SEXUAL MEDICINE REVIEWS

Feminizing Genital Gender-Confirmation Surgery

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ABSTRACT

Introduction: For many patients with gender dysphoria, gender-confirmation surgery (GCS) helps align their physical characteristics with their gender identity and is a fundamental element of comprehensive treatment. This article is the 2nd in a 3-part series about the treatment of gender dysphoria. Non-operative management was covered in part 1. This section begins broadly by reviewing surgical eligibility criteria, benefits of GCS, and factors associated with regret for transgender men and women. Then, the scope narrows to focus on aspects of feminizing genital GCS, including a discussion of vaginoplasty techniques, complications, and sexual function outcomes. Part 3 features operative considerations for masculinizing genital GCS.

Aim: To summarize the World Professional Association for Transgender Health's (WPATH) surgical eligibility criteria and describe how patients with gender dysphoria benefit from GCS, provide an overview of genital and non-genital feminizing gender-confirmation procedures, and review vaginoplasty techniques, preoperative considerations, complications, and outcomes.

Methods: A review of relevant literature through April 2017 was performed using PubMed.

Main Outcome Measures: Review of literature related to surgical eligibility criteria for GCS, benefits of GCS, and surgical considerations for feminizing genitoplasty.

Results: Most transgender men and women who satisfy WPATH eligibility criteria experience improved quality of life, overall happiness, and sexual function after GCS; regret is rare. Penile inversion vaginoplasty is the preferred technique for feminizing genital GCS according to most surgeons, including the authors whose surgical technique is described. Intestinal vaginoplasty is reserved for certain scenarios. After vaginoplasty most patients report overall high satisfaction with their sexual function even when complications occur, because most are minor and easily treatable.

Conclusion: GCS alleviates gender dysphoria for appropriately selected transgender men and women. Preoperative, intraoperative, and postoperative considerations of feminizing genital gender-confirmation procedures were reviewed. **Hadj-Moussa M, Ohl DA, Kuzon WM. Feminizing Genital Gender-Confirmation Surgery. Sex Med Rev 2018;XX:XXX–XXX.**

Key Words: Gender Dysphoria; Transgender; Gender-Confirmation Surgery; Gender Reassignment; Vaginoplasty

INTRODUCTION

Gender-confirmation surgery (GCS) is an effective and medically necessary treatment for many patients with gender dysphoria.[1] GCS enhances the benefits of psychotherapy, social transition, and hormone therapy to alleviate gender dysphoria by maximizing physical characteristics congruent with a patient's gender identity. Contemporary studies support that appropriately selected patients who undergo GCS experience relief from gender dysphoria and improved emotional well-being and quality of life (QOL).[1–3] Patients also benefit from a wide range of procedures to alter their secondary sex characteristics (Table 1).

This article is the 2nd in a 3-part series focused on the comprehensive treatment of gender dysphoria. In part 1, the diagnosis and non-operative management of gender dysphoria, including psychotherapy, social gender transition, and hormone therapy, were reviewed.[4] In part 2, surgical eligibility criteria, factors associated with regret, and benefits of GCS for transgender men and women are reviewed before focusing on feminizing gender-confirmation procedures, including an overview of genital and non-genital procedures, descriptions of vaginoplasty

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Table 1. Gender-confirmation surgery

	Masculinizing surgery	Feminizing surgery
Face	Lipofilling	Facial feminization
	Liposuction	Thyroid chondroplasty
	Facial masculinization (rare)	Hair reconstruction
	Voice modification surgery (rare)	Voice modification surgery
Body	Subcutaneous mastectomy	Augmentation mammoplasty
	Male chest contouring	Lipofilling
	Pectoral implants	Gluteal augmentation
		Waist lipoplasty
Genital	Hysterectomy	Orchiectomy
	Salpingo-oophorectomy	Penectomy
	Vaginectomy	Vaginoplasty + clitoro-labioplasty
	Metoidioplasty ± urethral lengthening	Vulvoplasty + clitoro-labioplasty
	Phalloplasty ± urethral lengthening	
	Scrotoplasty	
	Testicular prosthesis placement	
	Penile prosthesis placement	

techniques, postoperative outcomes and complications, and the authors' operative technique for penile inversion vaginoplasty (PIV). Part 3 will focus on masculinizing GCS and review ancillary procedures and services that round out multidisciplinary treatment of gender dysphoria.

GENDER-CONFIRMATION SURGERY ELIGIBILITY CRITERIA

Health care professionals treating gender dysphoric patients are well advised to follow the Standard of Care (SOC) recommendations published by the World Professional Association for Transgender Health (WPATH), the pre-eminent professional organization dedicated to promoting high-quality evidence-based care for transgender patients.[1] The SOC establishes a framework for communication and interaction between the multidisciplinary and often geographically dispersed health care professionals caring for individual transgender patients. The WPATH's guidelines have been criticized for being rigid and paternalistic but that is not their intent. Rather than being interpreted as fixed "rules," the SOC explicitly states that interventions should be individualized for each patient and that deviation from the WPATH's recommendations is appropriate at times.[1] In addition, the SOC is under constant review and revised as knowledge and experience with this patient population grows; the 8th version of the SOC is currently being updated and has not been released.

A critical factor for high-quality transgender patient care is assessment by a mental health professional (MHP) who is knowledgeable about the assessment and treatment of gender dysphoria.[1] When a qualified MHP confirms a patient's readiness for GCS, the MHP can provide a referral to the appropriate surgeon. The WPATH SOC specifies that referrals for GCS from qualified MHPs should report the following[1]:

- Patient's gender dysphoria is persistent and well documented
- Patient has the capacity to make a fully informed decision and consent for treatment
- Patient is the legal age of majority in a given country
- Patient's medical or mental health comorbidities, including any psychiatric disorders, are "reasonably well controlled" (for chest surgery) or "well controlled" for genital surgery.[1] Obviously surgery should not be performed on actively psychotic patients.

The WPATH encourages individualized treatment based on each patient's specific goals for gender expression and thus does not specify which procedures should be done, or in what order.[1] Patients and their surgeons should come to a mutual agreement about which surgeries to perform, taking into account the patient's goals for GCS, realistic expectations regarding postoperative esthetic and functional outcomes, risk of morbidity, recovery times, and cost.

Non-Genital Surgery

The WPATH SOC does not require any letters of referral for facial feminization or masculinization procedures or for thyroid laryngoplasty. These procedures can be performed before, after, or independent of breast or chest or genital GCS.[1] To satisfy WPATH eligibility criteria for breast or chest GCS, patients should obtain 1 letter of referral from a qualified MHP.[1] Cross-sex hormone therapy is not a prerequisite for breast or chest surgery, although the WPATH encourages transgender women to be treated with at least 12 months of feminizing hormones before breast surgery because estrogen will stimulate breast development. In the authors' experience, many patients are satisfied with the breast size they achieve with estrogen therapy alone. Natural breast tissue also optimizes and stabilizes the postoperative cosmetic result for patients who opt to undergo breast augmentation surgery.[1]