# The Latzko

## A high-value, versatile vesicovaginal fistula repair

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The Latzko transvaginal vesicovaginal fistula repair is a highly effective treatment for even complex fistulae. Our video demonstrates the Latzko repair technique and its application in a variety of circumstances that include fistula management concurrent with treatment of uterovaginal prolapse, after complex urologic surgery, and in the postpartum setting after urologic injury. The technique of the procedure varies only slightly in these diverse conditions. The basic steps begin with hydro-dissecting the epithelium from the underlying fascia surrounding the fistula tract, followed by denuding the epithelium within a circumscribing incision around the fistula. The fistula is then closed with a purse-string suture placed just outside the epithelialized tract. Next, several layers of imbricating sutures are placed to close the defect. Finally, the vaginal epithelium is closed.

**Key words:** complex fistula, prolapse, vesicovaginal fistula

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### Problem

A posthysterectomy vesicovaginal fistula is a devastating complication for both patient and surgeon. The Latzko repair has several advantages over other techniques. This high-value procedure minimizes pain, morbidity, and cost. Reported success rates for this vaginal approach range from 93−100%,[1,2] which is similar to abdominal repair success rates.[3,4] The Latzko repair is likely underused because of prevailing myths, which include that it cannot be used for complex fistulae, cannot be performed with a uterus in place, and shortens the vagina.

### Our solution

We developed a video to review the steps of the Latzko repair, provide tips and tricks for successful repair, and illustrate its adaptability (Video). Optimal exposure is achieved by the use of a Lone Star retractor (Cooper Surgical Inc, Trumbull, CT) and a posterior weighted speculum (Figure 1, A). A pediatric Foley catheter in the fistula allows for downward traction. This exposure reliably makes even a "high" fistula accessible. Vasopressin injection through a small needle to hydro-dissect the epithelium off of the underlying fascia greatly simplifies de-epithelization.

Briefly, a circumscribing incision is made 2−3 cm around the fistula. The epithelium is completely denuded (Figure 1, A). The fistula tract is left in situ to prevent fistula enlargement and postoperative hematuria. A purse-string suture is placed just outside the epithelialized tract with a fine absorbable suture. As the suture is tied down, the Foley is removed. Imbricating interrupted sutures are then placed, with care taken not to leave a channel at the base of the defect. One to 2 subsequent imbricating suture layers are placed (Figure 1, B). The vaginal epithelium is closed with running 4-0 suture (Figure 1, C).

The Latzko repair is more versatile than often considered. For example, we previously published a case of a large vaginal vault prolapse with vesicovaginal fistula after hysterectomy (Figure 2, A).[5] The same Latzko repair steps described earlier were completed. In this case, a Michigan 4-wall sacrospinous ligament suspension was then performed. The diamond-shaped incision that was used in this operation was positioned medial to the fistula repair to avoid tension on the closure (Figure 2, B).

In the second variation, a 54-year-old woman had undergone a nephroureterectomy for urothelial malignancy. This surgery was complicated by vaginotomy, which was repaired with an omental flap. She experienced urinary leakage several days after surgery because of a 1.5-cm vesicovaginal fistula that was lateral to the cervix (Figure 3, A). Given the size of the defect, the closure technique varied from the standard; a series of imbricating interrupted stitches was used for the first

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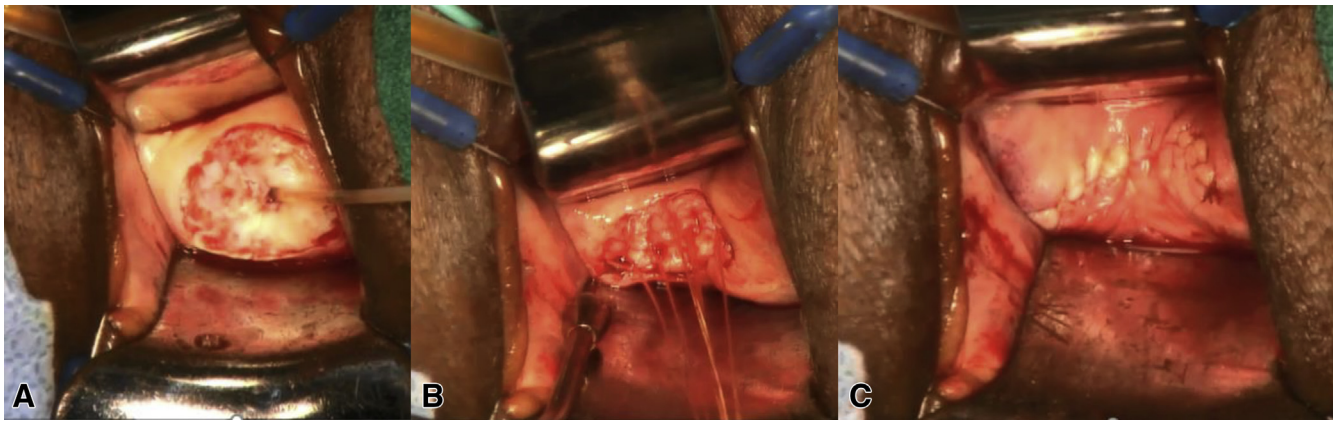
**FIGURE 1**
**Basic Latzko repair steps**




