

# IMAP Statement

## on hormone therapy for transgender people

For many transgender people, hormone therapy is part of the affirmation of their gender identity, so providing this service may assist them to realize their sexual and gender rights.

### Introduction

This Statement has been prepared by the International Medical Advisory Panel (IMAP) and was approved in October 2015.

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

### Purpose of this Statement

IMAP has developed this Statement on access to hormone therapy for transgender people as part of the commitment of IPPF and its Member Associations to improve sexual and reproductive health-related services for all people, including people of diverse sexual orientations and gender identities.

An increasing number of IPPF Member Associations are responding to the sexual and reproductive health needs of transgender people, and some have initiated steps to provide hormone therapy for transgender people. For many transgender people, hormone therapy is part of the affirmation of their gender identity,

so providing this service may assist them to realize their sexual and gender rights. This IMAP Statement provides essential information about masculinizing and feminizing hormone therapy for transgender people and offers succinct clinical guidance, based on the latest evidence, on how to initiate and follow up.

This Statement draws primarily on two guidelines of international repute: 1) version 7 (2012) of the 'Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People' produced by the World Professional Association for Transgender Health (WPATH),<sup>1</sup> and 2) the Endocrine Society's Clinical Practice Guidelines (2009) for cross-sex hormone therapy.<sup>2</sup>

### Intended audience

This IMAP Statement is aimed primarily at 1) IPPF Member Associations to explain the hormone therapy needs of transgender people, and to enable them to set up and strengthen gender transition-related services. This Statement may also be useful for 2) primary care providers and physicians from any specialty who are interested in or already providing hormone therapy, and 3) for other organizations, activists and researchers, and policy and decision makers who are working towards increasing universal access to sexual health services for all marginalized communities, including gender transition services.

i Available at: [http://www.ippf.org/sites/default/files/tks\\_medbulletin\\_jul12\\_en.pdf](http://www.ippf.org/sites/default/files/tks_medbulletin_jul12_en.pdf)

## Who are transgender people?

For most people, their sense of gender identity is congruent with their biological sex. That is, a person who is born as a male (defined as their 'biological sex') usually self-identifies as a boy/man (defined as their 'gender'), and a person who is born as a female (their sex) usually self-identifies as a girl/woman (their gender). However, for some people, their sense of gender identity may not match or be congruent with their biological sex or the gender assigned to them at birth.

Transgender people are individuals of any age whose gender identity and expression does 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 that is used to describe a wide range of identities and experiences; this includes, but is not limited to transsexual people and male and female 'cross-dressers' (sometimes referred to as 'drag queens' or 'drag kings'). Other terms sometimes used for transgender people include 'gender variant', 'gender different', 'gender incongruent' and 'gender non-conforming' people. It is important to note that not all transgender people want to undergo sex reassignment surgery and not all require or want to initiate hormone therapy.

Medical texts sometimes use the term 'transsexual' to describe individuals who seek to change – or who have changed – their primary and/or secondary sex characteristics through feminizing or masculinizing medical interventions (hormones and/or surgery), typically accompanied by a permanent change in gender role. In this situation, a transgender person is sometimes medically labelled as a transsexual who is 'pre-operative' or 'post-operative'. However, the term 'transgender', when used as a label, subsumes the 'transsexual' category. A glossary of terms discussed in this Statement is shown in Box 1.

Note: Intersex conditions, or 'disorders of sex development',<sup>ii</sup> are different from transgenderism. This IMAP Statement focuses on hormone therapy of transgender people who do not have intersex conditions.

ii Formerly labelled as 'hermaphroditism', a derogatory and obsolete term. Some people do not endorse this term, even though some medical professionals may use this term instead of 'intersex'.

## Current medical views on gender identity/transgenderism

There is no clear evidence as to why some people are transgender. While several hypotheses have been put forward, the spectrum of transgenderism is currently thought to be an outcome of multiple factors, including biological determinants.

It is relatively well known that someone's gender identity is usually considered to be established early in life, when they are about two or three years old. For some people, their recognition as being a gender that is different from their assigned sex can happen during childhood itself; for others this recognition may arise during adolescence, or even in early or late adulthood.

