

IMAP Statement on Hormone Therapy for Transgender and Gender Diverse Persons

Introduction

This Statement has been prepared by the International Medical Advisory Panel (IMAP) and was approved in June 2023.

This 'Statement on Hormone Therapy for Transgender and Gender Diverse Persons' complements and builds on earlier IMAP Statements, including IMAP Statement on Hormone Therapy for Transgender People (October 2015), 'Sexual Rights and Sexual Health Services' and 'Sexual Health and Rights of Adolescents and Young People.' In these Statements, IPPF explicitly explored the sexual rights and sexual health of people who are lesbian, gay, bisexual, transgender, and intersex and described how to provide non-discriminatory and essential health services required by these populations.

Purpose of this Statement

IMAP has developed this Statement on access to gender-affirming hormone therapy (GAHT) for

transgender and gender diverse (TGD) people as part of the commitment of IPPF and its Member Associations to improve sexual and reproductive health-related services for all people, including diverse sexual orientations and gender identities.

An increasing number of IPPF Member Associations are responding to the sexual and reproductive health needs of TGD people. Some have initiated steps to provide GAHT for TGD people. GAHT is part of the affirmation of gender identity for many TGD people, so providing this service assists them in realizing their sexual and gender rights. This IMAP Statement includes essential information about GAHT for TGD people and concise clinical guidance on initiation and follow up.

This Statement draws primarily on two guidelines of international repute: 1) 'Standards of Care for the Health of Transgender and Gender Diverse People' produced by the World Professional Association for Transgender Health (WPATH) [\(1\)](#) and 2) the Endocrine Society's Clinical Practice Guidelines for cross-sex hormone therapy. [\(2\)](#)

Intended audience

This Statement is aimed at IPPF Member Associations to describe the hormone therapy needs of TGD people and to enable them to strengthen gender transition-related services or referrals. This Statement may also be helpful for primary care providers and physicians interested in or already providing hormone therapy and for other organizations, activists and researchers, and policy and decision-makers working towards increasing universal access to sexual health services for marginalized communities.

Who are TGD people?

Most people's sense of gender identity is congruent with their gender assigned at birth. That is, a person who is assigned male at birth

usually self-identifies as a boy/man (defined as their 'gender'), and a person who is assigned female at birth usually self-identifies as a girl/woman (their gender).

TGD people are individuals of any age whose gender identity and expression do not conform to norms and expectations traditionally associated with their sex assigned at birth. In contemporary usage, 'transgender' or 'trans' has become an umbrella term for various identities and experiences. Other words include gender diverse, sometimes used for people who do not identify as transgender or trans but have a gender identity different from that assigned at birth. Not all transgender people want to undergo gender-affirming medical interventions such as GAHT and gender-affirming surgery (GAS). A glossary of terms is shown in Box 1.

Box 1 (1):

CISGENDER refers to people whose current gender identity corresponds to the sex they were assigned at birth.

GENDER: Depending on the context, gender may reference gender identity, gender expression, and/or social gender role, including understandings and expectations culturally tied to people assigned to male or female at birth. Gender identities other than those of men and women (who can be either cisgender or transgender) include transgender, nonbinary, genderqueer, gender neutral, agender, gender fluid, and "third" gender, among others; many other genders are recognized around the world.

GENDER-AFFIRMATION refers to being recognized or validated in a person's gender identity. It is usually conceptualized as having social, psychological, medical, and legal dimensions. Gender affirmation is used as a term instead of transition (as in medical gender affirmation) or can be used as an adjective (as in gender-affirming care).

GENDER-AFFIRMATION SURGERY (GAS) describes surgery to change primary and/or secondary sex characteristics to affirm a person's gender identity.

GENDER BINARY refers to the idea that there are two and only two genders, men and women; the expectation that everyone must be one or the other; and that all men are males and all women are females.

GENDER DIVERSE is a term used to describe people with gender identities and/or expressions different from social and cultural expectations attributed to their sex assigned at birth. This may include, among many other culturally diverse identities, people who identify as nonbinary, gender expansive, gender nonconforming, and others who do not identify as cisgender.

