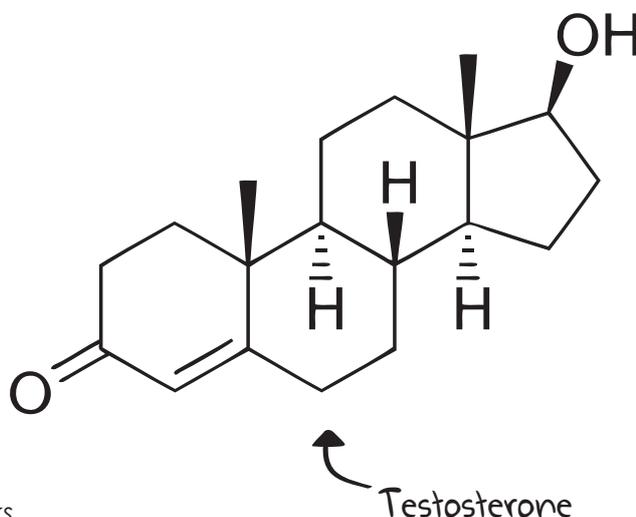


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Beginning masculinising hormone treatment can often be seen as a significant step forward in the lives of those on the masculine end of the transgender spectrum. It can have such a profoundly positive impact on the quality of life of an individual and give rise to an increased level of self-esteem and inspire further positive decision making towards a better future.

However the degree and rate of the physiological and psychological changes caused by masculinising hormone treatment will vary for each person, there is also no way of knowing exactly how your body will respond until treatment has commenced.

While the process of bringing one's body and mind closer together often has many positive effects, there are also a number of side-effects and risks involved with hormone treatment. By understanding what you can realistically expect, we hope that you will become better informed and more able to engage effectively with your health care providers to maximize the benefits and minimize the potential risks.

The Gender Centre provides this masculinising hormone information fact sheet specifically for people in the masculine transgender range, those that are considering taking masculinising hormones. We acknowledge that not all people will aspire to the same goals with their masculinising process, and for this reason we have aimed at providing a fact sheet that reduces assumptions and labels in this respect.

This fact sheet may also be a helpful resource for partners, family, and friends who are wondering how hormones work and what they do. It is intended to not only inform those interested about masculinising hormones, but hormones in general and how they physiologically and psychologically effect the human body.

Please remember however that the Gender Centre is not a medical centre and as such we do not provide medical documents and/or medical care and we cannot make referrals to any medical services; we do, however, provide information regarding health care service providers for you to access independently. We do not give recommendations regarding particular service providers.

INTRODUCTION TO HORMONES

A hormone is a chemical released by a cell or a gland in one part of the body that sends out messages that tell cells in another part of the body how to function. They provide instructions to other cells on when to grow, when to stop growing or die; when to activate one's immune system; they regulate one's metabolism including hunger, thirst, digestion, fat storage and burning, blood sugar and cholesterol levels; they prepare your body for new phases of life including puberty, parenthood and menopause; they control the reproductive cycle and prepare the body for mating, fighting, fleeing and other activity.

Endocrine hormone molecules are produced in particular endocrine glands which include the thyroid, ovaries and testicles. Released into the bloodstream, hormones travel to cells in other parts of the body where they respond with cells that contain specific receptors.

SEX HORMONES

In many contexts, the two main classes of sex hormones, also known as sex steroids or gonadal steroids, are androgens and oestrogens, of which the most important human derivatives are testosterone and estradiol respectively. Other contexts include progesterone as a third class of sex steroids.

Generally speaking, androgens are considered "masculinising sex hormones", while oestrogens and progesterones are considered "feminising sex hormones". Different levels of both androgens and oestrogens exist in all people, regardless of their genitalia.

Sex Hormones regulate the development of sex characteristics including the sex organs that develop before we are born (genitals, ovaries/testicles, etc.) and also the secondary sex characteristics that typically develop at puberty (facial/body hair, bone growth, breast growth, voice changes, etc.).

Sex Steroids interact with specific androgen or oestrogen receptors and are produced primarily by the ovaries or testes and by adrenal glands.

