

Post Penile Inversion Vaginoplasty Clinical Examination: Considerations and Techniques

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Penile inversion vaginoplasty (PIV) is considered a first-line approach to genital surgery in those with gender dysphoria due to the absence of a vulva and/or vagina.¹ During PIV, penoscrotal genital structures and local tissues are disassembled (Fig. 1A, B) and reassembled into the vulva and vagina (Fig. 1C, D), creating aesthetically feminine, sensate external genitalia, and a vagina capable of receptive intercourse.² A basic understanding of the procedure can help to facilitate anatomically informed postoperative examinations. Beyond the scope of this article, common PIV techniques have been thoroughly reviewed elsewhere.²⁻⁴ Although approaches to PIV may differ, the anatomic changes outlined in Figure 1 are our approach. Care is taken to preserve sexual function and facilitate gender-congruent urinary function, that is, seated urination.² In preparation for PIV, patients typically undergo scrotal-perineal hair removal to prevent transferring hair into the neovagina.⁴

Postoperatively, patients will generally have a urinary catheter and packing within the vaginal canal for about a week. Ecchymosis, edema, and delayed wound healing are common in the immediate postoperative period. Six months following surgery, most of the acute issues will have resolved and general gynecologic examinations can be continued (Video). (See Video [online], which displays an examination of a 62-year-old transgender woman 8 months after PIV. Of note, there is significant variation in the aesthetic outcome of the vulva after a PIV. The video focuses on the component evaluation.)

POST-PIV PELVIC EXAMINATION

Ensure that your examination room is appropriately set up for evaluation. Equipment includes an examination table with stirrups, adequate lighting, and a mayo stand with vaginal speculum, lubrication, cotton-tip applicators, and silver nitrate sticks. In our experience, a positionable bedside light is sufficient, though some providers may prefer lighted speculums. The patient is generally undressed from the waist down with a sheet used for privacy and positioned in the stirrups when the examination begins.

Before beginning any gynecologic examination, it is important to create a safe space for the patient by taking a patient-centered and trauma-focused approach. Ask for the patient's pronouns and terminology for their anatomy and respect this throughout the examination.⁵ Inform patients that they will feel your touch before beginning the examination and verbalize each step of the examination as you go. A mirror can help with patient participation in the examination.

Starting with an initial touch outside the genitals can prepare the patient for the rest of the examination. Examine the external appearance of the vulvar anatomy and palpate for local masses within the labia majora. Masses can represent a variety of pathology.⁶ (See table, Supplemental Digital Content 1, which displays common labial masses after penile inversion vaginoplasty (PIV), <http://links.lww.com/PRSGO/C41>.) The most common etiologies include residual erectile tissue and integumentary remnants, such as epidermal inclusion cysts.⁶ Residual cavernous tissue typically presents with labial engorgement and pain with sexual arousal, whereas residual spongy tissue may present with narrowing of the vaginal canal during arousal.⁶ Resection of the erectile tissue remnants often leads to resolution of these symptoms. Using a cotton-tip applicator to assist with visualization of the structures, the labia minora, clitoral hood, clitoris, vulvar cleft, and urethral meatus were examined. The labia were reconstructed using scrotal tissue and may have a rugated appearance. Look for the presence of hypergranulation tissue around the vulva. The posterior labia majora are common sites for delayed wound healing. Assess for clitoral sensation using the tip of the cotton-tip