Unlike homosexuality, which was removed from the American Psychiatric Association's 'Diagnostic and Statistical Manual of Mental Disorders' in 1973, current medical classification systems have still not completely removed transgenderism from the list of psychiatric disorders. The previous fourth edition (1994) of the 'Diagnostic and Statistical Manual of Mental Disorders' (DSM-IV) had a category called 'gender identity disorder' (or 'GID'). However, as the understanding of gender identity development is evolving, the World Professional Association for Transgender Health 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."<sup>3</sup>

This changing understanding of gender identity issues is reflected in the changing nomenclature of diagnosis systems. Recently, in the fifth edition (2013) of the 'Diagnostic and Statistical Manual of Mental Disorders' (DSM-V), 'gender identity disorder' is replaced by the term 'gender dysphoria'. 'Gender dysphoria' refers to the discomfort or distress that is 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).<sup>4</sup> The World Professional Association for Transgender Health stresses that only *some* gender non-conforming people experience gender dysphoria at *some* point in their lives.

In the current 10th edition (1994) of the International Classification of Diseases (ICD-10) of the World Health Organization (WHO), which is widely followed in developing countries, the category 'gender identity disorder' still exists. However, WHO is also planning to change this terminology into a non-stigmatizing term such as 'gender incongruence' in the forthcoming ICD-11 revision due by 2017.

**BOX 1: GLOSSARY OF TERMS<sup>iii</sup>**

**Sex** refers to someone's biological status as male, female or intersex. It includes physical attributes such as sex chromosomes, gonads, sex hormones, internal reproductive structures and external genitalia.

**Gender** is a term that is often used to refer to the ways that people act, interact or feel about themselves, which are associated with boys/men and girls/women. While aspects of biological sex are the same across different cultures, aspects of gender may not be.

**Gender identity** refers to an individual's deeply felt internal and individual experience of gender, which may or may not correspond with the sex assigned at birth. It includes both the personal sense of the body, which may involve, if freely chosen, modification of bodily appearance or function by medical, surgical, or other means, and other expressions of gender, including dress, speech and mannerisms.

**Sexual orientation** refers to each person's capacity for emotional, physical and sexual attraction to, and intimate and sexual relations with, individuals of a different sex or gender (heterosexual), the same sex or gender (homosexual), or more than one sex or gender (bisexual).

**Sexual identity** refers to an inner sense of oneself as a sexual being, including how one identifies in terms of sexual orientation; that means whether someone identifies as a person who is heterosexual, homosexual, bisexual or another orientation.

**Gender expression**, in contrast to gender identity, is external and socially perceived. Gender expression refers to all of the external characteristics and behaviours that are socially defined as either masculine or feminine, such as dress, mannerisms, speech patterns and social interactions.

**Gender non-conformity** refers to the extent to which a person's gender identity, role or expression differs from the cultural norms assigned to people of a particular sex.

**Transgender** is an umbrella term referring to individuals whose gender identity and expression does not conform to norms and expectations traditionally associated with their sex assigned at birth. Transgender individuals may self-identify as transgender, female, male, trans woman or trans man, transsexual, genderqueer, hijra, kathoey, waria or one of many other transgender identities, and may express their genders in a variety of masculine, feminine and/or androgynous ways.

**Male-to-female transgender person** is an individual who is born as a natal male (male sex by birth) but whose gender identity is a woman (or in-between man and woman). Also known as transgender woman or **trans woman**.

**Female-to-male transgender person** is an individual who is born as a natal female (female sex by birth) but whose gender identity is a man (or in-between woman and man). Also known as transgender man or **trans man**.

**Transsexual** is an adjective (often applied by the medical profession) to describe individuals who seek to change – or who have changed – their primary and/or secondary sex characteristics through feminizing or masculinizing medical interventions (hormones and/or surgery), typically accompanied by a permanent change in gender role.

**Transitioning** is a term often used to describe the process of moving from one sex/gender to another; sometimes this is done by hormone therapy or surgical procedures.

**Sex reassignment surgery** refers to surgery to change primary and/or secondary sex characteristics to affirm a person's gender identity. Sex reassignment surgery can be an important part of essential medical interventions to alleviate gender dysphoria.

**Intersex or intersexuality** refers to congenital conditions in which the development of chromosomal, gonadal or anatomical sex is atypical. Some medical professionals prefer the term 'disorders of sexual development' instead of 'intersex'.

iii From a variety of sources: WPATH Standards of Care, version 7 (Coleman E et al (2012) Standards of care for the health of transsexual, transgender, and gender-nonconforming people. Version 7. *International Journal of Transgenderism*, 13(4): 165–232); IPPF's Gender Equality policy (May 2014); and the IPPF online glossary (available at: [www.ippf.org/resources/media-press/glossary](http://www.ippf.org/resources/media-press/glossary)).

