

REPAIR OF CYSTO-URETHROCELE, RECTOCELE AND RELAXED PELVIC FLOOR, ENTEROCELE, COMPLETE LACERATIONS OF PELVIC FLOOR AND RECTOVAGINAL FISTULA

By VIRGIL S. COUNSELLER, B.A., M.S.(SURGERY), M.D., F.A.C.S.

CYSTO-URETHROCELE.....	106
Technic.....	106
Postoperative care.....	107
RECTOCELE AND RELAXED PELVIC FLOOR.....	107
Technic.....	107
ENTEROCELE.....	107
Technic.....	107
COMPLETE LACERATION OF PERINEUM.....	110
Technic.....	110
RECTOVAGINAL FISTULA.....	111

CYSTO-URETHROCELE

Urethrocele and cystocele are so often associated and produced by the same mechanical forces during childbirth that it would seem wise to designate the two lesions as "cysto-urethrocele" and to describe a technic which replaces the urethra and bladder in their normal positions without tension or fixation.

The uteropubic or pubocervical fascia is the structure which supports the urethra and bladder. This structure is only part of the pelvic fascia, which originates on either side of the bony pelvis and then passes medially and surrounds the cervix, vagina and urethra. It may be congenitally absent or defective, but these are rare instances and must be dealt with by special procedures.

The pubocervical fascia is attached to the posterior surface of the pubic bone and extends downward to the cervix just opposite the internal os. It has definite filamentous attachments to the under surface of the urethra and bladder. A rupture or tear of this supporting structure will result in a hernia of the urethra, the bladder or both. These injuries, which occur during childbirth, are concealed and become obvious months

later. In the more severe cases and in those in which there have been repeated injuries there will also be various degrees of prolapse, lacerations and relaxations of the pelvic floor. In such instances other surgical procedures, such as interposition, the Manchester operation or vaginal hysterectomy, will be required.

The technic that I shall describe is especially applicable to the correction of cysto-urethrocele in the childbearing period and can be combined with other plastic procedures in this and older groups if necessary.

Considerable emphasis has been placed on the inverted T (\perp) incision on the cervix in order to expose the bases of the broad ligaments, but actually this is unnecessary and can be detrimental. If the cervix is grasped and pulled down as far as possible, a vertical incision is made directly through the entire vaginal wall over the cervix (Fig. 1); then the bladder and urethra can be further separated from the vaginal wall with the Mayo dissecting scissors. This incision should extend to within 1 cm. of the external urethral meatus. This will then reveal the extent of the cystocele and urethrocele. The pubocervical fascia is carefully mobilized on each side from the

vaginal wall (Fig. 2). No attempt is made to separate the fascia from the bladder. At this stage of the operation two things must be accomplished: first, mobilization of the fascia from the vaginal wall and, second, elevation and mobilization of the small herniated segment of

bladder which has moved downward on the cervix. The uterovesical peritoneum is not to be opened unless a more detailed operation has been contemplated, as previously indicated.

The structures are now prepared for repair. The repair is started at the bottom by bringing

