



Nursing Care for the Patient Undergoing Gender-Affirming Surgery: A Thorough Review of Pre-and Post-Operative Care, Complications Management, and Culturally Sensitive Support

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Abstract

Background: Gender-affirming surgeries (GAS) are medically necessary, life-saving surgeries for the majority of transgender and gender-diverse (TGD) individuals, significantly decreasing gender dysphoria and overall quality of life. The nurse's role in this extremely specialized surgical process is multifaceted and far exceeds technical skills, encompassing holistic, patient-focused care. **Aim:** This review integrates the highest-level evidence (2020-2024) about nursing care best practices for patients undergoing GAS, focusing on the perioperative continuum of care. **Methods:** A narrative literature review published between 2020-2024 was conducted using PubMed, CINAHL, and PsycINFO. Search words utilized were "transgender," "gender-affirming surgery," "perioperative care," "nursing care," "cultural competency," and "postoperative complications." **Results:** The findings suggest the necessity of a two-stage nursing approach: pre-operative education, assessment, and preparation, and post-operative management of physical rehabilitation and psychosocial adjustment. Overarching themes are the necessity of comprehensive patient education on the outcome and complications of surgery, competent procedural care (e.g., vaginoplasty, phalloplasty, mastectomy), and the central role played by nursing in providing culturally sensitive, trauma-informed, and affirming care that validates patient identity. High-quality nursing care has a material impact on surgical outcomes, patient satisfaction, and later mental well-being. **Conclusion:** Treating TGD patients for GAS requires a sophisticated integration of technical expertise and profound psychosocial intervention. Staying grounded in values of cultural humility, trauma-informed practice, and patient-centered communication, nurses are key to walking patients through a life-altering and affirming process, providing both body protection and emotional validation.

Keywords: gender-affirming surgery, transgender health, nursing care, cultural competency, trauma-informed care, perioperative nursing.

1. Introduction

Gender identity is at the heart of the human experience, and for transgender and gender-diverse (TGD) individuals, consistency between internal gender identity and external physical self is often essential to psychological adaptation. Gender-affirming surgeries (GAS) are a series of surgical procedures that alter primary and/or secondary sex characteristics to affirm an individual's gender identity. These are not cosmetic treatments; they are required medical treatments for gender dysphoria,

distress that can follow from such incongruence, and are associated with significant improvements in mental health, quality of life, and psychosocial functioning (Coleman et al., 2022; Valentine & Shepherd, 2018).

The demand for GAS has increased considerably in recent years, and increasingly such procedures are being performed in various healthcare settings (Safer & Tangpricha, 2022). Here, the role of the nurse is of paramount significance. Patient care during GAS is a very specialized area involving a very

unique combination of advanced-level clinical knowledge and highly empathetic, culturally aware psychosocial care. Nurses carry out the functions of educator, advocate, clinician, and companion throughout the entire perioperative journey—from preoperative consultation to longer-term recovery (Caceres et al., 2020).

This review aims to provide an even-handed synthesis of the processes of nursing care for patients receiving GAS, focusing on the literature from 2020 to 2024. It will describe the pre-operative and post-operative nursing management key points, summarize care for each surgical outcome and potential complication, and address the principles underlying the provision of culturally competent and trauma-informed care. The ultimate goal is to equip the practitioners in nursing with the knowledge and insight that will enable them to offer better, authentic, and safe care to the TGD patients at one of the most significant experiences of their lives.

Methodological Framework

This systematic review of the literature was performed by conducting a search of the PubMed, CINAHL, and PsycINFO databases from January 2020 to December 2024 for peer-reviewed, English-language articles. The search strategy used an assortment of keywords and MeSH terms including: ("transgender persons" OR "gender diverse" OR "gender dysphoria") AND ("gender-affirming surgery" OR "sex reassignment surgery" OR "vaginoplasty" OR "phalloplasty" OR "mastectomy") AND ("nursing care" OR "perioperative nursing" OR "postoperative care" OR "patient education" OR "cultural competency"). Reference lists of articles that were accessed were also searched for additional relevant sources. Articles were deemed to be included if they highlighted the nursing role, perioperative care, clinical guidelines, or psychosocial care of adults undergoing GAS. Editorials and non-English language literature were excluded. The results have been integrated into a clear narrative framework highlighting key nursing practice themes.

