

Hysterectomy [1]

By: Kelley, Kristin Keywords: [Medical procedures](#) [2] [Medicine](#) [3] [Reproduction](#) [4]

A [hysterectomy](#) [5] is the surgical removal of a woman's [uterus](#) [6]. For many women, a [hysterectomy](#) [5] comes as a solution to health problems as diverse as abnormal bleeding to reproductive cancers. First performed in the early 1800s, this procedure has evolved in terms of both technique and popularity. The first successful abdominal [hysterectomy](#) [5] was performed by [Ellis Burnham](#) [7] in Lowell, Massachusetts, in 1853, although earlier attempts were made in the 1840s. These first hysterectomies were not performed under effective anesthetics—it was not until later in 1853 that a patient of surgeon Gilman Kimball would benefit from the use of chloroform. The [hysterectomy](#) [5] of the modern era has become a common and much safer procedure—so common, in fact, that many believe that the [hysterectomy](#) [5] is performed too often and in place of other, perhaps healthier, alternatives. In addition to its inherent surgical risks, a [hysterectomy](#) [5] also makes it impossible for a woman to have further children.

The [uterus](#) [6] is a thick, muscular organ of the female reproductive system. It opens to the roof of the [vagina](#) [8] and bears the function of both housing and facilitating the delivery the [fetus](#) [9]. This pear-shaped organ can be described by its wide superior curvature (the fundus), the body, and its inferior end (the [cervix](#) [10]). The [uterus](#) [6] is about seven centimeters in length, four centimeters wide, and 2.5 centimeters thick in nonpregnant women (the [uterus](#) [6] is considerably larger in women who are pregnant). The triangular-shaped lumen of the [uterus](#) [6] opens to the [vagina](#) [8] with a passageway through the [cervix](#) [10] termed the cervical canal. In nonpregnant women, the inner lining of the [uterus](#) [6], the [endometrium](#) [11], is shed during the monthly menstrual cycle. With [pregnancy](#) [12], the embryo implants into the decidualized, or primed [endometrium](#) [11].

A [hysterectomy](#) [5] is often performed in response to various health problems affecting the female reproductive system. Some of these indications include uterine fibroids, abnormal bleeding, cancer, pelvic support problems, pelvic pain, [pelvic inflammatory disease](#) [13], [endometriosis](#) [14], endometrial [hyperplasia](#) [15], and postpartum hemorrhage. Uterine fibroids, or uterine leiomyomas, are benign growths in the uterine muscle and account for the majority of hysterectomies performed. Fibroids are often the cause of excessive bleeding, pain, and pressure on adjacent organs. Asymptomatic fibroids are usually not removed unless they are excessively enlarged or cause pain or compression to adjacent organs. However, like other major surgeries, a [hysterectomy](#) [5] should not be performed in any case unless other medical alternatives have been exhausted.

The [hysterectomy](#) [5] procedure can be further classified in terms of which structures are removed. In a subtotal (also known as partial or supracervical) [hysterectomy](#) [5], the upper part of the [uterus](#) [6] is removed while the [cervix](#) [10] is left undisturbed. Alternatively, in a total [hysterectomy](#) [5] the [cervix](#) [10] is removed along with the [uterus](#) [6]. The third classification, the radical [hysterectomy](#) [5], involves the removal of the entire [uterus](#) [6] along with its supporting structures and paracervical lymph nodes and is typically performed in cases of cancer. A [hysterectomy](#) [5] by itself does not involve removal of the ovaries or [fallopian tubes](#) [16]. However, when this procedure is performed it is known as a [salpingo-oophorectomy](#) [17]. A [hysterectomy](#) [5] can also be described by the surgical technique used. These include abdominal, vaginal, laparoscopically assisted vaginal, and total laparoscopic hysterectomies. Which procedure is performed depends both on the reason for surgery and on the results of a [pelvic exam](#) [18].

