

CHAPTER 63

TECHNIC OF VAGINAL HYSTERECTOMY

By N. SPROAT HEANEY, M.D., D.Sc., F.A.C.S.

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Patient on operating table. The patient should be in the lithotomy position, the legs in lithotomy sticks rather than in curved knee-holders. The hips must be at the edge of the table so that the hanging speculum may swing free. If the hips are beyond the edge of the table, the vagina points upward and the vision is obscured.

Instruments. Generally speaking, the instruments should be narrow and delicate so that they may, when necessary, be used in the virgin or the nulliparous vagina. The blade of the *weighted vaginal speculum* must not be too wide or too sharply bent. The *retractors* should be right angled, not more than one inch wide, with the handle about eight inches long and the vaginal part four and a half to five inches in length. The *clamps* are very important and several at least eight inches long should be available. They should be fairly stout with curved and grooved points and teeth at their tips for clamping ligaments and blood vessels. The *needle holder* should have a narrow, curved nib and be slim enough not to break small needles. This type of instrument permits working in places where an ordinary needle holder would fail. The *needles*

are best of the full curved Martin type with cutting points. When placed in position they remain fixed, and may be picked up by intuition when the field becomes obscured with blood.

Suture material and the manipulation of sutures. The author prefers to use No. 2 chromic catgut throughout the operation except for the ligation of tiny spurters in the anterior and posterior vaginal flaps. When placing a figure of eight suture the needle should be inserted just below the tip of the clamp so that when being tied the catgut cannot slip down and include the clamp in its hold.

The surgeon must tie true knots, which are tight, and he must not cut too close to the knot. The catgut may swell from absorption of tissue juices and the knot become united from shortening of the catgut. The assistant must not start to release the clamp until *after* the operator has secured the tissue with the ligature. Two assistants are needed at the operation of vaginal hysterectomy, one to retract and the other to cut and handle sutures.

The *lighting* of the operative field should be by two good spot lights which are so placed that

each distinctly illuminates the vaginal vault. When both are turned on there is little chance of shadow.

Preparation of the patient for operation. An enema is to be given the night before, and a second enema, two or three hours before operation. A full rectum encroaches upon available space in the pelvis. The vulva and pubis are shaved. As a routine also, the abdomen is prepared and covered with a sterile drape; it may be necessary (q.v.) to enter the abdomen later. The bladder is emptied by catheter and the vagina swabbed out with half strength tincture of iodine followed by alcohol.

Medication and anesthesia. The author prefers demoral and barbiturates for analgesia, and intravenous pentothal, or ethylene gas, depending on the anesthetist.

TECHNIC

The vaginal speculum is inserted. The labia minora are stitched back; and if the introitus is narrow a small midline episiotomy is done. After the cervix is exposed by a narrow retractor it is pulled into view by a strong vulsellum (A-D). If the interior of the uterus is infected or is the seat of a malignancy, the cervical os is closed by suture. Also, if the cervix is infected, cystic or badly eroded it should be well sterilized by cautery. Two cc. of pitocin (not pituitrin) are injected into the paracervical tissues to minimize bleeding (C).

A transverse incision is made through the mucosa of the anterior vaginal wall just above the portio but below the attachment of the bladder (D). If in doubt, push up the cervix and note the transverse wrinkle or fold in the mucosa on the anterior surface just above the cervix. This latter marks the lower limit of the bladder. If there is to be repair work for cystocele or urethrocele the vaginal wall is incised vertically, starting at the middle of the transverse incision, and freed from the bladder. A curved scissors—with points forward—is inserted between the vaginal wall and the bladder, and by opening and closing the scissors as it is pushed upward the vaginal wall is separated from the bladder up to the urethra (E). Then the vaginal mucosa is laid open in midline by scissors.

Flaps are then freed laterally from the bladder, partly by blunt dissection with gauze, and as

necessary by scissors, until as much mucosa is freed as is to be removed (F).

