

Eunuch

Background

Among the many people who benefit from gender affirming medical care, those who identify as eunuchs are the least visible. The 8th version of the SOC includes a discussion of eunuch-identified individuals because they are indeed present and in need of gender affirming services. In this chapter we describe the relationship between eunuch-identified people and other transgender and gender-diverse people and present best practices specific to serving the needs of people who embrace a eunuch identity.

For the purpose of the Standards of Care, we define eunuch as an individual assigned male at birth whose testicles have been surgically removed or rendered non-functional, and who identifies as a eunuch¹. Eunuch individuals may have other identities as well. Most live as men and some may also identify as transgender or nonbinary. But the identity of eunuch is a gender identity of its own and for many it is the sole identity with no other gender or transgender affiliation. Our identity-based definition for those who embrace the term eunuch, does not include others, such as men who have been treated for advanced prostate cancer. We focus here on those who are eunuch-identified, individuals who feel that their true self is best expressed by the term eunuch. Eunuch-identified individuals generally desire to have their testicles surgically removed or rendered non-functional. Health care providers will see eunuch-identified people requesting medical care. They ask for castration, to become eunuchs, because they are eunuch-identified. They may also benefit from eunuch community because of the identification – with or without actual castration.

While there is a 4000-year history of eunuchs in society, the greatest wealth of information about contemporary eunuch-identified people is found within the large on-line peer-support community that congregates on sites such as the Eunuch Archive (www.eunuch.org) which was established in 1998. The moderators of this site attempt to maintain both medical and historical accuracy in its discussion forums, although there is certainly misinformation there as well. The Fiction Archive, which is part of the Eunuch Archive, is neither medically nor historically accurate and is filled with fantasy (Piccolo et al 2019; Piccolo et al submitted). According to the website, as of November 2021, there have been over 130,000 registered members and frequently over 90% of those reading the site are “guests,” rather than members. The website listed 22,951 threads and 215,405 posts. For example, two threads giving instructions for self-castration by injection of different toxins directly into the testicles each have over 2,000 posts and have each been read over one million times. There have been 20 annual international gatherings of the Eunuch Archive community in Minneapolis and many regional gatherings elsewhere. While the topic of castration is of interest to the great majority of people who participate in the discussions, it is a minority of the membership who seriously seek or who have obtained castration. Many former Eunuch Archive members have achieved their goals and no longer participate.

¹ The authors acknowledge that there may be female-assigned eunuchs but at this date there is insufficient documented evidence to include them in this chapter.

Our current set of recommendations are directed at professionals working with individuals who identify as eunuchs and may be said to have Male-to-Eunuch (MtE) gender dysphoria (Vale et al. 2010; Johnson & Wassersug 2016). Although not an official diagnostic category in the ICD or DSM, MtE gender dysphoria is a useful construct as it speaks to the specifics of eunuch experience while also connecting it to the experience of gender dysphoria more broadly. MtE gender dysphoria can manifest itself in different ways. The common thread is that eunuch-identified individuals wish for a body that is compatible with a eunuch identity; a body that does not have fully functional male genitalia. Some individuals with MtE gender dysphoria feel acute discomfort with their male genitals and need to have them removed in order to feel comfortable in their bodies (Johnson et al. 2007; Roberts et al. 2008). Others are indifferent to having male external genitalia, so long as they are only physically present and do not function to produce androgens and male secondary sexual features (Brett et al. 2007). Chemical means may be used to suppress the production of androgens, although orchiectomy provides a permanent solution (Wibowo et al. 2016). Throughout this chapter we use eunuch-identified and MtE (Male-to-Eunuch) interchangeably.

There are similarities and differences between eunuch-identified people and the larger population of people who are regularly included within the transgender spectrum (Johnson & Wassersug 2016). Eunuch-identified people may share with other gender diverse people a desire for reduction or elimination of masculine physical features, masculine genitals or genital functioning. However, the motivation for those physical changes, the interpretation of those changes, and the experience of those changes is processed primarily through the lens of eunuch identity and experience rather than thoughts of feminization (Vale et al. 2010). It is possible that some non-binary individuals may also seek castration to better align their bodies with their gender without identifying as eunuchs. In view of this, we advocate for eunuch-identified people as gender nonconforming individuals who have needs for gender affirming care. (Johnson et al. 2007; Brett et al. 2007; Roberts et al. 2008)