GENDER DYSPHORIA describes a state of distress or discomfort that may be experienced because a person's gender identity differs from that which is physically and/or socially attributed to their sex assigned at birth. Gender Dysphoria is also a diagnostic term in the DSM-5 denoting an incongruence between the sex assigned at birth and experienced gender accompanied by distress. However, not all transgender and gender diverse people experience gender dysphoria.

GENDER EXPANSIVE is an adjective often used to describe people who identify or express themselves in ways that broaden the socially and culturally defined behaviors or beliefs associated with a particular sex. Gender creativity is also sometimes used. For example, the term gender variant was used in the past and is disappearing from professional usage because of negative connotations now associated with it.

GENDER EXPRESSION refers to how a person enacts or expresses their gender in everyday life and within the context of their culture and society. Expression of gender through physical appearance may include dress, hairstyle, accessories, cosmetics, hormonal and surgical interventions, mannerisms, speech, behavioral patterns, and names. A person's gender expression may or may not conform to a person's gender identity.

GENDER IDENTITY refers to a person's deeply felt, internal, intrinsic sense of gender.

GENDER INCONGRUENCE is a diagnostic term used in the ICD-11. It describes a person's marked and persistent experience of incompatibility between that person's gender identity and the gender expected of them based on their birth-assigned sex.

INTERSEX refers to people born with sex or reproductive organs or genitalia that do not fit binary definitions of female or male.

MISGENDER/MISGENDERING refers to when language does not correctly reflect the gender with which a person identifies. This may be a pronoun (he/him/his, she/her/hers) or a form of address (sir, Mr.).

NONBINARY refers to those with gender identities outside the gender binary. People with nonbinary gender identities may identify as partially a man and partially a woman or identify as sometimes a man and sometimes a woman or identify as a gender other than a man or a woman, or as not having a gender at all. Nonbinary people may use the pronouns they/them/theirs instead of he/him/his or she/her/hers. Some nonbinary people consider themselves to be transgender or trans. Some do not because they consider transgender to be part of the gender binary. The shorthand NB or "enby" is sometimes used as a descriptor for non-binary. Examples of nonbinary gender identities are genderqueer, gender diverse, genderfluid, demigender, bigender, and agender.

SEX ASSIGNED AT BIRTH refers to a person's status as male, female, or intersex based on physical characteristics. Sex is usually assigned at birth based on the appearance of the external genitalia. AFAB is an abbreviation for "assigned female at birth". AMAB is an abbreviation for "assigned male at birth".

SEXUAL ORIENTATION refers to a person's sexual identity, attractions, and behaviors about people based on their gender(s) and or sex characteristics and those of their partners. Sexual orientation and gender identity are distinct terms.

TRANSGENDER or trans are umbrella terms used to describe people whose gender identities and/or gender expressions are not what is typically expected for the sex to which they were assigned at birth. Instead, these words should always be used as adjectives (as in "trans people") and never as nouns (as in "transgenders"), and never as verbs (as in "transgendered").

TRANSGENDER MEN or **TRANS MEN** or **MEN OF TRANS EXPERIENCE** are people with gender identities as men who were assigned female at birth. They may or may not have undergone any transition. FTM or Female-to-Male are older terms that are falling out of use.

TRANSGENDER WOMEN or **TRANS WOMEN** or **WOMEN OF TRANS EXPERIENCE** are people who have gender identities as women and who were assigned male at birth. They may or may not have undergone any transition. MTF or Male-to-Female are older terms that are falling out of use.

TRANSITION refers to the process whereby people usually change from the gender expression associated with their assigned sex at birth to another gender expression that better matches their gender identity. People may transition socially by using methods such as changing their name, pronoun, clothing, hairstyles, and/or the ways that they move and speak. Transitioning may or may not involve hormones and/or surgeries to alter the physical body. Transition can be used to describe the process of changing one's gender expression from any gender to a different gender. People may transition more than once in their lifetimes.

TRANSPHOBIA refers to negative attitudes, beliefs, and actions concerning transgender and gender diverse people. Transphobia may be enacted in discriminatory policies and practices on a structural level or in personal ways. Transphobia can also be internalized when transgender and gender diverse people accept and reflect prejudice about themselves or other transgender and gender diverse people. While transphobia sometimes results from unintentional ignorance rather than direct hostility, its effects are never benign. Some people use the term anti-transgender bias in place of transphobia.

