



The Ethics of Gender-Affirming Care: An Evaluation of the Research

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Abstract

Gender-affirming care has emerged as the dominant model of healthcare for adolescents with gender dysphoria, replacing the historical model of watchful waiting. In gender-affirming care, the healthcare professional affirms the gender with which the patient identifies. Often, with minimal clinical evaluation or investigation into underlying mental health and psychosocial issues, the young person is sent on a path of social transition, puberty blockers, cross-sex hormones, and surgery. This paper addresses the ethics of gender-affirming care through the lens of the ethical principles of beneficence, nonmaleficence, and autonomy. An evaluation of the research and data reveals that gender-affirming care is not an ethical approach to the treatment of adolescents with gender dysphoria. It violates the principle of beneficence because gender transition has not been shown to be beneficial. It violates nonmaleficence because these interventions harm patients. It violates autonomy because, although these interventions are provided at the patient's request, there is inadequate informed consent.

Keywords

bioethics, estrogens, gender-affirming care, gender dysphoria, gender reassignment surgery, informed consent, informed consent by minors, leuprolide acetate, puberty inhibitors, puberty suppression, testosterone

Introduction

In the past decade or two, the incidence of gender dysphoria (GD) and transgenderism in adolescents has skyrocketed (Arcelus et al. 2015; Kidd et al. 2021; NHS England 2024). Historically, GD was not only very rare but also occurred mainly in two distinct demographics: very young boys and adult men. Since 2011, a significant change has occurred with a sharp increase in GD in adolescents, particularly girls (Littman 2018; Shrier 2020). Historically, the standard of care worldwide for children and adolescents with GD has been counseling and watchful waiting (Laidlaw, Cretella and Donovan 2019; Van

Meter 2019). With time, a large majority of these young people would become comfortable with their biological sex (Drummond et al. 2008; Singh, Bradley and Zucker 2021; Steensma et al. 2013; Van Meter 2019; Wallien and Cohen-Kettenis 2008). With the escalating incidence of adolescent transgender patients, however, a model of care has emerged

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called gender-affirming care (GAC). Instead of watchful waiting, in GAC, a person is “affirmed” in their desired gender, typically with minimal clinical evaluation. GAC is now used by most clinics (Rafferty 2018) and upheld by major medical organizations (American College of Obstetricians and Gynecologists 2021; American Psychiatric Association 2018; Coleman et al. 2022; Hembree et al. 2017; Rafferty 2018). In GAC, a young person is deemed to have the diagnosis of GD by self-declaration and is subsequently sent on a pathway of social transition, puberty blockers (PBs), cross-sex hormones (CSHs), and even gender-affirming surgery. While many medical and advocacy organizations consider GAC to be essential healthcare (Coleman et al. 2022, S110), others consider it to be unethical (American College of Pediatricians 2023; Laidlaw, Cretella and Donovan 2019; Levine, Abbruzzese and Mason 2022a; Van Meter 2019). This paper will evaluate the ethics of GAC based on principle-based ethics, which consists of four basic principles: beneficence, nonmaleficence, autonomy, and justice. This paper will argue that GAC clearly fails in the first three ethical principles.

Medical Ethics

In evaluating the ethics of GAC, we look to principle-based ethics, the dominant system in current discussions of medical ethics. The following four principles frame principle-based ethics (Varkey 2021):

1. *Beneficence*: The physician is ethically obligated to act for the patient’s benefit.
2. *Nonmaleficence*: The physician is ethically obligated not to harm the patient.
3. *Autonomy*: The physician must respect the patient’s right to make their own decisions about healthcare, which requires that the physician provide adequate information to the patient.
4. *Justice*: Treatment must be fair, equitable, and appropriate.

GAC violates the first three of these four principles: beneficence, nonmaleficence, and autonomy. It violates the principle of beneficence because gender transition has not been shown to be beneficial. As we will see, it violates nonmaleficence because these interventions harm patients. It also violates autonomy because, although these interventions are provided at the patient’s request, there is inadequate informed consent. Although there may be cases in which the principle of justice is violated in the provision of GAC, GAC does not clearly in and of itself violate the principle of justice and so the principle of justice will not be discussed herein. In what follows, I will explore further how GAC violates the ethical standards of beneficence, nonmaleficence, and autonomy.