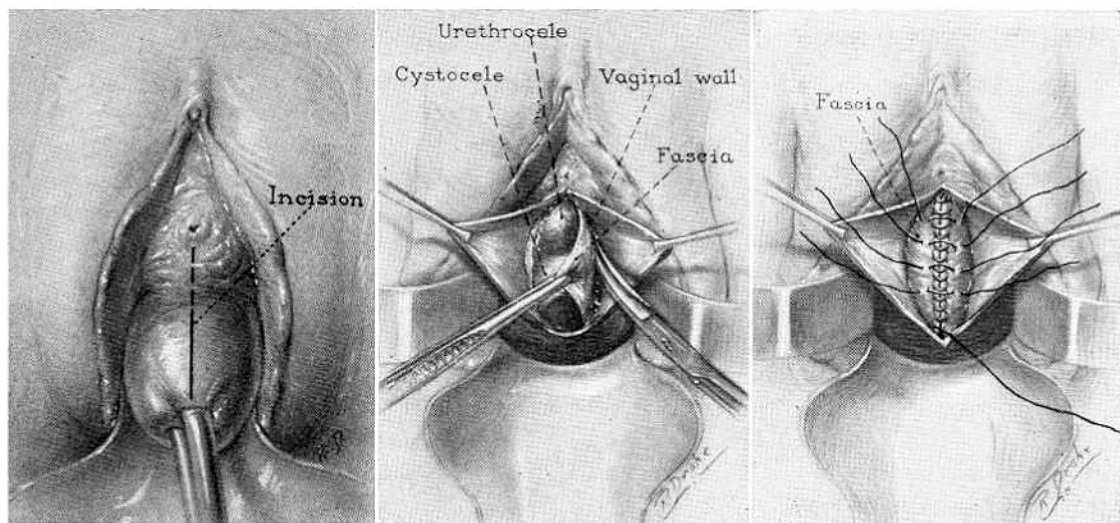


FIG. 1

FIG. 2

FIG. 3

FIG. 1. The cervix is pulled down as far as possible with a tenaculum. A vertical incision is made entirely through the vaginal wall.

FIG. 2. The vaginal flaps are further dissected up to the external urethral meatus and the pubocervical fascia is separated from the vaginal wall with Mayo scissors.

FIG. 3. The fascia is brought together with a continuous catgut suture (no. 1 chromic) beginning at the lowest point and ending near the external urethral meatus. A few interrupted silk sutures are placed secondarily.

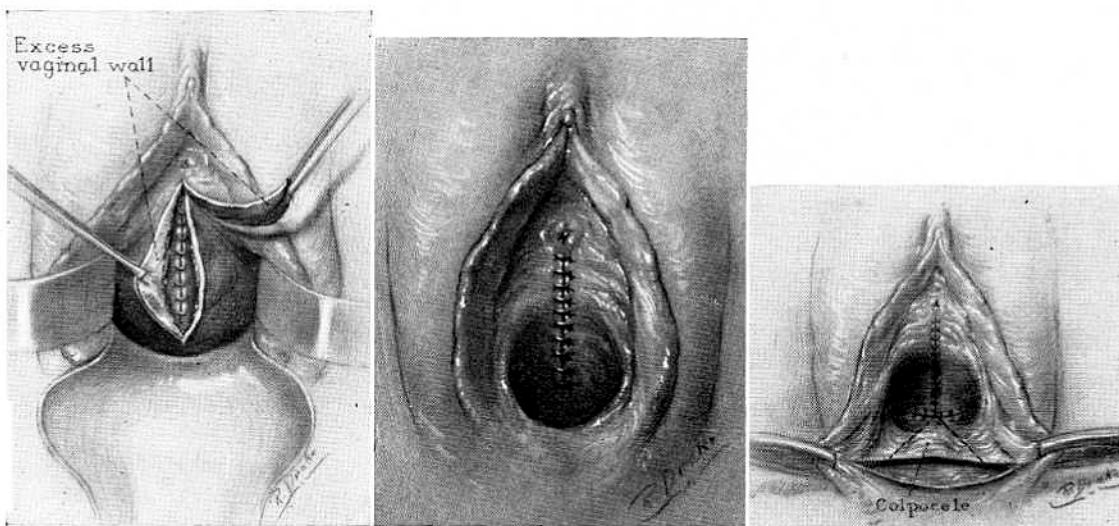


FIG. 4

FIG. 5

FIG. 6

FIG. 4. The excess portion of the vaginal wall is carefully removed, leaving a sufficient amount to be closed without tension.

FIG. 5. The completed operation maintaining the bladder and urethra in normal position.

