WHAT IS GENDER REASSIGNMENT SURGERY? A MEDICAL ASSESSMENT WITH A BIBLICAL APPRAISAL

Craig Kline M.D. | General Surgeon Southwestern Medical Clinic St. Joseph, Michigan

David Schrock | Assistant Editor The Journal for Biblical Manhood and Womanhood Seymour, Indiana

INTRODUCTION

he subject of gender reassignment has overrun major media over the last few years, gracing the cover of *TIME* magazine,¹ commanding a 2-hour special on *CNN*,² and headlining articles in many leading newspapers such as the *New York Times* and *The Wall Street Journal*.³ Christians will be increasingly confronted with the topic of gender reassignment, and will be challenged to look at this subject (and more importantly the persons who undergo such treatments) with compassion and truth rooted in the gospel of Jesus Christ.

It is important to recognize the wide range of treatments currently available for persons with "gender dysphoria"—the term used for individuals who report psychological distress over the asymmetry between ones perceived gender identity and his or her biological sex. We take up this technical subject because Christians have a growing need to grasp the diversity of these treatments, perceive their limitations, and appreciate their ever-widening application in our modern world. In a sentence, the majority of this article will introduce the subject of gender reassignment surgery, including the medical

¹ See Katy Steinmetz, "The Transgender Tipping Point," *TIME*, May 29, 2014, accessed February 25, 2015, http://time. com/135480/transgender-tipping-point/.

² See "Ex-Navy SEAL: Transgender is My Journey," *CNN*, September 4, 2014, accessed February 25, 2015, http://www. cnn.com/video/data/2.0/video/bestoftv/2014/09/04/newday-intv-beck-lady-valor-transgender-ex-navy-seal.cnn.html.

³ See Paul McHugh, "Transgender Surgery Isn't the Solution," *The Wall Street Journal*, June 12, 2014, accessed February 22, 2015, http://online.wsj.com/articles/paul-mchugh-transgender-surgery-isnt-the-solution-1402615120, and the "Transgender and Transsexual" section of the *The New York Times*, accessed February 25, 2015, http://topics.nytimes. com/top/reference/timestopics/subjects/t/transsexuals/index.html.

risks involved. It will close with some biblical and pastoral reflections on how Christians might think about these procedures and more importantly how we might minister to men and women who desire to change their gender through medical technology.

WHAT THIS ARTICLE DOES NOT DISCUSS

There are many medical conditions framed in our sexual identification and function as humans. Such conditions could arise from inherited genetic defects, failures of normal tissue growth during fetal development, or as the unintended result of physical trauma or other medical conditions acquired after birth. This article will not discuss the attempts of patients, their parents (in the case of children), or health professionals to restore the perceived original, God-authored design of our bodies (including our sexuality and sexual functioning) through hormonal therapies, medical treatments, or surgical procedures.⁴ Rather, this article will concern itself with treatments designed to alter the normal physical bodies of individuals who identify their sex at birth as differing from their desired gender.

WHO IS A CANDIDATE FOR TREATMENT?

Gender dysphoria is defined as the "discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth."⁵ This definition should be understood clearly, as gender-nonconforming persons may (or may not) experience the *psychological stress* associated with this perceived discrepancy. Thus, simple cross-dressing, transvestitism (defined here as the practice of cross-dressing while adopting the attitudes and behaviors of the opposite sex), or "gender fluid" persons may not fulfill the definition of gender dysphoria. In America, candidates for sex reassignment therapies and surgery must meet this definition. When Christians interact with transgendered persons, they should understand that the discrepancy between their given and perceived sex has caused them a significant amount of distress, and that even being considered for therapy requires more than simple cross-dressing or the occasional assumption of roles of the opposite sex.⁶

The World Professional Association for Transgendered Health (WPATH, formerly the Harry Benjamin International Gender Dysphoria Association) has established clinical guidelines regarding the care of transgendered persons.⁷ The WPATH guidelines state that candidates for treatment must have a well-established diagnosis of gender dysphoria. In addition, for many surgical procedures (such as genital surgery) it is required that patients have lived as the opposite sex for at least 12 months, adopting

⁴ For an ethical response to issues related to intersex, see Denny Burk, *What is the Meaning of Sex?* (Wheaton, IL: Crossway, 2013), 169–83.

⁵ E. Coleman, W. Bockting, and M. Botzer, "Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7," *International Journal of Transgenderism*, no. 13 (2011): 166.

⁶ For a description of terms (e.g., transgendered, transsexual, trans, etc.), see Gwynn Kessler, "Transgender/Third Gender/ Transsexualism," in *The Oxford Encyclopedia of Gender and Gender Studies* (ed. Julia M. O'Brien; New York: OUP, 2014), 2:421–29. According to Kessler, "transsexual" is used of "individuals who take hormones and who may undergo surgery to align their biological sexes with their [self-perceived or self-defined] genders" (ibid., 422). While this article is more directly related to Kessler's definition of *transsexual*, we will use the broader, "umbrella term" *transgender* to speak of those pursuing a wide-range of medical and surgical procedures. Acknowledging that *transgender* and *transsexual* are sometimes in conflict (ibid., 423–24), we are using the more general term, as it has become more commonplace to speak of transgendered persons. In some places "trans" will be used to speak of transgendered community as a whole (ibid., 427).