Terminology and Diagnosis

Gender dysphoria, the current term, is defined by certain criteria in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), which is the American Psychiatric Association’s handbook for psychiatric disorders. As with many things, the definition and terminology have evolved. Prior to the DSM-III published in 1980, there was no diagnosis listed for those with incongruence between their birth sex and internal sense of gender. In 1980, the DSM-III listed gender incongruence as transsexualism (Beek, Cohen-Kettenis and Kreukels 2016). With DSM-IV, which was published in 1994, the term was changed to gender identity disorder (American Psychiatric Association 1994). With time, however, many felt that gender incongruence was a normal variant, not a mental health disorder, so in DSM-5, published in 2013, the term was changed to gender dysphoria (GD) (Zucker et al. 2013). Despite not wanting to label GD as a psychiatric disorder, it was kept in the DSM since a diagnosis is often needed for insurance coverage of treatment. The latest version, DSM-5-TR, published in 2022, made further changes in terminology, including replacing “desired

gender" with "experienced gender," "cross-sex treatment regimen" with "gender-affirming treatment regimen," and "natal male/natal female" with "individual assigned male/female at birth (American Psychiatric Association 2022; First et al. 2022)

According to the current version, the criteria for diagnosis of GD in an adult or adolescent are a marked gender incongruence of at least six months and meeting at least two of six additional criteria. Additionally, the condition has to be associated with clinically significant distress or impairment in social, occupational, or other areas of functioning. The current diagnosis is completely reliant on self-report.

GAC and World Professional Association for Transgender Health

When parents take their child to a gender identity clinic, they should rightly expect that their child will receive a complete evaluation and be carefully offered options, starting with the least invasive. However, many describe only a brief assessment that typically affirms the young person's desired gender, not uncommonly resulting in a prescription for hormones at the first appointment (Edwards-Leeper and Anderson 2021; Levine, Abbruzzese and Mason 2022a). The brevity of evaluation and the speed at which youth are fast-tracked to transition can be attributed to the model called gender-affirming care.

In the GAC model, a healthcare professional "affirms" the patient's chosen gender and provides interventions for gender transition. In gender transition, the first intervention is typically social transition, in which the person changes their clothing, hairstyle, name, "preferred pronouns," and even the sex on their legal documents to align with and appear more like the opposite sex. In a young person at the start of puberty, the next step is a PB, which halts the normal process of puberty. PBs are often presented as reversible and as a means to allow a young person to have more time to decide (Carmichael et al. 2021;

Delemarre-van de Waal and Cohen Kettenis 2006), yet the overwhelming majority of those who go on PBs (87–98%) proceed to CSHs to induce the secondary sexual characteristics of the opposite sex (Brik et al. 2020; Carmichael et al. 2021; Wiepjes et al. 2018). Females who desire to appear male are given testosterone, resulting in facial hair growth, increased muscle mass, enlargement of the clitoris, deepening of the voice, and other effects. Males who desire to appear female are given estrogen, resulting in redistribution of body fat, breast growth, decreased testicular volume and sperm production, and other effects. Some also undergo surgery to appear more like the opposite sex. The process of gender transition carries significant risks. Not only does medical and surgical transition result in permanent, disfiguring alterations to the body but there are significant risks of complications and adverse effects.

The World Professional Association for Transgender Health (WPATH) publishes what is claimed to be the *Standards of Care (SOC)* for these interventions. WPATH promotes GAC, so the child or adolescent makes the diagnosis, not the healthcare professional. This diagnosis is based on self-report, not objective verification. Instead of exploring underlying issues (which are common in young people with gender distress), such as mental health, sexual abuse, history of bullying, and history of trauma, the healthcare professional is obligated to affirm the patient's chosen identity. In this model, all patients with GD cases are treated as if they all had the same cause, while in fact they may have various and diverse backgrounds and etiologies. The healthcare professional can then quickly provide PBs and CSHs to a young person with little evaluation.

Historically, medical professionals did not provide medical or surgical intervention for those with GD without a thorough psychiatric evaluation. This changed in 2012 when WPATH published Version 7 of its *Standards of Care (SOC 7)* (WPATH 2012). The new paradigm asserted that patients, including children and adolescents, knew best what they needed (Levine 2018). The mental health professionals'

role was minimized, especially with the pronouncement that alternative gender identities are a normal variant, not an abnormality to be addressed (Levine 2018). Further changes were made when *SOC Version 8 (SOC 8)* was published in 2022 (Coleman et al. 2022). While earlier versions had minimum age requirements for adolescents to receive PBs, CSHs, and surgery, the current version does not. SOC 8 allows PBs and CSHs at the very start of puberty, which occurs on average at the age of nine to ten in girls (with a range of eight to thirteen) and age eleven to twelve in boys (with a range of nine to fourteen) (Emmanuel and Bokor 2023; Klein et al. 2017). Thus, according to the current WPATH guidelines, life-altering PBs and CSHs can be given to girls and boys as young as eight to nine years of age based on their self-declared diagnosis. There is also no minimum age for surgery. SOC 8 recommends twelve months of hormones prior to surgery “unless hormone therapy is either not desired or is medically contraindicated” (Coleman et al. 2022). Thus, it could be within the current WPATH guidelines for a young person to undergo genital surgery shortly after starting PBs and CSHs at age eight or nine.