FIG. 6. Repair of rectocele: exposure of the perineum and that portion of the posterior vaginal wall to be excised.

the torn edges of the pubocervical fascia back together in the midline with an absorbable suture, infolding and elevating the bladder and urethra as one proceeds upward to the external urethral meatus (Fig. 3). Since this is potentially a non-sterile field, I believe it is wise to use a few non-absorbable interrupted sutures of fine silk which more adequately protect against a recurring cystocele or urethrocele. These sutures must be carefully placed so as not to put tension on the bladder or in any way to produce constriction of the urethra. The vesical wall and urethra must be able to contract or else there will be discomfort and some degree of urinary incontinence.

When the cervix is held back with a small gauze pack the excess portion of the vaginal wall can be more accurately excised and approximated in the midline by interrupted catgut sutures (Fig. 4). The vaginal wall has the ability to adjust itself, so that one does not want to err by removing too much of it. The scar will become rigid and frequently painful. The appearance after completion of the operation is shown in Figure 5.

The postoperative care is simplified as much as possible. A catheter of some indwelling type is particularly necessary, and one should not ask the patient to use the bed pan for three days. The catheter can usually be removed after three days but it may be required for eight to 10 days, especially if there had been quite a degree of incontinence. Most patients can leave the hospital in seven to 10 days, but I prefer to observe them postoperatively in the office or dressing station until 18 to 21 days have elapsed and they are voiding normally.

RECTOCELE AND RELAXED PELVIC FLOOR

Rectocele results from moderate or severe stretching or tearing of the rectovaginal fascia. The muscles that compose the perineum as a rule are similarly damaged. Repair of the rectocele and perineum consists of restoring these tissues to their normal anatomic position or relationship one to the other. Rectocele may be classified as moderate to severe. In most cases only a small portion of the posterior part of the vaginal wall needs to be excised together with the scar tissue of the perineum in order to make the repair.

The technic described and illustrated herein is that employed for repair of rectocele in associa-

tion with vaginal hysterectomy and in most instances is representative of that used for a severe degree of rectocele. Tenacula are placed just opposite the torn edges of the hymen and the tissues are placed under tension so that the excessive skin or scar of the perineum and excess portion of the posterior vaginal wall can be excised (Fig. 6). The excess skin of the perineum and excess portion of the posterior vaginal wall, when a vaginal hysterectomy is being performed, then are excised up to the vaginal vault. The levator ani muscles and the rectovaginal fascia are exposed. The first suture in the repair is placed high in the vaginal vault and brings together the torn fascia and the vaginal wall; this procedure restores the rectovaginal fascia over the rectum to maintain the rectum in position (Fig. 7). This stitch is a lock stitch and continues outward to near the perineum. The levator ani muscles and perineum are restored with interrupted sutures (Fig. 8). Colles' fascia is brought together over the perineum with interrupted sutures (Fig. 9). The skin of the perineum is closed with interrupted catgut sutures (Fig. 10).

ENTEROCELE

An enterocele may be congenital, acquired or postoperative. The *congenital* type is due to a developmental defect of the pelvic fascia between the uterosacral ligaments and the rectum. The *acquired* type appears in the multipara but follows an inherent weakness in the pelvic fascia in the same location as that in the congenital type of enterocele. The *postoperative* type is in my experience the most common and, I believe, is due indirectly to an inherent defect in the pelvic fascia which was not evaluated properly during the primary operation, such as vaginal hysterectomy or total abdominal hysterectomy.

Technic. Various methods have been described for repair of enteroceles; for these the vaginal approach, abdominal approach and a combination of both have been employed. The technic described herein deals only with the vaginal approach which has proved most efficient.

