TRANSGENDER NZ

HORMONE REPLACEMENT THERAPY 101

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Transgender NZ
Hormone Replacement Therapy 101

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HORMONE REPLACEMENT THERAPY 101

A guide to getting started on gender affirming hormone treatments.

Hormone Replacement Therapy 101 is a simple guide to help you get started. This is not a guide to all the most amazing hormones you might want to try to get, it's a realistic guide to getting started in the simplest, most hassle-free way possible.

In New Zealand, gender affirming hormone replacement therapy (HRT) is usually carried out in alignment with the World Professional Association for Transgender Health (WPATH), though this is a somewhat conservative body and international best practice is often ahead of WPATH. The current WPATH standards of care (v7) require the following to initiate HRT:

· Persistent, well-documented gender dysphoria.
· Capacity to make a fully informed decision and to consent for treatment.
· Age of majority (note: people under 16 can take puberty blockers and sometimes hormones).
· If significant medical or mental health concerns are present, they must be reasonably well controlled.

While some mental and physical health concerns may be present, the only absolute contraindications to starting HRT are hormone sensitive cancers, such as prostate, breast, testicular, and cervical cancer.

If your GP is confident, they can give you information at your first visit, and book a follow up in 3-4 weeks (to rule out impulsive decision-making). At the second visit, they can assess whether you've understood the info, and still wish to proceed. They may need to ask some questions and run some blood tests but should be able to proceed with hormones at this point. There are consent forms on our website.

In reality, many GPs haven't done this before and don't feel confident. They may ask you to see a psychologist for a "Readiness Assessment" and/or an endocrinologist for blood tests. If they ask for more than this, it may be worth reading the National Guidelines for Gender Affirming Healthcare and giving them a copy.

For people aged under 16 years, things can be a little more complex. GMA advocates for a 'harm reduction' model that removes barriers to care, but currently it can be challenging and the process is different depending on age, regional pathway, and parental support. Again, use the National Guidelines for Gender Affirming Healthcare.

Whatever the process in your region, and whatever your age, the first step is usually your GP or sexual health clinic.

Working with your healthcare provider

Hormone replacement therapy can be a long-term process, so it's important to build a healthy relationship with your healthcare provider. Whether you end up working with an experienced provider, or with one who has never met a transgender person before, having rapport with your provider can help you get the best care that is available to you.

Don't be afraid to ask them to explain things to you, justify their reasoning, or ask to try a different medication. Not all healthcare providers have the knowledge or experience to optimally provide you with HRT, nor are the most common pathways and treatments the best for everyone. Your provider may not know about the availability of certain medications, they may not be aware of publicly funded treatments, or they may not know about the common side effects of the medicines they prescribe. This may mean that your own personal knowledge of the process and treatments available could be the difference between optimal and non-optimal care.

It is important that both you and your provider work to build a relationship that facilitates open two-way communication, addressing any problems that may arise with treatment, and an interest in providing you the safest and most effective therapy tailored to your needs. If your healthcare provider is not open to tailoring your treatment to best benefit you, you may need to provide them with the most up to date Guidelines for Gender Affirming Healthcare in Aotearoa New Zealand, or to seek a different provider.

You can find comprehensive information at genderminorities.com, including clinical guidelines, consent forms, and more.

Talking about gender and hormones

First, establish how they can show basic respect for your gender. Be clear with your provider about the sex/gender you were assigned at birth, whether you are intersex (if you know this), and what your actual gender (or 'gender identity') is. Tell them how you like to be referred to (she, he, ia, they, etc).

Next, it may help if they know it's not a passing idea – if you've felt this way for a long time, tell them.

They may ask about your support system, such as whether you have supportive family or friends, whether you currently present to the world as your gender or if you are 'out', whether you have any history of substance use, or whether you have any mental health issues such as depression or anxiety.

These are all standard lines of questioning. While you can probably guess the ideal answers, none of the less ideal answers should prevent you from being prescribed HRT. The only "hard nos" are hormone-sensitive cancers (such as testicular or cervical).

Some providers may recommend weight loss prior to starting HRT. However, no amount of dieting is generally effective long term, with over 90% of diets failing to produce long term weight loss. Managing other risk factors is a much more attainable goal - consider reducing or stopping smoking, alcohol and other drug use, supporting your health by drinking lots of water every day, getting enough sleep, getting enough food, and managing vitamin and salt intake to support your liver, heart, bone health, and circulation.

It's all about weighing risks vs. Benefits, so lower your risk factors and be sure to tell your healthcare provider how positively HRT will impact your life!