⁷ The full guidelines can be found online for those interested at http://www.wpath.org

their desired gender's clothing, attitudes, and behaviors. Relapses of converting back to the dress and behaviors of the sex at birth are a strong caution not to proceed with irreversible surgical procedures.⁸

The demand for gender reassignment treatments is increasing in America,⁹ and there is no reason to believe this trend will change in the near future. Christians will experience increasing contact with transgendered persons throughout the next decade, and beyond.

GOALS OF GENDER REASSIGNMENT TREATMENTS AND SURGERY

The goals of gender reassignment therapies and surgeries differ among individuals. Generally, the goals of therapy are to diminish the sexual characteristics of the sex given at birth, and to induce the development or appearance of sexual characteristics of the opposite sex.¹⁰

Complete "gender reassignment," or the comprehensive transformation of one sex to the opposite, is impossible. Interestingly, this fact was recently echoed in an editorial in *The Wall Street Journal* written by the former psychiatrist-in-chief at Johns Hopkins Hospital.¹¹ This important fact needs to be remembered during any discussion of gender reassignment therapies. No treatment may alter the genetic genotype, and sex-linked traits will always be expressed by the native genome. Many sexual characteristics, such as stature, bone structure, pelvic anatomy, and vocal cord structure (i.e., the deepening of the voice) cannot be reversed with any treatment. Aware of these limitations, physicians treating patients with gender dysphoria seek to bring about limited changes in the bodies of their patients to produce an appearance that is acceptable to them and allows them to more fully integrate their bodily appearance with their desired gender.

In addition to thinking about fully developed adults pursuing such therapies, many of these interventions are explored by *adolescents* (and their parents) at the beginning of puberty. Treatment of adolescents differs in many respects to adults, and generally requires that the adolescent patient reaches an age of legal consent.¹² We will explore how treatment of adolescents differs from adults below.

HORMONAL THERAPY

Hormonal therapy may be pursued as a sole intervention in gender reassignment therapy, or in conjunction with surgical treatments. In general, hormonal therapy seeks to masculinize or feminize the opposite gender through the use of medications that suppress the native sexual hormones, and supplement the hormones of the opposite sex. No randomized controlled trials have been performed to date comparing different hormone regimens, and thus the individual regimens may vary. Contraindications to using certain hormones exist, such as the use of estrogen in patients with a hypercoagulable state (a condition where blood clots more easily), due to an increased risk of blood clots. Hormonal treatment will begin to show effects in several months, reaching its maximum effect in 1–2 years in most cases.

⁸ Louis J. Gooren, "Care of Transsexual Persons," *New England Journal of Medicine*, no. 364.13 (2011): 1252, and Coleman, W. Bockting, and M. Botzer, "Standards of Care," 178.

⁹ E. Coleman, W. Bockting, and M. Botzer, "Standards of Care," 170.

¹⁰ Gooren, "Care of Transsexual Persons," 1253.

¹¹ McHugh, "Transgender Surgery Isn't the Solution."

¹² Coleman, Bockting, and Botzer, "Standards of Care," 188–190.

For men taking feminizing hormones, hormonal therapy will increase the proportion of body fat, decrease muscle mass, initiate breast enlargement, induce atrophy of testicles, create skin changes including softening of the skin and decreased oil production, decrease libido and spontaneous erections, decrease sperm production, produce thinning and slowed growth of facial and body hair, and initiate male pattern hair loss. Risks associated with these hormones include increased venous blood clots and possible dislodgement of the clots that may then plug another blood vessel (such as in a heart attack, stroke, or pulmonary embolism), an increase in triglyceride levels, increased risk of cardiovascular disease and high blood pressure, and may contribute to the development of diabetes.¹³ One long-term study reported up to a 25% incidence of osteoporosis in this population after 10 years of treatment at certain locations in the skeleton.¹⁴ There is not conclusive evidence at this time that feminizing hormones increase the risk of male breast cancer.¹⁵

Women taking masculinizing hormones will experience increased muscle mass and strength, a decreased proportion of body fat, deepening of the voice, clitoral enlargement, cessation of menstrual periods, vaginal atrophy, scalp hair loss, and an increase in acne and skin oil. Risks associated with masculinizing hormones include polycythemia (i.e., increased red blood cell counts in the blood), hyperlipidemia, and may contribute to worsening of psychiatric conditions, heart disease, diabetes, and high blood pressure.¹⁶ There is not conclusive evidence that treatment with masculinizing hormones will increase the risk of breast, cervical, uterine, or ovarian cancer.¹⁷

Hormonal therapy for *adolescents* may have the goal of simply *delaying the onset of puberty*. This would allow the young person to explore their sexual identity prior to undergoing the irreversible sexual changes associated with puberty, such as the deepening of the male voice in response to testosterone. Delaying the onset of puberty in males and females may involve hormones that suppress the production of estrogen or progesterone, or delay their peripheral effects in tissues. Oral contraceptive pills may delay the onset of menses in females. These effects are fully reversible. Additionally, adolescents may be given hormones to masculinize or feminize the body, as in adults (the regimens vary from adult regimens in several ways). These effects may be partially reversible depending on the situation.¹⁸

A comprehensive knowledge of the desired (and undesired) consequences of hormonal therapy in gender reassignment treatments is lacking. However, research has questioned whether puberty suppression treatments may harm bone mass and brain development.¹⁹ Furthermore, exploration of the positive and negative links between cardiovascular risk and testosterone supplementation in men highlight our limited and evolving understanding of hormonal therapies even in the *native* birth sex.