As there is no recognized public presentation for eunuch-identified people in the western world, most continue to present socially as male, some present socially as women, and some opt for a more androgynous appearance (Wassersug & Lieberman 2010). Because of misconceptions and prejudice about historic eunuchs, the invisibility of contemporary eunuchs, and the social stigma that affects all gender and sexual minorities, few come out publicly as eunuch and many will tell no one, share only with like-minded people in an on-line community, or be known as such only to close family and friends. (Wassersug & Lieberman 2010)

Most of the information we have regarding health issues post castration is from research into the health and experience of prostate cancer patients (Wassersug, Walker & Robinson, 2018). A number of those seeking castration are likely to cite Hamilton & Mestler (1969) or Min et al. (2012), both of which found that castrated male-bodied people lived twelve to fifteen years longer than those not castrated. It will need to be pointed out that the populations studied were of prepubertal individuals, not those castrated after puberty. However, Sugrue et al. (2021) have demonstrated that castration in sheep (and other mammalian species) delays epigenetic aging.

The stereotypes of eunuchs are often highly negative (Lieberman 2018). Eunuch-identified people may suffer the same minority stress as other stigmatized groups (Wassersug & Lieberman 2010). Research into minority stress that affects gender non-conforming people should include eunuch-identified people.

Summary of Recommendations

Statement 1: We recommend that health professionals and other users of the Standards of Care 8th guidelines should apply the recommendations of the standards of care in ways that meet the needs of eunuch-identified people.

Statement 2: We recommend that health professionals should offer medical and surgical intervention to eunuch identified individuals when there is a high risk that withholding treatment will cause individuals harm through self-surgery, surgery by unqualified practitioners, or unsupervised use of medications that affect hormones.

Statement 3: We suggest that health professionals who are assessing eunuch-identified individuals for treatment have demonstrated competency in assessing these individuals.

Statement 4: We suggest that health professionals providing care to eunuch-identified individuals provide sexuality education relevant to any medical interventions they might consider or receive.

Statement 1:

We recommend that health professionals and other users of the Standards of Care 8th guidelines should apply the recommendations of the standards of care in ways that meet the needs of eunuch-identified people.

Male-to-Eunuch individuals are part of the population of gender diverse people who experience gender dysphoria and/or who seek gender affirming care in order to bring their body into alignment with their identity. Like other transgender and non-binary people, individuals with MtE gender dysphoria require access to affirming care to gain comfort with their gendered self. Each section of the SOC addresses the needs of diverse individuals and eunuchs can be included within that group. They may particularly have commonality with some non-binary individuals in that social transition may not be a desired option and hormonal therapy may not play the same role as it might in a social transition or transition within the binary. Like other gender diverse individuals Eunuch identified individuals may be aware of their identity in childhood or adolescence and recommendations for the assessment of children and adolescents may also be relevant for youth who identify as MtE. Due to the lack of research into the treatment of children who are MtE, we refrain from making specific suggestions.

MtE individuals may seek medical or surgical care (hormone suppression, orchiectomy, and in some cases, penectomy) to achieve physical, psychological and/or sexual changes (Wassersug & Johnson 2007). It is important that all patients, including eunuch-identified individuals, establish and maintain a relationship with a health care provider that is built upon trust and mutual understanding. Given a lack of awareness of MtEs within the general medical community and a fear among many eunuch-identified people that they will not be accepted, many do not receive appropriate primary care and screening tests (Jäggi et al. 2018). Increased awareness and education among medical providers will help to address the need to be informed about the need to include MtEs in discussions of gender diversity (Deutsch 2016).

When desired, castration can be achieved either chemically or surgically. For some eunuch-identified individuals, chemical castration can be an appropriate trial before surgical castration to

see how the individual feels when hypogonadal (Vale et al. 2010). Chemical castration is usually reversible if the medications are stopped. The most common types of medications used to lower testosterone levels are the antiandrogens, progesterone and estrogen. The two most commonly used antiandrogens, cyproterone acetate and spironolactone, are oral. Estrogen and progesterone lower serum testosterone levels via negative feedback at the hypothalamus and pituitary gland. Estrogens and antiandrogens may not fully suppress testosterone levels into the female or castrate range. Oral estrogens increase the risk of venous thromboembolism. Although not commonly used, due to cost, gonadotropin releasing hormone (GnRH) agonists are a very effective method to shut down the production of sex steroids and fertility. (Hembree et al. 2017). See Table 1 for recommendations and for references on medications for chemical castration.