In SOC 7, one referral letter was required to access hormone therapy or chest surgery; two were required for genital surgery. In SOC 8, no referral letters are required for either. There is also no requirement to adequately treat mental health issues before providing these interventions. Although SOC 7 required that medical and mental health issues be well-controlled before medical intervention, SOC 8 states that they must only be addressed so that gender-affirming treatment can be optimized (Coleman et al. 2022; WPATH 2012).

Any other intervention in medicine, particularly life-altering treatment in a minor, would not be undertaken without a concretely defined diagnosis, an extensive evaluation, a trial of less invasive and safer options first, an assessment that the risks outweigh the benefits, and adequate informed consent, including parental consent for minors. A further exploration of the GAC model reveals significant ethical problems.

Ethics of GAC

The physician has an ethical obligation to the patient: to act for the good of the patient, not to harm the patient, to respect the patient’s autonomy, and to distribute care fairly. GAC violates three of the four principles of medical ethics: beneficence, nonmaleficence, and autonomy.

Beneficence

The principle of beneficence requires that medical professionals act for the benefit and welfare of their patients (Beauchamp and Childress 1994, 259). In order for GAC to be consistent with the ethical principle of beneficence, there must be some benefit to the patient. However, the evidence for any benefit from GAC is lacking.

The Dutch Protocol. Giving PBs to children and young adults was based on two studies in the Netherlands that have come to be known as the “Dutch Protocol.” The first study, published by De Vries et al. in 2011, evaluated the psychological effects of PBs only in seventy young people over the course of two years (de Vries et al. 2011). De Vries et al. found that those given PBs had improvement in behavioral and emotional problems, depression, and general functioning but no change in anger, anxiety, GD, or body dysmorphia. All patients received both psychotherapy and PBs. De Vries et al. published a follow-up study in 2014 on these patients (de Vries et al. 2014). They evaluated psychological functioning and objective and subjective well-being before PBs, CSHs, and then one or more years after surgery. The authors claimed that in young adulthood, GD was alleviated, and psychological functioning had steadily improved, similar to or better than same-aged peers in the general population. GD was evaluated using the Utrecht Gender Dysphoria Scale (UGDS). They administered the UGDS of the patient’s biological sex before treatment. Before CSHs, but then after the intervention, they gave the female version to biological

males and the male version to biological females, thus invalidating their conclusion that GD was alleviated.

Furthermore, in these studies, there was no control group. All patients received psychotherapy. With no control group, we do not know whether these young people would have fared better or worse had they only gotten psychotherapy or if they had gotten neither psychotherapy nor gender-affirming intervention.

However, there is more to the story. In their second study, which includes the effects of PBs, CSHs, and surgery, De Vries only reported on fifty-five of the seventy patients. Six were excluded because they had not yet been one year post-surgery. Two were medically ineligible for surgery due to uncontrolled diabetes and morbid obesity. Five patients either refused (two), dropped out (one), or did not return the questionnaires (two). Most concerning, however, is that one young patient died as a result of the surgery. So, of the seventy initial patients in the first study, over 20%, including one who died, were excluded from the second study. The young person who died as a result of the surgery underwent a vaginoplasty, the creation of a vagina-like structure in a person born male, and died from surgical complications.

These two studies formed the foundation for today's gender transition, yet the patients in these studies were a different population than most gender-dysphoric young people today. In the Dutch Protocol studies, the young people had had GD since early childhood rather than the adolescent-onset GD that is mainly seen today. Also, in the Dutch Protocol studies, the young people had to live in a supportive environment, which may not be the case with all today. Moreover, they had to have no comorbid psychological disorder that could interfere with assessment, which is also often not the case in today's gender-dysphoric youth.

If these studies were just the initial exploratory studies for gender transition, validated by additional, higher-quality studies, perhaps there could be some basis for PBs, CSHs, and gender-affirming surgery in adolescents. However, the results of the Dutch studies

have never been replicated (Cantor 2022), a fact later admitted by De Vries herself (Klotz 2023). Although there has been a plethora of studies in the medical literature since the original Dutch studies, they do not provide any assurance that these interventions benefit the patient. The quality of the evidence of any benefit from these interventions is very low. Long-term studies are lacking, and there are no randomized, controlled trials. We cannot say from these studies that PBs, CSHs, and surgery have any health benefit for adolescents.

Suicide. We often hear that GAC is necessary to prevent suicide. A parent may be told, "Do you want a dead daughter or a live son?" This is indeed a gut-wrenching scenario for any parent. If GAC prevented suicide, then this would be beneficial, acting for the good of the patient. The data do not bear this out.

Suicide risk is indeed increased among youth who identify as transgender. The American College of Pediatricians notes that being trans-identified increases suicide risk by a factor of thirteen, similar to or less than other at-risk groups among the youth. Anorexia increases suicide risk by a factor of eighteen to thirty-one, depression by a factor of twenty, and autism by a factor of eight (Robbins and Broyles 2023). Youth with GD also have higher risks of mental health conditions predisposing to suicide, such as depression, anorexia, and autism. It is uncertain whether the increased risk is due to the underlying conditions, GD, or a combination.