 ¹³ Coleman, Bockting, and Botzer, "Standards of Care," 188-190 and Gooren, "Care of Transsexual Persons," 1253–1254.
¹⁴ K. Wierckx, S. Mueller, and S. Weyers, "Long-Term Evaluation of Cross Sex Hormone Treatment in Transsexual Per-

sons," Journal of Sexual Medicine, no. 9 (2012): 2646.

¹⁵ Coleman, Bockting, and Botzer, "Standards of Care," 190; Wierckx, Mueller, and Weyers, "Long-Term Evaluation," 2648; and E. L. Knezevich, L. K. Viereck, and A. T. Drincic, "Medical Management of Adult Transsexual Persons," Pharmacotherapy, no. 32.1 (2012): 60.

¹⁶ Coleman, Bockting, and Botzer, "Standards of Care," 188-190 and Gooren, "Care of Transsexual Persons," 1253–1254.

¹⁷ Coleman, Bockting, and Botzer, "Standards of Care," 190; Wierckx, Mueller, and Weyers, "Long-Term Evaluation," 2648; and Knezevich, Viereck, and Drincic, "Medical Management of Adult Transsexual Persons," 61–62.

¹⁸ Coleman, Bockting, and Botzer, "Standards of Care," 172–178.

¹⁹ B.P.C. Kreukels and P.T. Cohen-Kettenis, "Puberty Suppression in Gender Identity Disorders: The Amsterdam Experience, *Nature* 7 (2011):470.

GENDER REASSIGNMENT SURGERIES

Patients who desire to alter their physical appearance in ways that cannot be achieved through hormonal therapies may pursue surgery. There is a wide range of surgical therapies available today, ranging from simple plastic surgical procedures to major genital reassignment surgery.

As highlighted earlier, before being considered for irreversible surgical procedures, especially genital reassignment, patients must live as the opposite sex, including cross-dressing and adopting the behaviors and attitudes of the desired sex for at least 12 months. For adolescents, most surgeons in the West would advise that irreversible surgery be delayed until the patient can give personal, legal consent to such procedures.²⁰

MINOR SURGICAL PROCEDURES

Many minor surgical procedures to alter the appearance of the face may be undertaken as a part of gender reassignment surgery. Many of these procedures will seem familiar as common "plastic surgeries" but can have particular applications for sex reassignment surgery. These procedures include liposuction/lipoplasties to alter the contour of the body (especially at the waist), rhinoplasties ("nose jobs"), "face lifts," facial bone reconstruction, blepharoplasties (i.e., rejuvenation of the eyelid), and more specialized surgeries such as reduction thyroid chondroplasty (i.e., reduction of the "Adam's apple"), voice modification surgery, pectoral muscle implants, gluteal implants, etc.²¹

Males undergoing surgery to transition to the female sex may pursue breast augmentation, which is similar to breast augmentation in females, using synthetic breast implants. This is usually only carried out after hormonal therapy has allowed some enlargement of the male breast tissue, for better contour and shaping.²² Complications from this treatment are similar to breast enlargement procedures in women and may include rupture or infection of the implant. Many men pursue hair removal procedures to approach a female distribution.²³

For female-to-male patients, many will only undergo a mastectomy to achieve a masculine appearance of their chest. This surgery does not differ significantly from mastectomy undertaken for breast cancer, but may preserve slightly more breast tissue, removing only what is necessary to produce a chest that appears masculine. Complications from such surgery, which aims to preserve the nipple, include scar formation, irregularities of the contour of the chest wall, and nipple necrosis, complications similar to nipple-sparing mastectomies performed for breast cancer.²⁴

GENITAL REASSIGNMENT SURGERY

The most complex field of surgery in gender reassignment consists of genital reassignment surgery. From a medical perspective, these surgeries are fascinating and complex procedures, and are what is

²⁰ Ibid., 178

²¹ Ibid., 199–205; Gooren, "Care of Transsexual Persons," 1255; and P. A. Sutcliffe, S. Dixon, and R. L. Akehurst, "Evaluation of Surgical Procedures for Sex Reassignment: A Systematic Review," *Journal of Plastic, Reconstructive & Aesthetic Surgery*, no. 62 (2009): 296.

²² Coleman, Bockting, and Botzer, "Standards of Care," 202.

²³ Sutcliffe, Dixon, and Akehurst, "Evaluation of Surgical Procedures," 296.

²⁴ Coleman, Bockting, and Botzer, "Standards of Care," 203–204.

JBMW | SPRING 2015

popularly imagined when discussing a "sex change" operation. There are actually many reasons why individuals desire genital reassignment surgery. As will be discussed below, some procedures may simply allow a person to assume traditional roles of the opposite sex, such as allowing a woman to urinate standing up, or a man to wear a woman's bathing suit. Other, more complex surgeries seek to provide functioning external genitalia to provide the opportunity for intercourse.

Genital reassignment surgery for males transitioning to females may include a variety of procedures, including orchiectomy (removal of the testicles) and penectomy (removal of the penis). The scrotum is shaped into labia in a procedure known as a labiaplasty, which may require several surgeries. Many times, a portion of the penis may be preserved and fashioned into a new clitoris by preserving the blood supply along a wall of tissue known as a "pedicle." Death (necrosis) of this flap of tissue has been reported, as can occur with any pedicled flap in wider surgical applications.