Correction of prolapse or urinary incontinence and repair of urethrocele. If the patient has incontinence or a urethrocele or a prolapse, the midline incision is continued up to the external urethral opening so that a urethroplasty may be performed. A patient with even a large urethrocele or prolapse may not be incontinent, but as soon as the urethra is straightened out by operation she is very liable to become incontinent. A urethroplasty is therefore a necessary step in an operation for the correction of prolapse.

If a urethroplasty is to be done it should be completed now since copious bleeding may occur when the urethral flaps are dissected back; and it is well to have this annoyance in abeyance as early as possible. Failure to cure incontinence is usually caused by too little exposure of the urethra. The flaps should be loosened widely enough to expose the urethral bulb completely, and to make the paraurethral fascia accessible and visible. The fascia on each side of the urethra is brought to the midline with interrupted sutures to cover the exposed urethra, beginning at the level of the internal urethral sphincter and progressing forward.

The excess in the mucosal flaps is now excised and the flaps are sewn over the urethral body, using interrupted sutures, and the urethroplasty is thus completed. Now, redundant portions of the remaining vaginal flaps are cut away and hemostasis completed. Vessels should be ligated with isolated sutures and special care taken not to stitch too deeply in controlling bleeding from the wall of the bladder. The completion of the colporrhaphy is left until the uterus is removed.

Continuing with the technic of vaginal hysterectomy, the bladder is now detached from the anterior surface of the uterus up to the plica vesicouterina, by gauze pressure or, as necessary, by sharp dissection during which the scissors must keep well toward the uterus in order to avoid entering the bladder (E). Pressure laterally on each side with the fingers elevates the ureters and removes them from danger (F). Do not overlook bleeding from the ureteral branches of the uterine artery.

If the bladder is accidentally opened, or necessarily so in order to remove a growth—as an in-

vasive endometrial nodule—the rest of the bladder wall must be carefully dissected from the surface of the uterus and the hole in the bladder closed immediately. The proximity of the ureters

when closing the vaginal vault, care is taken to isolate the vesical repair as far as possible from the vaginal closure. A Foley catheter is inserted and left in place for a week, when either a ureth-