The best evidence we have demonstrates that suicide remains elevated following gender transition. A Swedish study by Dhejne et al. evaluated all those who underwent sex-reassignment surgery (SRS) in Sweden from 1973 to 2003 and matched them 1:10 to controls of both the same sex and the same reassigned sex (Dhejne et al. 2011). Those who underwent SRS had a nineteen times higher rate of suicide, five times higher rate of suicide attempts, three times overall mortality, and three times the risk of inpatient psychiatric care compared to those of the same birth sex. When compared to those of the reassigned

sex, the results were similar. The study by Dhejne et al. is one of the few long-term studies that we have. A more recent retrospective study by Straub et al. demonstrated that those who underwent gender-reassignment surgery (GRS) had a twelve-fold higher suicide attempt risk than those who did not (Straub et al. 2024). Although these are not randomized controlled trials, the results are alarming.

As noted by the American College of Pediatricians, prevention of suicide for trans-identified youth is the same as for other youth: talk therapy and U.S. Food and Drug Administration (FDA)-approved psychiatric medications (Robbins and Broyles 2023). Parents who are told that gender transition will decrease their child's risk of suicide are provided poor data at best and a lie at worst. These young people are indeed at risk of suicide. Their mental health issues need to be treated, but GAC is not the answer. It violates the ethical principle of beneficence. There is no adequate evidence that gender transition reduces suicide or has any other beneficial effects.

Experts Weigh In. Many experts in the field have spoken out against the low certainty of benefits and the significant risk in providing GAC to young adults (Cantor 2022; Levine, Abbruzzese and Mason 2022b; Van Meter 2022; Van Mol et al. 2020). A recent letter to the editor of the *Wall Street Journal*, signed by twenty-one clinicians and researchers from nine countries involved in direct care for gender-diverse youth, expressed great concern about the low quality of evidence and the significant risks (Kaltiala et al. 2023). Recently, many European countries have urged more caution in using PBs and other interventions in youth. Governments and medical authorities there recommend psychotherapy rather than hormones and surgery as a first line of treatment. They express concern that these interventions do more harm than good (7 European Countries 2023; Council for Choices in Health Care in Finland 2020; NHS England 2024; Norwegian Healthcare Investigation Board 2023; Society for

Evidence-Based Gender Medicine 2022, 2023). In a review of the evidence published in May 2025, the United States Department of Health and Human Services has come to similar conclusions (United States Department of Health and Human Services 2025).

The American College of Pediatricians states,

There is not a single long-term study to demonstrate the safety or efficacy of puberty blockers, cross-sex hormones and surgeries for transgender-believing youth. This means that youth transition is experimental, and therefore, parents cannot provide informed consent, nor can minors provide assent for these interventions. Moreover, the best long-term evidence we have among adults shows that medical intervention fails to reduce suicide. (American College of Pediatricians 2023)

The WPATH guidelines themselves admit to the lack of evidence. WPATH admits that “the number of studies is still low, and there are few outcome studies that follow youth into adulthood” (Coleman et al. 2022, S46) Providing GAC to adolescents, including PBs, CSHs, and surgery, therefore, violates the ethical principle of beneficence. Beneficence means that as a physician, I must act for the benefit and contribute to the overall welfare of my patients. There is no evidence that gender transition—medically or surgically—benefits those with gender distress. Instead, these interventions fast-track a patient to invasive life-altering options that lack evidence.

Nonmaleficence

GAC also violates the ethical principle of nonmaleficence, which refers to the medical professional's obligation “not to inflict harm intentionally” (Beauchamp and Childress 1994, 189). There is not only low evidence of any benefit of gender transition, but there is significant evidence of detrimental and permanent harm. Physicians and other healthcare professionals who utilize GAC

not only do not help their patients but they also harm them.

Social Transition. Social transition is typically the first step of gender transition, in which young people change their name, preferred pronouns, hairstyle, and clothing to appear like the opposite sex. WPATH encourages social transition prior to PBs in children and adolescents (Coleman et al. 2022). Social transition can also entail physical manipulation of normal anatomy. Females who desire to appear male may do “packing” (to provide a bulge at the groin) and chest binding to make their chest appear flatter. Chest binding entails compression of female breasts (using modalities such as commercial binders, sports bras, layering shirts, bandages, duct tape, or plastic wrap) to appear more masculine (Peitzmeier et al. 2017). There are no peer-reviewed studies to evaluate the health impact of chest binding, although one study showed that 97% of those who engaged in chest binding experienced an adverse effect, most commonly back pain, overheating, chest pain, shortness of breath, itching, bad posture, and shoulder pain (Peitzmeier et al. 2017). Dr. Miriam Grossman states that chest binding is a gateway drug for some girls, introducing them to what appears to be a harmless and temporary flattening of their breast (Grossman 2023). Social transition for males may include stuffing (to make the chest, hips, or buttocks appear more prominent) and tucking (a difficult and awkward maneuver to hide the penis and scrotum. WPATH recognizes that “Limited studies are available on the specific risks and benefits of tucking in adults, and none have been carried out in youth” (Coleman et al. 2022, S54). Tucking may affect spermatogenesis and fertility, as studies have reported decreased sperm production with tight undergarments, but no definitive studies on tucking have been conducted (Coleman et al. 2022).