The edges of the vulva are grasped with tenacula, one on each side, in order that the posterior wall of the vagina may be seen. A Deaver retractor placed beneath the bladder will adequately expose the enterocele or hernia (Fig. 11). The excess posterior vaginal wall is excised

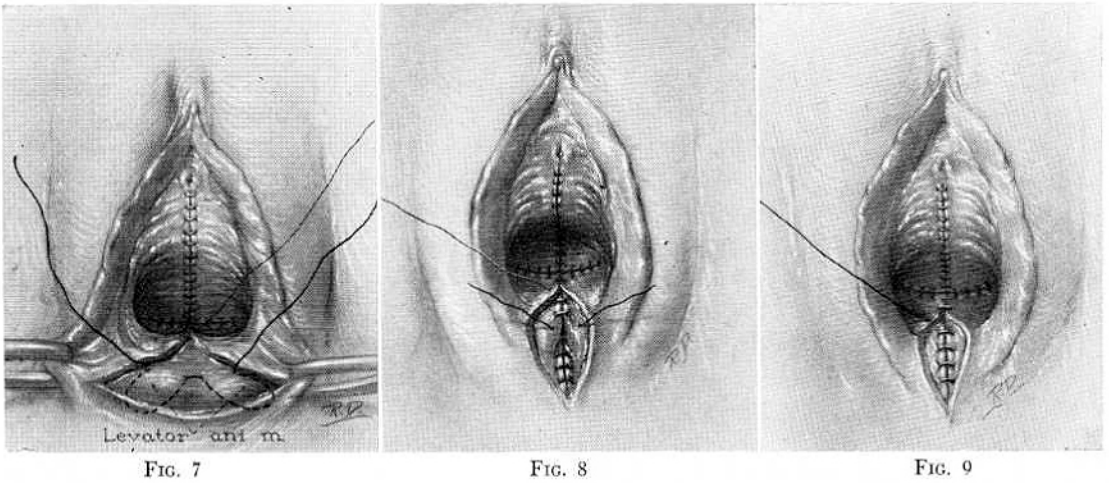


FIG. 7. Repair of rectocele: The excess skin and excess portion of the posterior vaginal wall have been excised up to the vaginal vault. The first suture is placed in the vaginal vault.

FIG. 8. Levator ani muscles have been brought together with interrupted stitches. Colles' fascia is brought together over the perineum.

FIG. 9. Repair of rectocele: the perineum has been restored and Colles' fascia has been repaired with interrupted sutures.

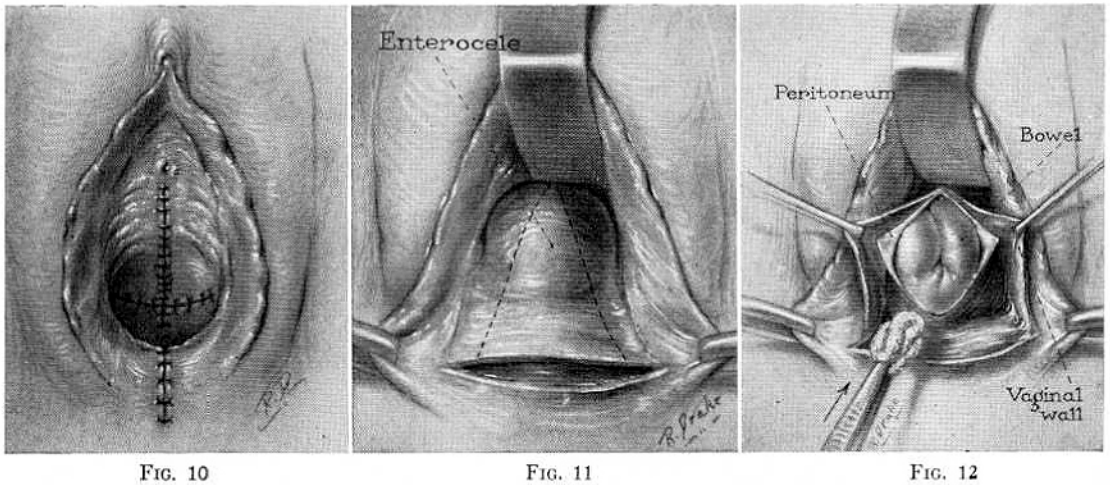


FIG. 10

FIG. 11

FIG. 12

FIG. 10. Repair of rectocele: the skin of the perineum is closed.