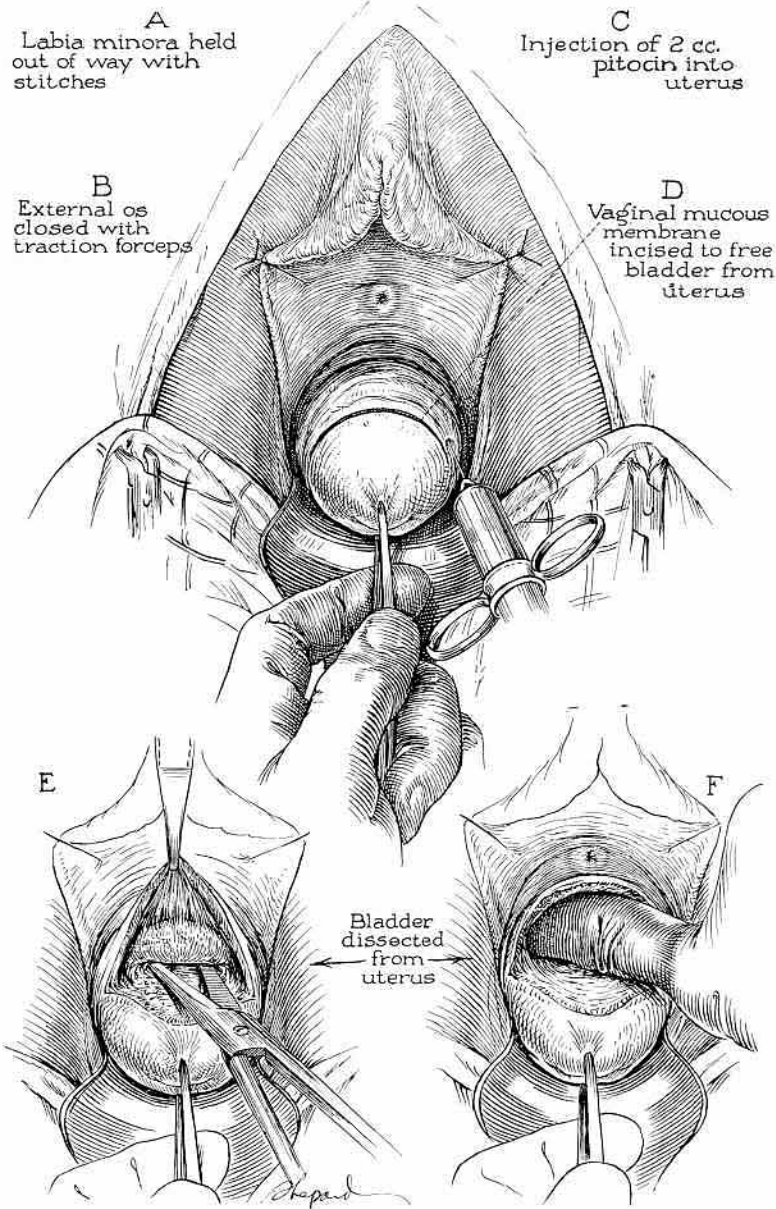


FIG. 1. Vaginal hysterectomy. Preliminary steps and separation of the bladder.

must be determined so that in repairing the bladder opening neither ureter may be injured.

Closure of rent in the bladder. Use a fine continuous catgut suture to close the mucosa, and several interrupted sutures to cover the opening with a thick layer of fascia and muscularis. Later,

roplasty or a repair of the bladder is done.

When the plica vesicouterina has been exposed, the peritoneum is opened (G), at first only wide enough to insert the finger (H) to see whether, after all, it is the peritoneal cavity which has been entered, and also to learn as much as pos-

