Commentary

Men's health and transgender surgery: a urologist's perspective

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Genital gender confirming surgery (GCS) offers a wide array of options for people who identify as either transgender or gender non-conforming. The most commonly selected options include creation of a neovagina (male to female, MtF) or a neophallus (female to male, FtM). GCS is somewhat unique among other urologic procedures in that for patients the product of the reconstruction is such a radical departure with respect to each patient's sense of "self" related to their genitals since birth, and, for the fact that the product of the reconstruction is in such plain view.

Managing patient expectations

For surgeons, patient expectations related to appearance play a greater role with GCS than other urologic surgeries. Because the principal long-term complications associated with GCS are decidedly urologic—sexual function, genital prosthetics, and urinary function—transgender patients will often follow-up with their urologist for years to come. It is especially important for the urologist to inform and help guide patients' expectations regarding their reconstruction—as this helps optimize long-term outcome quality and patient satisfaction.

Pre-operative perceptions of normal and ideal genital dimensions

Pre-operative discussion between transgender people who elect to undergo GCS and their surgeon almost always includes discussion of what the patient perceives as an "appropriate" appearing penis or vagina and how they want the finished result to look. From the surgeon's standpoint, this discussion is also an opportunity to temper patient expectations with a review of surgical options (which often depend heavily on the availability of adequate and sufficiently abundant tissues each patient's body has to offer for surgical reconstruction), and the degree to which these can best meet the patient's expectations.

Perceptions of "ideal" genital dimensions undoubtedly vary among individuals, but generally for men in Western Societies, these tend to favor larger size. If a man with a large penis is considered "well endowed", (for many trans women) it follows that a comparably endowed woman must have sufficiently great vaginal depth to accommodate a large penis. As most transgender people have had to wait many years for something that they have never had, it is possible that they internalize such cultural ideals about genital size and appearance to a greater degree than *cis*-gendered people- who have already had a lifetime to come to terms with their genital's dimensions.

Transgender women, vaginal depth and surgical options

In my experience, a reasonable start to this pre-operative discussion with transgender women concerned about the depth of their neovagina for penile intercourse (or transgender men concerned about the dimensions of their neophallus) is to mention what numerous studies of natal men find is the average flaccid and erect penile length (tip to visible base; 9.2, 13.1 cm) and girth (9.3, 11.7 cm) among normal healthy men (1). These numbers are helpful to patients to dispel unrealistic expectations from rumor and the media of what is "normal." This discussion is also the opportunity for surgeon to fully inform them about the potential risks associated with pursuing excessively great penile dimensions or vaginal depth.

For example, for transgender women and gender non-binary people awaiting vaginoplasty it is important to first ascertain whether they want a vagina with a vaginal cavity

(not all trans and gender non-binary women do!), and if they do want a vaginal cavity, whether they understand the lifelong commitment to vaginal dilation and douching that having one requires.

For transgender women without a history of circumcision, the gold standard technique is penile skin inversion (where the shaft skin itself is inverted and passed, with the shaft base intact, into the neo-vaginal space). This alone generally yields sufficient skin for satisfactory neovaginal depth (minimum 4 inches). For those with an especially small penis or for circumcised patients who have intermediate stretched shaft-skin length, a discussion of potential strategies to augment depth is necessary. Use of full-thickness skin grafts (typically from unused scrotal skin) can be used to augment the penile shaft-skin tube. However, as these free grafts, they are subject to the risk of the graft not surviving. Use of a pedicled flap (e.g., an intestinal segment) to create the vaginal vault is another option for patients who do not have sufficient usable penile or scrotal skin, or, for salvage replacement of a stenosed or devitalized neovaginal cavity. The risks associated with surgical options to augment vaginal depth must be discussed to help patients with decision-making related to vaginal depth augmentation.

Neophallus length and surgical options

Transgender men and gender non-binary people who wish to undergo creation of a penis (phalloplasty) often have a fairly clear sense of the penile length and girth ranges that they would prefer. In my experience, these often exceed average values for *cis*-gendered men. This may be in part due to the fact that the male genitalia are anatomically completely within view, and, because many cultures idealize larger (versus smaller) male genitals. Once again, early discussions about potential phallus size should include mention of the mean penis length and girth values and range for natal adult men. It is important to emphasize that mean values are merely a reference though these are something for patients to be reassured by when they seek significantly above-average dimensions. For such patients, to maximize clinical outcomes and long-term patient satisfaction, it is essential to explain how excessively large dimensions can in fact be problematic for them.

Pitfalls related to genital dimensions

An obvious consideration is whether or not their desired phallus size exceeds dimensions compatible with penetrative intercourse. Excessive neophallus girth, for example, can be a challenging problem.

Another example is with regard to erectile function. To achieve erection, a neophallus requires implant of an erectile device, which must be anchored to bone. An excessively long phallus may not be compatible with the location of the tubing inlet of an inflatable cylinder, and may not afford selection of an appropriately sized cylinder based on available length-sizes from leading inflatable prosthesis manufacturers.

Surgical staging and time between stages

Another consideration to discuss is how a patient's choice to undergo urethral lengthening (creation of a neourethra) will delay penile prosthesis placement. In general surgeons defer implant of the prosthesis until it is clear that the patient is free from recurrent wound and urinary tract infections—which put the implant at risk. Recurrent infections can significantly delay proceeding to prosthesis placement, and if intractable, will require either foregoing penile prosthesis placement or abandoning urethral lengthening.

Erogenous sensation and orgasm

Orgasmic sexual function is another very important consideration for patients. Published studies of post-operative orgasm function in transgender women suggest that the vast majority of women are able to achieve orgasm. In my own experience it is rare for a transgender woman to not be able to achieve clitoral orgasm after vaginoplasty, and this is likely due to careful attention to preservation of the neurovascular bundle and limited use of electrocautery (always pin-point bipolar, and never monopolar) during the creation of the neoclitoris.

Surgical strategies to optimize erogenous sensation

For transgender men undergoing radial forearm or anterior lateral thigh-flap phalloplasty, studies by our group (2) suggest that two strategies offer erogenous sensation to the neophallus: (I) anastomosis of the dominant sensory nerve from the flap to one of the two clitoral nerves; (II) transposition of the clitoris to the superficial aspect of the phallus base. These same studies also identified another important factor related to post-op sexual function

in transgender patients: transgender men who could not achieve orgasm post-op were likely to have not ever experienced orgasm pre-op. The absence of a history of masturbation or sexual activity through adulthood is often due to the severity of the patient's gender dysphoria, which precludes physical intimacy. For this reason, for such patients, I always ask whether they are confident that they can achieve orgasm at a minimum by self-touching, and for those who cannot, I recommend exploratory self-stimulation (facilitated with sexual aids, when necessary) pre-operatively.

In sum, transgender patients awaiting GCS come to the pre-surgical discussion with their surgeon with a wide spectrum of assumptions, expectations, and unanswered questions. Given the complex array of surgical options that exist, patients can often only rely on their surgeon for reassurance, guidance, and to inform their expectations—particularly with respect to genital dimensions. Because the long-term sequelae of GCS are generally urologic (sexual and urinary function, prosthetics), it makes great sense for the urologist's perspective to be part of the pre-operative discussion.

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Footnote

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