Although studies on hormone replacement therapy in eunuchs are lacking, findings from cisgender men treated for prostate cancer can be informative regarding the effects of hormone therapy. In a randomized controlled trial of 1694 cisgender men treated for locally advanced or metastatic prostate cancer, one group received a GnRH agonist and the other received transdermal estrogen (Langley et al. 2021). Cisgender Men who received the GnRH agonist developed signs and symptoms of both androgen and estrogen deficiency whereas men who received the estrogen patch only developed androgen-depleting symptoms. Both groups had high rates of sexual side effects (91%) and weight gain was similar among the groups. As compared to cisgender men on the GnRH agonist, cisgender men on the estrogen patches had a higher self-reported quality of life, lower rates of hot-flushes (35% vs 86%) and higher rates of gynecomastia (86% vs 38%). Metabolically, cisgender men on the estrogen patches had favorable changes with a lower mean fasting glucose, fasting total cholesterol, systolic blood pressure and diastolic blood pressure. On the other hand, cisgender men on the GnRH agonist had the opposite effects. Based upon this study, MtEs may consider transdermal estrogen therapy to avoid adverse estrogen-depleting effects which include hot flashes, fatigue, metabolic effects and loss of bone mineral density.

It goes without saying that MtEs require and deserve the same primary care services as the general population. The topic of screening tests for cancers, such as prostate and breast, is an important area for discussion as the risks of hormone-related cancers are likely different among male-assigned people whose testosterone and estrogen levels are not in the male range. Due to a lack of studies looking at the prevalence and incidence of hormone-related cancers in the MtE population, there is no evidence to guide how often to screen for hormone-related cancers with prostate exams, PSA measurements, mammograms, etc. The recommendations in the SOC section that addresses primary health care are appropriate for MtE individuals.

The large literature on prostate cancer patients who have been medically or surgically castrated provides information about some of the effects of post pubertal castration (such as potential osteoporosis, depression, or metabolic syndrome), but voluntary eunuchs may interpret the results very differently from those castrated for medical reasons. Chemical or surgical castration may be experienced as a source of sadness to cis men with prostate cancer while the same treatment may be affirming and a source of pleasure for eunuch individuals. Similarly, transmasculine people who have mastectomy to gain comfort with their bodies experience that surgery differently from ciswomen who have mastectomy to treat breast cancer. (van de Griff et al 2016; Koçan & Gürsoy 2016) The prostate cancer information is well summarized by Wassersug et al. (2018) who provide references to the large literature on the subject. Such information on the effects of castration should be made available to those seeking castration.

Medical options requested by the patient can be considered and prescribed if appropriate. These options can be tailored to the individual to create a plan that reflects their specific needs and preferences. The number and type of interventions applied and the order in which these take place may differ from person to person. Treatment options to consider include:

- Hormone suppression to explore the effects of androgen deficiency for those with Male-to-Eunuch gender dysphoria who wish to become asexual, nonsexual, or androgynous;
- Orchiectomy to stop testicular production of testosterone for those who identify as Male-to-Eunuch;
- Orchiectomy with or without penectomy to alter their body to match their self-image.

Statement 2:

We recommend that health professionals should offer medical and surgical intervention to eunuch-identified individuals when there is a high risk that withholding treatment will cause individuals harm through self-surgery, surgery by unqualified practitioners, or unsupervised use of medications that affect hormones.

The Eunuch Archive has a large number of posts from individuals seeking medical providers who will perform castration surgery. There are also a large number of posts by those who have performed self-surgery or have had surgery performed by people who are not credentialed medical providers. There are also clinical reports of patients who have self-castrated and accounts of patients who have misled the medical providers in order to obtain castration. (Mukhopadhyay & Chowdhury 2009; Hermann & Thorstenson 2015) There is no doubt that when members of this population are denied access to quality medical treatment they will take actions that may cause them great harm, such as bleeding and infection that may require a hospital admission (Johnson & Irwig 2014; Jackowich et al. 2014; Hay 2021).

