# Guidelines on Hysterectomy

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In many parts of the world, even at teaching hospital gynaecologists who are not comfortable with the vaginal approach seek to avoid it under it under one pretext or another. They are,

1. There is no uterine prolapse
2. The uterus is enlarged
3. There is a fibroid in the uterus
4. The patient is nulliparous
5. The patient requires oophorectomy
6. There may be adhesions or endometriosis
7. Viewing of the abdominal organs, particularly the appendix, is essential
8. The approach will be determined after examination under anaesthesia.

The above variables should never deter the surgeon from using the vaginal approach in the absence of contraindications.

The Universally accepted contraindications are a uterus of more than 12 weeks size, absence of free mobility of uterus and the presence of adnexal pathology. These are the commonest to look for and exclude.

*Absolute contraindications:*

1. Uterus more than 12 weeks' size,
2. Uterine volume of more than 300 ccs,
3. Restricted uterine mobility, limited vaginal space,
4. Adnexal pathology,
5. Vesicovaginal fistula repair,
6. Cervix flush with vagina,
7. Inaccessible cervix,
8. Invasive cancer of the cervix.

However, for experienced vaginal surgeons uterine size, mobility and adnexal normalcy can be waived to different limits. Uterus upto 14-16 weeks' size, uterine volume upto 400-500 ccs, mobile benign adnexal pathology and slight restricted uterine mobility are no more absolute contraindications.

*For experienced vaginal surgeons: Absolute contraindications are:*

1. Uterine size not greater than 14-16 weeks.
2. Uterine volume greater than 400-500 ccs.
3. Freely mobile uterus, if with adnexal pathology.
4. Adnexal pathology should be mobile and benign
5. If uterine mobility is restricted there should be absence of adnexal pathology.
6. Absence of other contraindications (5 to 8 from above)

*The indications include:*

1. Should be routinely by the vaginal route, e.g. dysfunctional uterine bleeding, adenomyosis and fibroid.
2. Need not be by the abdominal route or laparoscopically assisted or totally laparoscopic merely because of uterine fibroids or nulliparity etc.
3. The vaginal route will make a difference to the patient, anaesthetist and surgeon, e.g. in high-risk cases.

They are:
Dysfunctional uterine bleeding
Uterine adenomyosis
Uterine fibroids
Uterine prolapse
Uterine and/or cervical polyp
Endometrial malignancy: Early and/or high risk woman
Recurrent post menopausal bleeding
Benign mobile adnexal pathology
Severe mental handicap; ethics permitting

Some basic guidelines to remember when selecting the procedure are:

1. Confirm indication for hysterectomy
2. Exclude contraindication
3. Uterine prolapse is not a prerequisite for vaginal hysterectomy.
4. As a rule, uterus without surrounding pathology descends (Downward mobility) when traction is applied under anaesthesia, Uterine descent becomes progressively easier as the uterosacral and mackenrodt's ligaments are cut,
5. Nulliparity or fibroid per se does not contraindicate a vaginal hysterectomy
6. Abdomino-pelvic surgery even repeat, in past per se do not contrindicate a vaginal hysterectomy, Table gives clear guidance in relation with variety of operation in past. When anterior adhesions are suspected uterocervical broad ligament space or surgical window will as a rule provide entry to the vesicouterine peritoneum.
7. The size of the uterus that can be removed vaginally increases with experience, size of 12 weeks or less in general and upto 14 to 16 weeks for experienced vaginal surgeon do not contraindicate vaginal hysterectomy.
8. Should the need for oophorectomy arise, it should not pose a problem for an experienced vaginal surgeon, However, there should be no hesitation to take laparoscopic assistance,
9. To have a look at the abdominal contents, particularly the appendix the abdominal route should be used only if a surgical opinion so indicates,
10. Reliable ultrasonography is extremely useful in decision making. In case of doubt or with adnexal pathology CT scan OR MRI can guide further.
11. Examination under anaesthesia should form an integral part of the pre-operative management of patients requiring hysterectomy. This should be correlated with ultrasonography (or imaging study) findings to evaluate for the route. Abdominal hysterectomy should only be considered in patients if, under anaesthesia, any contraindication for vaginal hysterectomy is revealed.
12. When Vaginal hysterectomy (VH) appears possible but Surgeon is in doubt, it is desirable to schedule hysterectomy as tentative one or for trial of vaginal route.
13. Laparoscopic evaluation (Not laparoscopic operative assistance) should be done when in doubt about adhesions, endometriosis or pelvic findings in absence of contraindication. This will clear the doubt for taking vaginal route for hysterectomy.
14. It is ideal to have a routine laparoscopic evaluation for an adnexal mass, which is to be excised via vaginal route. Laparoscopic evaluation is mandatory if there is slightest suspicion that adnexal mass could be tuberculous or malignant.
15. Preoperative investigations and fitness for surgery and anaesthesia
16. Confirm that adnexal pathology is benign with imaging and tumor marker studies
17. Respect medical record documentation