The Foundation: Culturally Competent and Trauma-Informed Care

Before embarking on the technical aspects of perioperative nursing, it is essential that nurses ground their practice in the fundamental principles of trauma-informed care and cultural humility. Transgender and gender-diverse (TGD) individuals consistently experience discrimination, invalidation, and overt stigma within healthcare settings, which give rise to extensively documented health outcomes as well as a rational, entrenched mistrust of the medical system (Messinger et al., 2021; Kattari et al., 2020). The first and most powerful intervention of a nurse is not a clinical process, but the deliberate creation of a safe, validating, and respectful environment. This initial process is what renders general perioperative care therapeutic, healing collaboration. Without it,

technically excellent care from the best practitioners can remain re-traumatizing and ineffective, as the patient may not be confident enough to complain, question, or actively engage in their recovery.

Cultural Competency and Humility in Practice

Cultural competency here begins with the systematic and respectful use of affirming language. This is a concrete and irreversible start, encompassing judicious use of the patient's name of choice and correct pronouns in both spoken and written communication, regardless of what is seen on legal papers or insurance records (Dubin et al., 2024). Nurses should facilitate and ensure electronic health records are corrected to boldly show this information so as not to inadvertently misgender other health care workers. Other than pronouns, nurses must consciously not presume a patient's anatomy, surgical history, sexual orientation, or romantic relationships from their gender identity or expression (Sherman et al., 2021). For example, a trans man may not have undergone a hysterectomy, and a non-binary person's goals for surgery may not be met with a binary definition of "male" or "female" appearance. This is where cultural competency becomes cultural humility—an ever-present process of self-examination and self-criticism where the nurse acknowledges the limits of his or her own knowledge and remains open to learning from the patient as the author of his or her own identity, body, and experience (Vandermorris & Metzger, 2023). It challenges nurses to address their own unconscious bias and to acknowledge that providing affirming care is a process of ongoing learning, not a check-the-box endpoint.

Using a Trauma-Informed Approach

Trauma-informed care is not a treatment, but a universal precautionary policy based on the reality that there exists a high rate of TGD persons who have been highly traumatized, e.g., bullied, rejected by their families, physically or sexually abused, and had previously had abusive or pathologizing interactions with medical practitioners (Lavalley, 2020). This model, as a fundamental thing, is a change in clinical style from "What's wrong with you?" to "What's happened to you?" and an acknowledgment that current presenting behaviors and distress are perhaps survival strategies from emergent from past harm. In the high-stakes, high-vulnerability setting of surgery, this model plays out in many ways. Most fundamentally, patient autonomy is valued. This involves describing each procedure step by step prior to starting it, from checking a blood pressure to checking a genital area, and seeking consent specifically prior to any touch. It means providing options wherever possible, for example, enabling the patient to insert their own catheter if they are capable, in an effort to regain a sense of control over their body when they so often feel powerless. Second, creating psychological safety through honest, non-judgmental talk is required.

Nurses must verify the patient's emotions and experience in words, recognizing how brave it is to undergo surgery and normalizing all the various kinds of feelings that can happen. Third, nurses must establish anticipatory awareness of potential triggers. They need to be aware that certain clinical situations, such as genital examinations, being vulnerable when under anesthesia, or even exposure by having a hospital gown on, can be potent reminders for patients with body dysphoria or trauma history (Strauss et al., 2021). Talking through these situations with sensitivity, issuing a warning, and being discreet are not only nice but necessary clinical actions. By always including these principles, nurses build the therapeutic trust that is the cornerstone of effective and safe perioperative care.

Pre-Operative Nursing Care: Education, Assessment, and Preparation

Pre-operative time is a sad moment for the creation of a good therapeutic relationship, achievable expectations, and optimization of the patient physically and psychologically to achieve an optimum surgical outcome. The nursing practice scope at this time is vast, anticipatory, and sets the stage for the remaining surgical process.