Social transition may be presented as reversible, but once a person lives socially as the opposite gender, it can be challenging to change course (Steensma et al. 2011). A young person who has lived for several years with a

hairstyle, clothing, name, and pronouns of the opposite sex will find it very difficult to appear at school one day looking like the original sex. Social transition sends a person on a pathway that is not easily reversible and can cause harm to the patient (Grossman 2023).

Puberty Blockers. The next step in gender transition for those who have not completed puberty is a PB to prevent the young person from going through normal physiologic puberty. The medicines used today to block puberty are gonadotropin-releasing hormone agonists, which work by blocking the action of gonadotropin-releasing hormone and thus preventing the release of estrogen (in girls) or testosterone (in boys). By blocking the hormones that cause the development of secondary sex characteristics, they prevent the process of puberty. In the United States, an injection called leuprolide acetate is typically used. The use of leuprolide acetate to treat GD is an off-label use. Leuprolide acetate is approved in adults to treat endometriosis, uterine fibroids, and prostate cancer; its only FDA-approved use in minors is to treat central precocious puberty, a completely different issue than GD in adolescents. PBs harm the patient, violating the ethical principle of non-maleficence in several ways.

First, PBs have significant long-term adverse effects, including potential decreased bone mineral density. Puberty is an essential period for the development of bone mass. When PBs are started at the beginning of puberty, bone development is not complete, and the PBs halt this process indefinitely. Not maximizing bone mass during adolescence may increase fractures and osteoporosis later in life (Schagen et al. 2020). Studies have shown that those on PBs have a lower bone mineral density than those of the same age, sex, and size (Delemarre-van de Wall and Cohen Kettenis 2006; Ludvigsson et al. 2023; Schagen et al. 2020). Although bone mineral density will typically increase if CSHs are later added, the long-term effects of PBs on bone mass have not been well-established.

Second, PBs can also permanently affect fertility. They impair sperm formation

(spermatogenesis) in males and egg (oocyte) maturation in females. Although young people are encouraged to store gametes (by cryopreservation) before starting PBs (Carmichael et al. 2021), a very small percentage (3–7%) of transgender youth do so (Chen et al. 2017; Cooper, Long and Aye 2022; Nahata et al. 2017). It has been noted that by suppressing the normal hormonal process, PBs maintain an immature state of the gonads, which will stay immature even as the child grows in stature. It is likely, but not conclusively demonstrated, that the hypothalamus–pituitary–gonadal axis will reactivate after cessation of PBs. However, the most significant concern for permanent sterility is with subsequent CSH exposure to immature gonads.

Third, PBs also have a significant effect on adult sexual function. Blockage of puberty results in halting the ovaries or testicles at that stage of development, resulting in limited-to-absent functioning as an adult (Biggs 2019; Laidlaw, Cretella and Donovan 2019). Dr. G. Kevin Donovan notes that those treated in early adolescence with PBs may never experience orgasm. He notes, “When children with gender dysphoria are given these powerful hormones (around age 11), they are too young to appreciate the implications of what will happen” (Donovan 2022). Laidlaw et al. similarly note that “The child or adolescent lacks the knowledge, foresight, and in most cases experience of SF [sexual function] to be able to fully comprehend the loss or impairment of SF resulting from the initial step of PBA [puberty-blocking agents]” (Laidlaw, Cretella and Donovan 2019, 76).

Fourth, another concerning risk of PBs is the unknown effect on brain development. Adolescence is a critical window of neurodevelopment, and puberty plays a critical role in this process (Baxendale 2024). Donovan notes that no one is entirely certain of the effects of PBs on brain development, and he states that currently, these off-label treatments with PBs and CSHs can only be considered experimental. In a recent study, Baxendale found that suppressing puberty impacts brain structure and the development of social and

cognitive functions: “No human studies have systematically explored the neuropsychological impact of pubertal suppression in transgender adolescents with an adequate baseline and follow-up” (Baxendale 2024, 1156). She concluded that there is no evidence that the cognitive effects of PBs are fully reversible after discontinuation.