Non-steroid hormones such as luteinizing hormone, follicle-stimulating hormone and gonadotropin-releasing hormone are usually not regarded as sex hormones, although they play an important sex-related role.

There are also many synthetic sex steroids. Synthetic androgens are often referred to as anabolic steroids. Synthetic oestrogens and progestins are used in methods of hormonal contraception.

PUBERTY

In understanding how masculinising hormones work, and the changes that they can induce in our body, it is also important to understand some of the ways that our body may have already been affected by hormones during the puberty that we may have already experienced.

Puberty is the process of physical changes by which a child's body matures into an adult body capable of reproduction. Puberty is initiated by hormone signals from the brain to the gonads (the ovaries and testes). In response, the gonads produce a variety of hormones that stimulate the growth, function, or transformation of the brain, bones, muscle, blood, skin, hair, breasts, and sex organs. Before puberty, physical differences in children are almost entirely restricted to the genitalia. During puberty, major differences of size, shape, composition, and function develop in many body structures and systems. The most obvious of these are referred to as secondary sex characteristics.

Individuals that are on the masculine end of the transgender spectrum will undergo, are currently undergoing, or have already undergone an oestrogen induced puberty that involved the oestrogen called estradiol.

Having already undergone some foetal feminisation in utero, a rise in hormone levels begins between about ages six to eight and plateaus at around age twelve whereupon the gonads trigger a further hormonal rise into the adult range. For those at the masculine end of the transgender spectrum, the absence of a large amount of the androgen called testosterone results in a number of skeletal developments which include an earlier epiphyseal closure which is the process of the ends of your bones being fused closed and thus the length of these bones becomes fixed for life.

Although there is a wide range of typical ages when this process occurs, the physiological effects of an oestrogen induced puberty occur during this time and for those at the masculine end of the transgender spectrum can include such skeletal developments as:

- the widening and tilting forward of the pelvis;
- hands and feet tending to be relatively smaller;
- the upper arm tending to be significantly longer, by up to about an inch;
- the skull being smaller;
- a narrower ribcage;
- less prominent brow ridge, narrower jaw;

A number of other physiological developments occur at this time including:

- breast development;
- fat tissue distribution to hips, buttocks, thighs and upper arms;
- fuller, more rounded cheeks and generally softer skin;
- smaller larynx (voice box);
- the appearance of underarm and pubic hair; and
- a more "adult" body odour, more body oil (sebum) and the development of acne.

Significant variation exists among all individuals, and while the skeletal features mentioned above are overwhelmingly common, many people will find that not all features are common to them.

ANDROGEN TREATMENT

A certain amount of psychological counselling is often required before being prescribed masculinising hormone Treatment. Many therapists require at least three months of continuous psychotherapy in order to write a letter prescribing hormones.

Once a letter prescribing hormones has been written, one should acknowledge that there is no one right hormone combination, type, or dose. Deciding what to take depends on your health as each medication has different risks and side effects and how your body reacts when you start taking hormones. Everyone's body is different and sometimes people have a negative reaction to a specific kind of medication. Typically masculinising hormone treatment involves the androgen called "testosterone", although other androgens also exist. Some of these chemicals work on the part of your brain that stimulates sex hormone production and some work directly on the cells in your body that respond to sex hormones. In effect they trigger a "second puberty" in the body. The purpose of this "second puberty" is to cause the development of more typically masculine secondary sex characteristics. Maximum masculinisation tends to occur if hormonal treatment is commenced before an oestrogen induced puberty begins. However if an oestrogen induced puberty has already occurred then some physical characteristics aren't changed by undergoing hormone therapy. This includes aspects of your body that develop before birth (vagina, sex chromosomes, etc.) and also physical characteristics that developed from the increase in oestrogen at puberty including your skeletal structure. The effects of masculinising hormone treatment will vary considerably between individuals, and can take several years to fully achieve. In order to maximise the physical effects and benefits, hormone

-treatment should be commenced as young as possible. The later in life that a masculinising hormone therapy is started, the less effective it is likely be. A number of pre-existing conditions may also reduce the likelihood that a doctor will prescribe masculinising hormone treatment to a patient.