The most complicated step in male to female genital reassignment surgery involves creation of tissue resembling a vagina, or "neo-vagina." Interestingly, the vagina may be fashioned from a segment of colon, as the colon lining is similar to the mucous lining of the vagina. A segment of the sigmoid colon is resected from the large intestine, and the segment of divided colon is brought into the pelvis with a flap of mesentery, which provides the blood supply to the segment of colon. Bowel continuity is reestablished in the colon by rejoining the divided ends where the colonic segment was harvested, so that a person may pass stool in a normal fashion. With the interior end of the colon stapled off, the exterior end may be opened and sutured to the skin of the groin to simulate the vaginal opening. Techniques to invert the skin of the removed penis have also been described, which sometimes require additional skin grafts taken from the inside of the thigh. Some reports have suggested that this technique may lead to poor functional (sexual) outcomes.²⁵

Complications from such surgery can range from surgical site wound infections (more than 50% in one long-term study),²⁶ massive bleeding, minor changes in urinary habits such as urinary dribbling and incontinence, stricture of the urethra (or an abnormal scarring or tightening of the tube that carries urine out of the body), and fistula formation of the urethra (an abnormal connection of the urethra to another organ, usually the rectum).²⁷ One study reported that major complications during and immediately after surgery were as high as 14%.²⁸ Case reports of perforations of the segment of colon used to fashion the new vagina have also been described.²⁹ In a long-term follow-up study, 90% of patients were satisfied with their surgery and capacity for orgasm, but only 58% actually reported ever having sexual intercourse after their gender reassignment surgery.³⁰ One disturbing fact concerning the orgasm experienced by male-to-female transgendered persons can be the persistence of emission of fluid from the urethral meatus (i.e., ejaculation), because the prostate and seminal glands have not been removed.³¹

²⁵ Ibid., 200–204 and Sutcliffe, Dixon, and Akehurst, "Evaluation of Surgical Procedures for Sex Reassignment," 297–299.

²⁶ J.J. Zhao, D. Marchaim, and M. B. Palla, "Surgical Site Infections in Genital Reconstruction Surgery for Gender Reassignment, Detroit:1984–2008," *Surgical Infections*, no. 15.2 (2014):103.

²⁷ P. Hoebeke, G. Selvaggi, and P. Ceulemans, "Impact of Sex Reassignment Surgery on Lower Urinary Tract Function," *European Urology*, no. 47 (2005): 399.

²⁸ Sutcliffe, Dixon, and Akehurst, "Evaluation of Surgical Procedures," 299.

²⁹ G. Liguori, C. Trombetta, and L. Buttazzi, "Acute Peritonitis Due to Introital Stenosis and Perforation of a Bowel Neovagina in a Transsexual," *Obstetrics and Gynecology*, no. 97.5 (2001): 828–829.

³⁰ S. Krege, A. Bex, and G. Lummen, "Male-to-Female Transsexualism: A Technique, Results and Long-Term Follow-Up in 66 Patients," *British Journal of Urology International*, no. 88 (2001): 399.

³¹ A. A. Lawrence, "Sexuality Before and After Male-to-Female Sex Reassignment Surgery," *Archives of Sexual Behavior*, no. 34.2 (2005): 150

STUDIES

Genital reassignment surgery for female-to-male patients can involve several procedures, and in general is slightly more complicated than the opposite techniques in male-to-female patients. The initial procedure is a hysterectomy (removal of the uterus) and removal of the ovaries. Further efforts continue with fashioning the clitoris, elongated by the presence of male hormones, to construct a small "penis," or microphallus. The urethra (the tube that carries urine from the bladder) can be elongated to exit the end of the clitoris in a procedure is known as a metoidioplasty. This small phallus, however, is not large enough for sexual penetration, and also may not allow a woman to urinate while standing up.³²

A technique exists to create tissue that more closely resembles a penis (a "neophallus") through the use of a tissue graft based on the radial artery from the forearm, whereby it is attached near the pubic bone. Nerves are reattached from the forearm skin to nerves in the groin to reestablish sensation and to provide for some sexual arousal—though, it should be noted, surgery in this area also runs the risk of severing or destroying the nerves providing this sensation.

Next, the urethra is elongated, and ideally can exit the end of the neophallus. This new tissue of course has no erectile properties, and so inflatable devices or cartilage can be inserted into the tissue to simulate an erection. This technique has a complication rate cited at over 40% and can include strictures, fistulas (abnormal, draining openings between two structures such as the urethra and the skin), and necrosis (tissue death) of the neophallus. The labial skin may be enlarged, and implants resembling testicles can be inserted to simulate the male external genitalia.³³

Results from genital reassignment surgery on sexual functioning are mixed, complex, and inconclusive. A review in 2009 demonstrated that transgendered persons seemed to have adequate sexual functioning and satisfaction following treatments.³⁴ However, a more recent study revealed that after sex reassignment therapies, two-thirds of males transitioning to females had hypoactive sex drives, with 73% never or rarely experiencing spontaneous or responsive sexual arousal. But interestingly, this fact seemed to distress only 22% of these persons with this hypoactive sexual desire. Genital reassignment surgery (beyond simple hormonal therapies) seemed to improve sexual desire and functioning in the individuals that had gender reassignment surgery.³⁵

In persons undergoing female-to-male genital reassignment, studies generally reveal that these persons are more satisfied with their sexual functioning following hormonal and surgical treatments than men who have transitioned to women. Many have suggested that the testosterone treatments given to women undergoing reassignment may have a role in the increase in sexual desire and satisfaction.³⁶ A single center study revealed that though more than 50% of the participants had a complication during their surgeries, most were able to achieve orgasm, and relayed that this orgasm was of shorter duration and more intense in nature, similar to the typical male response.³⁷

Genital reassignment surgery should be considered a major surgical procedure. I [Craig Kline] have

³² Coleman, Bockting, and Botzer, "Standards of Care," 204; G. Selvaggi and J. Bellringer, "Gender Reassignment Surgery: An Overview," *Nature Reviews Urology*, no. 8.5 (2011): 278.

