



Emerging topics in transgender medicine

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In this issue of *Reviews in Endocrine and Metabolic Disorders*, several important topics in the rapidly evolving field of transgender medicine are presented. Gender dysphoria or gender incongruence is the feeling expressed by individuals who possess a gender identity that is different from the one assigned at birth. People who have gender dysphoria or gender incongruence are often categorized under the term “transgender”. Over the past decade, there has been increased understanding regarding the prevalence of transgender people and increased comfort with the efficacy and safety of gender affirming hormone therapy [1]. As reviewed by Nobili et al., transgender people have improved quality of life when undergoing gender affirming hormone therapy [2]. Transgender people seek hormone and/or surgical therapies to better align their physical and mental characteristics with their gender identity. Several professional associations, including the Endocrine Society and the World Professional Association for Transgender Health, have published evidence based guidelines for the health of transgender individuals [3–5].

Children who have gender dysphoria are at increased risk of depressive mood disorders and risk of self-harm compared to their cisgender peers [6]. Although further long term study is needed, children with gender dysphoria have improvement in social function and quality of life with the delay of puberty and initiation of gender affirming hormone therapy [7]. Delay of puberty with puberty blockers is generally the initial step in pre-pubertal children followed by gender affirming hormone therapy as children transition into adults as reviewed by Panagiotakopoulos [8] and Abramowitz [9]. Preservation of fertility should be addressed with all transgender children and adults prior to the initiation of hormone therapy. Many technologies exist that can preserve fertility in transgender people as reviewed by Mattawanon et al. [10]. In general, gender

affirming hormone therapy is safe; however, there have been some concerns of cardiovascular disease, especially in transgender women as reviewed by Irwig [11]. There are also questions regarding how to adjust gender affirming hormone therapy, especially in older transgender people as reviewed Gooren and T’Sjoen [12]. Recent reports suggest that transgender women may be at increased risk of stroke and thromboembolic disease [13]. Large prospective studies are challenging to conduct in this population. However, novel techniques have been developed to obtain information from existing electronic medical records as described in this issue by Gerth et al. [14].

One of the biggest obstacles to receiving hormone affirming therapy is access to healthcare. A review by Korpaisarn and Safer discuss the gaps in medical education among physicians and trainees [15]. They found that there still remains a large majority of physicians who lack the expertise in transgender medicine and review several interventions that have been effective in reducing this gap. Continued medical education and research is necessary to further refine gender affirming medical therapies and to increase access to these therapies that not only improve quality of life but save lives.

Compliance with ethical standards

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References

1. Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al. Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society Clinical practice guideline. *J Clin Endocrinol Metab.* 2017;102(11):3869–903.
2. Tangpricha V, Hannema SE, Irwig MS, Meyer WJ 3rd, Safer JD, Hembree WC. 2017 American association of clinical endocrinologists/endocrine society update on transgender medicine: case discussions. *Endocr Pract.* 2017;23(12):1430–6.
3. Coleman E, Bockting W, Botzer M, Cohen-Kettenis P, DeCuypere G, Feldman J, et al. Standards of care for the health of transsexual,

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- transgender, and gender-nonconforming people, version 7. *International Journal of Transgenderism*. 2012;13(4):165–232. <https://doi.org/10.1080/15532739.2011.700873>.
4. Herman JL, Flores AR, Brown TNT, Wilson BDM, Conron KJ. Age of individuals who identify as transgender in the United States. The Williams Institute. UCLA School of law. 2017.
 5. Nobili A, Glazebrook C, Arcelus J. Quality of life of treatment-seeking transgender adults: a systematic review and meta-analysis. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9459-y>.
 6. Becerra-Culqui TA, Liu Y, Nash R, Cromwell L, Flanders WD, Getahun D, et al. Mental health of transgender and gender nonconforming youth compared with their peers. *Pediatrics*. 2018;141(5). <https://doi.org/10.1542/peds.2017-3845>.
 7. Lopez X, Marinkovic M, Eimicke T, Rosenthal SM, Olshan JS, Pediatric Endocrine Society Transgender Health Special Interest Group. Statement on gender-affirmative approach to care from the pediatric endocrine society special interest group on transgender health. *Curr Opin Pediatr*. 2017;29(4):475–80. <https://doi.org/10.1097/MOP.0000000000000516>.
 8. Panagiotakopoulos L. Transgender medicine - puberty suppression. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9457-0>.
 9. Abramowitz J. Transgender medicine- transitioning transgender children to adulthood. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9458-z>.
 10. Mattawanon N, Spencer JB, Schirmer DA 3rd, Tangpricha V. Fertility preservation options in transgender people: a review. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9462-3>.
 11. Irwig MS. Cardiovascular health in transgender people. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9454-3>.
 12. Gooren LJ, T'Sjoen G. Endocrine treatment of aging transgender people. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9449-0>.
 13. Getahun D, Nash R, Flanders WD, Baird TC, Becerra-Culqui TA, Cromwell L, et al. Cross-sex hormones and acute cardiovascular events in transgender persons: a cohort study. *Ann Intern Med*. 2018;169(4):205–13. <https://doi.org/10.7326/M17-2785>.
 14. Gerth J, Becerra-Culqui T, Bradlyn A, Getahun D, Hunkeler EM, Lash TL, et al. Agreement between medical records and self-reports: implications for transgender health research. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9461-4>.
 15. Korpaisam S, Safer JD. Gaps in transgender medical education among healthcare providers: a major barrier to care for transgender persons. *Rev Endocr Metab Disord*. 2018. <https://doi.org/10.1007/s11154-018-9452-5>.