Current medical views on TGD identities

Gender identity is usually considered to be established in the early preschool years (1). For some people, their recognition as being different from their assigned gender can happen during

childhood itself. For others, this recognition may arise during adolescence or adulthood.

The understanding of gender identity development is evolving and has been complicated by the politicalization of TGD

healthcare and TGD lives (e.g., sports, bathrooms). The World Professional Association for Transgender Health (WPATH) specifically notes that “the expression of gender characteristics, including identities, which are not stereotypically associated with one’s assigned sex at birth, is a common and culturally diverse human phenomenon [that] should not be judged as inherently pathological or negative.” (1)

This changing understanding of gender identity is reflected in the changing nomenclature of diagnosis systems. In the fifth edition of the ‘Diagnostic and Statistical Manual of Mental Disorders (DSM-V-TR), ‘gender identity disorder’ is replaced by the term ‘gender dysphoria.’ ‘Gender dysphoria’ refers to the discomfort or distress caused by a discrepancy between someone’s gender identity and that person’s sex assigned at birth (and their associated gender role and/or primary and secondary sex characteristics).

WPATH stresses that only some TGD people experience gender dysphoria at some point. In the 10th edition (1994) of the International Classification of Diseases (ICD-10) of the World Health Organization (WHO), the category ‘gender identity disorder’ still exists. However, the WHO removed many terms related to gender identity, including ‘gender identity disorder’ in ICD 11 (2022). In addition, ‘gender incongruence,’ was added under Conditions Related to Sexual Health. Gender incongruence is a marked and persistent incongruence between the gender felt or experienced and the gender assigned at birth.

Gender-affirming care for TGD people

TGD people are diverse in their need for gender transition-related services; not all TGD people want to affirm their bodies through gender-affirming medical procedures. Procedures include gender-affirming hormone therapy (GAHT); gender-affirming surgery (GAS) – procedures of the face, breast, chest, body, or genitals; and

facial hair removal and voice and communication therapy. WPATH recommends that healthcare systems should provide medically necessary gender-affirming health care for TGD people (1).

Current standards of care for gender-affirming hormone therapy (GAHT) for TGD adults

WPATH Standards of Care covers GAHT for TGD adults and adolescents (1). The Endocrine Society Clinical Practice Guidelines offers an additional, comprehensive source for GAHT (2). The following regimens draw from these two guidelines, and Member Association clinicians are advised to refer to them to keep abreast of changes based on emerging evidence.

GAHT is not sought by all TGD people; however, it is medically necessary for those who request it. Depending on the diagnostic classification system used by the health care system or if a diagnosis is required, an assessment for gender dysphoria (DSM-5-TR) or gender incongruence (ICD-11) is recommended before initiating GAHT. This assessment can be made by a general mental health professional or multidisciplinary team with adequate experience in providing care to TGD people. WPATH’s criteria for hormone therapy in adults are (1):

Related to the assessment process

- Healthcare professionals assessing TGD adults seeking gender-affirming treatment should liaise with professionals from different disciplines within the field of trans health for consultation and referral, if required.
- If written documentation or a letter is required to recommend gender affirming medical and surgical treatment (GAMST), only one letter of assessment from a healthcare professional with competencies in assessing transgender and gender diverse people is needed.

Criteria for hormones

1. Gender incongruence is marked and sustained;
2. Meets diagnostic criteria for gender incongruence before gender-affirming hormone treatment in regions where a diagnosis is necessary to access health care;
3. Demonstrates capacity to consent for the specific gender-affirming hormone treatment;
4. Other possible causes of apparent gender incongruence have been identified and excluded;
5. Mental health and physical conditions that could negatively impact the outcome of treatment have been assessed, with risks and benefits discussed;
6. They understand the effect of gender-affirming hormone treatment on reproduction and have explored reproductive options.