Fifth, parents may be told that PBs are “reversible” and will “buy time.” In addition to the significant irreversible effects, multiple studies show that 87–98% of those who go on PBs proceed to CSHs (Brik et al. 2020; Carmichael et al. 2021; Wiepjes et al. 2018). PBs are neither harmless nor reversible. Blocking puberty in adolescents with GD violates the ethical principle of nonmaleficence. As described above, these interventions cause harm.

Cross-Sex Hormones. CSHs also harm the patient. A girl who takes testosterone because she wants to be a boy will indeed grow facial and body hair, develop a deep voice, and have enlargement of the clitoris. She is also at increased risk of heart disease, stroke, liver dysfunction, adverse effects on lipids, high blood pressure, increased red blood cell concentration, and breast or uterine cancer (Hembree et al. 2017). A boy who takes estrogen because he wants to be a girl will experience increased body fat, a decrease in lean body mass, decreased libido, erectile dysfunction, increased breast tissue growth, and redistribution of fat. However, he is also at increased risk of clots in the legs or lungs, benign pituitary tumors, breast cancer, heart disease, stroke, gallstones, high triglycerides, and death (Asscherman et al. 2011; Hembree et al. 2017). CSHs are not reversible and carry significant detrimental effects.

Gender-Reassignment Surgery. The harm to patients is particularly egregious with gender-reassignment surgery. The WPATH guidelines permit surgery on youth who have been on CSHs for at least twelve months “unless hormone therapy is either not desired or is

medically contraindicated" (Coleman et al. 2022, S64). No psychiatric referrals are required.

Gender-Reassignment Surgery: Female to Male. Surgeries for females who desire to appear male may include the removal of breasts, uterus, and ovaries, and the construction of a penis-like structure (metoidioplasty or phalloplasty), as well as the implantation of artificial testicles.

Removal of both breasts (often called "top surgery") is the most common surgery performed on females who desire to appear male (Bustos et al. 2021b). Complications of mastectomy in female to male youth include loss of sensation in the breast, scarring, unequal chest appearance, unsatisfactory appearance of areola, hematoma, postoperative pain beyond normal healing, and anesthesia complications (Olson-Kennedy et al. 2018). One of the most significant irreversible effects of double mastectomy is the inability of a woman ever to breastfeed. A double mastectomy is typically done in older women with breast cancer, in which the benefits clearly outweigh the harms. Although some studies show short-term satisfaction in adolescents, the studies are limited by small sample sizes, low response rates, and lack of long-term follow-up (Bustos et al. 2021b). Some females will undergo the removal of the uterus and ovaries. The former will eliminate their ability to carry a child, and the latter will decrease their body's estrogen production and eliminate the oocyte's maturation, making them infertile.

Construction of a penis-like structure can be done either by phalloplasty or metoidioplasty. Phalloplasty is constructing a full-length structure from a skin graft, usually from the forearm. Phalloplasty is a complicated surgical procedure with no standardized techniques, typically requiring at least three surgeries (Boczar et al. 2021; Hu et al. 2022). Phalloplasty has frequent and significant complications. One systematic review and meta-analysis demonstrated a complication rate of 76.5%, most of which were urethral complications (Wang et al. 2022). The most

common complications are urethral fistula (an abnormal connection between the urinary tract and a nearby organ (such as the bowel) or the outside world) and urethral stricture (narrowing of the urethra such that urine flow is obstructed or impeded). Incidence of urethral fistula ranges from 20% to 35% and urethral stricture from 18% to 25% (Wang et al. 2022).

Both usually require revision surgery (Hu et al. 2022). One systematic review and meta-analysis found that 48.9% suffered a urethral fistula or stenosis, 27.9% had a complication related to the prosthetic implant, 19.3% had nonurethral complications, including flap necrosis, vascular compromise, infection, hematoma, and delayed wound healing (Hu et al. 2022). Another systematic review and meta-analysis demonstrated a complication rate of 76.5%, most of which were urethral complications. In this study, 34.1% had a urethral fistula, and 25.4% had a urethral stricture (Wang et al. 2022). Another study showed a fistula rate of 20–35% and urethral stricture of 18% (Selvaggi and Bellringer 2011).

Complications can also occur at the graft site. Studies have shown graft site complications ranging from 8% to 13%, including skin graft failure, decreased forearm sensation and strength, scar contracture, loss of sensation, compartment syndrome, hematoma, and infection (Hu et al. 2022; Kovar, Choi and Iorio 2019).