There are frequent posts on the Eunuch Archive by members (not medical personnel) requesting or providing information about relevant pharmaceuticals, their varieties, sources, proper dosage. There are ratings for various on-line pharmacies and descriptions of their international shipping policies. There are posts describing the effects, both positive and negative, of the various pharmaceuticals, which are taken without proper medical supervision. This “folk knowledge” can be problematic or inaccurate and may need to be countered by more accurate information. (See www.eunuch.org for multiple threads and posts containing such folk knowledge)

Table 1. Medications to lower androgen levels

MEDICATION	ABILITY TO LOWER ANDROGENS	FEMINIZING EFFECTS	COST	ADMINISTRATION ROUTE	POTENTIAL EFFECTS*
Spirololactone	Partial	No	Inexpensive	Oral	decreased libido, erectile dysfunction, gout, gynecomastia, hyperkalemia, hyperuricemia, hypomagnesemia,

					hyponatremia, hypovolemia
Progesterone	Partial	No	Inexpensive	Oral	Increased risk of depressive mood, increased risk of cerebrovascular accident, meningioma
GnRH agonist	Full	No	Expensive	Intramuscular, subcutaneous	decreased libido, decreased hemoglobin, depression, dizziness, edema, emotional lability, fatigue, flushing/hot flashes, headache, increased serum cholesterol, increased serum triglycerides, insomnia/sleep disorder, infertility, nausea, testicular atrophy, weight changes
Estrogen	Partial	Yes	Inexpensive	Oral, sublingual, transdermal, intramuscular	gynecomastia, emotional lability, increased adiposity, increased serum triglycerides, infertility, less muscle/strength, sexual dysfunction, softer skin, testicular atrophy

References: Angus et al. 2021; Butler et al. 2017; Efstathiou et al. 2019; Tosun et al. 2019

Eunuch-identified individuals are often driven to obtain surgery that is not generally available upon request (Johnson & Irwig 2014). One of their options has been to damage their testicles, frequently through direct injections of toxins, to create an abnormal appearance that would lead a urologist to perform an orchiectomy (Johnson & Irwig 2014). Another option has been to enter treatment programs for transgender individuals, presenting themselves as transgender. (Johnson & Irwig 2014). Historically such programs assumed that a transgender person would undergo both social and medical transition. As MtEs would welcome some aspects of the medical transition, they participate in these programs long enough to obtain the medical interventions that they desire and then drop out. In order to obtain surgery they may be required to undergo some social transition and they may reverse that social transition once the surgery is acquired. (Johnson & Wassersug 2010; Cohen-Kettenis & Pfäfflin 2009) Individuals who drop out of gender programs, and those who “return to original role” remain an understudied group. Several authors have speculated that this group represents nonbinary people or those for whom standard gender diagnosis were not appropriate (Rachlin et al. 2010). We would suggest that

this group also likely contains eunuch-identified individuals who were seeking a way to obtain the care they needed. (Johnson & Wassersug 2010).

Statement 3:

We recommend that health professionals who are assessing eunuch-identified individuals for treatment have demonstrated competency in assessing these individuals.

A frequent topic on the discussion boards of the Eunuch Archive is the difficulty of finding practitioners able to understand their needs. Eunuch-identified people usually are less visible than other gender minorities (Wassersug & Lieberman 2010). In contemporary societies they are likely to live and identify socially as men, regardless of their self-identity as eunuchs. We recognize that they may not voluntarily disclose their identity and/or desires, even to their medical or mental health providers, due to stigma and fear of rejection by the medical community. In some environments medical providers may not be aware that MtEs exist and may not even know that they have treated eunuch-identified patients.

The SOC section on assessment is applicable to MtE individuals. Like other gender diverse individuals, MtE individuals can engage in an informed consent process in which qualified providers conduct assessments to ensure that individuals are capable of informed consent prior to medical interventions and that includes making certain that a mental health problem is not the etiology of the desire. As with other sexual and gender minorities, working with MtE individuals requires an understanding that they are a diverse population and that each person is eunuch in their own way (Johnson et al. 2007). The person seeking services benefits from the professional's accepting stance, open inquiry, suspension of judgement, and flexible expectations, combined with professional competency and expertise.

In order to provide appropriate treatment, providers must establish trust and respect by creating an inclusive environment for eunuch-identified people. For eunuch-identified individuals the ideal intake form would ask assigned sex and identified gender with multiple gender options including a "eunuch" and an "other" option. Individuals may identify with more than one option and should be able to check more than one.

Health professionals may be involved in assessment, psychotherapy (if required), preparation and follow-up for medical and surgical gender affirming interventions. They may also provide support for partners and families. Eunuch-identified individuals who want the support of a qualified mental health provider.