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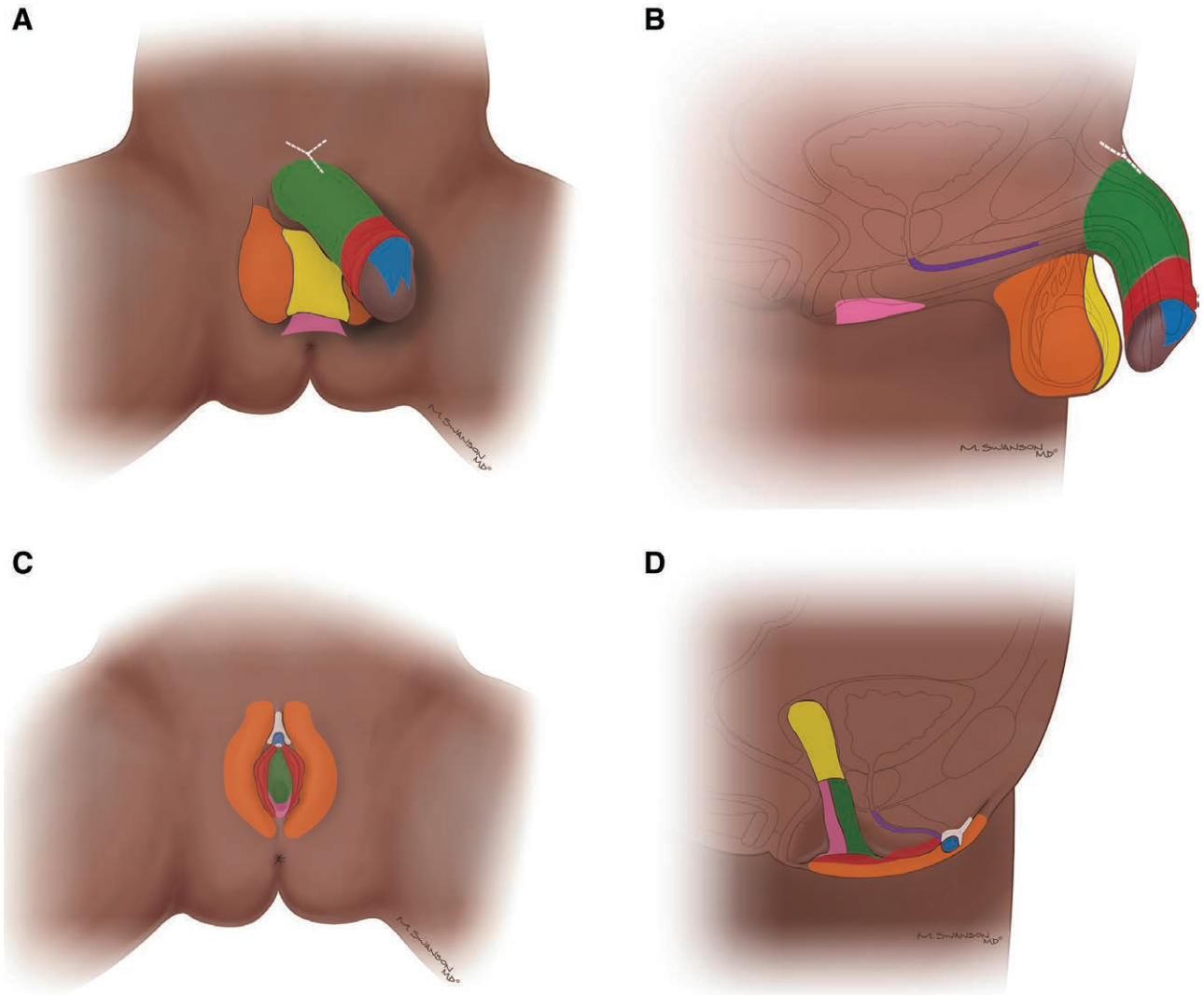


Fig. 1. Anatomic changes after PIV. A, Anterior view of anatomy before PIV. B, Lateral view of anatomy before PIV. C, Anterior view of anatomy after PIV. D, Lateral view of anatomy after PIV. Colors are denoted according to their preoperative or postoperative origins. Preoperative—White: site of planned opening for clitoris and urethra after penile inversion; Green: penile shaft; Red: distal 2–3 cm of penile shaft or prepuce in noncircumcised individuals; Blue: portion of the glans penis; Orange: lateral aspects of the scrotum; Yellow: central 5–6 cm × 12–15 cm of scrotum; Purple: proximal portion of the urethra after the prostate; and Pink: posterior perineal flap. Postoperative—White: clitoral hood and small portion of the labia minora; Green: anterior portion of the introitus and vaginal canal; Blue: clitoris; Orange: labia majora; Yellow: apex of vaginal canal; Purple: foreshortened urethra and urethral meatus; and Pink: posterior portion of introitus and vaginal canal.

applicator. Further sensation testing can be completed, and this has been previously described.⁷ Moving inferiorly, look for stenosis at the urethral meatus. Issues with urinary function and stream should be elicited from the patient report and persistent voiding symptoms warrant a referral to urology.

Next, assess the depth and patency of the vaginal canal. Although most patients can tolerate a standard sized speculum, beginning with a digital examination to assess for decreased depth, stricture, or webbing can be considered. Consider using an anoscope for visualization if the patient expresses difficulty with dilating or receptive intercourse.⁵ Possible sites of stricture include where the pedicled perineal flap was sewn to the penile

tube or the full thickness scrotal graft was sewn to the apex of the vagina. In our experience, we have found that angling the speculum slightly more posteriorly has allowed for smoother examination by speculum. When moderate resistance is felt, open the speculum and inspect for hypergranulation tissue along the apex and walls of the vaginal canal. If hypergranulation is noted, treatment with silver nitrate is applicable. Oftentimes we have found that persistent hypergranulation tissue within the vaginal canal responds to treatment with dilute vinegar rinses or metronidazole and azithromycin, similar to bacterial vaginosis. Gently remove the speculum and wipe any remaining lubrication off the patient.

Postoperatively, common issues include urgency or stress urinary incontinence and stenosis or shortening of the vaginal canal. Urinary incontinence often resolves spontaneously, although patients may never be able to hold as large of urine volumes as they did preoperatively. Stenosis or shortening of the vaginal canal can become a significant quality of life issue and may require surgical revision. Aesthetic outcomes are an important consideration, as well. Although satisfaction with vulvar appearance is typically high,¹ some patients may present with concerns about the spacing and/or size of their labia or clitoral hood. Surgical revision should be considered based on the significance of these concerns to the patient. It is also important for patients to be aware that they still have a prostate and will need examinations like anyone with a prostate when the appropriate age is reached. Annual examinations for sexually transmitted diseases and skin cancer (vulva and intravaginal) should be completed, as well.

CONCLUSIONS

PIV is a procedure that more plastic surgeons are offering. This article presents an approach to the postoperative PIV patient gynecologic examination.

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