Conducting a Comprehensive Psychosocial and Physical Assessment

The nursing assessment in a patient with GAS must be intentionally holistic, much more than the usual pre-anesthesia workup. While an entire physical workup is required, the psychosocial evaluation is equally important. The nurse needs to counsel the patient in a talk in order to confirm their understanding of the forthcoming operation, their personal expectation of functional and cosmetic recovery, and their system of support, commitment, and access after the operation (Olsavsky et al., 2021). It is also vital to screen for acute or active mental health disorders such as active major depression, severe anxiety, or active substance use that can functionally compromise the cognitive and emotional capacity required to endure the complex recovery process (Dolotina & Turban, 2022). The goal is not gatekeeping, but to enable the patient to have the proper coping abilities and access to mental health treatment to emerge successfully from the challenges of recovery. Further, nurses must conduct a thorough assessment of health behaviors, with a special focus on smoking and nicotine use. Nicotine is a potent vasoconstrictor, and the administration of nicotine constitutes an absolute contraindication to most GAS procedures, especially those involving flaps or grafts, due to its disastrous effect on healing wounds and the massive tissue necrosis and risk of flap failure it entails (Berli et al., 2017). Nurses must also ensure it is made clear to patients the risk of this, nicotine use testing by cotinine if necessary, and preparing robust resources and referrals for smoking cessation, long before surgery is carried out.

Offering Detailed and Emotive Patient Education

Detailed, organized, and empathetic patient education is arguably the greatest asset of the perioperative nurse. This must be multi-modal, ranging from verbal communication through visual aids to written information. Key components must be covered systematically. First, the surgical process and realistic outcomes should be explained using anatomical diagrams, photographs of typical surgical results, and three-dimensional models if available. It is crucial to discuss not only what the surgery can achieve but also its limitations, managing expectations to prevent post-operative disappointment. Second, the nurse plays a critical role in the informed consent process, making it an ongoing conversation instead of a one-time signed document. This means ensuring that the patient is fully aware of the definite risks, benefits, and possible complications—both frequent and infrequent—of their particular surgery (Kimberly et al., 2018; Chiang & Bachmann, 2023).

Third, pre-operative requirements need to be thoroughly reviewed, including instructions for NPO status, routine medication and hormone therapy administration (if required by surgeon protocol), and any specific hygiene routines, including bowel preparation for intestinal vaginoplasty or specific skin cleansing routines (Arnold et al., 2015). Finally, post-operative expectations need to be thoroughly explained in order to prepare the patient for the actual recovery. This discusses the pain treatment plan, if surgical drains, catheters, or stents are used and what for, expected activity limitations (e.g., no heavy lifting, limited arm use for patients with chest surgery), and a broad overview for early recovery and follow-ups (Salibian et al., 2018). Supplying written information or access to good-quality internet resources, on which patients and their companions may read at home, is highly recommended to facilitate learning and anxiety relief.

Post-Operative Nursing Care: Physical Recovery and Complication Management

The post-operative duration is one of severe physical demands, emotional vulnerability, and the need for scrupulous surveillance. It is vitally essential that specialist, highly experienced, and sensitive nursing care is provided at this stage to ensure a safe recovery, management of discomfort, and prevention and early detection of complications to provide the reassurance that improves patients through an ordeal.

General Post-Operative Principles and Vigilance

Immediate postoperative management involves standard observation of vital signs, pain, and surgical sites, with the additional delicacy of TGD-confirmation. Postoperative pain management should be aggressive, proactive, and multi-modal. This approach appeals to a combination of local anesthesia (i.e., nerve blocks), judicious use of opioids for acute pain, and proscription of non-opioid analgesics (e.g., acetaminophen, NSAIDs) administered at fixed schedules for achieving maximum pain relief with

minimum side effects, risks from opioids, and potential dependence (Sanchez et al., 2023). Nurses must be highly proficient in the care of specific surgical devices that are common in GAS, such as urinary catheters, Jackson-Pratt or other closed-suction drains, and vacuum-assisted closure devices. They must also provide clear, practical teaching to patients and carers about how to manage these devices on discharge, such as draining and stripping drains, measuring output, and maintaining asepsis. This education is a key player in preventing hospital readmission.