Factors restricting access to masculinising hormone treatment includes pregnancy, androgen sensitive epilepsy, migraines, sleep apnoea, polycythemia (elevated red blood cell count), cardiac failure, renal failure, or severe hypertension susceptible to salt retention and fluid overload, significant liver disease, coronary artery disease, history of uterine cancer, bleeding disorders, significant history of violent behaviour, and a history of breast cancer.

TYPES OF TREATMENT

Testosterone

Testosterone is the main hormone responsible for promoting masculine physical traits. Testosterone works directly on tissues in your body (e.g., stimulating clitoral growth) and also indirectly by suppressing oestrogen production.

GnRH AGONISTS

In adolescents, GnRH agonists can be used to suspend the advance of inappropriate pubertal changes for a period without inducing any changes in the gender-appropriate direction.

In the human brain, the hypothalamus releases gonadotropin-releasing hormone (GnRH) to stimulate the pituitary gland to produce luteinizing hormone (LH) and follicle-stimulating hormone (FSH) which in turn cause the gonads to produce sex steroids. There is considerable debate over the earliest age, and for how long it is clinically safe to do this.

ADMINISTRATION OF TESTOSTERONE

Masculinising hormone treatment can be administered in the following ways:

- injection (intramuscular application)
- skin patches, creams or gels (transdermal application);
- pellets inserted under the skin (subcutaneous);
- tablet (oral application); and
- dissolving a tablet under the tongue (sublingual administration).



Everybody is different in terms of how their body absorbs, processes and responds to sex hormones, there is therefore no one right type or dose that is best to use. Deciding what to take depends very much on your health (each type has different risks and side effects) and what you can afford. It may also depend on how your body reacts when you start taking testosterone – everyone's body is different and sometimes people have a negative reaction to specific brands or formulations.

It is a good idea to discuss the advantages and disadvantages of different options with a medical professional if you have any concerns about being able to take testosterone, or about the side effects, costs, or health risks. It's important that your needs and concerns be taken into account when planning your hormone therapy.

Two very important points should be made however, firstly, that it is not a good idea to take more testosterone than the dose that you have been prescribed, or to take another kind of steroid as well as testosterone. Taking a higher dose can actually slow down the masculinising effects as extra testosterone in the body can be converted to oestrogen by an enzyme called aromatase. Taking more than your prescribed dose also greatly increases your health risks.

Secondly, If you have your ovaries removed your body will be producing a much smaller amount of oestrogen, so the dosage of testosterone is usually reduced. However, you will need to stay on-

testosterone or another form of medication for the rest of your life to preserve bone strength. Testosterone is not stored by the body for future use, so in order to maintain healthy levels it must be administered in timed intervals and in appropriate dosages. Injectable and subcutaneous pellets remain active in the body the longest. Transdermal testosterone (patch, gel, or cream) is typically applied to the skin in smaller daily doses; oral and sublingual/buccal testosterone are also typically taken daily. The way you take testosterone seems to affect how rapidly the changes happen. Oral testosterone however, is the least effective in stopping menstrual periods, so it is typically not used.

INJECTION

While testosterone can be administered into the body in a number of ways, the most common method is intramuscular injection with a syringe. Injectable testosterone is typically administered between once a week to once every three weeks, and should be started at a low dose and adjusted accordingly thereafter. With the injection method there is a peak right after injecting and a dip at the end of the injection cycle that can increase side effects at both ends of the cycle (e.g., aggression when testosterone peaks, and fatigue/irritability when testosterone dips). This can be reduced by injecting once a week instead of every two weeks, or by switching to transdermal or oral testosterone.