TGD people must receive accurate and comprehensive information about the benefits and risks of hormone therapy, including information on reversible and permanent physical effects. Informed consent is fundamental for the provision of GAHT. It is good practice to provide a written consent form that sets out the risks and benefits of the treatment before it is initiated. As long-term GAHT affects fertility (the ability to produce viable sperm or ova), WPATH recommends that decisions about fertility always be discussed with the client. For example, they can be informed about sperm banking, oocyte (egg), or embryo freezing.

WHO CAN PROVIDE GAHT FOR TRANSGENDER ADULTS?

Worldwide, physicians from different specialties offer hormone therapy for TGD adults, including

endocrinology, family medicine, primary care, internal medicine, obstetrics and gynecology, and psychiatry. The WPATH's Global Education Institute offers training in GAHT. Depending on comfort level and experience, primary care providers may initiate hormone therapy or maintain hormone therapy started by an endocrinologist or other experienced physician; at a minimum, they should be able to provide information on hormone therapy and referrals to health care professionals who are experienced in providing hormone therapy. Primary care providers may already have experience in the use of estrogens (for contraception and estrogen replacement in post-menopausal women), testosterone (for hypogonadism and androgen-deficient states), and testosterone-blocking medications (for hirsutism and prostatic disease). This knowledge and experience can be used to initiate and maintain hormone therapy among TGD clients who do not have co-morbid conditions.

The goal of GAHT is to align the body's external appearance with the experienced gender. In addition to physical changes, psychological benefits occur in the form of improved quality of life, regardless of whether they have undergone GAS, as being on GAHT can help affirm gender identity (1).

For a clinician, a practical target for hormone therapy for testosterone is to increase and maintain the testosterone blood levels to the normal range for a biological male (300–1000 ng/dl) by administering testosterone in similar doses as is used for treatment of hypogonadism (injections, tablets, or skin patches). Similarly, a practical target for hormone therapy for estrogen is to decrease and maintain testosterone levels to 30–100 ng/dl without supraphysiological levels of estradiol (<200 pg/ml). This is achieved by administering estrogens similar to that in post-surgical menopause (under 50) and in menopause (over 50) and providing anti-androgens (e.g. spironolactone, cyproterone acetate). In general, hormones are initiated at a low dose and

gradually increased to achieve the desired physical effects and/or testosterone levels. Once the maximal physical impact is reached (usually two to three years), a maintenance dose is used. Dosage is also adjusted according to age and associated health conditions (for example, hypertension and diabetes). After surgical removal of gonads, hormone replacement with estrogen or testosterone is life-long and needs to be adapted to the individual. MAs can provide referrals for gonadectomy as a way of providing gender-affirming care.

Pregnancy is an absolute contraindication to testosterone therapy; relative contraindications are severe hypertension, sleep apnea and polycythemia. Estrogen therapy is associated with thromboembolic events and evaluation and treatment of prothrombotic conditions or risk factors should be undertaken before starting therapy. The presence at baseline of diseases such as a hormone sensitive cancer,

coronary artery disease, cerebrovascular disease, hyperprolactinemia, hypertriglyceridemia, and cholelithiasis should be evaluated prior to the initiation of gender-affirming hormone therapy.

ESTROGEN THERAPY Regimens (see Table 1)

The choice of hormone regimen depends on whether the person has undergone gonadectomy (whether the testes, a significant source of testosterone, are removed); assessing the presence of co-morbid conditions such as hypertension and hyperlipidemia; and assessing the risk of thromboembolism. Exogenous estrogen needs to be provided, and the effects of endogenous testosterone (from the testes) need to be blocked. Therefore, a combination of estrogen and anti-androgen (such as spironolactone or cyproterone acetate) are required for a person who has not undergone testes removal.

