Patient information sheets

Testosterone-based gender affirming hormone therapy

The person prescribing your hormones should go through and discuss all of this information with you. If you have any questions or anything is unclear, please discuss this with your health provider.

Testosterone

Testosterone comes in injections and patches. The most common form is injectable testosterone, as patches commonly cause skin irritation. These hormones are fully funded by PHARMAC, which means they cost the same as other routine prescriptions. There is no evidence of any difference in outcomes or effects between the different forms of testosterone.

There are three forms of injectable testosterone:

- Depo-testosterone is given every 2 weeks.
- Sustanon is given every 3 weeks.
- Reandron is given approximately every 3 months.

Depo-testosterone and Sustanon can be self-injected at home if you wish to do so (but can also be given in clinic by a nurse). The nurse can teach you how to safely self-inject if this is your preferred option. You can also find useful information about this here: Transgender health injection guide

Reandron must be given by a health professional, and you will be seen in clinic for these injections.

Monitoring

Monitoring blood tests are usually needed before starting hormone therapy, then usually 3–6-monthly for the first year and 6–12-monthly thereafter (or as agreed with your healthcare provider). You will usually need to have your blood pressure and weight checked every year. The blood test will check your liver function and cholesterol levels, as well as monitoring hormone levels.

While most monitoring is started at baseline and then 3-monthly, the exception to this is your testosterone level. It takes time for this to stabilise, so it is not usually measured until 9–12 months after starting testosterone. When having a blood test for testosterone, the timing of your blood test is important and depends on which formulation of testosterone you are on:

- Depo-testosterone and Sustanon – check testosterone level mid-way between injections.
- Reandron – check testosterone level just before next injection.

Expected effects

Everyone is different in how quickly they respond to testosterone, but you will start to notice changes in your body gradually over the first few months (see table below). It takes years for the full effects to be seen. This link shows this in a picture: Effects and expected time course of testosterone hormone therapy

The following changes are permanent (these will not reverse if you decide to stop taking testosterone):

- Deeper voice (this can start with a scratchy feeling in the throat)
- Increased hair growth on your body (chest, back, arms)
- Facial hair (the amount varies from person to person)
- Hair loss at temples, possibly becoming bald with time depending on your age and family history.
- Genital changes: Erectile tissue (clitoris) growth around 1–3cm. This can feel uncomfortable or even painful initially.

The following changes are not permanent (these may reverse if you stop testosterone):

- Skin oiliness and acne (acne is usually worst in the first year then gradually improves. You can discuss acne medications with your health provider if needed.)
- Redistribution of body fat (less fat on hips, bum and thighs)
- Increased muscle mass and upper body strength
- Increased sex drive
- Monthly bleeding (periods) usually stops after 1–6 months (for most people but not all. Your prescriber can give you medication to stop monthly bleeding in the meantime if you need this.) Please let us know if you experience any bleeding after your monthly bleeding has stopped.

Effect of testosterone	Expected onset	Expected maximum effect	Reversibility
Skin oiliness/acne	1–6 months	1–2 years	Likely
Facial body/hair growth	6–12 months	4–5 years	Unlikely
Scalp hair loss	6–12 months[a]	Variable	Unlikely
Increased muscle mass/strength	6–12 months	2–5 years	Likely
Redistribution of body fat	1–6 months	2–5 years	Likely
Cessation of periods	1–6 months		Likely
Clitoral enlargement	1–6 months	1–2 years	Unlikely
Vaginal atrophy	1–6 months	1–2 years	Unlikely
Deepening of the voice	6–12 months	Variable	Not possible
Increased sexual desire	Variable	Variable	Likely

[a] Highly dependent on age and inheritance; may be minimal.

(Reproduced with permission from the *Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand*)

Fertility and contraception

Long-term effects on fertility are not clear. Testosterone stops the ovaries from working and it is not known whether this is reversible or not. If you wish to carry a pregnancy in the future, you will need to stop testosterone as it is harmful to a developing fetus (the exact length of time it needs to be stopped before getting pregnant is not known, so make sure you discuss this with your doctor).

After stopping testosterone your fertility could return allowing you to become pregnant without assistance. However, it may not return, and you may not be able to become pregnant without fertility assistance. This assistance usually involves egg harvesting which is an invasive procedure where eggs are removed using a needle. Testosterone does not usually affect the quality of the eggs, so if it is desired this procedure can be carried out at the time it is needed and is not usually recommended before starting hormone therapy.

If you have surgery which involves removing your reproductive organs, you may be able to access funded egg storage and can discuss this with your health provider. If you would like to discuss fertility options in more detail you can request a referral to a fertility specialist.

Testosterone is NOT a form of contraception. If you are having sex which could result in pregnancy (front hole (vaginal) sex with someone whose body produces sperm), you should use contraception even if your periods have stopped.

Sex

Your libido (sex drive) may increase and your genitals, especially your erectile tissue (clitoris), will grow. This can lead to sex and orgasms feeling different. Testosterone can cause the internal genitals (vagina) to become dry, which can cause sex to feel uncomfortable. This can be eased by using additional lubrication (lube). If you have ongoing problems with discomfort in this area, an oestrogen cream can make the internal genital area feel much more comfortable. Your GP or nurse practitioner can prescribe oestrogen cream, or you can try an over-the-counter cream for dryness such as the Vagisil range.

Side effects and risks

- Increased red blood cells (this can thicken the blood increasing risk of stroke or heart attacks. Red blood cells are monitored on your blood tests.)
- Possible risk of liver problems or raised cholesterol (these are monitored on your blood tests).
- There may be an increased risk of blood clots.
- Risk of health problems are higher if you smoke or are overweight.
- Full medical effects and risks are not known.
- Potential risk of testosterone injections include pain at the site and infection. Steps are taken to reduce this risk. Reandron can rarely cause an oil embolism which is when a tiny amount of oil gets into the blood stream. This is why Reandron should be given by a health professional.

Emotional health

It is not known exactly how it will impact on your mental health and this varies between individuals. It is a bit like going through a second puberty, so you may experience a rollercoaster of emotions, or you may notice no change. You may prefer to start the hormones when you have an upcoming period without big life stressors. You may find your mental health improves, but we know that gender affirmation can also be a stressful time and many people benefit from extra support through this. Please discuss this with your health provider who can give you options for counselling or peer support. Many people find it very helpful to talk to someone who understands gender affirmation, and it can be helpful to explore concerns around coming out, stress with family, social and internalised transphobia, anxiety, uncertainty, acceptance, etc. You can find details about support options here:

Gender diversity support services – Health Navigator

Rainbow organisations – Te Ngākau Kahukura

Cancer screening

Cervical screening – this is recommended for anyone aged 25–69 years old who has a cervix. From July 2023 this can be done using a simple swab (which you can choose to do yourself in private). More details here: Cervical screening – Time to Screen

It is possible that changing your gender marker on your primary care practice computer system could result in you not getting a reminder when you are due for this test, so please discuss with your GP or nurse if you think this could be the case. The HPV vaccine greatly reduces your risk of cervical cancer. If you have not had this vaccine, please discuss this with a nurse or GP.

Breast screening – if you have breasts, screening mammograms are recommended from age 45 years. If you've had top surgery, you will need to follow the advice of your surgeon, which may be to perform regular self-exams and ask your GP about annual chest wall examinations with possible ultrasound scans. More information here: Breast screening – Time to Screen