TRANSDERMAL

Transdermal application (skin patch, cream, or gel) causes the same degree of masculinisation as injected testosterone, but testosterone takes slightly longer to make menstrual periods stop and to make facial/body hair grow, however daily transdermal application means a more steady blood level of testosterone. Skin patches, creams and gels approximate more typical physiological levels of testosterone better than the higher peaks associated with injection. The dose tends to peak at 4 hours and decrease slowly over the rest of the day. They can cause local skin irritation (more so with the patches). Transdermal testosterone poses a risk of inadvertent exposure to others who come in contact with the patient's skin. This is most important for patients whose intimate partners are pregnant or those who are parents of young children as both of these groups are more vulnerable to the masculinizing effects of androgens.

TESTOSTERONE PELLETS

The primary advantage of receiving implanted testosterone pellets is that it gives a much more constant blood level of testosterone yet requires attention only four times yearly. Between 6-12 pellets are inserted under the skin every three months. This is a relatively minor procedure done under local anaesthetic.

ORAL

Once absorbed from the gastrointestinal tract, the testosterone is shunted (at very high blood levels) to the liver where it can cause liver damage and worsens some of the adverse effects of testosterone. In addition, the 'first pass' metabolism of the liver also may result in testosterone levels too low to provide satisfactory masculinization and suppress menses.

SUBLINGUAL/BUCCAL

Sublingual testosterone can also be made by some compounding pharmacies. Testosterone is absorbed through the oral mucosa and avoids the 'first pass metabolism' in the liver which is cause of many of the adverse effect with oral testosterone. The lozenges can cause gum irritation, taste changes, and headache but most side effects diminish after two weeks. The lozenge must be applied twice daily.

PROGESTIN INJECTIONS

Depo-Provera may be injected every three months just as it is used for contraception. Generally after the first cycle, menses are greatly reduced or eliminated. This may be useful for a useful alternative for some, or used prior to initiation of testosterone therapy.

SUPPLEMENTS

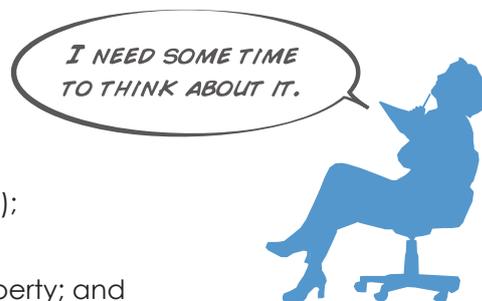
Andro 'Pro-hormones': Androstenedione, 4-androstenediol, 5-androstenediol, 19-androstenediol, and 19-norandrostenediol are sold as supplements that are purported to increase serum testosterone, increase muscle mass, decrease fat, elevate mood, and increase sexual performance (i.e. many of the effects sought with androgen therapy.) However, there is no good medical evidence that the pro-hormones do any of these things. However, there is evidence that ingestion of these substances can cause elevated oestrogen levels, and decreases in HDL (good) cholesterol.

MASCULINISING HORMONE EFFECTS

FTMs who have androgen insensitivity syndrome (AIS) won't get any effects from taking testosterone. In AIS, the body's receptors don't respond to testosterone (whether produced naturally by the body or taken externally). Speech therapy, chest surgery, and genital surgery can still be used by FTMs with AIS.

IRREVERSIBLE CHANGES

- deepening of the voice;
- growth of facial and body hair;
- male pattern baldness (in some individuals);
- enlargement of the clitoris;
- growth spurt if given before the end of puberty; and
- possible shrinking and/or softening of breasts (due to fat deposit redistribution).



REVERSIBLE CHANGES

- increased libido;
- redistribution of body fat;
- cessation of ovulation and menstruation;
- further muscle development (especially upper body);
- increased sweat and changes in body odour;
- prominence of veins and coarser skin;
- acne (especially in the first few years of therapy);
- alterations in blood lipids (cholesterol and triglycerides); and
- increased red blood cell count.

Total height and the length of arms, legs, hands, and feet are not affected by further hormone treatment. However, details of bone shape change throughout life, bones become heavier and more deeply sculptured under the influence of testosterone. Testosterone affects the entire body. It's not possible to pick some changes and not others. Most of the effects of hormones happen in the first two years.