While some eunuch-identified individuals come to counseling or therapy because they want emotional support or help with decision-making, many come to providers for assessment in preparation for specific medical interventions (Vale et al. 2010). The definition of someone eunuch-identified is someone who needs castration in order to bring their body into alignment with their gender identity. The testimonials and cases of self-surgery demonstrate the anguish people experience in a body that is not syntonic with their gender identity. (Johnson & Irwig 2014)

Statement 4:

We suggest that health professionals providing care to eunuch-identified individuals provide sexuality education relevant to any medical interventions they might consider or receive.

A number of research studies have contributed to our knowledge of contemporary eunuch-identified people and have explored demographic characteristics and sexuality (Wibowo, et al. 2012; Vale et al. 2013; Handy et al 2015; Wibowo et al. 2016). Medical and mental health professionals should assume that eunuch-identified individuals are sexual people who are capable of sexual activity, pleasure, and relationships, unless they report otherwise (Wibowo et al. 2021). Research has shown that there is great diversity among eunuch-identified individuals regarding the level of desire, type of preferred physical or sexual contact, and nature of preferred relationships (Johnson et al. 2007; Brett et al. 2007; Roberts et al. 2008). While some enjoy active sex lives with or without romantic relationships, others identify as asexual or aromantic and are relieved by the loss of libido achieved through surgical or chemical castration (Brett et al. 2007). Each person is different and one's genital status does not determine sexual or romantic attraction (Walton et al. 2016; Yule et al. 2015).

Regardless of the type of chemical suppression or surgery a person has had, they may be capable of sexual pleasure and sexual activity. Contrary to popular belief, eunuchs are not necessarily asexual or non-sexual (Aucoin & Wassersug 2006). Safer sex education is necessary for all people who engage in sexual activity that could involve exchange of body fluids. Please see the Sexual Health Across the Lifespan chapter of the SOC for a discussion of sex education and safe sex options for people with diverse genders and sexualities.

References:

Angus LM, Nolan BJ, Zajac JD, Cheung AS. (2021). A systematic review of antiandrogens and feminization in transgender women. *Clin Endocrinol (Oxf)*. 2021;94(5):743-752.

Aucoin, MW & Wassersug RJ. (2006) The sexuality and social performance of androgen-deprived (castrated) men throughout history: Implications for modern day cancer patients. *Social Science & Medicine* 63: 3162-3173.

Brett MA, Roberts LF, Johnson TW & Wassersug RJ. (2007). Eunuchs in contemporary society: Expectations, consequences and adjustments to castration. *Journal of Sexual Medicine*; 4:946–955.

Butler J, Anstrom KJ, Felker GM, Givertz MM, Kalogeropoulos AP, Konstam MA, Mann DL, Margulies KB, McNulty SE, Mentz RJ, Redfield MM, Tang WHW, Whellan DJ, Shah M, Desvigne-Nickens P, Hernandez AF, Braunwald E. (2017). National Heart Lung and Blood Institute Heart Failure Clinical Research Network. Efficacy and Safety of Spironolactone in Acute Heart Failure: The ATHENA-HF Randomized Clinical Trial. *JAMA Cardiol*. 2017;2(9):950-958.

Cohen-Kettenis PT & Pfäfflin F. (2009). The DSM diagnostic criteria for gender identity disorder in adolescents and adults. *Archives of Sexual Behavior* 39:499-513.
<https://doi.org/10.1016/j.jsxm.2016.09.003>

Deutsch MB. (2016). Guidelines for the primary and gender-affirming care of transgender and gender nonbinary people (2nd ed.). San Francisco, CA: University of California, San Francisco, Department of Family and Community Medicine Center of Excellence for Transgender Health.

Efstathiou E, Davis JW, Pisters L, Li W, Wen S, McMullin RP, Gormley M, Ricci D, Titus M, Hoang A, Zurita AJ, Tran N, Peng W, Kheoh T, Molina A, Troncoso P, Logothetis CJ. (2019). Clinical and Biological Characterisation of Localised High-risk Prostate Cancer: Results of a Randomised Preoperative Study of a Luteinising Hormone releasing Hormone Agonist with or Without Abiraterone Acetate plus Prednisone. *Eur Urol*. 2019;76(4):418-424.

