

SURGERY

Gender Confirmation Surgery: Guiding Principles



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ABSTRACT

Background: At this time, no formal training or educational programs exist for surgeons or surgery residents interested in performing gender confirmation surgeries.

Aim: To propose guiding principles designed to aid with the development of formal surgical training programs focused on gender confirmation surgery.

Methods: We use expert opinion to provide a “first of its kind” framework for training surgeons to care for transgender and gender nonconforming individuals.

Outcomes: We describe a multidisciplinary treatment model that describes an educational philosophy and the institution of quality parameters.

Results: This article represents the first step in the development of a structured educational program for surgical training in gender confirmation procedures.

Clinical Implications: The World Professional Association for Transgender Health Board of Directors unanimously approved this article as the framework for surgical training.

Strengths and Limitations: This article builds a framework for surgical training. It is designed to provide concepts that will likely be modified over time and based on additional data and evidence gathered through outcome measurements.

Conclusion: We present an initial step in the formation of educational and technical guidelines for training surgeons in gender confirmation procedures. **Schechter LS, D'Arpa S, Cohen MN, et al. Gender Confirmation Surgery: Guiding Principles. J Sex Med 2017;14:852–856.**

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Key Words: Gender Confirmation Surgery; Phalloplasty; Metoidioplasty; Vaginoplasty; Gender Surgery Fellowship

INTRODUCTION

Increased advocacy efforts and expanded third-party insurance coverage have improved access to health care for transgender and gender nonconforming individuals. As such, there has been a corresponding increase in the number of patients requesting gender confirming surgical procedures. The demand for these services

has outpaced the number of qualified providers. At this time, no formal training or educational programs exist for surgeons or surgery residents interested in learning about the care of transgender individuals. In fact, at the 2015 Annual Meeting of the American Society of Plastic Surgeons, an educational panel discussing gender confirming surgeries was offered for the first time. In contrast, our European colleagues have recognized the need for postgraduate certification and/or accreditation for performing gender confirming procedures, and they have begun examining these processes for the practicing surgeon. Furthermore, requests for surgery from other parts of the world such as Africa, Asia, and Central and South America highlight the need to develop international surgical training programs with recognized quality metrics that are adaptable to regional variations in practice patterns.

Within the community of gender surgeons, formal and informal discussions have taken place regarding certification and accreditation for surgeons performing gender confirmation surgery (Genital Surgery Meeting, Phillipsburg, Saint-Martin,

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February 28 to March 4, 2015; European Professional Association of Transgender Health, Gent, Belgium, March 12–14, 2015; Annual Meeting of the Danish Society of Plastic Surgery, Hindsgavl Castle, Middelfart, Denmark, April 23–24, 2015; International Symposium of the National Institutes of Health, Washington, DC, USA, May 7–8, 2015; and the Second Meeting of the European Association for Gender Surgeons, Brighton, UK, November 6, 2015). These conversations have suggested that there are variations in international practice patterns from a specialty perspective and an institutional perspective. As such, it is unlikely that a “one-size-fits-all” approach to providing gender care will meet the needs of all institutions and all providers throughout the world. While recognizing the diversity by which care is provided, this document is designed to highlight guiding principles to assist providers and institutions with establishing gender confirmation surgery programs.

As the demand for gender confirmation surgery services continues to increase, surgeons need to respond. A proactive approach incorporating and integrating theoretical knowledge with practical hands-on experience will allow us to care for individuals in an ethical, thoughtful, and responsible manner. Surgeons and surgery residents should be trained in the surgical care and the overall management of patients with gender dysphoria. Although it is our responsibility as surgeons to take the initiative in coordinating and developing short- and long-term action plans with the ultimate goal of establishing training programs for clinical care, the curriculum should be built on existing principles consistent with the Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People (SOC) guidelines established by the World Professional Association for Transgender Health (WPATH).¹

The WPATH is an international organization with a diverse membership composed of surgeons, primary care providers, mental health professionals, and advocacy groups already engaged in international education through its Gender Education Initiative. The Gender Education Initiative began its educational programming in 2015, and its purpose is “to increase access to competent and compassionate care for transsexual, transgender, and gender nonconforming people worldwide.” The mission and vision statements of WPATH indicate that its goals are “to promote evidence based care, education, research, advocacy, public policy, and respect in transgender health [and] to bring together diverse professionals dedicated to developing best practices and supportive policies worldwide that promote health, research, education, respect, dignity, and equality for transgender, transsexual, and gender-variant people in all cultural settings.”²

This document represents a template by which to establish a standardized method for surgical training in transgender care. Although it does not address every detail, we hope that through expert review and debate, surgical guidelines will continue to evolve. Importantly, the WPATH Board of Directors unanimously approved this article as the framework for surgical training for gender confirmation procedures.