Let your provider know that you understand all the possible effects of HRT. Include your mental health – such as relief of anxiety, feeling more comfortable, etc, and the physical effects too, discussed below. Include both the positive and possible negative effects. Show them that you have a holistic and realistic understanding.

Discuss with them your intended journey and where you want to be – for example you may want to take hormones and have voice coaching but not have surgeries, or you may only want hormones in order to be allowed Genital Reconstruction Surgery (though this is not technically required).

Fertility preservation should also be discussed.

There is no one right or wrong way to transition, and accessing medical treatments is becoming simpler as more people transition in a variety of ways.

Categories of medicine, Forms of Administration, Availability, and Cost

There are two categories of medicine involved in treatment: the first are "blockers", which pause puberty, suppress testosterone, or stop certain hormones from affecting your body. Blockers are fully reversible - if a patient

stops taking blockers, their natural hormones will begin to affect their body again. These can be prescribed from the start of puberty.

The second category of medicines are referred to as “hormone replacement therapy” (or HRT), and consist of various sex hormones which add effects to your body. Some of these can also do the job of blockers, eliminating the need to take blockers completely. HRT is usually prescribed from age 14-16.

Some HRT medicines are available in multiple forms, or can be taken in multiple ways. These different preparations and delivery methods can have an effect on how well the medicine works, its side effects, and its risks. It’s good to be aware of what options are available to you and how one medicine, its preparation, or delivery method might be better for you than another.

Some forms of administration are:
· Injection (into either muscle or fat).
· Pellet implant (usually injected into fat).
· Patch (stuck to and absorbed through the skin).
· Pill (swallowed orally, dissolved under the tongue sublingually, or absorbed rectally via suppository).
· Topical (applied to the skin as a gel or cream).

It may be useful to be aware of which medicines for HRT are available in Aotearoa, and whether or not they’re funded for NZ citizens and permanent residents. Medicines are not usually funded for people visiting NZ on a temporary visa. Ask your healthcare provider, or check whether a medicine is available using the Medsafe website (medsafe.govt.nz). You can see whether a medicine is funded using the pharmaceutical schedule website (pharmac.govt.nz/tools-resources/pharmaceutical-schedule).

If you request a particular form of the medicine (for example, you prefer injections rather than pills), these may not be funded. However, your doctor can

still prescribe them so long as they are available in New Zealand and you are willing to pay for them yourself.

If a medicine you've been prescribed is no longer funded by the government, the funded brand of the medicine may have changed, so your doctor will need to update your prescription accordingly.

If you cannot afford the medicine that has been prescribed to you, you may be able to have it funded through Work and Income NZ (WINZ) on a disability allowance. You do not have to be unemployed or disabled to do this. It is also possible to get other transition-related treatments such as laser hair removal or electrolysis funded through this pathway (see GMA's health resources web page).

Puberty Blockers

Gonadotropin Releasing Hormones (GnRH) agonists – or 'puberty blockers', suppress or pause puberty changes. Puberty blockers are safe and fully reversible, and do not affect long term fertility. These are generally Leuprolide (Leucrin, Lucrin, or Lupron) by intramuscular injection (usually every 3 months), or Goserelin (Zoladex) chip implant (usually every 10-12 weeks). These are prescribed to people starting puberty, and funded up to the age of 16.

Blocking Testosterone in adults

The sex hormone testosterone can be 'blocked' or 'suppressed' using puberty blockers as above, or by using anti-androgens - sometimes referred to as "T blockers".

T-blockers should not be taken long term without a replacement sex hormone, as sex hormones are vital for bone health (among other things), and the risk of osteoporosis increases the longer an adult patient is without sex hormones.

Examples of T blockers include:

· Cyproterone Acetate (brand names Androcur, Procur, or Siterone), is a commonly prescribed anti-androgen pill (usually taken orally on a daily basis - note that while much higher doses are often prescribed, 25mg is a sufficient dose and generally shouldn't be exceeded unless tests show that testosterone suppression is insufficient).

· Micronised Progesterone (brand names Utrogestan or Prometrium), a pill taken regularly, usually orally, sublingually, or rectally. It can have testosterone suppressing effects but is not commonly prescribed for this sole purpose.

Siterone is funded at 2020.

· Spironolactone (brand name Spiractin), is a pill taken orally daily. Much like Cyproterone, Spiro is also commonly prescribed. Some studies have linked taking Spironolactone with a higher likelihood of seeking breast augmentation surgery.

· Bicalutamide (brand names Binarex, Bicalox, or Cosudex), also a pill taken daily orally. Bicalutamide has fewer side effects compared to other anti-androgens.

Spiractin and Binarex are funded at 2020.