Procedure-Specific Complication Surveillance and Management

Nurses must possess and use procedure-specific, detailed information to provide competent practice and recognize early, often subtle, warning signals of complications. The nursing priorities vary considerably based on the surgery performed. For the patient undergoing chest surgery (top surgery), such as a masculinizing mastectomy or feminizing breast augmentation, nursing focuses on chest wall stability and viability of the nipple-areolar complex. For the mastectomy patient, nurses must closely monitor for the development of hematoma, such as acute, unilateral, tense swelling of the chest with corresponding severe pain or symptoms of hypovolemia. Surgical drain management is a big responsibility, and the drains are usually left in place until there is minimal output, hence preventing seroma formation (Klassen et al., 2018). The patients must be taught the use of compression stockings and long-term scar care to achieve maximum aesthetic outcomes.

The patients' nursing care following vaginoplasty is highly specialized and extensive. The most important roles involve thorough perineal wound care, stable immobilization of a vaginal stent or pack maintaining the openness of the neovaginal space, and, most importantly, education in the prolonged lifelong

vaginal dilation regimen needed to maintain vaginal depth and patency (Jiang et al., 2018). Nursing alertness is required to identify complications such as tissue necrosis, which can be seen as dark or black coloration of the clitoral complex or labia; wound dehiscence, in which surgical margins become separated; rectovaginal fistula, through which fecal drainage or flatus can initially be observed from the vagina; and vaginal stenosis, caused by insufficient dilation (Massie et al., 2018). Concurrently, proper catheter care and perineal hygiene education are imperative in order to prevent such recurring urinary tract infections.

Nursing of the patient after metoidioplasty or phalloplasty is among the most complex in reconstructive surgery and demands the highest level of nursing vigilance due to the high risk of complications. Care involves ongoing, hourly neurovascular observation of the newly developed phallus for early identification of ischemia, such as coolness, pallor, capillary refill loss, or loss of a present Doppler signal (Morrison et al., 2016). Nurses are also the first line of defense in the assessment for urethral complications, which are common. A urethral fistula may present as leakage of urine from any location of the perineum or scrotum, and a urethral stricture may present as a decrease in urinary stream, straining to urinate, or total urinary retention (Dy et al., 2019). Wound care at the donor site, typically a large wound on the forearm or thigh, is an additional important nursing issue, requiring adherence to orthopedic or plastic surgery protocol with extreme strictness to facilitate healing and preserve function. In all interventions, the nurse's role in concurrent assessment, early detection, and prompt alert of irregularities is what guards the patient's surgical outcome and long-term well-being (Table 1 & Figure 1).

Table 1: Common Post-Operative Complications in Gender-Affirming Surgeries and Nursing Interventions

Surgery Type	Common Complications	Early Signs & Symptoms	Nursing Interventions & Monitoring
All Surgeries	Hematoma, Infection, Deep Vein Thrombosis (DVT)	Swelling, pain, erythema, warmth, purulent drainage; Unilateral calf pain, swelling, redness.	Frequent site assessment; encourage early mobilization; sequential compression devices; teach signs/symptoms.
Vaginoplasty	Necrosis, Wound Dehiscence, Fistula, Stenosis	Dark/black tissue at the surgical site; separation of wound edges; fecal drainage from the vagina; inability to dilate.	Meticulous perineal care; monitor stent/pack; teach dilation protocol; report abnormalities immediately.
Phalloplasty	Flap Loss, Urethral Fistula/Stricture	Cool, pale, or cyanotic phallus; absent Doppler signal; urinary leakage from the perineum; weak stream.	Hourly neurovascular checks; monitor urinary output and stream; care for complex dressings and catheters.
Mastectomy	Hematoma, Seroma, Loss of Nipple Sensation	Rapid, tense swelling of the chest; fluctuant swelling under the skin; numbness.	Manage drains; monitor output; teach seroma self-management; provide realistic expectations on sensation.

