**MANAGEMENT OF TRANSGENDER HEALTH AND GENDER DIVERSITY**

**ASSESSMENT**

Ask the patient about their preferred pronoun, name, title, and identity description. This can be done in two steps.

* + What is your current gender identity (e.g., male, female, trans male/transman, trans female/transwomen, indigenous brotherboy, indigenous sistergirl, non-binary, gender fluid, gender queer, bigender or a different identity)? Note: the individual may identify with more than one category.
	+ What sex/gender were you assigned at birth (e.g., male or female)? A further question asking if a person is intersex or has intersex traits may be relevant.

Get a full history.

* + Nature and duration of history of gender incongruence
	+ Trial of living (at home and/or publicly) consistent with innate/experienced sex or gender role
	+ Who have they disclosed to
	+ Prescribed and non-prescribed medications including complementary therapies
	+ Drug and alcohol history including self-medicating with hormones.
	+ Past medical history
	+ Sexual health and risk activity for STI or blood borne virus (BBV)
	+ Mental health conditions e.g., depression, anxiety, PTSD. Screen for self‑harming behaviours and suicidal ideation and intent.
	+ Include [HEADSSS](http://www.health.nsw.gov.au/kidsfamilies/youth/Documents/youth-health-resource-kit/youth-health-resource-kit-sect-3-chap-2.pdf) psychosocial assessment for adolescents

(NB. You can also use the GPSQ questionnaire at this stage)

Currently, children and adolescents should be referred to Dr Tony Lafferty, paediatric endocrinologist at The Canberra Hospital.

Discuss patient’s individual goals and needs. This may be quite different from person to person in our experience and everyone needs an individualised plan.

Individuals goals and needs may include:

* + Hormonal treatments.
	+ Vocal and communication therapy.
	+ Genital surgical interventions:
		- Affirmed female: penectomy, orchidectomy, vaginoplasty, clitoroplasty, and vulvoplasty.
		- Affirmed male: hysterectomy/salpingo-oophorectomy, metoidioplasty or phalloplasty, vaginectomy, scrotoplasty, and implantation of erection and/or testicular prostheses.
	+ Non-genital surgical intervention:
		- Affirmed female: augmentation mammoplasty, facial feminisation surgery, hair removal (electrolysis, laser treatment or waxing), voice surgery, thyroid cartilage reduction, liposuction, lipofilling, and gluteal augmentation.
		- Affirmed male: subcutaneous mastectomy and chest reconstruction, liposuction, lipofilling, and pectoral implants.
	+ Initial and ongoing psychological support and/or psychiatric care.

Discuss financial considerations. Many necessary pharmaceutical and surgical procedures are not listed on the Medicare schedule and may require private funding.

If hormones may be part of the patient's treatment plan hormone treatment effects and limitations to enable informed treatment decisions. Hormonal therapy is off licence and the physical changes occur gradually over 1 to 2 years, with degree of change and timeline of effects being highly variable.

**Consent**

There is quite a lot of ongoing debate in the transgender community about the so-called “gateway” model of medical care versus the “informed consent” model. Transgender activists consider that they have a right to medical treatment so that they have a body that is congruent with their gender identity. As general practitioners who work with the transgender community, we want to be understanding and supportive of each individual’s goals as much as we can. While the rate of transgender regret is low, it nevertheless exists.

Within our general practice team, it will be up to each general practitioner to assess the patient to see if they are happy that the patient can give informed consent to medical treatment. Issues which may cause concern include

* A significant mental health history especially if it is not fully resolved. A lot of transgender patients will have a history of some mental illness (up to 50% in some surveys) and most of this is associated with the discrimination and lack of support a lot of them have experienced and this need not prevent access to treatment. In fact, gender-affirming treatment would often alleviate the mental health issues in this case. However, in some cases, the severity of the mental illness may call into question the ability of the patient to give consent. If in doubt, it is always useful to get the opinion of a colleague.
* A significant personality disorder.
* A significant autism spectrum disorder.
* A diminished mental capacity.