Table 1: Hormone regimens in transgender and gender diverse adults

Estrogen-based regimen (Transfeminine)

Estrogen

Oral or sublingual

Estradiol 2.0-6.0 mg/day

Transdermal

Estradiol transdermal patch 0.025-0.02 mg/day

Estradiol gel various ≠ daily to skin

Parenteral

Estradiol valerate or cypionate 5-30 mg IM every 2 weeks
2-10 IM every week

Anti-Androgens

Spironolactone	100-300 mg/day
Cyproterone acetate	10 mg/day**
GnRH agonist	3.75-7.50 mg SQ/IM monthly
GnRH agonist depot formulation	11.25/22.5 mg SQ/IM 3/6 monthly

≠ Amount applied varies to formulation and strength

Testosterone-Based Regimen (Transmasculine)

Transgender males

Testosterone

Parenteral

Testosterone enanthate/cypionate	50-100 IM/SQ weekly or 100-200 IM every 2 weeks
Testosterone undecanoate	1000 mg IM every 12 weeks or 750 mg IM every 10 weeks
Transdermal testosterone	
Testosterone gel	50-100 mg/day
Testosterone transdermal patch	2.5-7.5 mg/day

**Doses are titrated up or down until sex steroid hormone levels are in the therapeutic range. Hormone regimens do not reflect all formulations that are available in all pharmacies throughout the world. Hormone regimens may have to be adapted to what is available in local pharmacies.*

**Kijupers et al (2021)

Among the estrogens, conjugated estrogens are usually preferred over synthetic estrogens (ethinyl estradiol). Similarly, transdermal administration of estrogens is preferred for those at risk of thromboembolic disease, although tablets and injections are more effective in achieving feminizing effects. Gonadotropin-releasing hormone (GnRH) analogs are also used but are expensive and not appropriate for a prolonged period.

Effects

There is individual variation in the effects of estrogen and anti-androgens. Within the first three to six months, clients can expect decreased growth of facial and body hair, decreased sexual desire, reduced spontaneous erections, softening of the skin, decreased skin oiliness, decreased muscle mass, redistribution of body fat, and breast development. Breast growth may only peak after two years of hormone therapy (See Table 2).

Table 2: Expected time course of physical changes in response to hormone therapy (estrogens or testosterone)

Testosterone Based Regimen

Effect	Onset	Maximum
Skin Oiliness/acne	1-6 months	1-2 years
Facial/body hair growth	6-12 months	>5 years
Scalp hair loss	6-12 months	>5 years
Increased muscle mass/strength	6-12 months	2-5 years
Fat redistribution	1-6 months	2-5 years
Cessation of menses	1-6 months	1-2 years
Clitoral enlargement	1-6 months	1-2 years
Vaginal atrophy	1-6 months	1-2 years
Deepening of voice	1-6 months	1-2 years

Estrogen and testosterone-lowering based regimens

Effect	Onset	Maximum
Redistribution of body fat	3-6 months	2-5 years
Decrease in muscle mass and strength	3-6 months	1-2 years
Softening of skin/decreased oiliness	3-6 months	Unknown
Decreased sexual desire	1-3 months	Unknown
Decreased spontaneous erections	1-3 months	3-6 months
Decreased sperm production	Unknown	2 years
Breast growth	3-6 months	2-5 years
Decreased testicular volume	3-6 months	Variable
Decreased terminal hair growth	6-12 months	>3 years
Increased scalp hair	Variable	Variable
Voice changes	None	

Adapted from Hembree et al., 2017

Monitoring

TGD clients on hormone therapy should be monitored for feminizing and adverse effects every three months for the first year and then every 6–12 months (see Table 3). The serum testosterone and estradiol levels should be monitored during follow-up visits, and the level of these hormones maintained within normal ranges

(serum testosterone < 50 ng/dl; serum estradiol 100-200 pg/ml).

Laboratory tests should be carried out within the follow-up visits: serum prolactin, triglycerides, potassium level (if using spironolactone), and bone mineral density screening (as low doses can lead to bone loss), and periodic screening for prostate and breast cancer.