VOICE

The voice starts to crack and drop within the first three to six months following commencement of masculinising hormone treatment, however it can take up to a year to completely change. Although testosterone typically makes voice pitch drop to lower levels, it does not change intonation and other speech patterns that are associated with gender socialization rather than hormones. Speech therapy can help change these aspects of speech. Speech therapy can also be useful if your pitch does not drop into the lower range.

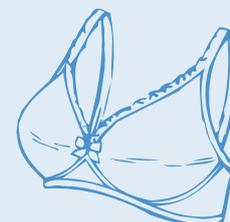


HAIR

Within one to three months after commencing masculinising hormone treatment, hairs on the arms, legs, chest, back and abdomen start to increase in number and become coarse and thicker. Genetics primarily determines how much hair will develop (and where) as well as whether male pattern baldness will develop. It may also take a year or more for facial hair to gradually begin to grow.

BREASTS

Testosterone may slightly change the shape of your chest by increasing muscle mass and decreasing fat, but it does not make breast tissue go away. Chest surgery can be done to reduce or reconstruct your chest.



BODY FAT REDISTRIBUTION & MUSCLE DEVELOPMENT

Testosterone increases body weight (and increases appetite.) The form that this weight gain will take depends on diet and exercise as well as genetic factors. Since testosterone has anabolic effects, gain of lean muscle mass will be easier than it previously was. Moderate amounts of exercise will cause greater gains and will ameliorate some of the adverse effects of testosterone. A redistribution of fat tissue from the breasts, hips, buttocks and thigh to areas around the waist will begin within the first few months of hormone treatment.

GYNAECOLOGICAL EFFECTS

Menstruation: Menstrual periods should cease within 5 months of testosterone therapy (often sooner.) If bleeding continues past this time, a type of progestagen can be injected at regular intervals until the testosterone kicks in. However it is also advisable to mention this to your Doctor. If your menstrual periods don't stop within three months of taking testosterone, Depo-Provera® (a type of progestagen) can be injected every 3 months until the testosterone kicks in.

Clitoral Enlargement: Enlargement of the clitoris usually reaches its peak within 2–3 years of commencing hormone therapy. Sizes generally range from 3–8 cm with 4–5 cm being about average. This is genetically determined, but some physicians advocate topical clitoral testosterone as an addition to growth before metoidioplasty. However, this testosterone is absorbed and should be calculated into your total regimen.

Libido: Most transgender men report a significantly increased libido. Some report that this decreases somewhat after several years on testosterone. (Natural testosterone levels peak in women just before ovulation which may account for the mid-cycle increase in libido many women experience.)

CHILDBEARING

If an individual has not undergone hysterectomy (surgical removal of the uterus) and oophorectomy (surgical removal of the ovaries), they may regain fertility on cessation of testosterone. However with the ovarian changes of long-term androgen therapy, it may require months of cessation of testosterone and possibly assistive reproductive technology to become pregnant. Testosterone must be withheld for the duration of pregnancy.

If an individual is planning on having a hysterectomy/oophorectomy, future reproduction may still be preserved by:

- Oocyte banking;
- Embryo banking; or
- Ovarian tissue banking.

Although testosterone can make you permanently sterile, there may still be a chance that you could get pregnant even after starting hormone therapy. Depending on how you have sex, you may need to use birth control (e.g., condom, diaphragm and spermicide).



MISCELLANEOUS

Many people report an increased energy level, decreased need for sleep, increased sex drive and increased alertness after testosterone therapy. In addition, some report an increase in aggression, although this is not common as these doses of testosterone are much lower than the typical doses taken by steroid-using athletes.

RISKS & SIDE-EFFECTS

The long-term safety of testosterone is not fully understood. Most of the studies on hormone therapy involve non-trans men taking testosterone at different doses than FTMs usually use, and FTM bodies are not exactly the same as non-trans men's bodies. There may be long-term risks that are not yet known.