## Gender transition care for transgender people

Transgender people are quite diverse in their need for gender transition-related services. Not all transgender people want to physically modify their body through hormone therapy or surgery. Some may be satisfied with occasional 'cross-dressing' or living part-time in the role of their desired gender. Others may seek a combination of medical and surgical services, which may include hormone therapy; sex reassignment surgery; non-genital surgical procedures of the face, breast or body; speech and voice therapy; and removal of facial hair.

The World Professional Association for Transgender Health (WPATH) is an authoritative source of high international repute for transgender health care in relation to gender transition. Version 7 of the WPATH Standards of Care provides guidance primarily for clinicians and surgeons who are involved in gender transition care. WPATH states that hormone therapy and surgery are medically necessary for many transgender and transsexual people who have gender dysphoria. According to the medical necessity statement<sup>iv</sup> issued by WPATH: "Sex reassignment plays an undisputed role in contributing toward favourable outcomes, and comprises real life experience, legal name and sex change on identity documents, as well as medically necessary hormone treatment, counselling, psychotherapy, and other medical procedures."

The WPATH guidelines set out eligibility and readiness criteria for cross-sex hormone therapy and sex reassignment surgery. In addition, the guidelines emphasize the importance of mental health care before and after surgery, and before initiating and during maintenance of hormone therapy. The core principles underlying the Standards of Care are summarized in Box 2.

### BOX 2: WPATH'S CORE PRINCIPLES<sup>5</sup> FOR PROVIDERS OF TRANSGENDER HEALTH CARE

The World Professional Association for Transgender Health emphasizes that even in areas with limited resources and training opportunities, health care providers can apply many of the core principles that underpin its Standards of Care. These include the following:

- show respect for clients with non-conforming gender identities and do not pathologize differences in gender identity or expression
- provide care (or refer to knowledgeable colleagues) that affirms the gender identity of the client, and reduces the distress of gender dysphoria, when present
- become knowledgeable about the health care needs of transsexual, transgender and gender non-conforming people, including the benefits and risks of treatment options for gender dysphoria
- match the treatment approach to the specific needs of clients, particularly their goals for gender expression and their need for relief from gender dysphoria
- facilitate access to appropriate care
- obtain the informed consent of clients before providing treatment
- offer continuity of care
- be prepared to support and advocate for clients within their families and communities (schools, workplaces and other settings)

Transgender people are individuals of any age whose gender identity and expression does not conform to norms and expectations traditionally associated with their sex assigned at birth. It is important to note that not all transgender people want to undergo sex reassignment surgery and not all require or want to initiate hormone therapy.

iv WPATH Clarification on Medical Necessity of Treatment, Sex Reassignment, and Insurance Coverage for Transgender and Transsexual People Worldwide. Available at: [http://www.wpath.org/site\\_page.cfm?pk\\_association\\_webpage\\_menu=1352&pk\\_association\\_webpage=3947](http://www.wpath.org/site_page.cfm?pk_association_webpage_menu=1352&pk_association_webpage=3947)

## Current standards of care for hormone therapy for transgender adults

Version 7 of the WPATH Standards of Care covers hormone therapy for transgender adults and adolescents. The Endocrine Society Clinical Practice Guidelines document of 2009 offers an additional comprehensive source for hormone therapy practice. The following regimens draw primarily from these two guidelines, and Member Association clinicians are advised to refer to them, as well as keeping abreast of any changes to clinical guidelines that reflect emerging evidence.

In general, hormone therapy is not sought by, or necessary for, all trans-identified people; only a certain proportion will request hormone therapy. Depending on the diagnosis classification system used by the health care provider, an assessment for gender dysphoria or 'gender identity disorder' is recommended before initiation of hormone therapy. This assessment can be made by a general mental health professional, or by a physician who has had adequate experience of providing care to transgender people. WPATH's criteria for hormone therapy in adults are: 1) persistent, well-documented gender dysphoria; 2) capacity to make a fully informed decision and to give consent to treatment; 3) age of majority in their country; and 4) if significant medical or mental health concerns are present, they must be reasonably well controlled.