Hamilton JB & Mestler GE. (1969). Mortality and Survival: Comparison of Eunuchs with Intact Men and Women in a Mentally Retarded Population. *Journal of Gerontology* 24: 395–411. <https://doi.org/10.1093/geronj/24.4.395>

Handy AB, Wassersug RJ, Ketter JTJ & Johnson TW. The Sexual Side of Castration Narratives: Fiction Written by and for Eunuchs and Eunuch “Wannabes”. *The Canadian Journal of Human Sexuality*, 24(2) 2014, pp. 151-159. Doi: 10.3138/cjhs.242-A4.

Hay, Mark. (2021). Inside the World of Backstreet Castrators, Cutters and Eunuch-Makers. *The Daily Beast* (February 19, 2021). <https://www.thedailybeast.com/inside-the-dangerous-global-network-of-backstreet-castrators-cutters-and-eunuch-makers>

Hembree WC, Cohen-Kettenis PT, Goore L, Hannema, SE, Meyer WJ, Murad H, Rosenthal SM, Safer J.D., Tangpricha V & T’Sjoen GG (2017). Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline. *The Journal of Clinical Endocrinology & Metabolism*, Nov 1;102(11):3869-3903. doi: 10.1210/jc.2017-01658

Hermann M & Thorstenson A. (2015). A Rare Case of Male-to-Eunuch Gender Dysphoria. *Sexual Medicine* 3:331-333.

Jackowich RA, Vale R, Vale K, Wassersug RJ & Johnson TW. (2014). Voluntary genital ablations: Contrasting the cutters and their clients. *Sexual Medicine*; 2:121-132.

Jäggi T, Jellestad L, Corbisiero S. et al. “Gender Minority Stress and Depressive Symptoms in Transitioned Swiss Transpersons,” *BioMed Research International*, vol. 2018, Article ID 8639263, 10 pages, 2018. <https://doi.org/10.1155/2018/8639263>.

Johnson TW, Brett MA, Roberts LF & Wassersug RJ. (2007). Eunuchs in contemporary society: Characterizing men who are voluntarily castrated. *Journal of Sexual Medicine*; 4:930–945.

Johnson TW, Wassersug RJ. (2010). Gender identity disorder outside the binary: When gender identity disorder-not otherwise specified is not good enough. *Archives of Sexual Behavior*; 39:597-598.

Johnson TW & Irwig MS. (2014). The hidden world of self-castration and testicular self-injury. *Nature Reviews/Urology* 11:297-300. <https://doi:10.1038/nrur.2014.84>

Johnson TW, Wassersug RJ. (2016). Recognition of gender variants outside the binary in WPATH Standards of Care, Version 7.0. *International Journal of Transgenderism*; 17:1-3.

Koçan S & Gürsoy A. (2016). Body Image of Women with Breast Cancer After Mastectomy: A Qualitative Research. *J Breast Health* 12(4):145-150. [https://doi.org/ doi:10.5152/tjbh.2016.2913](https://doi.org/doi:10.5152/tjbh.2016.2913)

Langley RE, Gilbert DC, Duong T, Clarke NW, Nankivell M, Rosen SD, Mangar S, Macnair A, Sundaram SK, Laniado ME, Dixit S, Madaan S, Manetta C, Pope A, Scrase CD, McKay S, Muazzam IA, Collins GN, Worthing J, Williams ST, Paez E, Robinson A, McFarlane J, Deighan, JV, Marshall J, Forcat S, Weiss M, Kockelbergh R, Alhasso A, Kynaston H, Parmar M. (2021). Transdermal oestradiol for androgen suppression in prostate cancer: long-term cardiovascular outcomes from the randomised Prostate Adenocarcinoma Transcutaneous Hormone (PATCH) trial programme. *The Lancet*, Volume 397, ISSUE 10274, P581-591. [https://doi.org/10.1016/S0140-6736\(21\)00100-8](https://doi.org/10.1016/S0140-6736(21)00100-8)

Lieberman T. (2018). *Painting Dragons: What Storytellers Need to Know About Writing Eunuch Villains*. Bogotá, Colombia: Glyph Torrent.

Min K-J, Lee C-K & Park H-N. (2012). The lifespan of Korean eunuchs. *Current Biology* 22 (18): R792-R793. <https://doi.org/10.1016/j.cub.2012.06.036>

Mukhopadhyay A & Chowdhury R. (2009). The Eunuch Patient. *Tropical Doctor* 39 (1): 63-64.

