

Building a Multidisciplinary Academic Surgical Gender-affirmation Program: Lessons Learned

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Background: Every day, we see more patients present to hospitals and clinics seeking gender-affirmation care to ameliorate the symptoms of gender dysphoria. However, to provide a multidisciplinary approach, it is important to offer an integrated clinical program that provides mental health assessment, endocrine therapy, physical therapy, research, and the full spectrum of surgical services devoted to transgender patients. This article describes our experience on building a specialized, multidisciplinary, academic state-of-the-art gender-affirmation program.

Methods: Herein, we describe the main and critical components on how to build a multidisciplinary academic gender-affirmation program. We share our lessons learned from this experience and describe how to overcome some of the obstacles during the process.

Results: Building a multidisciplinary academic gender-affirmation program requires an invested team, as each and every member is essential for feedback, referrals, and to improve patient's experience. Institutional support is essential and by far the most important component to overcome some of the obstacles during the process. Having all team members working under the same institution provides all the critical components needed to improve outcomes and patient satisfaction. In addition, the collection of prospective data with a well-structured research team will provide information needed to improve clinical services and standardize clinical protocols, while leaving space for innovation.

Conclusions: This article describes the steps and experience needed to build a multidisciplinary holistic academic gender-affirmation program. We provide our lessons learned during the process that will help guide those who intend to start an academic gender-affirmation program. (*Plast Reconstr Surg Glob Open* 2021;9:e3478; doi: [10.1097/GOX.0000000000003478](https://doi.org/10.1097/GOX.0000000000003478); Published online 19 March 2021.)

INTRODUCTION

Based on the American Psychiatry Association and the World Professional Association for Transgender Health

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Received for publication July 28, 2020; accepted January 25, 2021.

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DOI: [10.1097/GOX.0000000000003478](https://doi.org/10.1097/GOX.0000000000003478)

(WPATH), gender dysphoria involves a conflict between a person's physical/assigned gender and the gender with which he/she identifies.^{1,2} This can lead patients to experience significant distress, affecting their quality of life.³⁻⁵ Gender dysphoria occurs in 1:30,000 male-assigned births and in 1:100,000 female-assigned births. It is estimated that about 0.005%–0.014% individuals assigned male at birth and that 0.002%–0.003% individuals assigned female at birth would be diagnosed with gender dysphoria.^{6,7}

Over the last decade, the number of gender-affirmation surgeries (GAS) has increased exponentially.⁸⁻¹³ Based on the American Society for Plastic Surgeons, GAS was among the most rapidly increasing surgeries between 2016 and 2017, with a 289% increase for transmen and a 41% increase for transwomen.^{9,14,15} GAS aim to align patient's gender identity with their sex assigned at birth, helping achieve personal comfort with their self and, consequently, decrease psychological distress, and improve quality of life and body image satisfaction.^{1,8,11,16-24}

Healthcare in this population might be challenging because it depends not only on good clinical care, but also on social and political matters. However, as

Disclosure: The authors have no financial interest to declare in relation to the content of this article.

healthcare providers, it is our responsibility and priority to provide high-quality services with evidence-based medicine. This evidence-based article will provide a complete guide for building an academic surgical gender-affirmation program, and we will review the lessons learned and adaptations made based on our experience over the years.

Management of Patients with Gender Dysphoria

To build a multidisciplinary comprehensive gender-affirmation program, the assessment and feedback from multiple team members and subspecialties such as mental health specialists, endocrinologists, nursing staff, physical therapists, social workers, urologists, gynecologists, and plastic surgeons are a must.²⁵ Team members should meet on a regular basis to discuss about patients who are and will be candidates for surgery and to make sure that each patient meets the criteria required by the WPATH.²⁶ Certain institutions have their own screening mechanism, which is important to standardize to avoid multiple hospital visits. However, it is important to keep in mind that these steps are necessary, especially if there are medical comorbidities that need to be addressed and controlled before surgical intervention. Surgery, particularly genital or bottom surgery, is often the last and most considered step for patients with gender dysphoria.²⁶