*Prophylactic Oophorectomy at Hysterectomy:*
*Indications:*

1. Post-menopausal
2. One or two or more affected relatives with ovarian malignancy
3. Pedigree of multiple occurances of non polyposis colorectal, endometrial, breast and ovarian cancer
4. Family history of site specific ovarian cancer (with lynch I and lynch II syndrome and BRCA I and BRCA2 positivity) with no previous use of oral contracepties, with H/o unexplained infertility, with previous prolonged use of clomiphene with no previous breast feeding and who are nulliparous
5. Endometrial cancer

*Contraindications at VH are:*

1. Patient wishes to retain her ovaries,
2. Pathological adhesions, endometriosis, pelvic inflammatory disease, tuberculous or suspicious of malignancy
3. High, immobile and atrophic ovaries,
4. Risk of trauma

*Guidelines for Prophylactic Oophorectomy at VH:*

I. In favour of ovarian removal (1) Oophrectomy would have been done, if same hysterectomy was to be done via laparoscope or with it's assistance at VH or by laparotomy. (2) Age more than 45 years (3) Family history of ovarian malignancy in particular and malignancy of related organs in general (4) Past history of ovarian pathology (5) Atrophic looking ovaries (6) Multiple abdominal surgeries in past (laparotomies) (7) Optimal compliance with HRT taking (8) Woman's desire for removal. For those between 41 and 45 years age, some of the above mentioned factors will serve as guide.

II In favour of conservation of ovaries: (1) Age below 40 in absence of compelling reason to remove (2) Weak myocardium or hypertension and/or diabetes (3) Normal past and family history (4) Normal looking ovaries (5) Non compliance for future HRT intake (6) Woman's desire to retain her ovaries.

Route and technic of hysterectomy shall never be factor to decide in favour or against the need for prophylactic oophorectomy.

Ovarian removal does not eliminate the risk of peritoneal papillary serous adnocarcinoma.

*Alternatives:*

1. Laparoscopic oophorectomy
2. Mini Laparotomy
3. Leave behind ovaries as many do; though incorrect

*Should tubes be removed:*

1. Not a must
2. If it is easily removable there is no need to keep them

## Abdominal Hysterectomy:

*Indications*

1. When hysterectomy via vaginal route is contraindicated and LAVH appears risky or very difficult
2. Uterus 22-24 wks. size or greater
3. Adnexal pathology
4. Invasive cancer
5. If adnexal pathology is suspicious of malignancy or frozen study at laparoscopy or vaginal hysterectomy suggest possible or doubtful malignancy
6. Advanced endometriosis
7. Excessive vaginal narrowing
8. When associated surgical condition that indicates abdominal opening and incision is compatible for both surgeries

*Guidelines:*

1. When there is indication for hysterectomy but vaginal route is contraindicated and LAVH is very difficult or risky method.
2. If vaginal hysterectomy can be performed with laparoscopic assistance, it should be preferred to abdominal opening or laparotomy.
3. Commonest contraindications are based on uterine size, mobility and normalcy of adnexa.
4. Whenever possible, ideal is to perform through pffanensteil's or it's variant incision. Only when this is not possible or makes exposure difficult or inadequate, vertical incision should be considered.
5. If other methods of hysterectomies are unsafe in operator's hands
6. Laparscopic equipment and/or laparoscopic expertise are not availabe.

*Contraindications:*

1. High Risk/Table Risk patient
2. Woman refuses

**LAVH :**

*Indications:*

1. There is indication for hysterectomy along with contraindication for hysterectomy via vaginal route.
2. LAVH is indicated when laparoscopic assistance can undo contraindication or the hindrance to perform VH.
3. Uterine fibroids, Adenomyosis and dysfunctional uterine bleeding with uterine size greater than 12-14

weeks size or broad ligament fibroid, or uterine volume more than 300 ccs.
4. Benign ovarian cyst, tubal and/or ovarian mass (Non malignant and Non tuberculous)
5. Endometriosis, pelvic adhesions
6. Pelvic inflammatory disease
7. Chronic pelvic pain
8. Occasionally oophorectomy or salpingo-oophorectomy