Transgender people must be provided with 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 hormone therapy, and it is good practice to provide the client with a written consent form that clearly sets out the risks and benefits of the treatment before it is initiated. As long-term hormone therapy affects fertility (the ability to produce viable sperm or ova), WPATH recommends that decisions about fertility need to be discussed with the client even if they do not appear to be concerned about their future reproductive capacity. For example, they can be informed about the option of sperm banking and oocyte (egg) or embryo freezing. In addition, female-to-male trans people with an intact vagina/uterus who have just initiated androgen therapy, and who have sex with men, need to be informed about using barrier contraceptives to avoid unintended pregnancy.

### WHO CAN PROVIDE HORMONE THERAPY FOR TRANSGENDER ADULTS?

Physicians who provide hormone therapy do not usually receive specific training, and standard certification for this care does not exist. Throughout the world, hormone therapy for transgender adults is provided by physicians from different specialties, including endocrinology, family medicine, internal medicine, obstetrics and gynaecology, and psychiatry.

Primary care providers are now recognized as appropriate professionals to provide hormone therapy<sup>6</sup> as part of efforts to improve access to quality health care for transgender people, who may otherwise go to unqualified medical providers or self-administer hormones that may harm them. Depending on their comfort level and experience, primary care providers may initiate hormone therapy or maintain hormone therapy started by an endocrinologist or other relatively experienced physician; at a minimum, they should be able to provide information on hormone therapy to their clients and refer clients to health care professionals who are experienced in providing hormone therapy. Primary care providers may already be knowledgeable about, and have experience in use of estrogens (for contraception and estrogen replacement in post-menopausal women), testosterone (for hypogonadism, and androgen-deficient states such as with HIV infection) and testosterone-blocking medications (for hirsutism and prostatic disease).<sup>7</sup> This knowledge and experience can be used to initiate and maintain hormone therapy among transgender clients who do not have severe co-morbid conditions.

## GOALS AND PRINCIPLES OF HORMONE THERAPY

The goal of hormone therapy, in general, is to align the external appearance of the body in line with the experienced gender. Hormone therapy therefore needs to produce masculinizing effects in a female-to-male trans person, and feminizing effects in a male-to-female trans person. In addition to these physical changes, psychological benefits are also observed in the form of improved quality of life<sup>8</sup> of transgender people regardless of whether they have undergone sex reassignment surgery, as the very act of being on hormone therapy can help to affirm their gender identity.

The dosage level of testosterone (in a female-to-male trans person) is similar to that of the treatment of hypogonadism in males, and the dosage of estrogen (in a male-to-female trans person) is similar to that in post-surgical menopause in females aged under 50, and in the natural menopause of females aged 50 and above.

For a clinician, a practical target for hormone therapy for female-to-male trans people is to increase and maintain the testosterone blood levels to the normal physiological range for a biological male (300–1000 ng/dl). This is achieved by administering testosterone externally (using injections, tablets or skin patches). Similarly, a practical target for hormone therapy for male-to-female trans people is to decrease and maintain their testosterone levels to the normal physiological range for a biological female (30–100 ng/dl), without supraphysiological levels of estradiol (<200 pg/ml). This is achieved by administering estrogens and providing anti-androgens.

In general, the hormones are initiated at a relatively low dose and gradually increased to achieve the desired physical effects and/or desired blood levels of testosterone (in both male-to-female and female-to-male). Once the maximal physical effects are achieved (which usually takes two to three years), a relatively lower maintenance dose is used. Dosage is also adjusted according to age, lifestyle (for example, alcohol use) and associated health conditions (these include, for example, conditions such as hypertension and diabetes). After surgical removal of gonads (oophorectomy or orchiectomy), hormone replacement with estrogen or testosterone is usually for life, unless medical contraindications arise. This means that hormone therapy needs to be adapted to suit the needs of each individual.