The role of surgery has shown to be essential and medically necessary to alleviate patient’s gender dysphoria.^{18,22,27-34} In several occasions, there are numerous procedures offered during surgical consultation, which include (but are not limited to) the following: facial feminization, breast augmentation, orchiectomy, penectomy, and vaginoplasty in transwomen; and facial masculinization, chest-wall masculinization, hysterectomy and oophorectomy, metoidioplasty, and phalloplasty in transmen.^{5,10} In [Table 1](#), GAS options are presented. Genital (bottom surgery), breast/chest (top surgery), and facial surgery for gender dysphoria are not just another set of elective procedures. The overall concept of elective procedures involve only a private mutual contract between a patient and a surgeon.²⁶

In addition, collaborative research to advance the field of GAS is much in need. Creating clinical databases, collecting prospective data regarding surgical

and patient-reported outcomes, and analyzing surgical recovery pathways and surgical innovation are essential.³⁵ Based on evidence-based medicine and the authors’ experience, this article will focus on the different aspects of how to build a state-of-the-art transgender practice.

Components of a Comprehensive Academic Gender-affirmation Surgical Program of Excellence

A successful academic gender-affirmation surgical practice requires a multidisciplinary team approach to offer a comprehensive evaluation and surgical state-of-the-art care. [Figure 1](#) depicts an organizational chart of a gender-affirmation multidisciplinary program. The team members involved are nursing staff, social workers, physical therapists, mental health specialists, endocrinologists, gynecologists, urologists, and plastic surgeons.¹ Team members develop coordinated medical care, bringing their own expertise in a collaborative manner. In addition, research should be focused on clinical outcomes, patient experience, and innovation. A strong, comprehensive, and prospectively collected database should be built to keep record of the patients. Additionally, clinical trials should be encouraged and conducted to advance the field and provide state-of-the-art care. Each patient who comes into the practice should ideally have a 1-day visit if possible, in which all the team consults and clinical recommendations are provided to the patient, thus avoiding multiple trips to the hospital and decreasing patient dissatisfaction.²⁸ The key components required to develop a multidisciplinary academic surgical gender-affirmation program are presented in [Table 2](#).