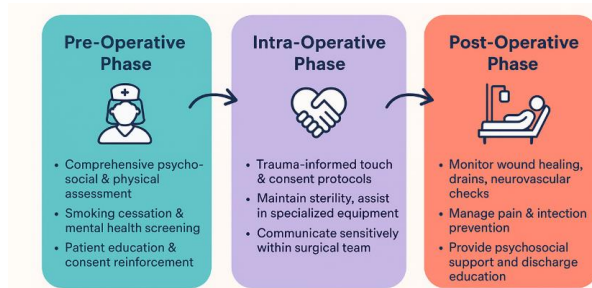


Figure 1: The Perioperative Nursing Care Framework for Gender-Affirming Surgery (GAS) Psychosocial Support and Discharge Planning: Coping with the Emotional and Practical Adjustment Home

Post-operative recovery from gender-affirming surgery (GAS) is not a purely physical healing process; it is a profound psychosocial adjustment that requires as much nursing attention as wound attention. The emotional trajectory is highly unstable and not straight, typically diverging from the tidy narrative of immediate and uncomplicated bliss. While many patients are actually blessed with intense gender euphoria, dysphoric relief, and an incredible sense of accomplishment, it is equally common for patients to struggle with a complex set of emotions, such as post-operative depression, anxiety, and adjustment issues as they face the reality of a long and exhausting recovery (Lindley et al., 2022). This "post-operative dysphoria" or low mood can be triggered by such things as operation discomfort, transient loss of mastery, stress of adapting to complicated care for oneself, swelling and bruising hiding eventual outcomes, and psychological response to seeing a body in traumatic flux. The nurse's role in providing anticipatory guidance and ongoing psychosocial support is thus critical in order to normalize this entire spectrum of feelings, prevent crises, and promote long-term psychological well-being.

Nurses provide such precious assistance through various primary interventions. In the first place, they provide anticipatory guidance during the pre-operative phase in readiness of both the patient and the support system for an emotional adjustment phase. This entails reframing recovery as an active "second surgery" that the patient does to themselves by taking conscientious care of themselves, a construct that can build a sense of agency. Second, nurses engage in active listening and validation at the bedside. By establishing a non-judgmental arena for patients to feel sadness, frustration, doubt, or fear—without having the legitimacy of their gender identity questioned—nurses destigmatize these feelings. They can ensure that such feelings are a normal response to an important life event and an important physical stressor, and not evidence that the surgery was a mistake. Third, nurses provide an important gateway to mental health services. They should be prepared to refer patients to therapists with experience treating

transgender patients and, for those showing acute distress, schedule an emergent consult with the hospital psychiatry liaison service. This is a long-term psychosocial care that is a fundamental part of holistic nursing care, with the mind of the patient being guarded with just as much care as their physical recovery.

Discharge planning is not just an active and integrated process that must be initiated at admission, instead during the pre-discharge hours. The general nursing goal is safe and uninterrupted transfer from the controlled hospital environment to the home, enabling the patient and his or her identified carer with the knowledge, skills, and resources to do for themselves. This is developed through competency-based, formal training. The nurse must not only teach, but also observe the patient and/or caregiver completing wound care, draining and stripping of surgical drains, output, medication administration, and, for patients who have had vaginoplasty, performing the dilation process. Written instructions, steps, and photographs are critical with teach-back methods to support this complex information (Amengual et al., 2022).

The robust discharge plan also involves written, concise information regarding medication reconciliation, activity limits, and emergency guidelines. Patients ought to be made aware of the medications to be continued, discontinued, and the management of likely side effects, including those of opioids. They should also be made aware of particular, time-bound activity limits, i.e., avoiding heavy lifting for 6-8 weeks after chest surgery or strict bed rest during the initial phase after complicated genital procedures. Moreover, they must also be able to recognize "red flag" symptoms—i.e., signs of infection, hematoma, vascular compromise, or pulmonary embolism—and have a well-established, easy-to-follow procedure for whom to contact and where to report if such symptoms arise. Availability of a 24-hour helpline staffed by clinicians versed in GAS protocols is a critical component of safe care, providing an added safety net for the management of anxieties and minor complications not related to office hours.

