abdominal cavity (peritonitis, a generalized infection; or an abscess, a localized infection). These will require antibiotics, usually intravenously (IV), and sometimes a longer hospital stay. This is the most common complication of hysterectomy–hence the reason for IV antibiotics before and after surgery, and typically, a douche and enema prep.

$ Heavy bleeding at the time of a difficult surgery may require a blood transfusion

Route	Abdominal	Vaginal	LAVH	LSH/TLH
Incisions	Through abdomen-either bikini or vertical incision	none	3-4 small 1" or less abdominal incisions	3-4 small 1" or less abdominal incisions
Hospital Stay	2-3 days	1-2 days	1 day	1 day
Recuperation	4-8 weeks	2-4 weeks	1-2 weeks	1-2 weeks
Costs	+++	++	++++	++++
Ovarian Removal	Always Possible	Possible 75% of time	Nearly always possible	Nearly always possible
Other Advantages	No limits of uterine size, ovaries can always be removed, scars can be repaired. Usually the required approach when treating female cancers.	Quick recovery with least expense	Quicker Recovery, allows less invasive surgery when abdominal approach otherwise necessary. Abdomen and pelvis can be inspected and disease treated.	Quicker Recovery, allows less invasive surgery when abdominal approach otherwise necessary. Abdomen and pelvis can be inspected and disease treated
Disadvantages	Longest Recovery, risks of incision healing problems. More costs due to longer hospital stay, more time off of work.	Not always possible because of uterine size, adhesions, or poor descent of uterus. Cannot see pelvis during surgery.	Higher Costs because of extra equipment needed.	Higher Costs because of extra equipment needed.
		Requires conversion to abdominal hysterectomy in 5% of cases because of unexpected findings, technical difficulties or complications		

(you may be warned if you are at risk for this), more extensive surgery or return to the OR if bleeding begins after surgery.

$ Damage to adjacent organs is probably the biggest worry of the surgeon. Despite using the utmost caution and good surgical technique, the bladder, ureter (tube connecting the kidney to the bladder) or bowel may be injured. Usually this is noted at the time of surgery and repaired. Typically, the hospital stay is increased by 1 to 2 days and frequently another specialist will be involved.

$ Anesthetic risks are usually small unless there is an underlying illness such as severe heart or lung disease. These are addressed prior to surgery and the appropriate specialist(s) will be involved for pre and post-op guidence

$ The risk of death (6-20 per 10,000, or less than 0.2%) is very small. This is usually the biggest worry of the patient (and understandably so), and should be discussed. However, with today's technology, medications, knowledge and improved standards of patient care, surgery has never been safer.

Other problems may occur after surgery including an ileus (ill'-e-us; a "sluggish bowel"), which may cause nausea and vomiting and will delay eating by the patient for 1 or more days. Rarely, patients may develop a communication or opening from the bladder or ureter to the vagina known as a fistula, which develops during the healing process. These are usually easily repaired at a later date.

To put these risks in perspective, probably less than 5% of patients will have a problem following hysterectomy, and the majority of these are only minor problems. Even though the risks are small, they do exist and you need to be aware of them.

EXPECTATIONS--These depend on why the hysterectomy is being done, how prepared physically and emotionally, and how well informed you are before surgery.

Pain--Every person tolerates pain differently. Most of the pain from an abdominal hysterectomy is from the abdominal incision. This will last from 4-8 or more weeks, gradually decreasing as time goes on. Otherwise, there is a crampy or achy sensation in the pelvis which should be nearly gone in 6 weeks. If your hysterectomy was performed because of severe pelvic pain, you may actually feel <u>better</u> after surgery.

Emotions--Some women may feel that they have lost their womanhood and go through a grieving process (this can be normal). Rest assured, this is not true--a hysterectomy does NOT make you less of a woman. On the other hand, some women actually have such a sense of relief, they never look back, living a more enjoyable life without many of the hassles to which they were so accustomed. If your emotions are in a upheaval, please discuss this with your physician.

Monthly bleeding--Read my lips--"no more periods". This is usually a positive aspect of a hysterectomy and most women don't complain. Without a uterus, there are no periods. The exception is with the supra-

cervical hysterectomy where there is up to a 20% incidence of cyclic or monthly spotting.

Sterilization--Without your uterus, you can't get pregnant. This may bother some women who base their womanhood on their fertility (see "emotions" above). Again, if this is a concern, please let us know! Most women, however, are very relieved by this assurance.

Sexuality--In 3-4 weeks following surgery (ask your gynecologist), you may resume intercourse. A major concern after a hysterectomy is "how will sex be?". For some women, the knowledge that they can't get pregnant makes sex more enjoyable. If the surgery was performed because of pain, this is also true. Others feel they lose their femininity. Several books (and magazine articles) state that the cervix is necessary for orgasm and recommend leaving it intact. Again, most physicians (and hysterectomy patients) have not found this to be true. You should still be orgasmic following hysterectomy. (Most women achieve orgasm by *clitoral* stimulation.) However, if uterine contractions are a part of your orgasmic pleasure, they may be missed. At times, partners are fearful of hurting the post-hysterectomy woman during intercourse. This is a reasonable and normal fear which should be addressed. Common sense and careful, gentle, resumption of intercourse after the surgery is the rule in all cases. If you enjoyed sex before surgery, you will probably enjoy sex even more after surgery. If you had sexual problems before surgery, you will likely have sexual problems after surgery.

Obviously, every aspect of the hysterectomy including other very rare risks, all expectations, and alternatives can't be discussed here. Please discuss any questions or concerns about issues in this handout or otherwise with your physician. A hysterectomy is a life changing experience. You and your gynecologist should do all you can to make sure that this change is for the better!

Reasons for hysterectomy--GLOSSARY

Fibroids--benign (non-cancerous) uterine tumors
Adenomyosis--endometrial cells, which normally line the uterine cavity, migrate into the uterine muscle causing painful periods, painful intercourse, severe PMS symptoms, lower back pain and heavy bleeding
Endometriosis--uterine lining cells growing in the pelvis or ovaries, which may cause severe pain with periods, chronic pain and/or scar tissue in the pelvis
Pelvic congestion syndrome--varicose veins of the uterus, causing increased pain and pressure after prolonged standing as well as heavy bleeding, painful intercourse and other symptoms
Abnormal uterine bleeding--heavy and/or irregular periods

Uterine prolapse--weakened support of the uterus which allows the uterus to fall down into the vagina
Cervical dysplasia--abnormal, potentially pre-cancerous cells of the cervix
Endometrial hyperplasia--overgrowth of the uterine cavity lining which may be pre-cancerous
Cancer--cancers of the uterus, cervix, uterine lining (endometrium), fallopian tubes, or ovaries generally require hysterectomy

I sincerely hope that this handout has been helpful. If there are *any* questions or concerns, do not hesitate to ask. A hysterectomy is likely a life-changing event and we feel that it is extremely important that you are comfortable, educated and reassured about any upcoming surgery.

Jeffrey M. Blake, M.D.