Vision

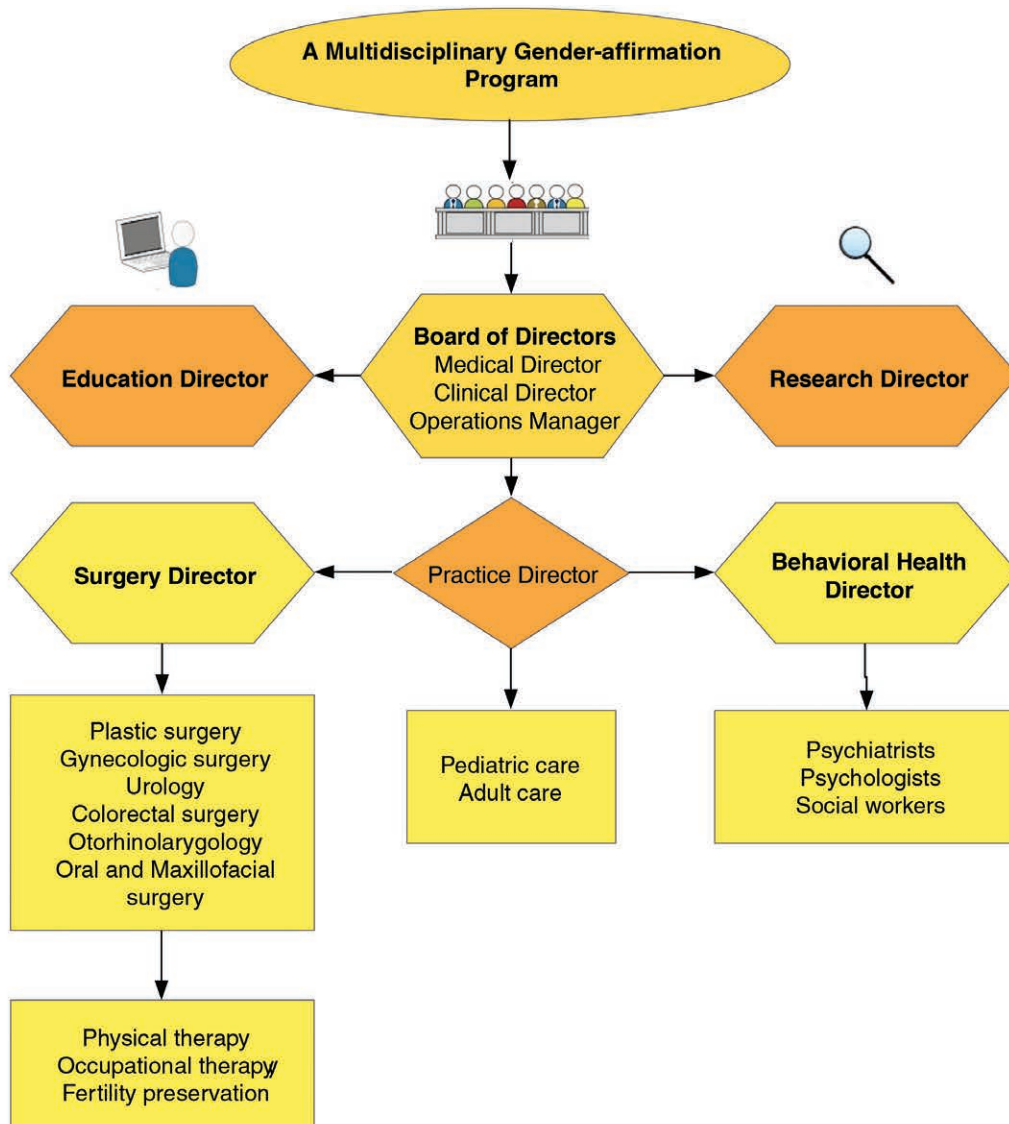
Our vision is to build a multidisciplinary comprehensive academic gender-affirmation program with high-quality healthcare services and well-trained healthcare providers that positions patients’ objectives, desires, safety, and evidence-based medicine options first.

Infrastructure and Resources

Ideally, the program should have a specific unit or clinical space, in which all team members are able to provide clinical assessment in an expedited fashion.³⁶ [Figure 1](#)

Table 1. Gender-affirmation Surgery

	Facial Surgeries	Chest Surgeries	Genitalia
Feminization surgery	Facial feminization Thyroid chondroplasty Hairline reconstruction Voice modification surgery	Breast augmentation Lipofilling	Orchiectomy Penectomy Vaginoplasty ± neurovascular O-flap + clitorolabioplasty Vulvoplasty + clitorolabioplasty Waist lipoplasty
Masculinization surgery	Facial masculinization Liposuction Lipofilling Voice modification surgery	Subcutaneous mastectomy Chest-wall contouring Pectoral implants	Hysterectomy Salpingo-oophorectomy Vaginectomy Clitoral release Metoidioplasty ± urethral lengthening Phalloplasty ± urethral lengthening Scrotoplasty Testicular prosthesis placement Penile prosthesis placement