## HORMONE THERAPY FOR MALE-TO-FEMALE TRANSGENDER PEOPLE

### Regimens (see Table 1A)

The choice of hormone regimen in a male-to-female trans person depends on whether or not the person has undergone sex reassignment surgery (that is, whether the testes, a major source of testosterone, are removed); assessing the presence of co-morbid conditions such as hypertension and hyperlipidaemia; and assessing the risk of thromboembolism. In general, external estrogen needs to be provided and the effects of natural testosterone (from the testes) need to be blocked. A combination of estrogen and anti-androgen (such as spironolactone or cyproterone acetate) might therefore be needed in a male-to-female person who has not undergone sexual reassignment surgery (see Figure 1). Among the estrogens, conjugated estrogens are usually the preferred choice, rather than synthetic estrogens such as ethinyl estradiol. Similarly, for those at risk of thromboembolic disease, transdermal administration of estrogens may be preferred, although tablets and injections are more effective in achieving feminizing effects. Gonadotropin-releasing hormone (GnRH) analogues are also used sometimes, but are relatively expensive and should not be used for a prolonged period of time.

### Effects

There is likely to be 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, decreased spontaneous erections, softening of skin, decreased skin oiliness, decreased muscle mass, redistribution of body fat and breast development. However, breast growth may only peak after two years of hormone therapy.

### Monitoring

Male-to-female transgender 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. The serum testosterone and estradiol levels should be monitored during follow-up visits and the level of both these hormones should be maintained within the normal physiological range for a biological female (testosterone 30–100 ng/dl; estradiol <200 pg/ml).

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

### Precautions

Feminizing hormone therapy may increase the risk of venous thromboembolic disease, hypertriglyceridaemia, cardiovascular disease, hypertension, hyperprolactinaemia and

prolactinoma. However, the degree of risk is unclear. The presence of these conditions therefore either needs to be ruled out before starting the therapy or monitored for onset during therapy.