- Obstructive Sleep Apnoea
- Heart Disease
- Polycystic Ovarian Syndrome
- Dyspareunia
- High Blood Pressure
- Seborrhoea
- Increased Red Blood Cells
- Diabetes
- Ovarian Cancer
- Liver Conditions
- Oedema
- Can affect existing Mental Health issues
- Polycythemia
- Stroke
- Endometrial Cancer
- Suppression of Clotting Factors
- Acne



OBSTRUCTIVE SLEEP APNOEA

Obstructive Sleep Apnoea may be worsened or unmasked by androgen therapy. The risk increases in people who are obese, smoke, or have Chronic Obstructive Pulmonary Disease (C.O.P.D.). Untreated Obstructive Sleep Apnoea may have significant adverse effects on the heart, blood pressure, mood, and may cause headaches and worsen seizure disorders. Symptoms of Obstructive Sleep Apnoea are noisy sleeping (snoring) excessive daytime sleepiness, morning headache, personality changes, and problems with judgment, memory, and attention.

INCREASED RED BLOOD CELLS AND HAEMOGLOBIN.

While the increase is usually only to an average "male" range (which does not pose health risks), a high increase can cause potentially life-threatening problems such as stroke and heart attack. Blood tests should be done periodically to check red blood cell and haemoglobin levels. Higher-than-normal numbers of red blood cells may indicate congenital heart disease, cor pulmonale (failure of the right side of the heart caused by prolonged high blood pressure in the pulmonary artery and right ventricle), polycythemia, or kidney disease with high erythropoietin production. For more on polycythemia, see below.

Higher-than-normal haemoglobin may indicate congenital heart disease, cor pulmonale (failure of the right side of the heart caused by prolonged high blood pressure in the pulmonary artery and right ventricle), polycythemia, or increased red blood cell formation associated with excess erythropoietin. For more on polycythemia, see below.

POLYCYTHEMIA

Testosterone usage has been shown to increase "erythropoiesis," or red blood cell production. "Polycythemia" is an abnormally high level of red blood cells. An excess of red blood cells thickens the blood, impeding its passage through small blood vessels and causing a number of potential health problems including deep venous thrombosis, pulmonary embolism, heart attack, and stroke. If diagnosed with Polycythemia it is important to determine which of the three types you have and proceed with the proper treatment. One should not automatically assume that an initial elevated red blood cell reading is necessarily based on testosterone use alone. Family history and other factors should be considered. The risk of developing Polycythemia increases with age and is more prevalent among those that inject testosterone and have longer intervals between doses. Aspirin may decrease the risk.

HEART DISEASE, STROKE, AND DIABETES.

Testosterone tends to:

- decrease good cholesterol (High Density Lipoprotein or HDL) and increase bad cholesterol (Low Density Lipoprotein or LDL)
- increase fat deposits around internal organs and in the upper abdomen
- increase blood pressure
- decrease the body's sensitivity to insulin
- cause weight gain

These changes may increase the risk of heart disease (including heart attack), stroke, and diabetes. The risks are greater for those who smoke, are overweight, or have a family history of heart disease.

Many of the known contributing factors to these conditions can be reduced by creating a care plan that is tailored to your specific situation. Prevention includes periodic blood tests to keep an eye on potentially risky conditions, and minimizing contributing factors. Stopping smoking, getting healthy levels of exercise, and eating well are key steps you can take to reduce your risks.

POLYCYSTIC OVARIAN SYNDROME

After long-term androgen therapy, ovaries may develop polycystic ovary syndrome. Untreated Polycystic Ovarian Syndrome is associated with a possibly increased risk of endometrial cancer as well as decreased fertility.

Some physicians recommend hysterectomy (surgical removal of the uterus) and oophorectomy (surgical removal of the ovaries) within the first 5 years of starting testosterone therapy. This is because there is some concern that long-term testosterone treatment may cause the ovaries to develop similar symptoms as those seen in polycystic ovarian syndrome.

Because many people undertaking masculine hormone treatment often experience discomfort and sometimes experience access issues over obtaining ongoing gynaecological care, some may feel it is appropriate to pursue the abovementioned surgeries as a preventative measure. However, if a person decides not to have a hysterectomy / oophorectomy procedure, they should continue to have regular Pap smears (to screen for cervical cancer) and should seek out the care of a doctor if they experience any irregular vaginal bleeding (including spotting), cramping, or pain.