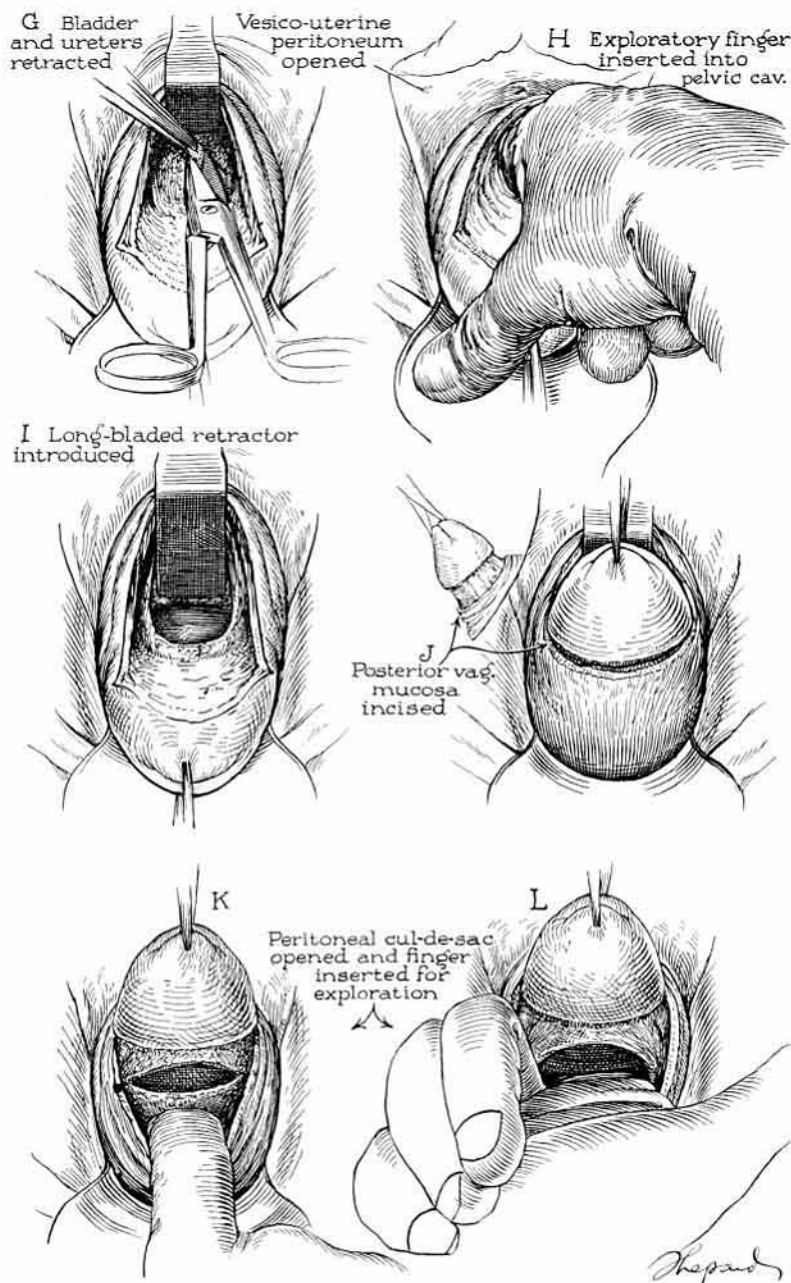


FIG. 2. Vaginal hysterectomy. Opening the peritoneum anteriorly and posteriorly.

sible about the pathology. The opening in the peritoneal cavity is now enlarged enough to insert a narrow right-angled retractor (I). If the plica is inaccessible either because the uterus is high up or on account of a tumor low down on the cervix, or if the bladder can not be easily pushed up, the operator should not persist unduly, but rather turn to the posterior fornix.

Entering the posterior fornix. While the cervix is held forward a transverse incision is made with a knife only through the mucosa at the height of the posterior fornix. The incision is extended laterally on each side to join the anterior incision (J). The edge of the posterior incision is pushed back with gauze so that the peritoneum is exposed, which is then opened under direct vi-

sion, (K and L). It is much better to make the incisions cautiously with the knife than to pick up structures with a forceps and cut boldly with scissors; fewer accidents are liable to happen, for a loop of bowel may be adherent in the cul-de-sac. Much of the bleeding in a vaginal hysterectomy comes from the posterior colpotomy incision, and this can usually be controlled by the

assistant maintaining firm traction on the vaginal retractors. If this is not sufficient then use fine catgut ligatures to promote hemostasis. After palpating for further information a narrow right-angled retractor is inserted.

If the posterior vaginal pouch is high up and not easily entered, then, after shoving back the vaginal mucosa, the sacro-uterine ligaments be-