FIG. 11. Repair of enterocele: exposure of enterocele.

FIG. 12. Repair of enterocele: the sac is opened.

from the perineum to the vaginal vault and the hernial sac is exposed. The sac is opened (Fig. 12) and the bowel is exposed. The peritoneal sac is carefully dissected away from the rectum and the uterosacral ligaments. This is just as important as in any other type of hernia and, therefore, requires a high ligation of the sac. The dissection of this sac is shown in Figure 13a and in Figure 13b the length of the sac is revealed by torsion. A stick tie is placed around the stump (Fig. 13c).

After complete excision of the peritoneal sac,

accurate repair must be done to cure and prevent subsequent recurrence. The various structures involved in this repair are shown in Figure 14. The peritoneal stump is located just beneath and now posterior to the uterosacral ligaments. The sutures are placed through the uterosacral ligaments for about one inch (2.5 cm.) to the point at which the perirectal fascia is picked up and brought together over the rectum toward the perineum (Fig. 15). The vaginal flaps are approximated with a continuous lock stitch and the operation is completed in the same way that operations to re-

pair lacerated perineum and rectocele are completed (Fig. 16).

COMPLETE LACERATION OF PERINEUM

Repairs of completely lacerated perineums may vary somewhat depending on whether the operation is carried out immediately after delivery or months or years later, but the surgical principles involved are essentially the same. When repair is done some months or years after delivery, however, it is necessary to remove all scar tissue and mobilize the rectum. The description of the tech-

nic in this chapter will be confined to this type of procedure.

Technic. All scar tissue of the perineum is first excised together with a strip of the posterior vaginal wall well above the scarred portion of the rectum. The lower margins of the incisions end at the dimples formed by the torn anal sphincter (Fig. 17a). The torn ends of the sphincter are grasped with forceps on each side and traction is placed on the rectum. The scarred rectum is completely excised. The line of incision is indicated in Figure 17a by the dotted lines. The success of the operation depends on meticulous care and attention to repair of the rectal wall. The repair is exactly the same as that used in the intra-abdominal repair of the wall of the large intestine. At least three rows of absorbable sutures must be used. The first row of sutures begins in the mucosa at least 1 cm. above the end of the rectal incision (Fig. 17b). This row approximates the mucosa of the bowel and ends at the anal sphincter; it restores the normal length of the rectum at this point. The second row of sutures begins 2 cm. beyond the first suture and includes the muscularis of the rectal wall and continues outward over the united mucosa and ends at the anal sphincter (Fig. 18a). The third row of sutures begins 2 cm. beyond the second suture and ends like sutures 1 and 2. This third row of sutures restores the rectal wall and sphincter to their normal positions (Fig. 18a). The perineum and levator ani muscles are closed over the rectum by interrupted sutures (Fig. 18b). The fourth

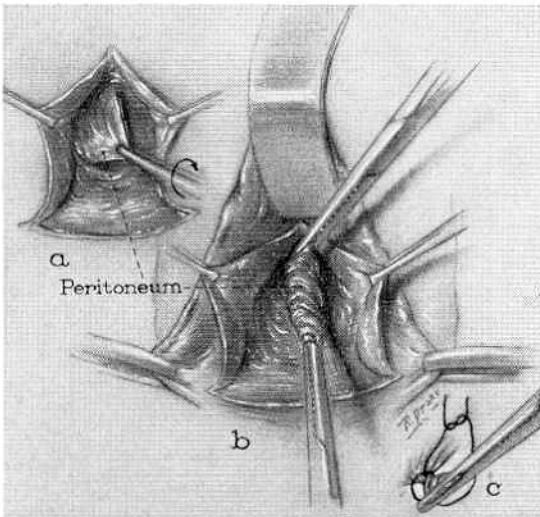


FIG. 13. Repair of enterocele: (a) dissection of sac, (b) length of sac, (c) a stick tie is placed around the stump.