OVARIAN CANCER

It is unknown whether the administration of hormone treatment increases the risk of ovarian cancer or not. It is also unlikely to be determined in the near future because ovarian cancer is a relatively rare disease and the population of men taking hormone treatment is too small to undertake an appropriate study. However, it has been recommended by some physicians that these people have an oophorectomy within 2–5 years of starting androgen therapy due to the possible increased risk. (Note: Testosterone dose can frequently be decreased after oophorectomy).

ENDOMETRIAL CANCER

While it is known that the admission of testosterone hormone treatment usually causes atrophy of the endometrium, the risk of endometrial cancer remains unknown. A high prevalence of endometrial hyperplasia has however been noted in a study of nineteen transgender men undergoing hysterectomy. Anyone undergoing androgen therapy who has any bleeding after the cessation of menses should have an endometrial biopsy (and possibly an ultrasound) done to rule-out endometrial cancer.



DYSPAREUNIA (PAINFUL VAGINAL INTERCOURSE)

Androgen therapy (and suppression of oestrogen production) may cause vaginal atrophy and dryness, which may result in dyspareunia (painful vaginal intercourse.) This can be alleviated with topical oestrogen cream.

Liver Conditions

Testosterone therapy can cause and be associated with the following liver conditions:

- Cholestatic Jaundice (Yellowing of skin due to excessive circulating bilirubin);
- Hepatocellular Neoplasm (abnormal tissue growing on liver, rare);
- Peliosis Hepatis (blood-filled cystic spaces develop in the liver);
- Hepatocellular Carcinoma (tumour of the liver); and
- Hepatic Adenoma (rare benign tumour of the liver).

Specifically, the use of orally-administered C-17 alpha alkylated testosterone has been associated with such complications. Oral use of this form of testosterone is therefore generally discouraged, as injectable, transdermal, buccal, and pellet delivery methods are thought to significantly lower such risks. No matter which testosterone delivery method is being used, it is prudent to screen the user with liver function tests to monitor the overall health of the liver.

SUPPRESSION OF CLOTTING FACTORS

Testosterone has been reported to suppress clotting factors II, V, VII, and X. Testosterone may also increase the effects of anticoagulant medication. Caution should be exercised by those taking such medication, or those with bleeding disorders. Consult with your doctor about possible dosage adjustments.

HIGH BLOOD PRESSURE

High blood pressure, or "hypertension," directly increases the risk of coronary heart disease and stroke, especially along with other risk factors. Testosterone therapy can contribute to raised blood pressure levels. Because of this, and because of other potential risk factors for heart disease such as high cholesterol or polycythemia, it is wise to monitor blood pressure levels throughout testosterone therapy.

OEDEMA

Oedema refers to the abnormal build-up of fluid in the ankles, feet, and legs. It is usually painless. Testosterone is known to cause water and electrolyte retention (i.e., sodium, potassium, calcium, and inorganic phosphates), which can contribute to such swelling. Sometimes increasing daily water intake can reduce or end the problem.

ACNE

Testosterone therapy increases activity of the sebaceous glands, and so may increase the presence of acne. Acne commonly appears on the face and shoulders, but may also occur on the trunk, arms, legs, and buttocks.

SEBORRHOEA

Seborrhoea, or "seborrheic dermatitis," is a skin condition characterized by loose, greasy or dry, white to yellowish scales on the skin, sometimes with accompanying redness. It may involve the skin of the scalp, eyebrows, eyelids, nose, lips, behind the ears, the external ear, and the skin of the trunk, particularly over the sternum and along skin folds. This side effect of testosterone usage can be temporary or a more long-lasting condition that may flare up due to contributing actors such as stress, fatigue, weather extremes, oily skin, infrequent shampoos or skin cleaning, use of lotions that contain alcohol, skin disorders (such as acne), or obesity.

MENTAL HEALTH

There are often many positive emotional changes from commencing masculinising hormone treatment. However, in some people, testosterone can cause increased irritability, frustration, and anger. There are reports of testosterone destabilizing those with bipolar disorder, schizoaffective disorder, and schizophrenia. Changing to a daily dose of transdermal testosterone can be helpful if mood swings are linked to the highs and lows of an injection cycle.