Additional Support Services

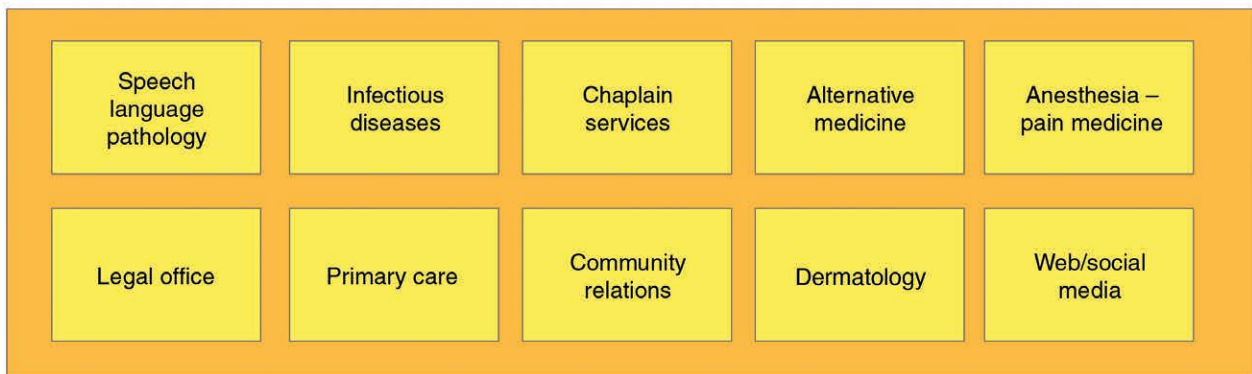


Fig. 1. Organizational chart of a multidisciplinary gender-affirmation program.

shows several services involved in gender-affirmation care. Each clinical subspecialty requires its own clinical space, clinical assessment tools, imaging sources for diagnosis

and staging, and if surgical services are needed, intraoperative equipment must be available, among other specific requirements for each individual specialty.

Table 2. Key Components of a Multidisciplinary Academic Surgical Gender-affirmation Program

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- Multidisciplinary team: nursing staff, social workers, physical therapists, mental health specialists, endocrinologists, gynecologists, urologists, and plastic surgeons.
 - Team members must use their own expertise in a collaborative manner.
 - Provide patients 1-day visit for all medical consults.
 - Constant patient teaching and education by well-trained health care providers.
 - Provide a comfortable environment and stimulate patients to feel confident in asking any question regarding the health care.
 - The program should have a specific unit or clinical space.
 - All patients should follow WPATH eligible criteria for transgender health care.
 - Conjunction work with physical therapy.
 - Provide fertility preservation options.
 - The use of telemedicine increases patient's follow-up adherence and improves patient-reported outcome data.
 - Research program focused in on clinical outcomes, patient experience and innovation.
 - Referrals have to be canalized through the same team of experts with experience in transgender care
 - Open to feedback for constant improvement in the transgender program.
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Patients Eligible for GAS

Based on the WPATH1 selection criteria for surgery, most GAS require previous hormonal therapy and 1 or 2 referral letters provided by a mental health professional, which must include the following:

- Patient's general information,
- Patient's psychosocial assessment and diagnoses,
- Duration of the physician–client relationship,
- Surgical criteria explanation with a brief description of the clinical rationale that supports the patient's request for the surgery,
- Informed consent obtained from the patient, and
- Statement of mental health professional that will be available for coordination of health care.

Each patient should be assessed to confirm if these requirements are met. From the surgical perspective, a dedicated area for preoperative and postoperative photography is ideal. This will help the patient understand the current anatomy and to follow-up over time any postoperative changes.³⁶ The gender-affirmation postoperative unit should be equipped with medical staff who are familiar with current protocols. These protocols should be available to any staff in these units to answer questions related to patient care. In addition, these protocols should be updated and modified as needed.³⁷

Endocrine Hormonal Therapy

Based on the WPATH guidelines,¹ before GAS, the initiation of medical transition begins with hormone therapy.^{26,38,39} The goal of hormone therapy is to induce secondary sex characteristics but to suppress native biologic secondary sex characteristics.^{38,40–42} According to the clinical practice guidelines set forth by the American Endocrine Society in 2017, a multidisciplinary evaluation to confirm the diagnosis of gender dysphoria and address any medical or mental health issues is recommended before initiation of hormone therapy.⁴⁰ In transgender adolescents, Gonadotropin Release Hormone (GnRH) analogs (leuprolide acetate and goserelin) may be started in early puberty to stop pubertal progression and delay the physical changes of the normal pubertal rise in testosterone until the patient is ready for feminizing hormone therapy.⁴⁰