Metoidioplasty is an alternative to phalloplasty in which a small penis is constructed from a hormonally enlarged clitoris. The surgical procedure is complex but less so than phalloplasty. The overall complication rate has been reported as less than 20% compared to 40% in phalloplasty (Selvaggi and Bellringer 2011). In a metoidioplasty, the hidden part of the clitoris is exposed to make it more visible and appear longer (Curtis et al. 2015). The urethra is lengthened to travel through the length of the phallus. Additionally, the vagina is closed off, and a scrotum is created by joining the labia majora in the midline and implanting silicone testicular prostheses. Postoperatively, the bladder must be drained with a suprapubic catheter for three weeks, and a vacuum device

is used for six months postoperatively to prevent adhesion and maintain phallus length. In one study, 11% of patients had a urethral fistula and stricture, 2% had testicular implant rejection, and 3% had testicular displacement. A successful result at twelve months was reported in 86–90% of the cases. Nine percent “required” total phalloplasty after metoidioplasty (Bordas et al. 2021).

Gender-Reassignment Surgery: Male to Female. Surgeries for males who desire to appear female include breast augmentation, vocal cord surgery, throat surgery, facial feminization surgery, and genital surgery (Selvaggi and Bellringer 2011). Genital surgery carries particular risks.

Genital surgery for male to female entails the removal of the penis and testicles and the construction of a neovagina (vaginoplasty) and external female genitalia. The neovagina is usually constructed by inverting the tissue from the penis. But if PBs were started at early puberty before significant growth of the penis, there is insufficient penile tissue and tissue from elsewhere is utilized, often from the intestine (Selvaggi and Bellringer 2011). This was the case with the young patient in the Dutch study who died from complications of vaginoplasty. Using the intestine to construct a vagina has a higher complication rate than penile inversion vaginoplasty. A neovagina constructed from intestinal tissue can result in an excessive malodorous discharge (Van Gerwen et al. 2022). After vaginoplasty, the patient must use vaginal dilators. Vaginal dilation is required for at least six months after penile inversion vaginoplasty (Bizic et al. 2014) and a shorter period after neovaginas are constructed from the bowel (Van Gerwen et al. 2022).

In addition to constructing a vagina, the sensitive tissue (neurovascular bundle and glans) from the penis is used to construct a “neoclitoris.” A section of skin from the base of the penis is used to form the labia minora. The testicles are removed, and skin from the scrotum is used to form the labia majora. Reported rates of complications from vaginoplasty vary. One systematic review and meta-analysis showed

a 1% rate of fistula, 11% stricture or stenosis, 4% tissue necrosis, and 3% prolapse (Bustos et al. 2021a). Another systematic review and meta-analysis showed a complication rate of 32.5% and a reoperation rate of 21.7% (Dreher et al. 2018). Another review reported complication rates from penile inversion vaginoplasty that ranged from 20% to 70% (Hontscharuk et al. 2021).

The most serious complication is rectovaginal fistula (RVF), in which there is a connection between the vagina and rectum (Van Gerwen et al. 2022). Accurate estimates of the incidence of RVF are difficult to obtain, and it is suspected that RVFs are underreported (Selvaggi and Bellringer 2011). About 50% of these fistulas will require surgical intervention to close, and more complicated cases may require the removal of the neovagina (Selvaggi and Bellringer 2011). Meatal stenosis is an obstruction at the urethral opening and typically presents two months after surgery. When this occurs, there is decreased urine flow and then dribbling incontinence. Meatal stenosis requires surgical intervention, sometimes requiring long-term self-catheterization for bladder emptying (Selvaggi and Bellringer 2011).

The data on sexual function and satisfaction after these procedures are inconsistent. As Ongaro points out, one series reported that orgasm was possible in only 15%, another reported 70%, and their own series showed 89% (Ongaro et al. 2020). There is little information on functional results after vaginoplasty (Bizic et al. 2014). Patient satisfaction after penile-inversion vaginoplasty ranges from 50% to 100% (Hontscharuk et al. 2021). The level of evidence for complications and functional outcomes is low (Dunford, Bell and Rashid 2021).

The descriptions and information above are just a brief overview of GRS. These surgical interventions are fraught with complications and difficulties. They also result in permanent disfigurement and detrimental effects on sexual and genitourinary function. GRS harms patients.

The principle of nonmaleficence means that as a physician, I must not intentionally harm my patients. I may not always be able to

help, but I must not harm them. PBs, CSHs, and gender-affirming surgery have significant adverse disfiguring effects and long-term complications. Providing these harmful interventions with no evidence of any benefit violates the ethical principle of nonmaleficence.

Autonomy: Informed Consent

The third ethical principle that GAC violates is autonomy. Autonomy means that the patient has the right to make their own decisions regarding healthcare. This does not mean that a patient can get any intervention they want; it does mean that they have the right to refuse or accept treatment. In order to refuse or accept treatment, however, the patient must be informed. This process is an essential aspect of autonomy called informed consent.

Informed consent is essential before any intervention. Ethically, the patient has the right to be provided information about the treatment and has the right to accept or refuse treatment. Informed consent requires that the patient be given information about their illness and the proposed treatment, as well as alternative treatments and no treatment; and be advised of the risks and benefits of all options. They also must be competent to understand and exercise judgment (Munson 2004; Shah et al. 2023). A patient's autonomy to decide is dependent on the informed consent process. A cancer patient has the right to accept or refuse chemotherapy, but in order for her consent (or refusal) to be informed, she must be advised of the treatment, its risks and benefits, and alternatives. She also must be competent to understand the information provided. Informed consent is not a signature on a consent form. It is a process and a discussion, often many discussions.