³³ Selvaggi and Bellringer, "Gender Reassignment Surgery: An Overview," 280.

³⁴ C. Klein and B. B. Gorzalka, "Sexual Functioning in Transsexuals Following Hormone Therapy and Genital Surgery: A Review," *Journal of Sexual Medicine*, no. 6 (2009): 2934.

³⁵ K. Wierckx, E. Elaut, and B. Van Hoorde, "Sexual Desire in Trans Persons: Associations with Sex Reassignment Treatment," *Journal of Sexual Medicine*, no. 11 (2014): 111.

³⁶ Klein and Gorzalka, "Sexual Functioning in Transsexuals Following Hormone Therapy and Genital Surgery," 2928– 2929 and K. Wierckx, E. Van Caenegem, and E. Elaut E, "Quality of Life and Sexual Health after Sex Reassignment Surgery in Transsexual Men," *Journal of Sexual Medicine*, no. 8 (2011): 3385.

³⁷ Ibid., 3384.

personally witnessed some of the complications listed above in patients I cared for during my surgical training, and also in my surgical practice. This field will continue to evolve and change over the next few decades as newer procedures and techniques are developed, but the short survey above gives a broad glimpse into the treatments as they are practiced today.

OTHER CONSIDERATIONS: GLOBAL IMPACT AND THE BLACK MARKET OF GENDER REASSIGNMENT SURGERY

This article has mainly dealt with the treatment of transgendered persons by skilled health professionals in a Western context. However, surgical practice in developing countries differs in many respects to surgical care in the West, and surgeries and treatments for gender dysphoria are no exception. The social stigma attached to these practices may drive such procedures and treatments to be performed outside of hospitals. Even in Western nations, many attempt "do-it-yourself" surgeries and take hormones obtained without a prescription, as highlighted by a recent study of transgendered persons in Ontario.³⁸

One example is the injection of "filler" material, such as silicone, beneath the skin to achieve body "contouring," as an alternative to seeking treatments from licensed professionals. The lower cost, rapid results, and ability to avoid uncomfortable interactions with surgeons and other health care providers has made this "black market" option attractive. Studies in Chicago and San Francisco found the prevalence of these injections to be between 16% and 29%, but one study from Thailand found that almost 70% of women seeking a male appearance obtained these injections.³⁹ These free silicone injections into the buttocks, hips, face, breasts, and calves have been known to cause blood clots, lung damage, high calcium levels, kidney failure, and death.⁴⁰

A long-term follow-up study in Sweden, which followed more than 300 persons who underwent gender reassignment surgery, revealed this population to have a considerably higher risk for mortality, suicidal behavior, and psychiatric disease when compared to the general population, and individuals of both sexes who underwent gender reassignment had an overall mortality rate *three times higher* than the average population, from all causes.⁴¹ This should alert those caring for transgendered persons to watch their emotional, psychological, and psychiatric needs. And for Christian health care professionals, it must lead believers to care for the mental and spiritual health of these persons through professional medical and psychiatric services, support groups, prayer, and a wise and discerning ministry of the Word.

³⁸ N. K. Rotondi, G. R. Bauer, and K. Scanlon, "Nonprescribed Hormone Use and Self-Performed Surgeries: 'Do-It-Yourself' Transitions in Transgender Communities in Ontario, Canada," *American Journal of Public Health*, no. 103.10 (2013): 1830.

³⁹ E. Wilson, J. Rapues, and H. Jin, "The Use and Correlates of Illicit Silicone or 'Fillers' in a Population-Based Sample of Transwomen, San Francisco, 2013," *Journal of Sexual Medicine*, no. 11 (2013): 1721.

⁴⁰ Ibid., 1718 and A. L. Negri, G. R. Diez, and E. Del Valle, "Hypercalcemia Secondary to Granulomatous Disease caused by the Injection of Methacrylate: A Case Series," *Clinical Cases in Mineral and Bone Metabolism*, no. 11.1 (2014): 47.

⁴¹ C. Dhejne, P. Lichtenstein, and M. Boman, "Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden," *PLoS One*, no. 6.2 (2011): e16885, 4-6.

EVALUATION

It is worth noting that the world of transgendered people has largely not shrugged off the dual relationship of the male and female gender. Most people, even in the trans community, prefer to identify as *either* a man or a woman. However, some within this community (occasionally referred to as "non-binary" persons) seek a gender identity outside of the male/female paradigm. We can be assured that medical and surgical treatments for such persons will increasingly be explored.

Study of this topic should deepen our amazement for the complexity of God's created order. Our sexual identity is profoundly related to our physical bodies, evidenced by the surprisingly numerous physical alterations that a person must endure to "change" their gender through medical and surgical reassignment. The metabolic networks and complex anatomical structures of our physical bodies, glorious in their purpose and yet distinct in their complementary male and female sex, should cause us to marvel at the God who created the sexes and the purposes behind his creation of gender.⁴² We see from this study that our sexuality permeates through our whole physical body, not just the differences in our genitals, breasts, and stature.