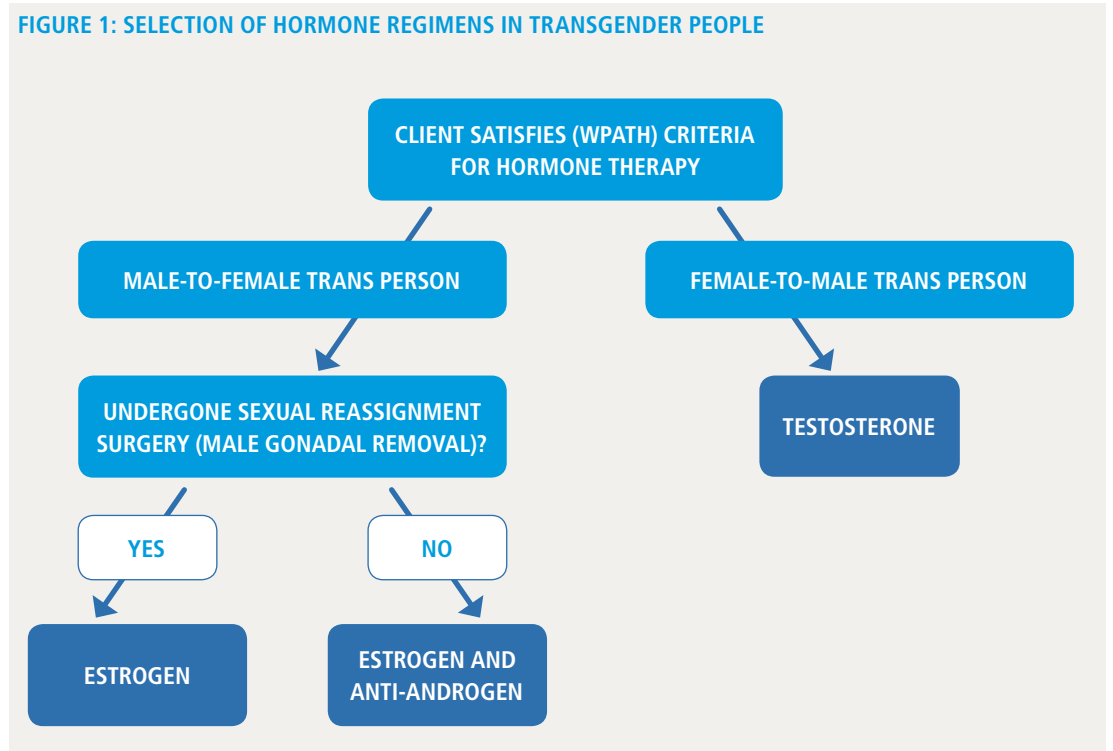
**TABLE 1: HORMONE REGIMENS FOR TRANSGENDER PEOPLE\***

A. Hormone regimens for transgender women (male-to-female)	
Anti-androgen	
Spirololactone	100–200 mg/day (up to 400 mg)
Cyproterone acetate	50–100 mg/day
GnRH agonists	3.75 mg subcutaneous monthly
Oral estrogen	
Oral conjugated estrogens	2.5–7.5 mg/day
Oral 17-beta estradiol	2–6 mg/day
Parenteral estrogen	
Estradiol valerate or cypionate	5–20 mg IM/2 weeks or 2–10 mg IM/week
Transdermal estrogen	
Estradiol patch	0.1–0.4 mg (2x/week)
B. Hormone regimens for transgender men (female-to-male)	
Oral	
Testosterone undecanoate Parenterally (IM or subcutaneous)	160–240 mg/day
Testosterone enanthate or cypionate	50–200 mg/week or 100–200 mg/2 weeks
Testosterone undecanoate	1000 mg/12 weeks
Transdermal	
Testosterone 1% gel	2.5–10 g/day
Testosterone patch	2.5–7.5 mg/day

The goal of hormone therapy, in general, is to align the external appearance of the body in line with the experienced gender. Hormone therapy therefore needs to produce masculinizing effects in a female-to-male trans person, and feminizing effects in a male-to-female trans person.

\* Source: Gardner IH and Safer JD (2013) Progress on the road to better medical care for transgender patients. *Current Opinion in Endocrinology, Diabetes and Obesity*. 20(6): 553–58.

**FIGURE 1: SELECTION OF HORMONE REGIMENS IN TRANSGENDER PEOPLE**



### HORMONE THERAPY FOR FEMALE-TO-MALE TRANSGENDER PEOPLE

#### Regimens (see Table 1B)

Testosterone is the masculinizing hormone administered to a female-to-male trans person. However, before hormone therapy starts, the client needs to be assessed for the presence of co-morbid conditions such as hypertension and hyperlipidaemia, and for the risk of thromboembolism. Testosterone can be administered as tablets, injections, skin gels or transdermal patches. Testosterone can be started with half the anticipated dose and then titrated quickly to achieve the male physiological serum levels (300–1000 ng/dl).

#### Effects

There is likely to be individual variation in the effects of testosterone. In general, within the first three months of testosterone therapy, the expected 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 expected effects will be deepening of the voice, clitoral enlargement (variable), decrease in breast tissue and male pattern baldness.

#### Monitoring

Female-to-male clients on testosterone should be monitored for masculinizing and adverse effects every three months for the first year, and then every 6–12 months. As noted earlier, serum testosterone levels should be monitored until stabilization within the normal physiological range of a biological male. The frequency of monitoring of hormone levels depends on the testosterone administration route. For example, clients on testosterone injections (enanthate or cypionate) can have peak levels measured 24 to 48 hours after injections and, occasionally, trough levels can be measured immediately before injections.

The monitoring should include laboratory testing for elevated lipid levels and haematocrit (as polycythaemia can occur), bone mineral density screening (as higher doses can lead to osteoporosis) and periodic cancer screening for those who retain their cervix or breasts.

#### Precautions

Testosterone therapy is contraindicated in pregnant clients and those with unstable coronary artery disease or untreated polycythaemia (haematocrit  $\geq 55\%$ ). Evidence is inconclusive on the risk of uterine or ovarian cancer among female-to-male transgender persons on testosterone therapy; the client may therefore be willing to consider hysterectomy.



**TABLE 2: RISKS ASSOCIATED WITH HORMONE THERAPY<sup>vi</sup>**

Risk level	Feminizing hormones	Masculinizing hormones
Likely increased risk	<ul style="list-style-type: none"> <li>• <b>Venous thromboembolic disease<sup>a</sup></b></li> <li>• Gallstones</li> <li>• Elevated liver enzymes</li> <li>• Weight gain</li> <li>• <b>Hypertriglyceridaemia</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Polycythaemia</b></li> <li>• Weight gain</li> <li>• Acne</li> <li>• Androgenic alopecia (balding)</li> <li>• Sleep apnoea</li> </ul>
Likely increased risk with presence of additional risk factors <sup>b</sup>	<ul style="list-style-type: none"> <li>• <b>Cardiovascular disease</b></li> </ul>	
Possible increased risk	<ul style="list-style-type: none"> <li>• <b>Hypertension</b></li> <li>• Hyperprolactinaemia or prolactinoma</li> </ul>	<ul style="list-style-type: none"> <li>• Elevated liver enzymes</li> <li>• <b>Hyperlipidaemia</b></li> </ul>
Possible increased risk with presence of additional risk factors <sup>b</sup>	<ul style="list-style-type: none"> <li>• <b>Type 2 diabetes<sup>a</sup></b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Destabilization of certain psychiatric disorders<sup>c</sup></b></li> <li>• <b>Cardiovascular disease</b></li> <li>• <b>Hypertension</b></li> <li>• <b>Type 2 diabetes</b></li> </ul>
No increased risk or inconclusive	<ul style="list-style-type: none"> <li>• <b>Breast cancer</b></li> </ul>	<ul style="list-style-type: none"> <li>• Loss of bone density</li> <li>• <b>Cancer of breast, cervix, ovary and uterus</b></li> </ul>