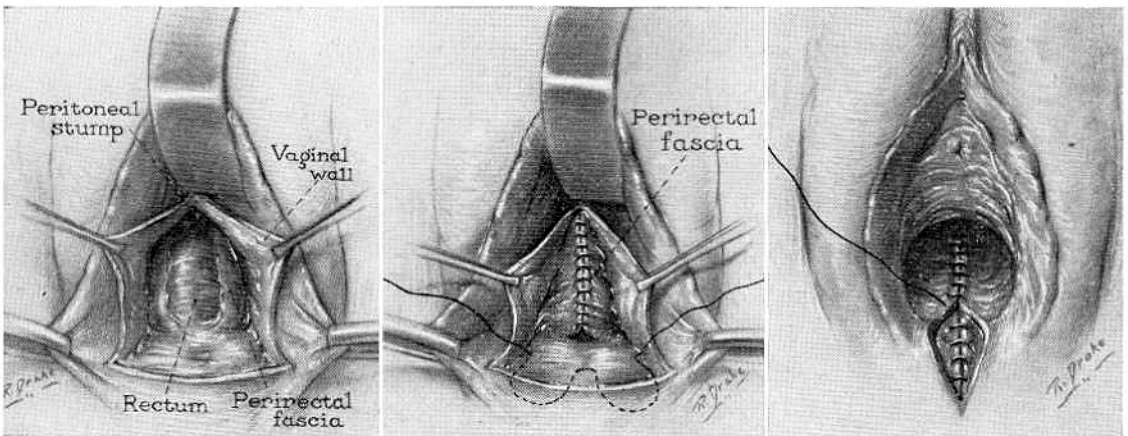


FIG. 14

FIG. 15

FIG. 16

FIG. 14. Repair of enterocele showing the various structures involved.

FIG. 15. Repair of enterocele: placement of sutures.

FIG. 16. Repair of enterocele completed, last row of perineal repair sutures started.

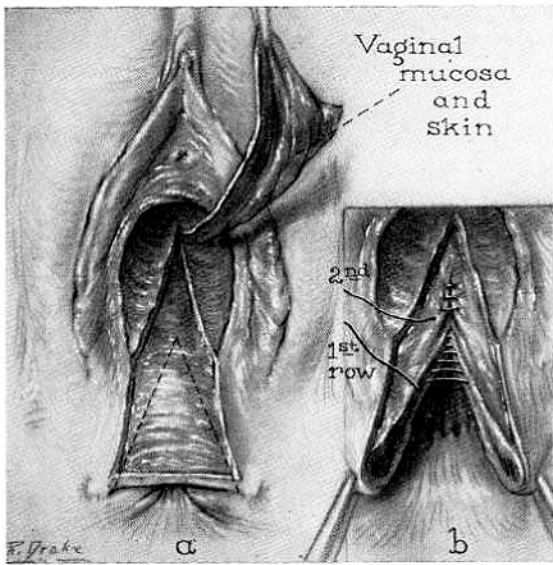


FIG. 17

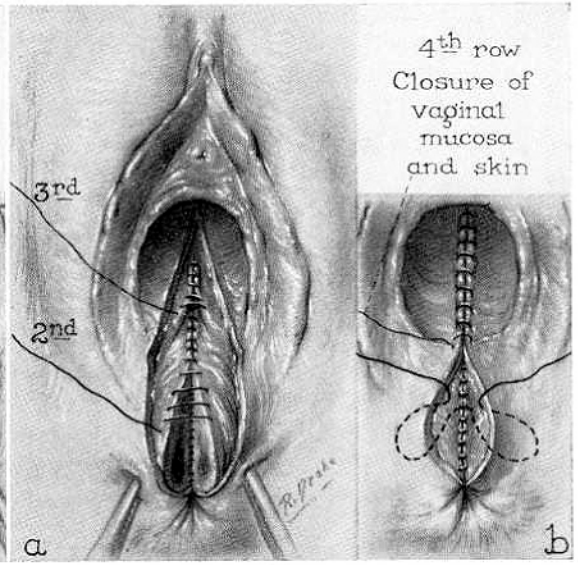


FIG. 18

FIG. 17. Repair of complete lacerations of the perineum: (a) lower margins of the incision; (b) placement of first and second row of sutures.