Table 3: Hormone monitoring of transgender and gender diverse people receiving gender-affirming hormone therapy (2)

Transgender male or trans masculine (including gender diverse/nonbinary) individuals

1. Evaluate patient approximately every 3 months (with dose changes) in the first year and 1 to 2 times per year thereafter to monitor for appropriate physical changes in response to testosterone.
2. Measure serum total testosterone every 3 months (with dose changes) until levels are at goal.
 - a. For parenteral testosterone, the serum total testosterone should be measured midway between injections. The target level is 400-700 ng/dL. Alternatively, measure peak and trough peaks to ensure levels remain in the range of reference men.
 - b. For parenteral testosterone undecanoate, testosterone should be measured just before injection. If the level is < 400 ng/dL, adjust the dosing interval.
 - c. For transdermal testosterone, the testosterone level can be measured no sooner than after 1 week of daily application (at least 2 hours after application of product).
3. Measure hematocrit or hemoglobin concentrations at baseline and approximately 3 months (with dose changes) for the first year and then one to two times a year.

Transgender Female or trans feminine (including gender diverse/nonbinary) individuals

1. Evaluate patient approximately every 3 months (with dose changes) in the first year and one to two times per year thereafter to monitor for appropriate physical changes in response to estrogen.
 - a. Serum testosterone levels should be less than 50 ng/dL
 - b. Serum estradiol should be in the range of 100-200 pg/ml
2. For individuals receiving spironolactone, serum electrolytes, in particular potassium, and kidney function, in particular creatinine, should be monitored.
3. Follow primary care, screening per primary care chapter recommendations.

Precautions

Estrogen hormone therapy may increase the risk of venous thromboembolic disease, hypertriglyceridemia, cardiovascular disease,

hypertension, hyperprolactinemia, and prolactinoma (Table 4). The degree of risk is unclear, and these conditions must be ruled out before starting the therapy or monitored for onset during treatment.

Table 4: Risks associated with gender-affirming hormone therapy (bolded are clinically significant) (1)

RISK LEVEL	Estrogen-based regimens	Testosterone-based regimens
Likely increased risk	Venous Thromboembolism Infertility Hyperkalemia [§] Hypertriglyceridemia Weight gain	Polycythemia Infertility Acne Androgenic Alopecia Hypertension Sleep Apnea Weight Gain Decreased HDL Cholesterol and increased LDL Cholesterol
Likely increased risk with presence of additional risk factors	Cardiovascular Disease Cerebrovascular Disease Meningioma ^c Polyuria/Dehydration [§] Cholelithiasis	Cardiovascular Disease Hypertriglyceridemia
Possible increased risk	Hypertension Erectile Dysfunction	
Possible increased risk with presence of additional risk factors	Type 2 Diabetes Low Bone Mass/Osteoporosis Hyperprolactinemia	Type 2 Diabetes Cardiovascular Disease
No increased risk or inconclusive	Breast and Prostate Cancer	Low Bone Mass/Osteoporosis, Breast, Cervical, Ovarian, Uterine Cancer
^c cyproterone-based regimen [§] spironolactone-based regimen		

TESTOSTERONE THERAPY

Regimens (Table 1)

Before testosterone therapy starts, the client must be assessed for co-morbid conditions such as hypertension, hyperlipidemia, and the

risk of thromboembolism. Testosterone can be administered as tablets, injections, gels, or transdermal patches. Testosterone can be started with half the anticipated dose and then titrated quickly to a therapeutic range of serum testosterone levels between 400-700 ng/dl.

Effects (Table 2)

There is individual variation in testosterone effects. Within the first three months of testosterone, effects will include cessation of menses, increased facial and body hair, increased acne and skin oiliness, increased libido, increased muscle mass, and redistribution of fat. Within the first year, other effects will be a deepening of the voice, clitoral enlargement (variable), decreased breast tissue, and male pattern baldness.

Monitoring (Table 3)

TGD people on testosterone should be monitored for masculinizing and adverse effects every three months for the first year and then every 6–12 months. Serum testosterone levels should be monitored until stabilization between 400–700 ng/dl. The frequency of monitoring depends on the testosterone administration route; for example, clients on testosterone injections have peak levels measured 24 to 48 hours after injections, and trough levels immediately before injections. The monitoring should include laboratory testing for elevated lipid levels and hematocrit (polycythemia can occur), bone mineral density screening (as higher doses can lead to osteoporosis), and periodic cancer screening for those who retain their cervix, uterus or breasts.