*LAVH: Contraindications:*

1. When hysterectomy via vaginal route is possible and is without any contraindication for it.
2. Uterus enlarged to 22-24 weeks size with limited mobility.
3. Uterine volume of 500-600 cc (for highly experienced, may be more upto 700-800 ccs)
4. Dense adhesions - tubal and/or ovarian mass.
5. Inability to visualise pelvic sidewall structures adequately
6. Intra peritoneal dense adhesions and/or intraoperative uncontrollable bleeding

*Guidelines:*

1. If VH is possible LAVH should not be done. LAVH should never be a replacement for VH.
2. When with laparoscopic assistance vaginal hysterectomy can be accomplished
3. Balancing the risks involved, LAVH is preferred to abdominal hysterectomy
4. Preoperative counselling is essential
5. Laparoscopic evaluation will clear doubt and provide guidance
6. Equipment should be of high order and operator experienced.
7. One member of the team must be experienced and well trained
8. It should be converted to abdominal hysterectomy. When (a) LAVH is risky or very difficult (b) Suspicion of malignancy (c)Laparoscopic expertise not available.
9. Experience with LAVH will reduce abdominal hysterectomies and increase proportion of VH.

LA may allow some patients to undergo a vaginal hysterectomy when they would have otherwise required laparotomy.

*Tentative VH or trial of vaginal route for hysterectomy:*

1. Situations* wherein vaginal hysterectomy appears possible if operator attempts but he has doubt or apprehension about success
2. Absence of contraindication to vaginal hysterectomy

**Situations are: Uterus greater than 12 weeks size, previous uterine surgery or abdomino pelvic surgery, nulliparas, narrow space and doubtful adnexal pathology.*

*Subtotal Supracervical Hysterectomy: Indications:*

1. when at abdominal hysterectomy, inseparable adhesions increase the danger to surrounding organs e.g. Endometriosis, PID
2. When at abdominal hysterectomy patient's condition dictates a rapid removal of uterus.
3. Patient desires to retain the cervix.

*Guidelines: Role of retained cervix in prevention of prolapse and improving sex life are unproven.*

*Laparoscopic Evaluation:*

1. Vaginal hysterectomy appears possible (i.e. not contraindicated) but operator has some doubt or apprehension.
2. In some cases planned for tentative or trial of vaginal route for hysterectomy.
3. Adnexal pathology. When experienced vaginal surgeon plans to excise benign, mobile adnexal mass at vaginal hysterectomy. Laparoscopy will confirm earlier findings, exclude malignancy and tuberculosis and confirm possible removal via vaginal route.

Laparoscopic evaluation needs to be differentiated from laparoscopic assistance which is operative laparoscopy and wherein surgical steps taken are part of vaginal hysterectomy in progress.

Laparoscopic evaluation in no way offers a surgical step or laparoscopic surgical assistance in performance of vaginal hysterectomy. It is a diagnostic technic just prior to the start of hysteretomy but not sufficiently earlier like before anaesthesia or before hospitalisation so as to be labelled as preoperative investigation.

Laparoscopic evaluation convinces and encourages operator to take vaginal route for hysterectomy or choose alternatives like (a) Tentative or trial of vaginal route for hysterectomy (b) LAVH (c) Laparotomy.

Currently, it must be remembered that vigorous attempts are being made world over to reduce the number of abdominal hysterectomies and replace them preferably with vaginal hysterectomy per se or with laparoscopic assistance as the next choice. Hysterectomy by vaginal route must be practised in all cases where there is an indication for hysterectomy and no contraindication to the vaginal route.

Experienced gynecologist will always maintain that some contraindications to VH are relative and never absolute. They vary with the skill and perseverance of the surgeon. LAVH is indicated if it can undo the difficulty or the contraindication in performing hysterectomy with contraindications to the vaginal route provided LAVH is not likely to prove either risky or very difficult. When vaginal hysterectomy is contraindicated and LAVH appears very difficult or risky there should be no hesitation in performing abdominal hysterectomy.

*Why vaginal route:*

1. Vaginal surgery is the least invasive, minimally accessed route and results in better postoperative quality of life outcomes.
2. All hysterectomies should be vaginal unless indicated otherwise.
3. Vaginal surgery has always been the hallmark of the gyaecologic surgeon. After all, what is the difference between a gynaecologic surgeon who does an abdominal hysterectomy, and a general surgeon, who can remove the uterus through the abdomen as competently or endoscopist wanting to learn VH and does LAVH for a case which can be easily done vaginally.
4. Choice would be vaginal, vaginal with laparoscopic assistance total laparoscopic and abdominal in that order, if hysterectomy by all 4 technics are possible.