Gender nonconforming youth refers to children whose behaviors, appearances, or identities are discordant with those culturally assigned to their birth sex. Children who are transgender often affirm an internal gender identity opposite from their assigned gender, however there can be fluidity in the spectrum of maleness and femaleness. Gender dysphoria refers to the distress from the discordance between one’s affirmed, or desired, gender and the gender assigned at birth. Some transgender youth seek care to undergo medical treatment in order to change their physical sex characteristics to permanently change their gender role during a period referred to as their transition [1,2].

Care of transgender youth is more accessible as public awareness increases, multi-disciplinary clinics become more widespread and insurance coverage helps to alleviate the cost of treatment. Transgender youth may feel more comfortable outwardly expressing their internal gender given these considerations and transgender patients are now presenting from a variety of multicultural and socioeconomic backgrounds. All medical health providers should be educated in how to approach transgender youth with sensitivity. Children should be asked their preferred name and what pronouns they feel most comfortable having used to describe them [3]. Providers interacting with transgender youth, such as through a physical exam, should be aware of the possibility of sensitivity to certain body areas. There may also be the presence of modifying clothing such as the use of a chest binder in an affirmed male to flatten unwanted breasts or wearing a binder in an affirmed male to flatten unwanted breasts or wearing underwear of the affirmed gender.

A challenge for medical providers is relieving dysphoria while practicing *primum non nocere*, do no harm, as most pre-pubertal “transgender” children will eventually revert back to their previously assigned gender and not continue their transition [4,5]. Gender dysphoria in children that intensifies with onset of puberty rarely subsides, which has prompted the delay in initiation of medical treatment until the early stages of puberty. Persistence or intensification of gender dysphoria into early puberty indicates which children should be considered for medical treatment if they desire. Clinical practice guidelines from the Endocrine Society and World Professional Associations for Transgender Health, based on protocols originally initiated in the Netherlands three decades ago, provide guidance on caring for transgender youth in the United States [1,6].

Pausing puberty through the use of ‘blockers’ or gonadotropin-hormone releasing (GnRH) analog, a medication traditionally used in children with pathologically early puberty, can relieve dysphoria and lead to improved behavioral, emotional and depressive symptoms. This fully reversible treatment allows patients time to decide, in consultation with health professionals and their families, whether to begin hormone treatment that would allow them to transition physically while also minimizing development of unwanted secondary sexual characteristics some of which may irreversible in the long term (i.e., protrusion of the Adams apple or lowering of the voice in a natal male affirming a female gender). Treatment with GnRH analog can lead to low bone density as adolescence is a time of peak bone accrual however bone mass normalizes approximately 2 years after treatment with cross sex steroids [7].

Cross sex steroids refers to providing medical treatment with hormones to cause the secondary sexual characteristics of the affirmed gender (i.e., giving estrogen to a natal male who affirms a female identity). In conjunction with GnRH analog, cross sex steroids can be given at lower doses and with improved effect. Treatment with cross sex hormones leads to some changes that are irreversible and should be treated with respect. Typically, this is considered in children after age 16 in discussion with their family and mental health professional, however, each case must be taken individually. In youth who present at a later stage of puberty, cross sex steroids alone may be the preferred treatment. Mammoplasty for natal females is often performed around age 16 if desired. After age 17 some transgender adults may pursue genital surgical options to achieve their affirmed gender [6].

Since 1998, the Endocrine Division at Boston Children’s Hospital has been evaluating and treating youths with gender dysphoria. In 2007, the hospital created the first multidisciplinary gender-identity clinic in North America, the Gender Management Service (GeMS), to provide medical treatment of disorders of sex development to youths with gender dysphoria. The team initially included a pediatric endocrinologist, urologist, and psychologist. From 1998 through 2006, before the start of the GeMS clinic, the Endocrine Division at Boston Children’s Hospital accepted patients with gender dysphoria who provided a letter of referral from a mental health professional familiar with gender issues. Most patients were in late puberty at the time of referral. Cross-sex hormone treatment was offered when appropriate. All patients had entered puberty, were participating in ongoing psychotherapy, and had parental support. Upon the establishment of the clinic in January 2007, the clinic began to see pre-pubertal children and those with gender dysphoria who were in the early stages of puberty were offered prepubertal suppression with GnRH analogs if they could obtain it. The number of patients presenting increased from 4.5 patients per year from 1998–2006 to 91 patients per year from 2007–2009 following the start of the GeMS clinic [8].

A significant proportion of transgender youth struggle with mental health issues and all guidelines require close communication with mental health providers. Gender dysphoric children have a higher risk of behavioral and emotional issues as well as a higher risk of suicidal ideation and attempts [9,10]. From the cases reviewed in the GeMS clinic 44.3% presented with a significant psychiatric history including 20.6% reporting self-mutilation at least once and 9.3% attempting suicide at least once. Other psychiatric diagnoses included general anxiety disorder (7%), bipolar disorder (7%), pervasive developmental disorder (non-autism) (4%), eating disorder (3%), attention-deficit
disorder (2%), autism (1%), panic disorder (1%) and posttraumatic stress disorder (1%) [8].

However, newer studies evaluating the long term impact of treatment of gender dysphoria reveal after gender reassignment in young adulthood, gender dysphoria was alleviated and psychological functioning had steady improvement. Well-being was better or similar than same-age young adults from the general population [11]. These results are tremendously encouraging for providers caring for transgender youth however more research is needed to understand the long term health implications from medical interventions, such as the impact on fertility by cross sex steroids. New challenges are arising as more and more transgender youth are no longer presenting as affirming a pure male or female gender but continue to explore gender on a continuum.

References