Finally, last of all, the nurse must conduct a psychosocial and environmental assessment to guarantee the patient has a safe and supportive physical and emotional setting to return home to. This involves inquiring about home life: Are stairs going to have to be climbed? Is the patient living with supportive friends or family, or alone? Is there stable transportation available for follow-up? In certain TGD patients, returning home to an unsupportive family or limited-resource neighborhood can be a significant threat to recovery and safety (Hughto et al., 2015). The nurse must be prepared to intervene by timely social work or case management referral to access resources such as temporary housing, home health attendants, cash, or delivery of medication. Through the defeat of

these logistically and psychosocially directed barriers, the nurse prevents a potentially avoidable post-discharge crisis from destroying the excellent result of surgery, completing a seamless, patient-centered perioperative process.

Challenges, Ethical Issues, and Future Research Directions

Challenges remain despite advancements. Competent, affirming nursing access is not yet universalized, particularly in rural areas or in non-specialized facilities. A significant challenge is the lack of standardized, integrated education on TGD health at the nursing school level that causes knowledge gaps and provider unease (Carabez et al., 2016; Sherman et al., 2023).

There may be an ethical dilemma, as in patients with challenging mental health backgrounds

or those who do not strictly meet WPATH criteria. In either scenario, the role of the advocate nurse for the patient remains paramount, listening to the patient's voice while also collaborating with the multidisciplinary team to secure safe practice (Rodriguez-Wallberg et al., 2023).

The future of nursing in this specialty is more advocacy, research, and specialization. The establishment of certified clinical nurse specialist roles in transgender health can improve the quality of care (Keiswetter & Brotemarkle, 2010). Furthermore, nursing research to develop evidence-based practices for pain treatment, complication prevention, and long-term follow-up models of care is required (Table 2 & Figure 2).

Table 2: Core Principles of Trauma-Informed and Culturally Competent Nursing Care for TGD Patients

Principle	Definition	Practical Application in Nursing
Affirmation & Respect	Actively validating and respecting a patient's stated gender identity.	Consistently using chosen name and pronouns; ensuring EHR reflects identity; avoiding assumptions about anatomy or sexuality.
Patient Autonomy & Collaboration	Empowering the patient as the expert on their own experience and involving them in all care decisions.	Explaining all procedures before performing them, asking for consent before touching, and offering choices in care when possible.
Psychological Safety	Creating an environment where the patient feels safe from judgment, discrimination, and invalidation.	Using non-judgmental language; maintaining confidentiality; displaying visual cues of allyship (e.g., pronouns on badge, rainbow flag).
Cultural Humility	A lifelong commitment to self-evaluation and critique, redressing power imbalances, and developing mutually beneficial partnerships.	Acknowledging gaps in knowledge, being open to patient correction, and seeking out ongoing education on TGD health.
Trauma Awareness	Recognizing the high prevalence of trauma in TGD populations and understanding how it can impact health and interactions.	Using a "what happened to you?" lens, being aware of potential triggers (e.g., exams), and avoiding re-traumatizing practices.



Figure 2: Core Principles of Trauma-Informed and Culturally Competent Nursing Care.

Conclusion

Nursing care of the gender-affirming surgery patient is a demanding and rewarding specialty that lies at the intersection of advanced clinical practice and urgent humanism. It demands a distinct familiarity with complex surgical techniques and their

complications, together with an unwavering commitment to the practice of cultural competency and trauma-informed care. From the education and assessment of the pre-operative stage through the post-operative recovery care and the provision of required psychosocial interventions, the nurse is a constant, affirming presence. In taking this unifying role, nurses are not merely helping with a medical intervention; they facilitate a redemptive process, empowering TGD individuals to achieve bodily congruence and, ultimately, to live more authentic and authentic lives. Continued expansion of nursing science, practice, and advocacy in this realm is essential to eliminating health disparities and offering equal, exceptional care to all TGD individuals.

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