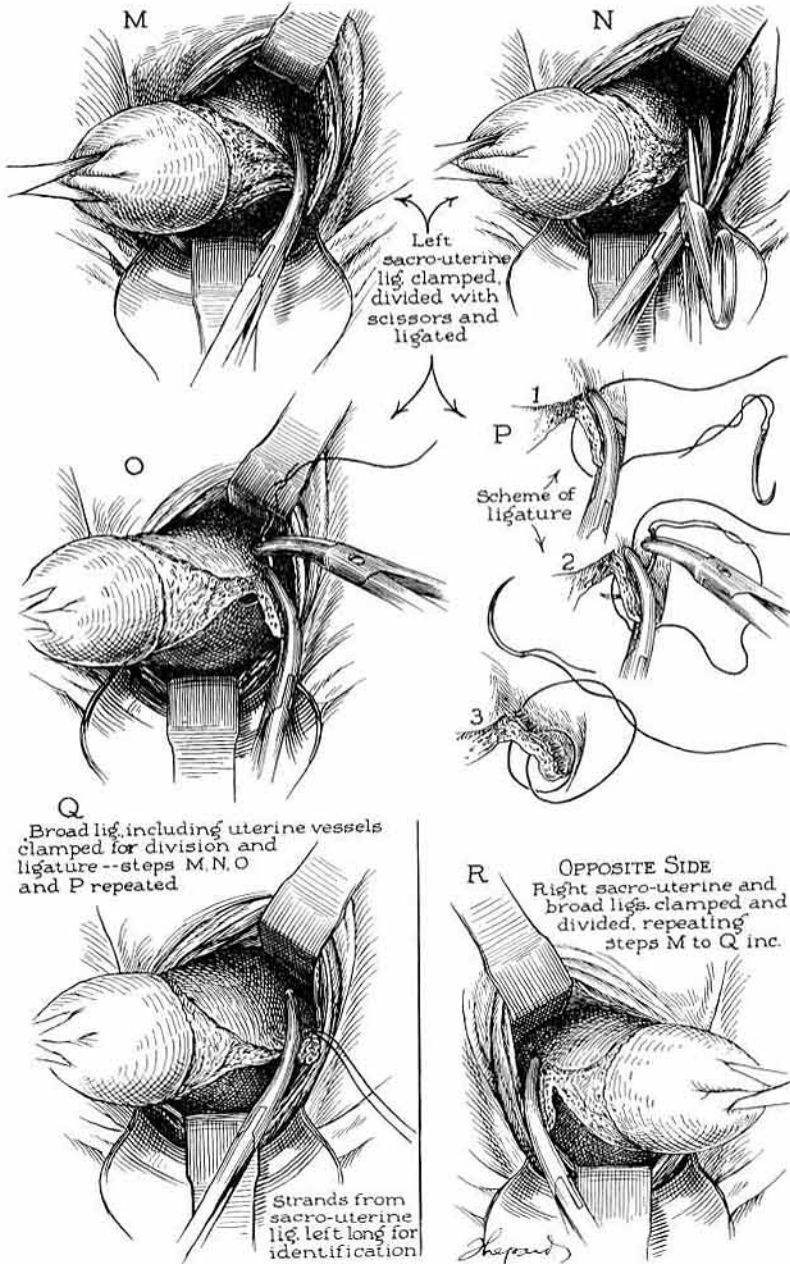


FIG. 3 Vaginal hysterectomy. Freeing the uterus laterally.

come visible, and may now be clamped, cut and tied extraperitoneally so as to allow descent of the uterus and admission to the posterior cul-de-sac (M, N, O and P). Both openings should now be retracted widely.

The assistant pulls the retractors to the left and thus holds the left side of the bladder and the left ureter out of the way and exposes the lower portion of the left broad ligament. This is then caught with a special curved clamp, detached from the uterus with scissors and the clamp replaced with a figure of eight suture of No. 2 chromic gut tied strongly after the clamp has been removed (Q). Both strands are cut long and the ends caught by a hemostat.

Another bite of the broad ligament is taken higher up with the clamp placed as nearly as possible to the uterus and, after the tissues are cut, the clamp is replaced in the same way with a suture, except the suture is cut about one-third inch from the knot. One should continue clamping, cutting and ligating on the left until progress is no longer easy (Q) whereupon the right side of the uterus is loosened in the same way (R).

After ligating both uterine vessels, if the uterus is not too large the fundus may be drawn out through the posterior incision and the upper portion of the left broad ligament clamped, tied and cut (S and T). Then the right broad ligament is severed in the same way. The ligatures securing the upper portions of the broad ligaments are each cut with one strand long and held by a hemostat, thus, distinguishing the upper from the lower limits of the broad ligaments.

Removal of corpus by morcellation. If the uterus is too large to be delivered intact, the cervix is amputated, the body pulled down strongly and wedge-shaped portions of the body are successively removed under direct vision. Before each segment is removed the remaining part of the uterus is picked up with a bullet forceps so that it may not retract and cause difficulty.

Combined vaginal and abdominal hysterectomy. If after tying the uterine vessels it seems impossible or unwise to proceed further by the vaginal route, the cervix may be amputated, bleeding areas sutured, the vaginal vault closed and the rest of the operation completed from above. The abandoning of the vaginal for the abdominal route at this stage need have no ill effects nor cause any anxiety for the author has

frequently removed a large hypertrophied or diseased cervix vaginally, and then completed the operation by the abdominal removal of a large and firmly fixed or adherent uterus or appendages. Occasionally a tumor is encountered where one is certain from its location and contour that the uterine vessels will be difficult to ligate abdominally. Under such circumstances, perhaps the removal of the uterus may be done best by the combined operation.