FIG. 18. Repair of complete lacerations of the perineum: (a) second and third row of sutures; (b) fourth row of sutures.

row of sutures closes the vaginal wall with a locked stitch. Care should be taken not to include any rectal tissue in these sutures and the stitches should be placed so that every bit of dead space between the rectal wall and vaginal wall is obliterated. The skin of the perineum may be closed with interrupted catgut sutures (see Fig. 10).

RECTOVAGINAL FISTULA

The technic of repair of rectovaginal fistulas of

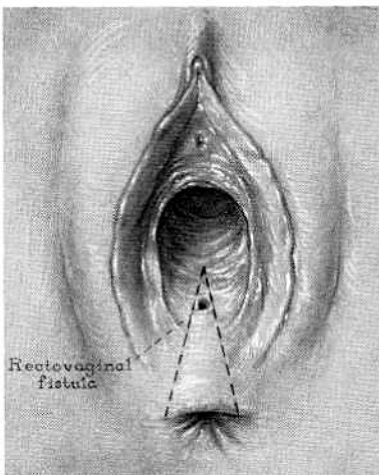


FIG. 19. Rectovaginal fistula: the portion of scar tissue to be excised is included within the dotted lines. Repair as for complete lacerations of perineum (q.v.).

all types is essentially the same. The basic principle in this repair is the complete excision of scar tissue around the fistulous opening. Then, the repair must be carried out in layers. When a portion of the rectal wall is excised together with the fistula, the entire rectal wall must be repaired as outlined in the section on complete laceration of the perineum.

Three types of fistulas should be listed; namely, (1) that which occurs following delivery; (2) that which develops subsequent to repair of a rectocele or complete laceration of the perineum; and (3) that which develops insidiously in conjunction with an abscess in an anal crypt.

As a general rule a rectovaginal fistula located in or near the perineum is associated with considerable incompetency of the perineum and anal sphincter so that it is preferable to divide the remaining tissue of the anal sphincter, perineum and rectal wall up to the fistula as the first step in the operative procedure. It is essential that the anterior portion of the rectal wall be restored and its normal length maintained down to the anus. The division of the tissue from the sphincter to the fistula makes it possible to determine accurately the extent of the scar and to excise it completely (Figs. 18a and 19). The repair of the rectal wall, perineum and vaginal wall is the

same as that described for complete laceration of the perineum and shown in Figures 17 and 18.

The surgical procedure for a rectovaginal fistula which has developed from an infected anal crypt is somewhat different. This fistula develops exactly as a fistula in ano; the only difference is that the infected anal crypt lies near the vaginal wall and the abscess developing in the crypt extends to the surface of the vagina and drains through the vagina. When this occurs there is a communication between the vagina and the rectum. Surgical repair must be delayed until all infection in the crypt has subsided; otherwise, the fistula will recur from an abscess in the line of suture. When infection persists for some time, it is advisable to divide the anal sphincter, perineum

and rectal wall up to the fistula and let this entire region heal for several weeks or months before the continuity of the rectal wall, perineum and anal sphincter are restored surgically.

Occasionally a fistulous opening presents itself through the perineal body or between the sphincters. It is then wise indeed to consult a proctologist, who will determine the accurate course of the fistula and lay it open by cutting through the sphincters only. Then, by careful and adequate postoperative attention the wound will heal and the anus may be completely continent without further surgical procedures. If it is not continent repair should be done when all evidence of infection has subsided, which is usually four to six months.