MULTIDISCIPLINARY TREATMENT MODEL

No single discipline can satisfy all treatment needs for the transgender individual. Care is delivered in a collaborative fashion using a multidisciplinary approach.

The surgeon is part of a health care team that includes mental health professionals, primary care providers, endocrinologists, plastic surgeons, urologists, gynecologists, colorectal (or general) surgeons, otolaryngology/head and neck (voice) surgeons (OHNS), and midlevel practitioners. Additional providers including speech and physical therapists also are desirable. Furthermore, administrative and support staff, such as social workers, familiar with and sensitive to the needs of the transgender patient also are important. In addition, the use of case managers, provided by third-party payers and/or institutions, can assist with the coordination of procedures and the transition of care to the individual’s primary care provider. Although the composition of the multidisciplinary team can vary, consideration must be given to the possibility of participation of members by electronic means. Because of geographic and time constraints, electronic communication may represent a viable and meaningful method of participation for some members of the gender team.

EDUCATIONAL PHILOSOPHY

The surgeon plays a key role in the success of a comprehensive gender program. Therefore, it is essential that the surgeon be knowledgeable in the complexity of care of transgender individuals. An educational model should include didactic and theoretical knowledge as well as hands-on experience. Although surgeons agree that a learning curve exists, few studies have looked at the methods, timing, and required number of cases.^{3–5} For example, Leclère et al^{3,4} described four steps in the learning process for vaginoplasty: (i) each surgical step should be thoroughly reviewed with an expert, (ii) hands-on training should be performed on fresh cadavers, (iii) vaginoplasty should be performed under supervision from an expert, and (iv) vaginoplasty should be performed with an expert immediately available. Our model expands on the technical aspects, recognizing that surgical training also should incorporate a multidisciplinary model.

Here we describe a model that is currently being implemented at some institutions.

From an educational and practice perspective, the surgeon should assume an active and integral role in the care of transgender individuals. Although typically introduced to a transgender individual after mental health and medical evaluations, the surgeon should have an understanding of the patient’s previous treatments, including mental health and medical therapies. It is the responsibility of the operating surgeon to understand the diagnosis that has led to the recommendation for surgery, medical comorbidities that can affect the surgical outcome, the effects of hormonal therapy on the patient’s health, and the patient’s ultimate satisfaction with the surgical result.⁶

Therefore, in addition to the requisite technical knowledge and skill regarding specific surgical procedures, surgical education and training should include exposure to the entire multidisciplinary process, including the mental health evaluation and assessment, hormonal management, and details of pre- and postoperative care.

From a programmatic standpoint, continuing medical education should include participation in multidisciplinary conferences that are didactic and oriented toward patient care and reflect the evolving practice patterns of transgender care. This might include opportunities for cadaver dissections, live transmission of surgical procedures, and focused educational seminars. In addition, research opportunities should be offered, and findings should be presented at regional, national, and international conferences and published in peer-reviewed journals.

EDUCATION MODEL

Based on our experience in developing and implementing a comprehensive gender surgery program, we recommend the following structure for surgical education:

1. Core lecture series: Lectures consisting of terminology, history, etiology, mental health assessment, hormonal management, surgical therapies, adolescent therapy, general medical care, and ongoing challenges and barriers to care should be offered. These lectures should be consistent with the WPATH SOC.
2. Office-based experience: Exposure to the pre- and postoperative care of the transgender individual should be offered.
3. Technical experience: Training in surgical therapies for transmen and transwomen should be offered. This can be in conjunction with related surgical disciplines including urology, colorectal surgery, gynecology, and OHNS. In addition, hands-on experience can be supplemented with cadaver courses. A minimum case requirement with tracking of postoperative outcomes should be provided.
4. Continuing medical education: Participation in multidisciplinary educational and case conferences should be required. This includes exposure to mental health and medical professionals.
5. Focused seminars: Seminars on care of transgender and gender nonconforming individuals should be developed and participation in national and international meetings should be encouraged.
6. Research: Participation in outcome studies and other academic efforts should be pursued. This includes quality measurements, long-term patient-reported outcome measurements, and strategies to address unfavorable results and complications. Presentations at recognized conferences and publications in peer-reviewed journals should be expected.
7. Institutional requirements: Hospital staff (ie, nursing, administration, support staff, etc) should be educated on proper terminology and cultural sensitivity. Formal hospital

record-keeping mechanisms (ie, electronic medical records) should be updated to allow for non-binary selection options and gender diversity. Ongoing educational programs should be developed to maintain optimal gender-sensitive care.

Ideally, most training programs should begin under the guidance of an experienced surgeon who has a demonstrated commitment to multidisciplinary care and education. Furthermore, training programs will likely develop at institutions that have demonstrated the commitment to caring for transgender and gender nonconforming individuals. As the number of trained surgeons increases, it is likely that the number of training institutions will increase. However, training requires financial and personnel resources. Although some institutions have chosen to “self-fund” training programs, a long-term strategy to ensure financial stability for these programs is desirable.

QUALITY PARAMETERS

Integral to the success of any program is a mechanism to assess and track results. It is incumbent on institutions and providers to (i) develop a system to track outcome measurements, (ii) work collaboratively with other providers and institutions to develop evidence-based guidelines for care, (iii) implement a mechanism to coordinate follow-up and transitional care, and (iv) develop a mechanism for performance improvement.

Central to this challenge is the development of patient-reported outcome measurements specific for the transgender and gender nonconforming population. These measurements must be reliable, valid, and reproducible. At this time, no such assessment exists. Current studies often rely on data extrapolated from existing questionnaires designed for a gender binary population. Research is needed to determine whether these traditional tools are satisfactory for assessing surgical results in the transgender and gender nonconforming population. This will require collaboration between providers and institutions worldwide. These measurements will likely include patient satisfaction and quality-of-life measurements specific to a gender nonconforming population.

Because of the wide range of surgical procedures, multiple surgical specialties are involved in caring for transgender individuals. Certain specialties will likely have a natural affinity for specific procedures. For example, facial feminization is probably best performed by plastic surgeons, OHNS, and/or maxillofacial surgeons, whereas breast surgery is likely to be performed by plastic surgeons and, in some cases, gynecologists. In regard to vaginoplasty, metoidioplasty, and phalloplasty, these procedures can be performed by plastic surgeons, urologists, gynecologists, and, in some cases, colorectal (or general) surgeons. In fact, it is recommended that these procedures be performed by a team of surgeons, often representing more than one specialty. From a global perspective, it is important to appreciate and recognize regional differences in training and scope of practice. Most gender surgeons agree that surgeons performing such surgeries,

regardless of their particular specialty, require additional education and training after completion of their chosen discipline.

There are multiple mechanisms by which training and competency can be assessed. Historically, institutions have required documentation of an arbitrary number of particular procedures to grant a surgeon privileges. More recently, evidence of competency has been evaluated not only by the number of procedures performed but also by evidence of ongoing education and outcome measures. The optimal method to determine a surgeon's competency in gender confirming procedures requires further study.

As an international organization representing the spectrum of medical specialties and advocacy groups caring for transgender individuals, the WPATH is currently the best equipped organization to assess compliance with the aforementioned guiding principles. Not all institutions or providers will necessarily seek comprehensive certification. Levels of certification can be provided, ranging from non-surgical programs to complete multidisciplinary programs with associated surgical training fellowships.

OVERVIEW OF SURGICAL PROCEDURES

A brief summary of surgical procedures is described below. This list is not inclusive, but it provides a starting point for the development of a curriculum on which knowledge and practical experience can be based.