As to ministry, imagine the message that a Christian could convey to the trans community if they could listen and speak about gender reassignment without misconception, displaying some knowledge of the treatments or surgeries this person may have endured. This informed compassion may not be expected from everyone in the church, but it would certainly go along way to reaching the trans community for Christ. The effort made to understand their predicament, their pain, and their procedures would open lines of communication to advance the conversation about God, the gospel, and its impact on gender.

We stand together with persons suffering from gender dysphoria as imperfect sinners, with imperfect bodies, and long with them for the day when we, too, may receive new bodies (Rom 8:23; 1 Cor 15:5–53). Amazingly, Jesus mentions those who had a sexuality that could not have been perfectly fulfilled by their physical bodies (Matt 19:12). Even sexuality that seems disjointed from our physical bodies can be used of God in his kingdom. Any vain attempt to find fulfillment from a perceived disordering of God's providence outside of his gospel would be a rebellion against the God who authored us, and who will eventually restore every imperfection in glory.

All in all, Christians should prayerfully ask our Lord to increase our love for persons struggling with gender dysphoria, deepen our understanding of their personal pain, broaden our understanding of the complex medical and social implications of gender reassignment, and encourage us to speak truth into the confusion surrounding gender reassignment therapies. This article has introduced the various treatments and complications associated with gender reassignment, but as medical technology continues to advance and surgical options continue to proliferate, it will be an area of increasing study that Christian medical ethicists will need to keep in view, and that ministers of the gospel—vocational or otherwise—will need to be aware of as they minister to a sexually-confused world.

WHAT THE GOSPEL HAS TO SAY TO TRANSGENDERED PERSONS

It may be surprising to discover how much the Bible speaks about surgery on the genitalia. Among the many instances, the most prolific concerns the topic of circumcision. Beginning with the Abrahamic

⁴² For a discussion on the definition of gender, see Burk, What is the Meaning of Sex?, 157-83.

covenant (see Gen 17:10–14, 23–27) and legislated in the covenant with Israel (Lev 12:3), circumcision is found throughout the Bible.⁴³ Though the theological meaning of circumcision is beyond the scope of this article, it is worth noticing that this covenant included a form of surgery on male genitalia, displaying a distinguishing mark that served as a sign of the covenant made between God and man. Later, in a section of Leviticus where qualifications for priesthood were described (Lev 21:20) and again when Moses prepared Israel to enter the Promised Land (Deut 23:1), the Law excluded from the assembly of the LORD anyone who had "crushed testicles" or "whose male organ is cut off."⁴⁴

Circumcision continues to play an important role in the New Testament. While the physical act of removing the foreskin is associated with the old covenant and thus discontinued in the church, its typological fulfillment—the circumcised heart (Deut 10:16; 30:6; cf. Ezek 36:26–27)—is common to all new covenant believers (Col 2:11). Transitioning from old covenant to new, the New Testament records many heated discussions about the discontinuity of physical circumcision (e.g., Acts 15; Romans 2 and 4; Galatians 2). Without engaging all these passages, what, if anything, might Scripture's discussion of circumcision contribute to the modern discussion about gender reassignment surgery? Let me suggest two things.

First, gender reassignment surgery may, metaphorically speaking, be the "circumcision" of transgenderism's "gospel." Just as the true gospel includes a circumcision—*of the flesh* under the old covenant, which pointed forward to the true circumcision *of the heart* under the new covenant—so the false gospel of transgenderism invites its participants to mutilate their genitalia in order to find a kind of "salvation." Likewise, just as the true gospel has a mediator who inaugurates a covenant with blood (1 Tim 2:5; Heb 9:18), so too transgenderism's gospel has created a guild of mediators—advocates, entertainers, politicians, and now surgeons—who following the cultural zeitgeist can put to death the old man and raise "her" anew.⁴⁵ Moreover, in denying God his rightful place as sovereign creator, they establish themselves as autonomous lords. By consequence, transgenderism mimicks the true gospel by solving a "fallen condition" that is not revealed by God's Word, but that comes from an autonomous, personal feeling (i.e., men and women trapped in the wrong body). At the same time, transgenderism prescribes a method of "salvation" by way of bloodshed—a "new creation" through surgical "circumcision."⁴⁶

Of course, sexual rebellion and the distortion of gender roles is nothing new. Lamech boasts of

⁴³ For an overview and bibliography of the history and significance of circumcision in the Bible and ancient Near Eastern cultures, see John Meade, "Circumcision of the Heart in Leviticus and Deuteronomy: Divine Means for Resolving Curse and Bringing Blessing," *SBJT* 18.3 (2014): 59–85.

⁴⁴ Against the overly permissive interpretation of Peter C. Craigie (*The Book of Deuteronomy* [NICOT; Grand Rapids: Zondervan, 1976], 296–97), Eugene Merrill (*Deuteronomy* [NAC; Nashville: Broadman & Holman, 1994], 307) rightly observes the importance of physical purity in the presence of God: "The emasculation, described here as a 'wounding by crushing' (*pěsûa dakkâ*) or a 'cutting off of the male organ' (*kěrût šapkâ*), may, presumably, be genetic, accidental, or intentional; but that is irrelevant because the end result is the same—the male thus deformed could have no access to the assembly of the Lord."

⁴⁵ Credit to Andrew Walker for this observation, as well as pointing out that just as the Law of Moses called for obedience to external laws, so too transgenderism, as a cultural phenomenon, calls those afflicted by its conditions to obey its "laws," which are enforced through political and legal pressure applied by approved "mediators." What is the lasting effect? Gender reassignment becomes a type of works salvation that in the end neither saves nor works.