· The Monotherapy Method (oestrogen-only therapy) is another option for blocking testosterone. With a pmol/L of 367.09 (the minimum level recommended by The Endocrine Society), many trans women do not need blockers. With a pmol/L level of 734.19 (the high end of the range recommended by The Endocrine Society) no trans woman needs blockers. To gain these levels of oestrogen through oral administration, a patient would need to take a dose that would likely present risks for their liver function. However, other methods (such as injections) bypass the liver. Many healthcare providers in NZ are unaware that injectable oestrogen can be

obtained by prescription from compounding pharmacies, and that bioidentical oestrogens do not pose the same health risks as synthetic oestrogens. They are therefore often unwilling to prescribe for the recommended pmol/L levels, and use the monotherapy method.

5alpha-reductase inhibitors – or 'DHT blockers', prevent testosterone from being converted into the more powerful androgen dihydrotestosterone. DHT causes scalp hair loss, and preventing its production can help regrow a receding hairline. These include:

· Finasteride (brand names Propecia, Ricit, or Finpro), is a pill taken daily orally. Some people have reported strong negative side effects on mental health.

· Progesterone (brand names Utrogestan or Prometrium), a pill taken daily, usually orally, sublingually, or rectally. Progesterone is also available in a cream which can be bought from pharmacies and compounding pharmacies, which can administered to the hairline.

Ricit is funded at 2020.

Blocking Oestrogen and menstruation in adults

The sex hormone oestrogen can be 'blocked' or 'suppressed' using puberty blockers, as above. For adults, sex hormones are necessary, so continued use of blockers long term without taking testosterone is not advised.

If a patient is taking testosterone (discussed overleaf), they no longer need to take (GnRH) agonists as the testosterone will suppress their natural oestrogen. However, birth control is still necessary. Progesterone based Long Acting Reversible Contraceptives (LARCs) such as Depo provera, Jadelle, or an IUD or IUCD are suitable forms of contraception.

Sex Hormones: Taking Oestrogen & Progesterone

The sex hormone oestrogen (also known as estrogen or “E”) is a primary sex hormone. Progesterone is sometimes taken in addition to oestrogen, to enhance breast development and assist in regrowing hair.

These hormones are available in the following forms:

· Oestradiol Valerate (brand name Progynova), is available as a pill, usually taken orally or sublingually, and can be taken rectally. This is usually taken daily. It is also available as an injection taken every 3-7 days in either gluteus muscle or subcutaneous tummy fat, that can be ordered from a compounding pharmacy with a prescription.

· Micronised Oestradiol Hemihydrate (brand name Estrofem), is available as a pill taken daily, usually orally or sublingually. Because it is micronised, Estrofem is especially good for sublingual delivery.

· 17beta-oestradiol (brand name Estradot), is available as a patch, usually re-applied twice a week.

Progynova and Estradot are funded, and Estrofem is partially funded.

Progesterone is a secondary sex hormone which some people take in addition to oestrogen. Progesterone enhances breast development in cisgender women and causes “gynocomastia” (breast development) in cisgender men. However, due to a lack of trans-specific research, there is currently no medical indication for progesterone in treating trans women. As a result, most healthcare providers in NZ will not prescribe progesterone.

· Progesterone is available in NZ as micronised Progesterone (brand names Utrogestan or Prometrium), a capsule pill which can be taken orally,

sublingually, or rectally. Oral delivery is not recommended as it can have a greater chance of causing side effects such as drowsiness, and sublingual delivery can be hard due to the bad taste of the oil in the capsule.

Progesterone is sometimes taken cyclically (referred to as “cycling”) i.e. for a set duration of days every month, in combination with lowering the dose of oestrogen during this period, in order to mimic the ovarian secretion of the hormone as seen in menstruating people. Some endocrinologists have indicated that this method is very effective, however some people find that cycling can cause side effects such as mood swings.

Due to the current difficulty of obtaining a prescription for progesterone, some patients import it without a prescription and self-medicate, however this is not recommended. If a patient does do this, they are still entitled to have their hormone levels monitored by a healthcare provider, and it is recommended to have regular blood tests.

Progesterone is not funded at 2020.

Annual blood tests: Electrolytes – monitor more frequently if on spironolactone, LFT HbA1c – if risk factors suggest indicated, Lipids – if risk factors suggest indicated, Oestradiol - aim for normal female range (The Endocrine Society recommends target 367.09 pmol/L to 734.19 pmol/L), Testosterone (aim for level < 2 nmol/L).

Sex Hormones: Testosterone

The sex hormone testosterone (also known as “T”) is a primary sex hormone. Adequate levels of testosterone also usually suppress oestrogen and prevent monthly bleeding, however there is still a possibility of becoming pregnant while on this treatment.