**Note: Bolded conditions are clinically significant.**

a Risk is greater with oral estrogen than with transdermal estrogen administration.

b Additional risk factors include age.

c Includes bipolar, schizoaffective and other disorders that may include manic or psychotic symptoms. This adverse event appears to be associated with higher doses or supraphysiologic blood levels of testosterone.

**TABLE 3: MONITORING OF SIDE-EFFECTS OF HORMONE THERAPY IN TRANSGENDER PEOPLE**

Monitoring/screening	Male-to-female trans person on feminizing hormones	Female-to-male trans person on masculinizing hormones
Laboratory tests	Levels of testosterone and estradiol	Levels of testosterone
	Serum prolactin, triglycerides, hyperkalaemia (due to spironolactone)	Lipid levels, haematocrit (polycythaemia)
Bone density screening	Screening for bone loss due to low estrogen	Screening for bone loss due to high androgen
Cancer screening	Screening for prostate and breast cancer	Screening for uterine, cervix or ovarian cancer

vi Source: This entire table is adapted from WPATH Standards of Care, version 7. Op. cit.

## Hormone therapy for transgender adolescents – international good practices

In general, guidelines for hormone therapy for transgender adolescents are relatively more contentious when compared with those for transgender adults.<sup>9</sup> According to the Endocrine Society Clinical Practice Guidelines,<sup>10</sup> pubertal blockade with gonadotropin-releasing hormone (GnRH) analogues is recommended for adolescents in earlier stages of puberty (Tanner 2 or 3 stage of puberty). However, it requires appropriate mental health assessments and fulfilment of WPATH criteria for puberty suppression, as summarized below.

If gender dysphoria persists during adolescence, then there is a likelihood that those adolescents will benefit from medical intervention in the form of puberty suppression. This could be regarded as buying time until they have the capacity to make their own decisions (which may be regulated by country-specific laws) on whether or not to start hormone therapy and/or whether or not to undergo sex reassignment surgery. More importantly, puberty suppression obviously prevents the development of secondary sexual characteristics of the gender assigned to them at birth. Before beginning puberty suppression, a mental health professional should diagnose and confirm that the person has gender dysphoria; the initiation of puberty suppression, usually using gonadotropin analogues (GnRH agonist analogues), needs to be managed by an endocrinologist. GnRH agonist analogues have been shown to be safe, and puberty can resume as usual once they are stopped. If the decision is made to start hormone therapy, this would be possible once the GnRH treatment has been discontinued.

The WPATH Standards of Care guidelines (version 7) specify the following minimum criteria for puberty suppression treatment: 1) the adolescent has demonstrated a long-lasting and intense pattern of gender non-conformity or dysphoria; 2) gender dysphoria emerged or worsened with the onset of puberty; 3) any coexisting psychological, medical or social problems that could interfere with treatment have been addressed; and 4) the adolescent or parents/carers have given informed consent (depending on the legal age of medical consent) while supporting the adolescent throughout the treatment.

## Negative effects of self-medicating hormones

Self-administration<sup>11,12</sup> of hormones among transgender people is quite common. Often it is due to the lack of trans-competent qualified health professionals or unwillingness among otherwise competent health professionals to prescribe hormones to transgender people. Fear of litigation could be another concern in some settings. It is therefore particularly important that clinicians 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 via the internet. Both these sources can be incorrect. Even if the information they receive is correct, transgender people may take higher and/or more frequent doses in an effort to speed up their feminization or masculinization process. Taking hormones in this unsupervised way can adversely affect the functioning of liver or heart, and increase the risk of thromboembolism. The chances of these adverse effects are higher if there is associated problematic alcohol use, which might already have affected the liver.