Inspection of the appendages during vaginal hysterectomy. The assistant must be careful not to handle the hemostats which mark the tops and bottoms of the broad ligaments, since loosening of ligatures may result and cause severe bleeding. To inspect the appendages do not pull down on the ligatures, instead clamp the ligaments gently and pull the appendages into the field of vision. Use a small sponge on a clamp to rotate and inspect the ovary (U). Special small gauze pack with long attached tapes held by hemostats are valuable in keeping back the intestines, especially during the peritoneal toilet and the closure of the vaginal vault.

Closure. First remove all instruments and packs. Insert two fingers into the pelvis to be sure that nothing is left behind. A pedunculated fibroid may have been shaved off or an unsuspected intraligamentous growth may have been overlooked. The hanging speculum is reinserted, vaginal retractors are replaced, and the operative area inspected for bleeding, especially the anterior wall where it was detached from the uterus. *Hemostasis must be complete.*

If the anterior vaginal wall was prepared for plastic repair the vaginal incision is now closed with interrupted catgut, starting at the urethral end and progressing toward the vaginal vault (V and W). The last two or three sutures are not placed until after the vaginal vault is ready for closure, so that there may be room enough to do the peritonization.

Closure when prolapse exists. Before the vaginal flaps are sewn together the round ligaments are attached to the anterior vaginal wall just beneath the urethra; and the broad ligaments are sewn together in the midline *from top to bottom* with interrupted sutures so that after the anterior flaps are closed the broad ligaments will rest in the same relative position as the uterus does in an interposition operation (V and W). The sacro-

uterine ligaments are sewn together while pulling them down so that they may be sutured together as high as possible inside the pelvis (V and W).

Closure of vaginal vault. A continuous suture is passed through the extreme right edge of the anterior vaginal mucosa, then through the edge of the anterior flap of peritoneum, then successive

bites of peritoneum are taken over to the stump of the round ligament around which the suture is passed so as to religate the ovarian vessels. The suture is next passed down the broad ligament covering the raw areas with peritoneum, down to the stump of the sacro-uterine ligament (X and Y). The suture is passed around the stump of