REGULAR HEALTH CHECKS

As long as you are taking testosterone (possibly for the rest of your life), you need to have regular physical exams and blood tests to monitor your overall health. The first year after starting testosterone, the doctor who prescribes your hormones will want to see you often; after that, you will usually have regular appointments at least every few months. At these appointments, expect your doctor to:

- ask questions about your overall health
- ask questions about mood swings
- take your blood pressure and check your weight and your heart rate
- check for early warning signs of health problems that can be caused by testosterone

or made worse by testosterone (e.g., heart disease, diabetes)

- recommend blood tests to check your blood sugar, blood fats, blood cells, and liver health
- recommend other tests (e.g., bone scan, heart stress function test) as needed, depending

on your health history, age, and any signs of possible health problems

To check for early signs of cancer, as part of the physical exam your doctor/nurse will do breast and cervical cancer screening tests at least every 1–2 years (more frequently if you are at high risk for these types of cancer).



MAXIMIZING THE BENEFITS, MINIMIZING THE RISKS

The following information has been provided from a booklet titled "Hormones, a Guide for MTFs" published by Vancouver Coastal Health Transcend Transgender Support & Education Society and Canadian Rainbow Health Coalition.

There are a number of things that you can do to help ensure your hormone therapy is as effective and safe as possible:

- Be informed. Understanding how hormones work, what to expect, possible side effects/risks, and guidelines for care gives you the tools to be in charge of your health and to make informed decisions. Do your own research and ask questions.

- If you smoke, stop or cut down. Smoking greatly increases the risks involved with hormone therapy. If you are a smoker, your oestrogen level may have to be kept low.

- Find a health care provider you trust and can be honest with. To get the most from hormone therapy, you need to be able to talk openly about what you want, concerns you have, and any problems you are experiencing. You also need to be able to talk openly with your health care provider about your health history, smoking, alcohol, street drugs, dietary supplements, herbs, and any other medication you are taking. Hormone therapy can be affected by all of these things, and being honest about them will help create a plan that is right for you.

- Deal with problems early on. If caught early enough, most of the problems that can result from taking hormones can be dealt with in a creative way that doesn't involve stopping hormones completely. Waiting can worsen your health to the point where you can't take hormones at all.

- Don't change medication on your own. Check with your health care provider if you want to start, stop, or change the dose of any of your medication. Taking medication more frequently or at a higher dose than prescribed increases health risks and can slow down the effects you want. Going against the instructions of your health care provider also erodes trust with them. If you want to change your medication, talk with your health provider first.

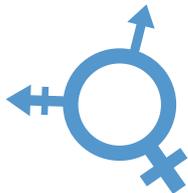
- Take a holistic approach to your health. Health involves more than just hormone levels, and taking hormones is only one way for trans people to improve quality of life. Building a circle of care that includes health professionals, friends, partners, and other people who care about you will help support you to deal with other health problems as they come up, and to heal from societal transphobia.

- Know where to go for help. Staff at the Gender Centre can help you find information on trans health and transition issues, and can also help you connect with trans groups and community resources in your region. They can help with referrals if you need assistance finding a trans-experienced medical provider, counsellor, or another type of health professional.

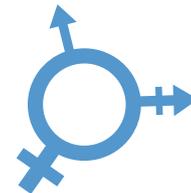
Testosterone doesn't decrease the risks of HIV and sexually transmitted infections. Depending on how you have sex, you may need to consider condoms, gloves, or other latex barriers. Testosterone tends to make the vagina dryer and the cervix more fragile, so if you have vaginal sex you should add extra lubricant to avoid breaking latex or tearing your vaginal lining.

The **Gender Centre** is committed in developing and **providing services** and **activities** which enhance the ability of the **transgender** and **gender diverse** community to make informed **choices**.

We specifically aim to provide a **high quality** service which acknowledges **human rights** and ensures **respect** and **confidentiality** to all.



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SOURCES OF FURTHER INFORMATION:

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