Precautions (Table 4)

Testosterone therapy is contraindicated in pregnant clients and those with unstable coronary artery disease or untreated polycythemia (hematocrit \geq 55%). Evidence of increased risk of uterine or ovarian cancer among TGD people on testosterone therapy is inconclusive. Testosterone is not a contraceptive and so people may still need contraceptives depending on their sexual practices.

GAHT for transgender adolescents – good international practices

Hormone therapy for TGD adolescents is more controversial when compared with those for transgender adults. Puberty suppression prevents the development of secondary sexual characteristics, buying time until the adolescent can make their own decisions whether to start hormone therapy and/or undergo GAS. Before beginning puberty suppression, a mental health professional should diagnose and confirm gender dysphoria or gender incongruence; the initiation of puberty suppression, usually using gonadotropin analogs (GnRH agonist analogs), needs to be managed by an endocrinologist. GnRH analogs are safe, and puberty can resume as usual once they are stopped. The following are minimum criteria for puberty suppression treatment: [\(1\)](#)

SUMMARY CRITERIA FOR ADOLESCENTS

Related to the assessment process

- A comprehensive biopsychosocial assessment including relevant mental health and medical professionals;
- Involvement of parent(s)/guardian(s) in the assessment process unless their involvement is determined to be harmful to the adolescent or not feasible;
- If written documentation or a letter is required to recommend gender-affirming medical and surgical treatment (GAMST), only one letter of assessment from a multidisciplinary team member is needed. This letter needs to reflect the evaluation and opinion of the team that involves both medical and mental health professionals (MHPs).

Puberty blocking agents

- a. Gender diversity/incongruence is marked and sustained over time;

- b. Meets the diagnostic criteria of gender incongruence in situations where a diagnosis is necessary to access health care;
- c. Demonstrates the emotional and cognitive maturity required to provide informed consent/assent for the treatment;
- d. Mental health concerns (if any) that may interfere with diagnostic clarity, capacity to consent, and gender-affirming medical treatments have been addressed sufficiently so that gender-affirming medical treatment can be provided optimally;
- e. Informed of the reproductive effects, including the potential loss of fertility and the available options to preserve fertility;
- f. Reached Tanner stage 2.

Hormonal treatments (Table 5)

1. Gender diversity/incongruence is marked and

sustained over time;

2. Meets the diagnostic criteria of gender incongruence in situations where a diagnosis is necessary to access health care;
3. Demonstrates the emotional and cognitive maturity required to provide informed consent/assent for the treatment;
4. Mental health concerns (if any) that may interfere with diagnostic clarity, capacity to consent, and gender-affirming medical therapies have been addressed sufficiently so that gender-affirming medical treatment can be provided optimally;
5. Informed of the reproductive effects, including the potential loss of fertility and the available options to preserve fertility;
6. Reached Tanner stage 2.

Table 5: Gender-affirming hormone regimens in transgender and gender diverse youth [\(2\)](#)

Induction of female puberty (estrogen-based regimen) with oral 17 β -estradiol

Initiate at 5 $\mu\text{g}/\text{kg}/\text{d}$ and increase every 6 months by 5 $\mu\text{g}/\text{kg}/\text{d}$ up to 20 $\mu\text{g}/\text{kg}/\text{d}$ according to estradiol levels

Adult dose = 2-6 mg/day

In postpubertal TGD adolescents, the dose of 17 β -estradiol can be increased more rapidly:

1 mg/d for 6 months followed by 2 mg/d and up according to estradiol levels

Induction of female puberty (estrogen-based regimen) with transdermal 17 β -estradiol

Initial dose 6.25-12.5 $\mu\text{g}/24\text{ h}$ (cutting 24 g patch to $\frac{1}{4}$ then $\frac{1}{2}$)

Titrate up by every 6 months by 12.5 $\mu\text{g}/24\text{ h}$ according to estradiol levels

Adult dose = 50-200 $\mu\text{g}/24\text{ hours}$

For alternatives once at adult dose (Table 4)

Induction of male puberty (testosterone-based regimen) with testosterone esters

25 mg/m²/ 2 weeks (or alternatively half this dose weekly)

by 25 mg/m²/ 2 weeks every 6 months until adult dose and target testosterone levels are achieved. See alternatives for testosterone (Table 4)