⁴⁶ Though unlikely that transsexuals think of their plight in terms of salvation, it is striking to read the words of Susan Stryker ("(De)Subjugated Knowledges: An Introduction to Transgender Studies," in *The Transgender Studies Reader* [ed. Susan Stryker and Stephen Whittle; New York: Routledge, 2006], 3), who says that the social "systems of power" associated with transgenderism "operate on actual bodies [i.e., persons], capable of producing pain and pleasure, health and sickness, punishment and reward, life and death" (cited in Kessler, "Transgender/Third Gender/Transsexualism," 2:425). Without realizing it, she is employing the language of redemption.

STUDIES

twisting God's creation when he sings of claiming two wives (Gen 4:23–24), and the Law of Moses lists cross-dressing as a way humans reject the goodness of God's creation (Deut 22:5).⁴⁷ But now, with advances in medical technology, what used to be feigned through clothes and mannerisms is now surgically possible. There is nothing new under the sun, but what is new is the plethora of medically-acceptable ways to deface God's creation.

Therefore, with many moral, theological, epochal, and physical differences between old covenant Israel and the modern transsexual, the one similarity worth noting is that both "religions" present salvation through the manipulation of the flesh. By doing something to the genitalia, it is perceived that blessings will follow—in Israel these blessings were the holy promises given to Abraham and his offspring; to the trans community blessing is found in sexual gratification—however that is defined by them.⁴⁸ To be clear, there is a radical difference between circumcision under the old covenant and genital mutilation of modern transgenderism—the former was instituted by God (Genesis 17); the latter is the invention of men (cf. Rom 1:32). Likewise, Abraham's circumcision was an act of faith, while gender reassignment surgery is an act of rebellion against God, his created order, and his sovereignty over gender.

Nevertheless, when we understand that circumcision of the flesh was always a sign pointing to the need for an interior purification (Deut 10:16; Deut 4:4; cf. Acts 7:51) and never meant to be salvific in itself, there are also striking similarities. For instance, consider the parallel logic at work in these two systems of salvation. Writing of circumcision's ultimate futility, Paul encourages the Judaizers to go the whole way and "emasculate themselves" (Gal 5:12). Whereas the Judaizers believed that circumcision brought them closer to God, Paul knew as an inveterate sinner physical circumcision accomplished nothing. Therefore, he commissioned the Judaizers to go further and emasculate themselves, which under the Law invoked the judgment of God—i.e., separation from his holy presence. By analogy, Christians believe that despite the sincerest intentions of transsexuals, the surgery they desire to perform on the body needs to be performed on their heart. While these children of Adam long to match their bodies with their inner perception, what they need is not a new body, but a new heart. In this way, the Jews of old and the modern trans community are not without similarities, because both face the same problem: They have exchanged the glory of God for the glory of created things, and therefore God has given them over to a "depraved mind to what ought not to be done" (Rom 1:23, 28).

To reiterate, this comparison between Old Testament ritual and modern surgery is not materially the same, but when we consider how Jews misused circumcision (as means of salvation) and the way transsexuals pursue surgery as functionally *salvific*, their comparison becomes more apparent. Whereas circumcision was ordained by God and pointed to a circumcision of the heart that God himself would perform at the right time, the "circumcision" of transsexuals is the invention of (technologically advanced) mankind. Inspired by the father of lies, gender reassignment surgery promises abundant life through the manipulation of the flesh.⁴⁹

⁴⁷ As we understand the pagan roots of ancient Near Eastern cross-dressing, it becomes clear the differences between then and now are not a matter of kind but degree. Illustrating that point, Daniel I. Block observes, "this injunction seeks to preserve the order built into creation, specifically the fundamental distinction between male and female. For a person to wear anything associated with the opposite gender confuses one's sexual identity and blurs established boundaries" (*Deuteronomy* [NIVAC; Grand Rapids: Zondervan, 2012], 512).

⁴⁸ On sex as a way of salvation, see Daniel R. Heimbach, *True Sexual Morality: Recovering Biblical Standards for a Culture in Crisis* (Wheaton, IL: Crossway, 2014), 55–56.

⁴⁹ For an illuminating theological and cultural commentary, see Timothy George, *Galatians* (NAC; Nashville: Broadman

On this comparison, it reminds us that when we engage family and friends grappling with gender reassignment surgery, we cannot fight flesh with flesh—"Just learn to live with and love your God-given gender." No, like Paul and Jesus in the New Testament, we must present a better circumcision—one that strips off the old man and gives disciples new life in Christ (Col 2:11–13; 3:1–3) so that learning to live out one's God-given gender is not harsh and heavy, but a yoke that is light and easy (see Matt 11:28–30). Indeed, by understanding gender reassignment surgery as a kind of rite of circumcision, it helps us understand why someone would desire to cut on their genitalia—it is part of our story and religious hope too. By remembering circumcision, and ultimately a greater bodily transformation—the redemption of the body promised to all who are alive in Christ (Rom 8:23).

Second, moving from a big picture analysis of circumcision to a particular text, we return to one verse in Galatians. In Galatians 5:12 Paul expresses with rhetorical force how he wishes Judaizers who were stressing the need for circumcision would "mutilate" or "emasculate" themselves. In the context of Galatians this hyperbole emphasizes the worthlessness of physical circumcision, now that Christ has come. Against the backdrop of the Law, such an action would be both humiliating and disqualifying for temple service (see Lev 21:20; Deut 23:1). Applied to the present discussion, such genital mutilation would invite the curse of God, under the old covenant. Just as sacrifices under the old covenant could not be offered with "testicles bruised or crushed or torn or cut" (Lev 22:24), because they did not meet God's perfect standard, so willful mutilation of the genitals tears at God's created design.⁵⁰ To those who pursue "salvation" by genital surgery, the Law of God offers a warning and threat—"if you break the law, your circumcision becomes uncircumcision" (Rom 2:27). This goes for the Judaizers in Galatia and modern advocates of gender reassignment surgery.