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

## Recommendations for Member Associations

- Member Associations should be prepared to assist and provide a range of services, including hormone therapy, to transgender people. As a starting point, Member Associations can provide accurate information to transgender people about hormone therapy and other gender transition-related services. Member Associations should also share their experiences with the provision of care to transgender people with other Member Associations.
- If Member Associations are already providing sexual health services to transgender people, they can assess the demand for hormone therapy from transgender people in their service coverage areas as well as assess the current capacity of their health care providers to provide hormone therapy. Then, depending on these assessments and availability of resources (including human and financial resources, and laboratory capacity), Member Associations can decide to what extent they would like to get involved in providing hormone therapy.
- Irrespective of the decision to provide hormone therapy, Member Associations need to build the capacity of clinical, laboratory and counselling staff to deal sensitively and competently with transgender clients. Member Associations also need to ensure a welcoming, non-judgemental and non-discriminatory environment in their clinics, which includes having trans-inclusive clinic intake forms and posters. Such an environment would then signal that they work with a range of people – including those with diverse gender and/or sexual identities.
- As transgender health care requires a multi-disciplinary team approach, Member Associations need to establish networks and referral systems with other appropriate clinical and mental health services; these should be in place whether or not the Member Association offers hormone therapy. However, this is especially important if Member Associations decide to provide hormone therapy, as it is recommended that the diagnosis of gender dysphoria is made by a mental health professional or an experienced clinician, with ongoing mental health support available for transgender people.
- If transgender adolescents accessing sexual and reproductive health services at the Member Association request information and/or services for hormone therapy, it is important for the Member Association to provide appropriate information and a referral to a member of a multi-disciplinary team (such as a mental health professional, endocrinologist or child developmental psychologist) who is familiar with the management of hormone therapy for transgender adolescents. However, if a competent provider is available within the Member Association who can initiate and manage puberty suppression and/or hormone therapy for adolescents, the client should be referred internally.
- Member Associations should ensure that their service providers and clients know about the Member Association's non-discrimination policy, which states that clients should not be discriminated against on the basis of their gender identity or sexual orientation, and that such practice is reflected in a non-refusal policy. Member Associations should provide all necessary sexual health services, which may include hormone therapy as well, depending on the capacity and readiness of the clinics managed by the Member Association.
- Member Associations should partner with their local transgender groups and can show solidarity by supporting local advocacy efforts, which may include increasing access to sexual health services and gender transition services within public health services for transgender people.

This IMAP Statement provides essential information about masculinizing and feminizing hormone therapy for transgender people and offers succinct clinical guidance, based on the latest evidence, on how to initiate and follow up.

**BOX 3: SELECTED RESOURCES ON HEALTH OF TRANSGENDER PEOPLE**

Resource	Comments
Coleman E et al (2012) Standards of care for the health of transsexual, transgender, and gender-nonconforming people. Version 7. <i>International Journal of Transgenderism</i> . 13(4): 165–232.	Authoritative guidelines, with international repute, on transgender health care, including hormone therapy. Some professionals may view some of the recommended practices as restrictive.
Hembree WC et al (2009) Endocrine treatment of transsexual persons: an Endocrine Society clinical practice guideline. <i>Journal of Clinical Endocrinology and Metabolism</i> . 94(9): 3132–154.	A detailed review, primarily from the perspective of endocrinologists. However, it contains some outdated recommendations based on version 6 of the WPATH Standards of Care (now superseded by version 7).
Center of Excellence for Transgender Health, University of California, San Francisco (online), Transgender Health Learning Center. Available at: <a href="http://transhealth.ucsf.edu/trans?page=lib-00-00">http://transhealth.ucsf.edu/trans?page=lib-00-00</a>	An excellent online resource focusing on a range of health issues of transgender people, including hormone therapy.
World Health Organization (2014) <i>Consolidated Guidelines on HIV Prevention, Diagnosis, Treatment and Care for Key Populations</i> . Available at: <a href="http://www.who.int/hiv/pub/guidelines/keypopulations/en/">http://www.who.int/hiv/pub/guidelines/keypopulations/en/</a>	This document brings together all existing HIV-related guidance relevant to key populations, including transgender people, and provides guidance and recommendations.

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## 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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