Piccolo EEL, Johnson TW, & Wassersug RJ. (2019). Sodomasochistic erotica and the sexual response cycle: Insights from the Eunuch Archives. *Canadian Journal of Human Sexuality* 28(2):203-214. <https://doi.org/10.3138/cjhs.2019-0016>

Piccolo EEL, Johnson TW, & Wassersug RJ. (submitted). Castration for Pleasure: Exploring Extreme Castration Ideations in Fiction. *Archives of Sexual Behavior*.

Rachlin K, Dhejne C, & Brown GR. (2010). The Future of GID NOS in the DSM-V: Report of the GID NOS Working Group of the WPATH GID Consensus Process. *International Journal of Transgenderism*, 12(2):86-93.

Roberts LF, Brett MA, Johnson TW, Wassersug RJ. (2008). A passion for castration: Characterizing men who are fascinated with castration, but have not been castrated. *Journal of Sexual Medicine*; 5:1169–1680.

Sugrue VJ, Zoller JA, Narayan P, Lu AT, Ortega-Recalde OJ, Grant MJ, Bawden CS, Rudiger SR, Haghani A, Bond DM, Hore RR, Garratt M, Sears KE, Wang N, Yang XW, Snell RG, Hore TA, Horvath S. (2021). Castration delays epigenetic aging and feminizes DNA methylation at androgen-regulated loci. *eLife* 2021;10:e64932. <https://doi.org/10.7554/eLife.64932>

Tosun NL, Fieberg AM, Eberly LE, Harrison KA, Tipp AR, Allen AM, Allen SS. (2019). Exogenous progesterone for smoking cessation in men and women: a pilot double-blind, placebo-controlled randomized clinical trial. *Addiction*. 2019 Oct;114(10):1800-1813.

Vale K, Johnson TW, Jansen MS, Lawson BK, Lieberman T, Willett KH, Wassersug RJ. (2010). The development of standards of care for individuals with a male-to-eunuch gender identity disorder. *International Journal of Transgenderism*; 12:40-51.

Vale K, Siemens I, Johnson, TW & Wassersug, RJ. (2013). Religiosity, childhood abuse, and other risk factors correlated with voluntary genital ablation. *Canadian Journal of Behavioral Science*; 45:230-237.

Van de Grift TC, Kreukels BPC, Elfering L, Özer M, Bouman, M-B, Buncamper ME, Smit JM, & Mullender, MG. (2016). Body Image in Transmen: Multidimensional Measurement and the Effects of Mastectomy. *J Sexual Med* 13(11):P1778-1786.
<https://doi.org/10.1016/j.jsxm.2016.09.003>

Walton MT, Lykins AD & Bhullar N. (2016) Beyond Heterosexual, Bisexual, and Homosexual: A diversity in sexual identity expression. *Archives of Sexual Behavior*, 45:1591-1597.

Wassersug RJ & Johnson TW. (2007). Modern-day eunuchs: Motivations for and consequences of contemporary castration. *Perspectives in Biology & Medicine*; 50:544-56.

Wassersug RJ & Lieberman T. (2010). Contemporary castration: why the modern day eunuch remains invisible. *BMJ*;341:c4509.

Wassersug RJ, Walker LM, & Robinson JW. (2018). *Androgen Deprivation Therapy: An Essential Guide for Prostate Cancer Patients and Their Loved Ones. (Second Edition)* New York: Demos Health.

Wibowo E, Wassersug R, Warkentin K, Walker L, Robinson J, Brotto L & Johnson TW. (2012). Impact of androgen deprivation therapy on sexual function: A response. *Asian Journal of Andrology*; 14:793-794. Doi:10.1038/aja/2012.60

Wibowo E, Johnson TW & Wassersug RJ. (2016). Infertility, impotence, and emasculation – Psychosocial contexts for abandoning reproduction. *Asian Journal of Andrology*; 18:403-408.

Wibowo E, Wong STS, Wassersug RJ & Johnson TW. (2021). Sexual function after voluntary castration. *Archives of Sexual Behavior*. <https://doi.org/10.1007/s10508-021-02094-6>

World Health Organization. (2018). International classification of diseases for mortality and morbidity statistics (11th Revision). 6C21 Body Integrity Dysphoria. Retrieved from <https://icd.who.int/browse11/l-m/en>

Yule MA, Brotto LA & Gorzalka BB. (2015). A validated measure of no sexual attraction: The asexuality identification scale. *Psychological Assessment*, 27 (1):148-160.

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