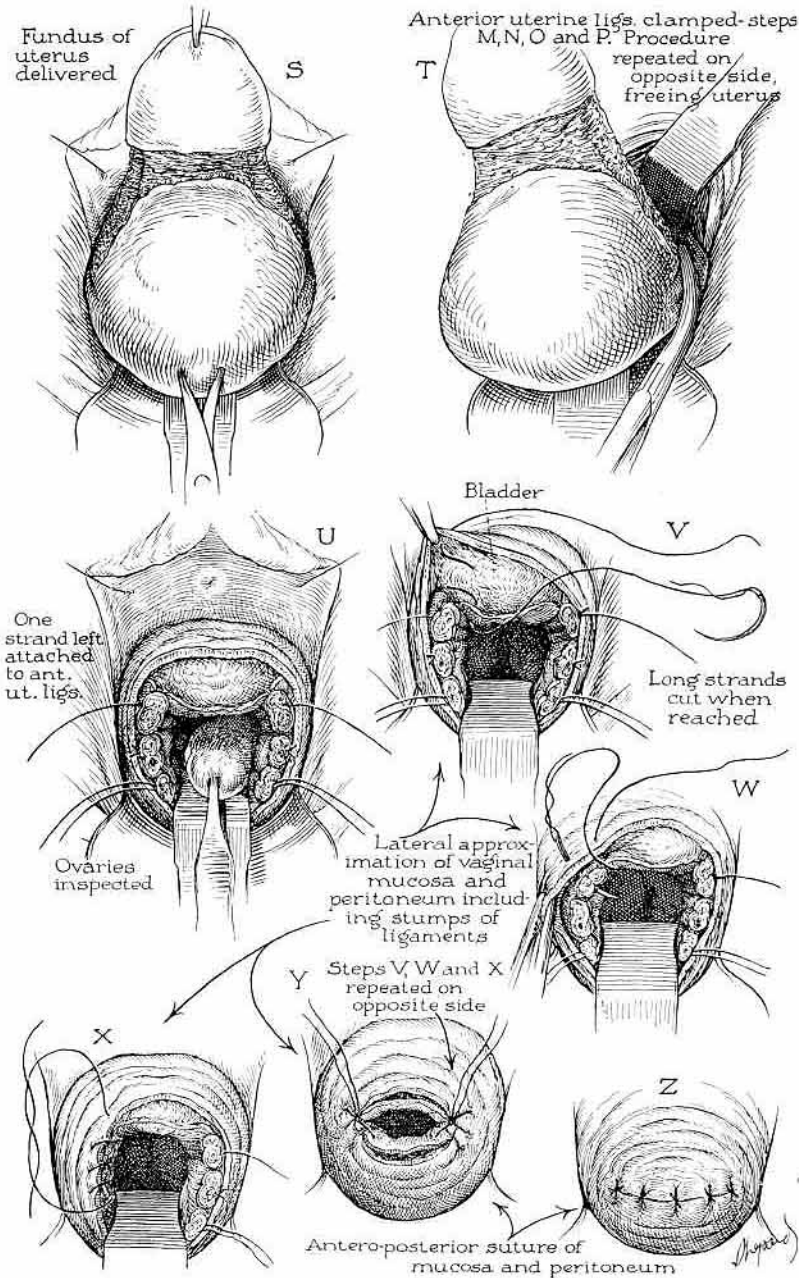


FIG. 4. Vaginal hysterectomy. Uterus has been pulled out of the pelvis and amputated. Peritoneum is closed. Approximation in the midline of cut structures on each side gives the supporting "floor." Union of the mucosa (Z) completes closure.

the sacro-uterine ligament then through the edge of the posterior peritoneal flap and finally through the posterior vaginal wall.

A continuous suture is placed in the same way on the extreme left side. These sutures are not tied until all sutures are placed in the vaginal vault; but when these two lateral sutures are tied they not only help to close the vaginal opening but they peritonize the pelvis and attach the round, broad and sacro-uterine ligaments to the vaginal vault, thus giving it support (X and Y). Between these two lateral sutures, three or more interrupted sutures are placed. They are put in from before backward, through the edges of the anterior vaginal wall, anterior peritoneum, posterior peritoneum and posterior vaginal wall. Before tying the sutures a teaspoonful of sulfanilimide is blown into the pelvic cavity. The other sulfa salts are not as soluble and they may form a mass which is very slowly absorbed. All sutures are now tied and cut (Z).

Repair of the posterior vaginal wall and perineum. After loosening the vaginal mucosa and removing the excess a series of interrupted sutures are inserted, the first of which passes through the edge of the left vaginal flap. Then a bite is taken through the belly of the left levator as it lies in its sheath. Next, the right levator is picked up and the suture passed out through the right edge of the vaginal incision after which it is tied and cut. This is repeated until the denudation is closed. The levators should not be isolated from their fascial beds, as the author has

found that patients are more comfortable when the fascia is not separated into layers.

The sutures should be close enough to produce good coaptation of the edges of the wound and yet far enough apart to permit of drainage between the sutures.

Closure of the perineum. The author prefers to sew the perineal incision anteroposteriorly, after removing all labial tags, instead of from side to side, thereby avoiding a high perineum and dyspareunia. Nylon interrupted sutures are used and are more comfortable than any other suture material. They must of course be removed but are more satisfactory than absorbable sutures. In a vaginal hysterectomy, the vagina need not be shortened, provided (1) the incisions in the vaginal vault are made at the same level as they would be were an abdominal hysterectomy done; and (2) interrupted instead of continuous sutures are used. The vagina in prolapsus is necessarily short as some of the length was used in producing the great dilatation of the vagina.

Postoperative care. Catheterization is done at the completion of the operation and then every six hours until voiding is spontaneous. Urination in small amounts suggests retention. If retention is less than one ounce, continued catheterization is not necessary. As a rule the patient voids normally on the day following operation. She is urged to sit up in bed with the feet out, and also to go to the toilet with help. Conservative treatment of complications is preferred. Patients are usually home at the end of one week.