Adverse effects of self-medicating hormones

Self-administration of hormones among TGD people is quite common. Often it is due to the lack of trans-competent qualified health professionals or unwillingness among health professionals to prescribe hormones to TGD people. Fear of litigation is a concern in some settings. Therefore, clinicians must take a history of previous and current self-administration of hormones before prescribing hormone therapy. Information on the type and dosage of self-administered hormone tablets or injections is primarily gained through peer networks or the internet, both of which can be fallible. Even if the information they receive is correct, TGD people may take higher and/or more frequent doses to speed up their feminization or masculinization process. Unsupervised hormone use can adversely affect the functioning of the liver or heart and increase the risk of thromboembolism. The chances of adverse effects are higher if there is associated problematic alcohol use.

Clinicians administering hormone therapy should advise their TGD clients to adhere to the prescribed dosage of hormone tablets or injections and not increase the dose or frequency independently. Potential interactions between hormones and other medications (for example, HIV medications) also need to be explained to clients. Although antiretroviral therapy may increase or decrease serum estrogen levels, there is no conclusive evidence they interfere with antiretroviral drugs. As both antiretroviral use and hormones can harm the liver, clinicians should check for unsupervised use among transgender people living with HIV.

Recommendations for Member Associations (MAs)

- MAs must ensure a welcoming, non-judgmental, and non-discriminatory environment including respectful language,

gender-inclusive clinic intake forms, and gender-neutral toilets. Irrespective of the capacity and readiness to provide GAHT, MAs should include training to build the capacity of clinical, laboratory, and counseling staff to deal sensitively and competently with TGD clients.

- Health care professionals should discuss with transgender and gender diverse people what language or terminology they prefer, including names and pronouns for themselves and language for their body parts.
- Health care professionals should be trained to provide respectful and appropriate physical examination for TGD people.
- MAs should provide accurate information to TGD people about GAHT and other gender-affirmation services. MAs should assist and/or provide services, including GAHT. Healthcare services should be provided in a way that reduces distress associated with gender dysphoria.
- When designing and implementing appropriate services for the transgender community, involve members of the community in their development.
- MAs can assess the demand for GAHT from TGD people in their service areas and evaluate the current capacity of their healthcare providers to provide GAHT. Depending on these assessments and the availability of resources (human, financial and laboratory), MAs can decide to what extent they would like to provide GAHT.
- Health care professionals should obtain a detailed medical history from transgender and gender diverse people that includes past and present use of hormones, gonadal surgeries, as well as the presence of traditional cardiovascular and cerebrovascular risk factors.
- Health care professionals should apply the same respective local screening guidelines (including the recommendation not to screen) developed for cisgender women at average and elevated risk for developing ovarian or endometrial cancer as well as screening for

cervical cancer in their care of transgender and gender diverse people who have the same risks.

- Health care professionals should be particularly alert to signs of sexual and gender-based violence among the transgender and gender-diverse population and be prepared to provide first-line clinical support and referral mechanisms for clinical, psychosocial and protection services to survivors of violence.
- MAs should offer TGD people referrals for hair removal from the face, body, and genital areas for gender-affirmation or as part of a preoperative preparation process.
- MAs should refer TGD people before initiating gender-affirming treatment interested in fertility preservation to providers with expertise in fertility preservation for further discussion.
- Providers should discuss and offer contraception TGD people who engage in sexual activity that can result in pregnancy, in addition to the full range of sexual and reproductive health services.
- As TGD health care requires a multi-disciplinary team approach, MAs need to establish networks and referral systems with appropriate clinical and mental health services; these should be in place when offering GAHT. It is especially important if MAs provide GAHT, that the diagnosis of gender incongruence is made by an experienced clinician, with ongoing mental health support available for TGD people.

References

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² Wylie C Hembree and others, Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline, *The Journal of Clinical Endocrinology & Metabolism*, Volume 102, Issue 11, 1 November 2017, Pages 3869–3903.

Who we are

The International Planned Parenthood Federation (IPPF) is a global service provider and a leading advocate of sexual and reproductive health and rights for all. We are a worldwide movement of national organizations working with and for communities and individuals.

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