Testosterone is available in the following forms:

· Testosterone (brand name Androderm), is available as a patch re-applied daily. It's common for the skin around the patch to feel irritated.

· Testosterone esters (brand name Sustanon), are available in combination as an injection into muscle or subcutaneous fat, usually administered every 2-3 weeks.

· Testosterone cipionate (brand name Depo-Testosterone), is available as an injection into muscle or subcutaneous fat, usually every two weeks. Subcutaneous injections are often easier and less risky to administer than intramuscular.

· Testosterone undecylate (brand name Reandron), is available as an injection into muscle every 10-12 weeks. This is usually administered by a healthcare provider, and patients are not permitted to self-administer.

The above-named brands of testosterone are funded at 2020.

· Testosterone is also available as a non-branded injection into muscle or subcutaneous (SubQ) fat from compounding pharmacies such as Optimus Health. The advantage of this option is higher concentrations can be ordered than those that are fully funded, meaning that the volume of liquid injected is much smaller.

· Dihydrotestosterone – or 'DHT', is a more powerful androgen than testosterone. It can be topically applied directly to the genitals to increase growth. However, the cream is not available in Aotearoa and should not be used without the supervision of a qualified professional.

Blood tests: FBC – every 3 months in first year, then 1-2 times yearly, LFT HbA1c – if risk factors are indicated, Lipids, Testosterone (aim for normal male range).

Physical and Physiological Changes

Overleaf are the main physical and physiological changes which you need to be aware of before discussing with your provider. The lists are not exhaustive. There are also psychological, emotional, spiritual, and social changes to consider.

The charts of changes and times which you may have read online are always somewhat inaccurate, as the effects of HRT are very different from person to person, and the time at which different changes may occur or complete are even more so.

For example, many charts will say breast growth on oestrogen will stop after 2 years, but in fact many transfeminine people report breast growth happening up to 7 years after starting, sometimes with changes in medications or doses.

Because of the variability from person to person, we have not included expected time frames, however the top of each list tends to be the faster changes and the bottom tends to be the ones that take a little more time.

Managing your expectations is important. Transition looks different for every patient, and it's important to remember that puberty takes time - usually around 7 years to completely finish. However, if you're getting notably unsatisfactory results from HRT, making changes to your lifestyle, HRT medication, delivery method, or dosage amount may improve your results.

Oestrogen-based HRT

· Change in body scent and sweat smell
· Decreased production of sperm and ejaculatory fluid
· Sometimes decreased libido and ability to have erections, though erectile function can usually be maintained if desired
· Breast growth
· Softer skin
· More fat in lips
· Slower growing and finer face and body hair
· Slowed or stopped scalp hair loss
· Decrease in muscle and redistribution of body fat to hips, thighs, buttocks, and breasts
· Change in genitals – erections may become less firm, decrease in testes size, penis may become smaller and change shape, becoming more like a clitoris

Testosterone-based HRT

· Change in body scent and sweat smell
· Increased libido
· Increase skin oil and acne
· Increased ejaculatory fluid
· Lighter or absent menstruation
· Voice cracking and dropping
· Deeper sleep and increased snoring (heightened risk of sleep aponea)
· Facial hair growth
· Body hair growth – thicker, darker, and more
· Increase in muscle, and redistribution of fat from buttocks, hips, and thighs to tummy
· Genitals change – clitoris may become larger and change shape becoming more like a penis
· Decreased vaginal lubrication, thinning of vaginal tissues, vaginal canal may shorten
· Scalp hair loss

Getting the right support

Most providers will want to be supportive, even if they're not sure how to support you. In these cases, providing information to them can help.

Gender Minorities Aotearoa has a web page of comprehensive healthcare resources, research reports, and information at genderminorities.com. There is also a database of trans-friendly healthcare providers by region.

Remember that even if it's frustrating, unfair, discriminatory, or takes a long time, you will have an easier time in the long run if you keep your cool. If something needs to change, making a complaint is better done in writing than in the heat of the moment.

You are also entitled to a second opinion. This isn't always easy to get, you may live rurally, have limited time or other resources, and yes, you shouldn't have to. However, if you're not getting anywhere, a well written formal complaint can be effective, and if your complaint is not addressed, it can be used to make a complaint to an external body such as the Health and Disability Commissioner. For a faster solution in some cases, a change of provider may be the simplest course of action. A supportive healthcare provider is everything.

Appropriate health care is a human right, and you are legally entitled to get the right health care. Don't give up! It may take time but you will get there.

For more in depth information, ideal doses, friendly doctors in your area, or to talk with us, please see our website or get in touch.

Main citations:
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