**A,** The epithelium is denuded within the circumscribed area. **B,** Several imbricating suture layers are placed. **C,** Vaginal epithelium is closed.

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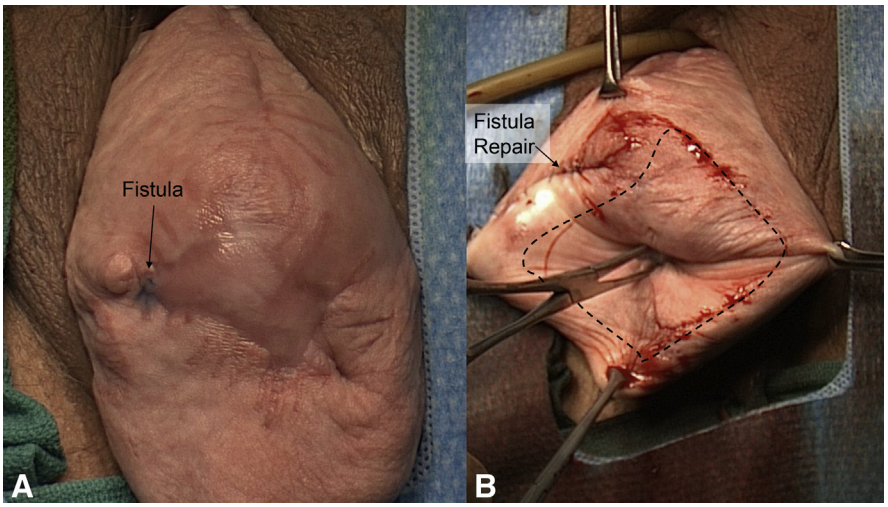
layer instead of a purse-string. Imbricating and epithelial closure sutures were then placed, and the side of the cervix was sewed to the lateral vaginal wall (Figure 3, B).

In the third variation, the patient had a complex fistula between a bladder diverticulum and the vagina after an emergency cesarean delivery that was complicated by cystotomy and bilateral ureteral injuries. She previously had undergone 2 ureteral reimplantation surgeries. Fluoroscopy demonstrated the large bladder diverticulum that had been formed by a previous urinoma and contrast extravasation into the vagina (Figure 4). Imaging confirmed that the ureter was not involved in the fistula, and a Latzko repair with cervical laceration closure was planned (Figure 5). After this operation, she had complete resolution of her urinary leakage and no hydronephrosis.

In summary, the Latzko vesicovaginal fistula repair is a versatile, minimally invasive outpatient procedure. With its low complication and high success rates,

**FIGURE 2**
**Large vaginal vault prolapse with vesicovaginal fistula after hysterectomy**




**A,** The fistula is visualized easily after methylene blue is instilled into the bladder. **B,** The diamond-shaped incision for Michigan 4-wall sacrospinous ligament suspension is outlined medial to the fistula repair site.

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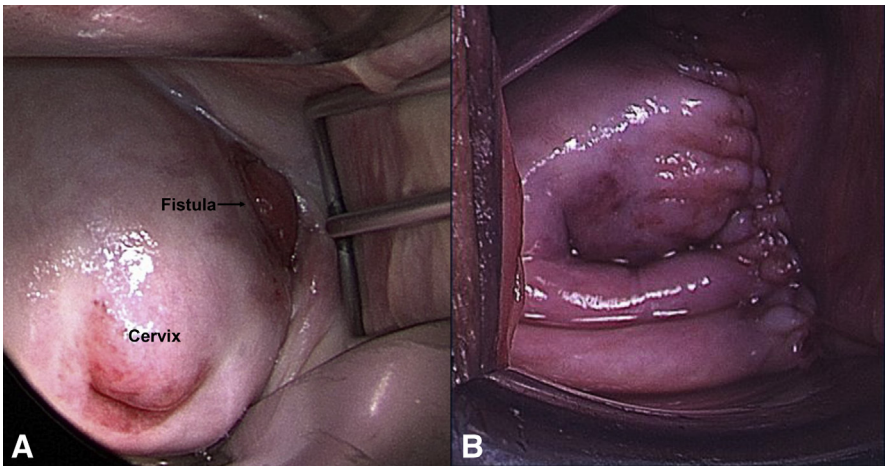
**FIGURE 3**
**Vesicovaginal fistula lateral to the cervix**




**A,** Preoperative: the vesicovaginal fistula after hysterectomy is located lateral to the cervix. **B,** Postoperative: the Latzko fistula repair is completed.

