

# Patient information sheets

## Oestrogen-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.

### **Which medications are used?**

Two medications are used as part of oestrogen-based hormone therapy:

- Oestrogen to provide the hormone oestrogen.
- Testosterone blockers (or anti-androgens) are given alongside this to block the hormone testosterone. If you have an orchiectomy (removal of external gonads or testicles) this medication is no longer needed.

**Oestrogen** comes in tablets or patches. There is no evidence of a difference in feminising outcomes or effects between these, so you can choose which you prefer, in discussion with your prescriber and taking into account your medical history. Patches are likely to carry a lower risk of blood clots. Taking high doses does not cause changes to happen more quickly and can put your health at risk. There is no evidence to support higher doses or regimes outside of standard guidelines.

Oestrogen tablets are taken every day.  
Oestrogen patches are applied to the lower abdomen and changed twice a week.

**Testosterone blocker** options are spironolactone or cyproterone. Both are a tablet taken every day or every other day. There is no evidence of a difference in feminising effects between these.

Spironolactone is a blood pressure tablet at low doses but works as an anti-androgen at higher doses. It will not suppress testosterone levels but will block the effects of testosterone in the body, promoting breast growth and slowing down body hair. Side effects can be low blood pressure, dizziness and passing urine more often.

Cyproterone in very small doses (12.5mg daily or less) will suppress testosterone but it does not suit everyone. Side effects can include fatigue/tiredness and low mood. Shortness of breath is an uncommon side effect but is possible. Larger doses have been associated with liver function abnormalities and with a benign brain tumour called a meningioma, but this is thought to be related to long-term use of doses greater than 25mg daily. Evidence in other areas of healthcare shows the risk of blood clots is increased with cyproterone use.

These hormones are fully funded by PHARMAC, which means they cost the same as other routine prescriptions.

### **What blood tests do I need?**

A baseline blood test is often performed before starting hormone therapy, then ongoing monitoring blood tests are usually 3–6-monthly for the first year and 6–12-monthly thereafter (or as agreed with your healthcare provider). You will usually also 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. If you are taking spironolactone your potassium level will be monitored.

When taking spironolactone, the testosterone level measured in your blood test may remain raised, as spironolactone mostly acts to block testosterone's effect on the tissues in the body, rather than reducing the release of testosterone. For this reason, there is no need to check testosterone levels on a blood test if you are taking spironolactone.

Oestrogen levels are only checked to ensure levels are not too high as this can lead to health risks. Oestrogen levels do not correlate well with physical effects or reported satisfaction, and there isn't enough evidence to suggest a target range. Instead your oestrogen dose will be adjusted in line with standard dose ranges and your experiences of the effects.

### **Expected effects**

Effects are gradual and timing varies, but it can take years for the full effects to be seen. The effects are largely dependent on genetics and the age you start hormones, rather than the dose or type of medication you take. It is important to have realistic expectations about the effects of hormones. The table below outlines the expected timing of the effects, and this link shows the expected effects in a picture: [Effects and expected time course of hormone therapy consisting of an anti-androgen and oestrogen](#)

**The following changes are permanent** (these will not reverse if you stop taking hormones):

- Breast growth – breast growth is gradual over 2–3 years. Most people starting oestrogen-based hormone therapy after puberty can expect to develop an A cup or smaller. As with all people who develop breasts, these vary in size and shape.
- Loss of fertility – your external gonads (testicles) may shrink and eventually stop producing sperm. This may lead to a permanent loss of fertility. Fertility preservation is usually available free of charge. Your GP or nurse practitioner can refer you for this before you start hormones.

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

- Softer skin
- Decreased muscle mass and strength
- Less body hair – decreases in thickness and grows more slowly but it doesn't go away completely. Some people choose electrolysis or laser treatment for a more permanent solution.
- Redistribution of fat (more on hips, bum, thighs)

**Things that don't change:**

- Facial hair growth slows down but doesn't stop completely.
- Voice stays the same (voice therapy may be available in your region).
- Bone structure of your face and Adam's apple doesn't change.

Effect of oestrogen	Expected onset	Expected maximum effect	Reversibility
Redistribution of body fat	3–6 months	2–3 years	Likely
Decrease in muscle mass and strength	3–6 months	1–2 years	Likely
Softening of skin/decreased oiliness	3–6 months	Unknown	Likely
Decreased sexual desire	1–3 months	3–6 months	Likely
Decreased spontaneous erections	1–3 months	3–6 months	Likely
Breast growth	3–6 months	2–3 years	Not possible
Decreased testicular volume	3–6 months	2–3 years	Unknown
Decreased sperm production	Unknown	>3 years	Unknown
Thinning and slowed growth of body and facial hair	6–12 months	>3 years <sup>a</sup>	Possible
Male pattern baldness	Variable	<sup>b</sup>	
Voice changes	None	<sup>c</sup>	

<sup>a</sup> Complete removal of hair requires laser treatment.

<sup>b</sup> Depending on your family history, balding may occur if oestrogens are stopped.

<sup>c</sup> Treatment by speech-language therapists for voice training is most effective.

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

## Sex

A baseline blood test is often performed. Your sex drive is likely to be lower. You will soon notice that you get hardening or stiffening of your erectile tissue (erections) less often and when this does occur, it may be more difficult to sustain. If this is causing issues with sex, you can ask your GP for medication to help this. Lowering the dose of your testosterone blocker may also help. Your external gonads (testicles) will usually shrink to less than half of their original size. Although your sperm count is likely to be lowered (see below), it isn't always, and so if you have sex with someone who is able to become pregnant, you should use contraception.

## Fertility

The impact on fertility is unclear but it is safest to assume that within a few months of starting oestrogen-based hormone therapy you could permanently and irreversibly lose the ability to create sperm. Fertility preservation is usually fully funded and your GP or nurse practitioner can refer you for this.

### **Side effects and risks**

- Common side effects include breast tenderness and weight gain. Nausea and headaches can occur when starting oestrogen and usually settle in the first few days or weeks.
- Please tell your healthcare provider if you develop migraine headaches.
- Full medical effects and long-term safety are not known. For most people, benefits outweigh risks, but it depends on other risk factors you may have (such as family history, body size, smoking and blood pressure level).
- There is a small increased risk of liver problems and raised cholesterol (these are both monitored on the blood tests).
- There is an increased risk of blood clots. Using oestrogen patches instead of tablets reduces this risk.
- Risk of health problems are higher if you smoke or are overweight or are over the age of 45 years.
- There may be a slight increased risk of breast cancer compared with cisgender men.

### **Emotional health**

You may feel more emotional. It is not known exactly how hormones will impact 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. Some people experience mood swings or a worsening of anxiety or depression. You may prefer to start the hormones when you have an upcoming period without big life stressors. 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 (disclosure), 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**

Breasts – breast screening (mammograms) from the age of 45 years as per national screening guidelines is recommended for anyone with breasts. This is a free service. You can find out more about breast screening and mammograms here: [Breast screening – Time to Screen](#)

Prostate – the prostate is a small gland which surrounds the opening of the bladder. If you have a prostate gland it is possible to develop cancer in this. Prostate cancer is most common over the age of 50 years. If you develop trouble with peeing, such as poor flow, dribbling, trouble starting or stopping peeing, peeing more often or blood in your pee, you should speak to your health provider.