Adequate hormonal management should be done by an experienced endocrinologist with expertise in gender-affirmation care. Information on hormonal therapy is key

to disclose to the surgical team. There are some surgical groups that decide to stop hormonal therapy several weeks before surgery to decrease the risk of deep venous thrombosis.⁴³ However, one of the side effects of taking this approach is to reverse some of the hormonal effects of these medications that has been described as unpleasant by the patient.⁴⁴ In our practice and after a careful discussion with the endocrinology team, we do not stop any hormonal therapy, but at the same time, surgical efficiency in the operating room, the use of compression boots intraoperatively, and postoperatively are a must to decrease the risk of deep venous thrombosis.⁴⁴ In addition, our group has created an early ambulation protocol, engaging nursing staff to help the patient ambulate immediately after coming from surgery and during their hospital course. This vital information should be disclosed to the patient to make sure there is understanding of this approach, as patient engagement and cooperation is important during this process.

Fertility Preservation

Although hormonal therapies have been shown to increase self-esteem, alleviate depressive symptoms, and decrease symptoms of gender dysphoria, it can affect the individual's reproductive potential.^{45–49} To pursue hormonal therapy, transgender individuals are required to live in their desired gender for at least 3 months or receive psychotherapy for 3 months.⁵⁰ The team involved in the care of transgender patients during their gender-affirmation process should be aware of the fertility preservation options. The WPATH guidelines recommend a discussion of fertility preservation options before initiating gender-affirming therapies because the main purpose of this discussion is to find adequate window period before therapy and avoid possible complications.⁵¹

In the last decade, the incidence of transgender women seeking sperm cryopreservation has increased significantly.⁵² The age in which transgender patient presents to the physician has been trending down.⁵² Within our practice, fertility preservation options for transgender patients include sperm cryopreservation, surgical sperm extraction, and testicular tissue cryopreservation for transwomen, and oocyte cryopreservation, embryo cryopreservation, in vitro maturation, and ovarian tissue cryopreservation for transmen.^{46,49} These discussions are always started before the transition process and have to be

well documented and further discussed with the team to provide all possible alternatives to patients seeking medical and surgical care.

Physical Therapy

Physical therapy has been shown to identify pelvic floor dysfunction in cis-female groups with high sensitivity and bring significant symptomatic improvement and quality of life.^{53–55} During the course of our practice, we had identified with high frequency these types of symptoms, the reason why we started evaluating pelvic floor dysfunction before surgery, and its progression using standardized questionnaires, and evaluated the role of physical therapy in the optimization of long-term outcomes.⁵³ After years of looking into this problem, we concluded that pelvic floor dysfunction is commonly seen in patients with gender dysphoria even before surgery. Although the mechanism for this increased incidence is still unknown, preoperative assessment of pelvic floor dysfunction is vital to improve surgical outcomes.⁵³ Physical therapy in patients with pelvic floor dysfunction can significantly improve symptoms both pre and post surgery; this is the reason behind why we always work in conjunction with a physical therapist at least three months before and after surgery. This protocol has changed significantly our clinical outcomes, as patients feel more comfortable with dilations, which extrapolates in the maintenance of the depth of the vaginal canal after surgery.

Patient Teaching and Education

To increase time efficiency before consultations and to improve education to medical personnel, having a formal education center is important.⁵⁶ Here, the goals are to clarify patients' questions before and after each health-care visit.⁵⁷ This unit should also provide material related to patient medical and surgical care, such as pamphlets, papers, videos, or books.^{57,58} At the end of each encounter, there should be a "checklist" that the patient must comply before surgery (supplies, dilators, pelvic therapy, etc.). When educating minors, parent involvement is mandatory.⁵⁸

Based on our experience, there is inaccurate information on the Internet that can create false knowledge and unrealistic expectations.⁵⁹ Clarification of any question helps not only the patients but also the health care provider because patients will be more familiar with the medical information, expectations, and surgical outcomes.