Surgical Procedures for Transwomen

Vaginoplasty

A successful surgical result involves the creation of a natural-appearing vagina and mons pubis⁷ that are sensate and functional. This includes removal of the stigmatizing scrotum, creation of feminine-appearing labia majora and minora, construction of a sensate neoclitoris (including clitoral hood), and development of adequate vaginal depth and introital width for intercourse. Additional desirable qualities include a smooth, graded, and contiguous appearance to the labia majora, a moist appearance to the labia minora simulating the vestibular lining in natal women, clitoral hooding, and lubrication for intercourse.

The most common procedure involves the penile disassembly and inversion vaginoplasty. However, alternative techniques, such as with skin grafts or an intestinal vaginoplasty, also are performed.

Recommended metrics are (i) delayed wound healing, (ii) venous thromboembolism (VTE), (iii) blood transfusion, (iv) surgical site infection, (v) hospital-acquired urinary tract infection (UTI), (vi) rectovaginal fistula, (vii) unplanned return to the operating room (OR), and (viii) revision rate.

Recommended case volume is 25 procedures in a 2-year period.

Ancillary Procedures

Aside from genital reconstruction, breast augmentation, thyroid chondroplasty ("tracheal shave"), facial feminization, and

body contouring offer additional procedures designed to feminize one's appearance.

Surgical Procedures for Transmen

Chest Surgery

This procedure, commonly performed before genital surgery, involves bilateral subcutaneous mastectomies, liposuction of the chest, and repositioning and resizing of the nipple-areola complex, when necessary. Several different techniques are used, and the choice of technique depends on the volume of breast parenchyma, degree of breast ptosis, position and size of the nipple-areola complex, and degree of skin elasticity.

Recommended metrics are (i) delayed healing (including nipple-areolar loss), (ii) VTE, (iii) surgical site infection, (iv) unplanned return to the OR, and (v) revision rate.

Recommended case volume is 25 procedures in a 2-year period.

Metoidioplasty

The procedure entails lengthening the hormonally hypertrophied clitoris by release of the suspensory ligament and resection of the ventral chordee and lengthening of the female urethra with the aid of labia minora and/or vaginal musculomucosal flaps.⁸

Recommended metrics are (i) delayed wound healing, (ii) VTE, (iii) urethral stricture or fistula, (iv) blood transfusion, (v) surgical site infection, (vi) hospital-acquired UTI, (vii) unplanned return to the OR, and (viii) revision rate.

Phalloplasty

As outlined by Monstrey et al,⁹ an ideal phallic reconstruction should result in an esthetic phallus with tactile and erogenous sensation, the ability to void while standing, minimal morbidity of the surgical intervention and donor site, an esthetic scrotum, and the ability to experience sexual satisfaction postoperatively.

Phalloplasty techniques can be divided into pedicled flaps and free flaps. Pedicle flaps transfer tissue, typically of the thigh (anterolateral thigh flap), groin (superficial circumflex iliac perforator flap), or lower abdomen (deep inferior epigastric artery perforator flap or superficial inferior epigastric flap), to reconstruct the penis, whereas free flaps involve the microsurgical transfer of tissue from a remote location (radial forearm free flap). Although phalloplasty represents the most complete genito-perineal transformation, it requires complex, staged procedures, the use of tissue from remote sites, and the risk of complications associated with urethral reconstruction and implantable prostheses. For these reasons, some individuals forego phalloplasty and choose metoidioplasty instead.

For many transmen, the last surgical stage after phalloplasty includes placement of penile and testicular prostheses. The choice of implant can vary depending on phalloplasty technique, patient preference, and availability of implants. At this time, implant availability depends on regulatory approval from the

various agencies in individual countries or regions. In addition, development of implants designed for phalloplasty procedures is ongoing and could be helpful in improving implant fixation and retention.

Recommended metrics are (i) flap failure, (ii) delayed wound healing, (iii) VTE, (iv) urethral stricture or fistula, (v) blood transfusion, (vi) hospital-acquired UTI, (vii) unplanned return to the OR, and (viii) revision rate.

Genital Surgery: Metoidioplasty and Phalloplasty

Recommended case volume is 25 procedures in a 2-year period.

CONCLUSION

Gender confirmation surgery represents a new frontier in surgery. As such, a structured educational initiative coupled with a mechanism to track, assess, and evaluate outcomes is required. These efforts require a comprehensive and ethical approach to transgender and gender nonconforming patients.

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