In an important paper, Levine et al. discuss the considerations of informed consent in transgender children and young adults. The authors point out three ethical concerns with informed consent in "trans-identified youth" (Levine, Abbruzzese and Mason 2022a). First is the erroneous assumption held by professionals that gender transition helps rather than harms young people. Second, incomplete and inaccurate

information is given to patients and their families. Levine et al. point out that the physician must disclose to the patient the uncertainty of whether the young person's GD will persist and the uncertainty of the long-term outcomes of the treatment. Third, Levine et al. state that the evaluation process is poor. The limited, abbreviated evaluations disregard and fail to address the factors that may have influenced the young person's gender incongruence.

GAC violates the ethical principle of autonomy by not performing an adequate evaluation and not providing adequate information for informed consent, yet ironically, the process used by those who provide this care is termed the informed consent model (ICM). Sarah Schulz, who advocates for this model, defines ICM as follows, "Access to services is granted based primarily on the ability to consent to care, not whether or not the clients meets [sic] the criteria for psychiatric diagnosis" (Schulz 2018). Levine et al. note that the ICM is the antithesis of informed consent, stating that "autonomy is not respected when patients consenting to the treatment do not have an accurate understanding of the risks, benefits, and alternatives" (Levine, Abbruzzese and Mason 2022a, 708). GAC claims to utilize the ICM while bypassing informed consent. The "ICM" is not informed consent.

Another aspect of informed consent is that the patient must be competent to understand the provided information and to exercise judgment. This brings into question the issue of obtaining informed consent from minors and whether they are capable of it. In any other area of medicine, parental consent is required under the age of eighteen (Understanding Informed Consent 2024), yet in GAC, parental consent can be bypassed. WPATH SOC 8 recommends that parents/guardians be involved in the assessment and treatment process "unless their involvement is determined to be harmful to the adolescent or not feasible" (Coleman et al. 2022, S48, S58, S111, S15, S256). Young people in the United States are not legally permitted to drive until the age of sixteen, vote until the age of

eighteen, and drink until the age of twenty-one. There are valid reasons for these regulations. As the American College of Pediatricians explains, “the adolescent brain is immature, not just in structure, but in function, and reveals the adolescent’s need for adult assistance when facing difficult and emotionally charged decisions” (American College of Pediatricians 2022). Laidlaw et al. state,

Children and adolescents have neither the cognitive nor the emotional maturity to comprehend the consequences of receiving a treatment for which the end result is sterility and organs devoid of sexual pleasure function. To argue that all children who are self-declared as transgendered will be harmed psychologically and physically without puberty blocking treatments is false; the greatest number will be seen to not require this at all. To further argue that these adolescents should receive hormonal therapy without parental approval betrays a poor understanding of adolescent psychology and the role of parents in the family dynamic. Evidence of severe and permanent harm from an appropriate delay for the psychological evaluation and treatment of such children, prior to permanently altering them, does not exist. To argue that such supposed harm rises to the level of denying parental involvement in the care of their gender-dysphoric child is grossly overreaching, and should not be suggested as the standard of care. Rather, it would constitute an unmonitored, experimental intervention in children without sufficient evidence of efficacy or safety, for which informed consent therefore would not be possible. (Laidlaw, Cretella and Donovan 2019)

A young person is not permitted to get a Tylenol from the school nurse without parental consent. However, they can walk into a gender clinic alone and walk out with a prescription for powerful hormones. This is not autonomy. It is malpractice.

Conclusion

In summary, GAC violates three principles of medical ethics. GAC violates *beneficence* by

providing an intervention with no proven benefit and withholding adequate psychotherapeutic evaluation and treatment for this vulnerable population. GAC violates *nonmaleficence* by providing interventions that cause harm. It also violates *autonomy* by (1) assuming GAC is the standard of care, (2) not providing accurate information to patients (mainly that benefits from these interventions have not been proven), and (3) by the poor quality of the evaluation process. GAC also bypasses informed consent, which is necessary for the patient to be able to exercise autonomy in decision making.

Research does not support the efficacy of social, medical, or surgical gender-affirming treatments for adolescents. Engaging in medical interventions that provide no benefit and have harmful, permanent, and disfiguring consequences is an egregious violation of medical ethics. Doing so without adequate informed consent further violates medical ethics. Our healthcare system must realize that GAC does not solve the distress in youth who present with GD. These young people need help and deserve an extensive evaluation of underlying issues and appropriate treatment thereof, not harmful and mutilating experimental interventions.

Ethical considerations

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