To both of these parties (as well as to those who sinfully take pride in their uncircumcision), the gospel of Jesus Christ makes a new way to find life. It offers forgiveness now and a glorified body in the new heavens and the new earth. Yet, as Russell Moore has observed, gender reassignment surgery, in the here and now, may "mangle" the body and "create an illusion of a biological reality that isn't there," but it cannot reassign gender.⁵¹ Therefore, as men and women come to Christ on the other side of their gender reassignment, the solution is not just external reassembly. Reconstructing a person's bodily appearance may not be possible or (medically) wise, but what can be done and must be done is to point new creations in Christ to the approaching reality of their bodily redemption, and to live in light of that reality. As Paul says in Colossians 3, "If you have been raised with Christ, *seek the things that are above*, where Christ is. . . . *Put to death* what is earthly in you, . . . *Put on then* [like a new gar-

[&]amp; Holman, 1994), 371–73.

⁵⁰ Drawing the parallel closer between the Judaizers' heresy and the genital mutilation of the pagan priests near Galatia, George writes, "One of the major centers for the worship of Cybele [a mother goddess, whose priests were known to castrate themselves] was at Pessinus, a leading city in North Galatia. It is quite possible that some of Paul's readers may themselves have been devotees of the Cybeline cult in their pre-Christian days. In any event, they could not have missed the insinuation of Paul's allusion: the Judaizers who made so much of circumcision were really no better guides to the spiritual life than the pagan priest who castrated themselves in service to an idolatrous religion" (ibid., 372). If Paul could compare the wrong use of the Law with pagan practices, which he clearly did in Galatians 4:8–9, it is equally permissible (hermeneutically-speaking) to make the comparison between the wrongful use of circumcision with the pagan mutilation of the flesh today. On gender reassignment surgery as a pagan practice, see the way Heimbach defines paganism in *True Sexual Morality*, 52–54.

⁵¹ Russell D. Moore, "Joan or John? Christian Ethics: This Year's Dilemma," May 2009, accessed February 17, 2015, http:// cdn1.russellmoore.com/2009/06/joan-or-john.pdf.

ment], as God's chosen ones, holy and beloved, compassionate hearts, kindness, humility, meekness, and patience" (vv. 1, 5, 12).⁵²

Until the resurrection of the body, Christians groan like the eunuchs of old. But like eunuchs in Israel who mourned their displacement from the covenant promises, the gospel of Jesus Christ promises family, children, and blessing in the kingdom of God (see Isaiah 54). On this point, Moore has again made the comparison between those who undergo gender reassignment surgeries with those are eunuchs.⁵³ As with circumcision, eunuchs are mentioned throughout the Bible. In some instances they were males who were castrated, or had other genital surgery, to serve in special roles within their respective kingdoms. Others may have been born as eunuchs. Jesus speaks to both of these conditions when he says, "For there are eunuchs who have been so from birth, and there are eunuchs who have been made eunuchs by men, and there are eunuchs who have made themselves eunuchs for the sake of the kingdom of heaven" (Matt 19:12). Still in everyone of these cases, the main point is that God is big enough to bring blessing to all who repent and believe in the gospel of the kingdom—even those who were deceived into pursuing gender reassignment surgery.

That being said, we must close with this unassailable truth. In the Bible, with all that it speaks about circumcision and the existence of eunuchs, it never supports practices changing a child's sex at birth towards the opposite sex. It does present circumcision of the heart (Deut 30:6) as *the only way* of lasting joy and salvation. In its affirmation of this spiritual surgery, the Bible stands against any kind of gender reassignment surgery, as a way of gratifying the flesh. Therefore, in all cases, we conclude that the Bible never supports the desire to change the appearance of the body to mimic the opposite gender. As with those who pursue sexual immorality—heterosexuals or homosexuals—the hope of the gospel is that any person through faith and repentance can be changed through the washing, sanctification, and justification of Jesus Christ, and not through the adoption, assimilation, or acceptance of sinful roles or practices (1 Cor 6:9–11).

Thus, a biblical understanding of sexuality cannot support gender reassignment surgery. This truth must be compassionately affirmed to those who are struggling with gender dysphoria, and who are contemplating such surgical procedures. Where the Bible affirms that we should receive our birth gender as a gift from God and that it should direct the nature of our sexual desires, it never affirms a person's desire should dictate their gender. In every case, anatomy dictates and directs gender—not the reverse. Scripture commands that our physical bodies are meant to glorify God (1 Cor 6:19), and followers must humbly and willingly submit to God's providence in giving us the body he wants us to have, in order to glorify him in the gender that comports to our anatomy.

May God honor our efforts to think biblically and critically about the issue of gender reassignment surgery. May he give us gospel-fueled grace to love the trans community in the name of Christ. And may he glorify himself by saving many in Christ who are now pursuing salvation in the flesh.

⁵² Emphasis mine. Read all of Colossians 3:1–17 to see the way that death and resurrection with Christ changes the believer.

⁵³ Moore, "Joan or John?"