Patient Outcomes and Satisfaction

To have a state-of-the-art program, it is necessary to have defined metrics. This will allow the team to grow based on feedback from their own clinical outcomes. It is important to build and maintain prospective electronic databases; a designated research coordinator and/or personnel with focus and interest in these areas will help develop a database research program.³⁵ In the last several years, websites and technological platforms with specific interest on patient outcomes and satisfaction have been driving further patient referrals, forum discussions, and group reputation.²⁸

These prospective collected metrics will help assess any type of surgical outcomes, clinical volumes, patient referral sources and, more importantly, patient satisfaction. Using this information in a systematic fashion will allow the clinical team to grow; decrease medical costs; and allocate resources, infrastructure, and personnel. Constant reassessment of the practice will help the team to standardize protocols and improve efficiency while allowing surgical innovation.

One of the most challenging aspects when trying to obtain long-term data is patient compliance with post-operative follow-up visits. It is critical to develop a platform that allows for recurring patient-reported outcome with validated questionnaires that can be accessible through a mobile device or another electronic platform. Telemedicine, including virtual consultations, may play an important role in facilitating an adequate and long-term follow-up of these patients.^{60,61}

Importance of Social Media

With the recent expansion in social media (including blogs and websites related to patient's experience), we have experienced a growth of patients rating physicians on publicly accessible online websites and social media.^{28,62–67} The main purpose of Physician Rating Websites (PRWs) lies in using patient-reported information to rate surgeon's quality online. However, these reviews not only encompass patient–physician interaction or surgical outcomes but also other domains such as office environment, waiting times, and staff friendliness. For these reasons, it is important that the gender-affirmation program understands why social media and PRWs are a powerful tool to understand patient impressions and overall satisfaction.²⁸ In addition, these online platforms should provide information on the steps of the process for those who seek medical and surgical intervention and provide answers to some of the most commonly asked questions by patients. It is important to recognize that social media should be used not only to attract patients, but also to educate them on their options, realistic expectations, and complication management. Clarifying these points will help patients understand the process more clearly and set expectations before consultation.

Patient Referral

As new health insurance guidelines have adapted better policies for patients to access healthcare services related to transgender care, consultations for patients seeking surgical intervention have increased exponentially.^{15,68,69} Concomitantly, not many centers have the necessary infrastructure to offer these services, delaying the proper surgical care that the TGNB population need. Referrals have to be canalized through the same team of experts with experience in transgender care.⁷⁰ Figure 2 illustrates the pathway when a patient is referred to the gender-affirmation clinic. This is important because it will provide feedback and close the loop starting from the first time the patient seeks medical care until the end of all the steps of the transition and follow-up visits. At the same time, creating mutual trust, positive feedback, and learning from