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it should be considered as a first-line treatment to minimize the morbidity that is associated with an abdominal approach. Even in seemingly complex cases and with the uterus in situ, the Latzko repair can be used successfully.

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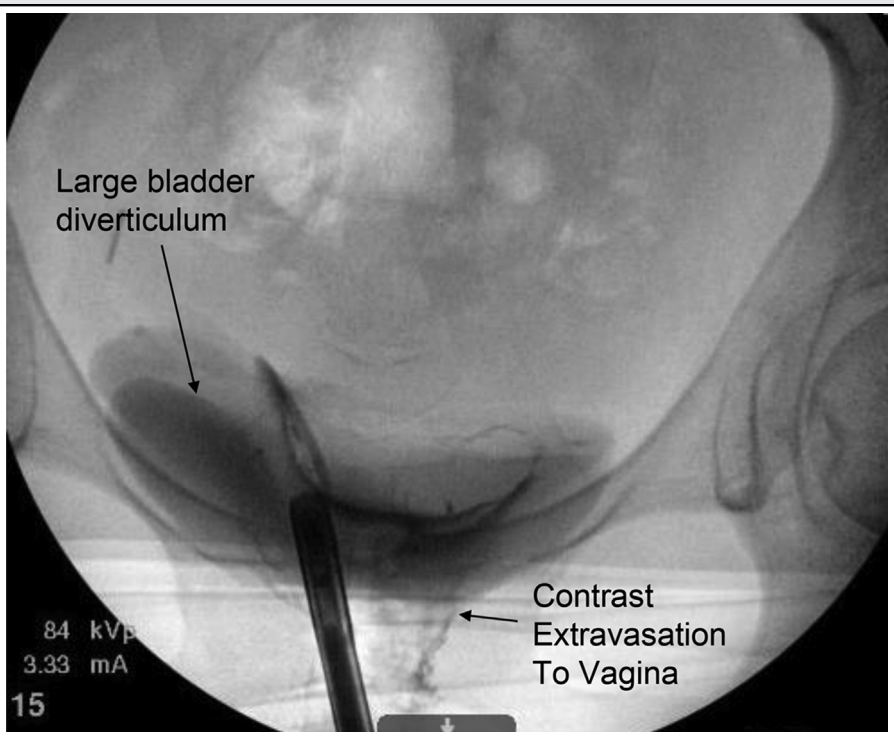
**FIGURE 4**
**Complex fistula between a bladder diverticulum and the vagina (fluoroscopy)**




Fluoroscopy demonstrates a large bladder diverticulum formed by a previous urinoma and contrast extravasation into the vagina through the vesicovaginal fistula.

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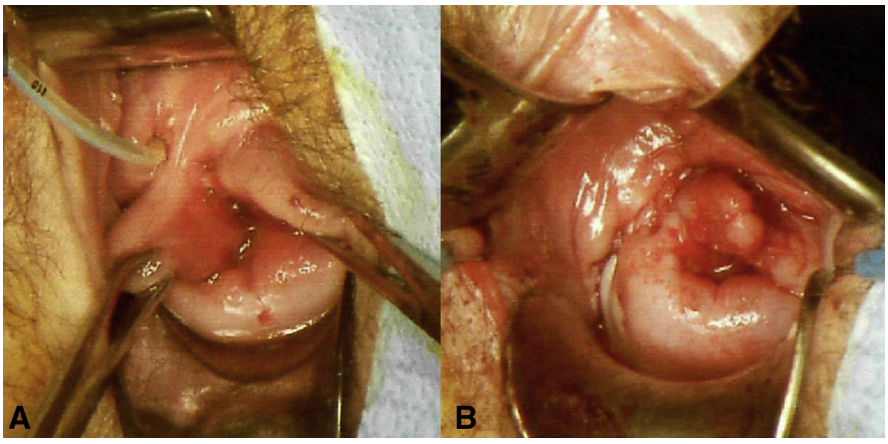
**FIGURE 5**
**Complex fistula before and after Latzko repair**




**A,** Preoperative: the pediatric Foley catheter is placed though the vesicovaginal fistula; there is a chronic cervical laceration at 12 o'clock. **B,** Postoperative: the Latzko vesicovaginal fistula repair and cervical laceration closure are completed.

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