In an abdominal [hysterectomy](#) [5], the doctor makes a vertical or horizontal incision about five inches long in the lower abdomen. This procedure affords the physician a good view of the internal organs and is most commonly performed in cases of cancer or large tumors. Abdominal hysterectomies can also be performed for the removal of fibroids and to counter pain and bleeding. This procedure is more susceptible to complications, especially infection, than other modes of [hysterectomy](#) [5] and involves both a longer hospital stay (four to five days) and recovery period (six to eight weeks).

In a vaginal [hysterectomy](#) [5], the [uterus](#) [6] is removed through an incision in the [vagina](#) [8]. This procedure allows for a quicker recovery time for the patient (seven to fourteen days) as well as a shorter hospital stay (one to two days). This procedure is appropriate in many cases but depends on the size and mobility of the [uterus](#) [6] and well as the training of the physician. The origin of vaginal [hysterectomy](#) [5] dates back to AD 120 and some evidence suggests a date as early as fifty years before the birth of Christ. The first verifiable case of a successful partial vaginal [hysterectomy](#) [5] occurred in Bologna in 1507.

Similar to a vaginal [hysterectomy](#) [5], the surgeon performing a laparoscopically assisted vaginal [hysterectomy](#) [5] (LAVH) removes the [uterus](#) [6] through the [vagina](#) [8]. Before making an incision in the [vagina](#) [8], however, a telescope-like device known as a laparoscope is inserted into the abdomen through a small incision. Additional incisions are made to allow for placement of various surgical instruments. Typically LAVH is performed until the uterine arteries are reached, at which point the procedure is completed similar to a vaginal [hysterectomy](#) [5]. While recovery from LAVH is similar to that for a vaginal [hysterectomy](#) [5], the surgery requires more time to perform and elevates the risk of possible damage to surrounding organs. This procedure is often

recommended if a standard vaginal [hysterectomy](#)^[5] is not feasible. Laparoscopic procedures were introduced to Europe in the 1940s by European surgeons Hans Frangenheim and Raoul Palmer, attaining wide appeal in the 1970s and 1980s. In 1988, the world's first laparoscope-assisted vaginal [hysterectomy](#)^[5] was performed by Harry Reich. This new approach allowed for dissection of bowel adhesions, easier [ovary](#)^[19] removal, and internal inspection of wounds.

In a total laparoscopic [hysterectomy](#)^[5], there is no need for a vaginal approach. This type of [hysterectomy](#)^[5] allows for preservation of vaginal support and the [uterus](#)^[6] is either removed through the abdominal opening or, if too large, is removed in pieces with the use of a device known as a morcellator. This newer approach has the advantage of a shorter hospital stay (one day), diminished post-operative pain, and a short recovery time (seven to fourteen days). Robotic [hysterectomy](#)^[5] uses remotely controlled instruments and allows for fine control and three-dimensional vision. This procedure is typically used in cancer patients in need of lymph node dissection or when the pelvic region has accumulated significant scar tissue, as in some cases of [endometriosis](#)^[14], or as a result of scarring from prior surgical procedures.

As with any major surgery, a [hysterectomy](#)^[5] comes with potential risks and complications. These can include bleeding, infection, or injury to the internal organs such as the bowels, urinary tract, blood vessels, and nerves. Less commonly, major complications such as blood clots, pulmonary embolisms, anesthetic complications, and death can occur. The procedure has undergone substantial refinement since its inception, evolving from a mortality rate as high as 75% in the 1800s to as low as a 3% risk of complication from laparoscopic hysterectomies.

Hysterectomies are the second most commonly performed surgical procedure of reproductive-aged women, with approximately 600,000 performed annually in the US according to the CDC. With total annual hospital costs nearing five billion dollars for the procedure, issues about its appropriate usage have arisen. Because the procedure is most commonly performed to relieve symptoms or enhance quality of life, it is important to inform patients of nonsurgical alternatives to the procedure and to further investigate the use of [hysterectomy](#)^[5] for benign uterine conditions.

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