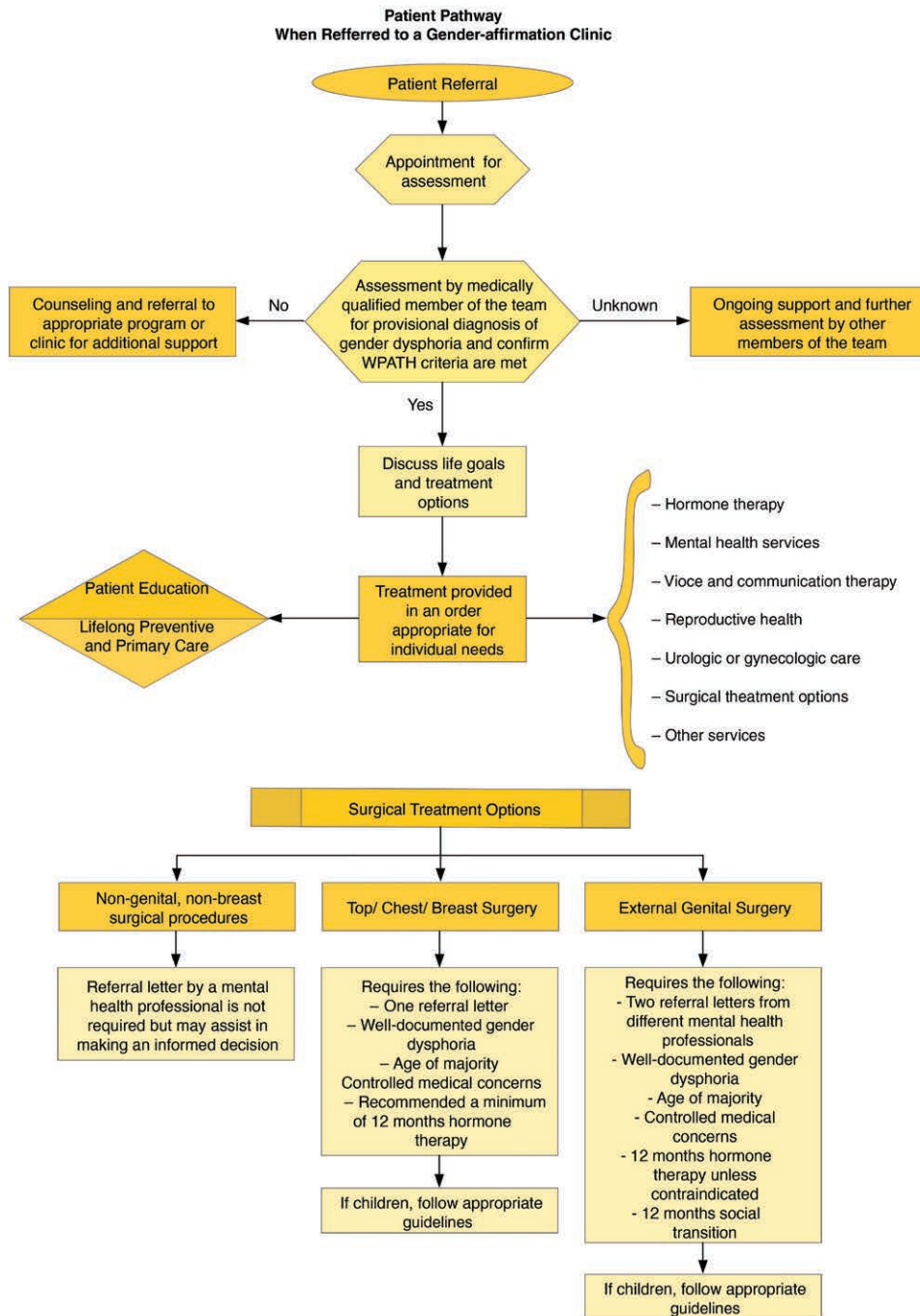


Fig. 2. Patient pathway when referred to a gender-affirmation clinic.

the experiences of the patient and healthcare providers will improve the quality of care of the program. Creating online forums summarizing patients' experience and steps required to complete the consultation process will strengthen the relationship of the healthcare provider/patients, improve referral sources, and provide feedback.⁷⁰ On several occasions, even if the patient is seeking surgical care only, all specialties involved in the transition process are usually consulted, as a group consensus is key

to provide adequate feedback to the patient and stimulate the referral pattern.

Training

Hospitals with a comprehensive academic gender-affirmation program should continue to engage teaching trainees regarding an overall transgender health care approach, including psychological, medical, and surgical treatment.

Research Team

Research teams are an important component in the program, as they will provide and ensure constant improvement in healthcare services with evidence-based medicine toward their target population. Electronic databases collection of clinical outcomes would play an important role in clinical research. This will enrich not just your surgical gender-affirmation program, but also worldwide transgender health care.

CONCLUSIONS

Building a comprehensive, multidisciplinary academic program requires a clear vision and strategic planning from all members involved in the process. A triad of mental health and endocrinology, and the surgical team will provide the essential pillars to build a comprehensive, holistic, academic gender-affirmation program. In addition, WPATH guidelines are essential for screening and patient selection to offer the best medical care possible.

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