In all of these cases, strong consideration should be given to getting the opinion of one or more psychiatrists who have experience of working with the transgender community (see below for names) before initiating treatment. In some cases, we could consider the use of “bridging hormones” to maintain an ongoing relationship with the patient while awaiting psychiatric assessment.

|  |
| --- |
| **Typical changes from anti-androgens (varies for each person)** |
| **Average timeline** | **Effect of anti-androgens** |
| 1 to 3 months after starting anti-androgens  | * + - decrease in sex drive
		- fewer instances of waking up with an erection or spontaneously having an erection. Some trans women also have difficulty getting an erection even when they are sexually aroused
		- decreased ability to make sperm and ejaculatory fluid
 |
| Gradual changes (at least 2 years) | * + - slower growth of facial and body hair
		- slowed or stopped balding
		- slight breast growth (reversible in some cases, not in others)
 |
| **Typical changes from estrogen (varies for each person)** |
| **Average timeline** | **Effect of estrogen** |
| 1 to 3 months after starting estrogen | * + - softening of skin
		- decrease in muscle mass and increase in body fat
		- redistribution of body fat to a more “feminine” pattern
		- decrease in sex drive
		- fewer instances of waking up with an erection or spontaneously having an erection; some trans women also find their erections are less firm during sex, or can’t get erect at all
		- decreased ability to make sperm and ejaculatory fluid
 |
| Gradual changes (1 to 2 years on estrogen) | * + - nipple and breast growth
		- slower growth of facial and body hair
		- slowed or stopped balding
		- decrease in testicular size
 |
| **Typical changes from testosterone (varies for each person)** |
| **Average timeline** | **Effect of testosterone** |
| 1 to 3 months after starting testosterone | * + - increased sex drive
		- vaginal dryness
		- growth of clitoris (typically 1 to 3 cm)
		- increased growth, coarseness, and thickness of hairs on arms, legs, chest, back, and abdomen
		- oilier skin and increased acne
		- increased muscle mass and upper body strength
		- redistribution of body fat to a more “masculine” pattern (more fat around the waist, less around the hips)
 |
| 1 to 6 months | * + - menstrual periods stop
 |
| 3 to 6 months | * + - voice starts to crack and drop within first 3 to 6 months, but can take a year to finish changing.
 |
| 1 year or more | * + - gradual growth of facial hair (usually 1 to 4 years to reach full growth)
		- possible male-pattern balding
 |

* + Assess for  precautions to hormonal treatment.

**Precautions to hormonal treatment**

* + - Current or recent smoker
		- Heart failure, cerebrovascular disease, coronary artery disease, AF
		- History, or family history of VTE – consider screening for causes of thrombophilia
		- Cardiovascular risk factors: BMI > 30, hyperlipidaemia, hypertension
		- Migraine
		- Past history of hormone sensitive cancers e.g., breast, prostate, uterine, testicular
		- Possible drug interactions
		- Sleep apnoea
	+ Arrange investigations:

**Baseline tests prior to feminising therapy**

* + - * Bloods: FBC, EUC, LFT, TSH, CMP, HbA1c, prolactin, fasting glucose and lipid profile, LH, FSH, SHBG, testosterone.
			* Blood pressure, height, weight, and waist circumference.
			* ECG if > 40 years.

**Baseline tests prior to masculinising therapy**

* + - * Bloods: FBC, EUC, LFT, TSH, CMP, HbA1c, prolactin, fasting glucose and lipid profile, LH, FSH, oestradiol, testosterone, SHBG.
			* Blood pressure, height, weight, and waist circumference.
			* ECG if > 40 years.
		- The UCSF document looks at the evidence for increased cardiovascular risk with hormonal treatment and concludes that the evidence suggests that cardiovascular risk is unchanged in transgender men and that the situation is unclear with transgender women. I think a decision as to whether patients need a baseline ECG or an ECG as part of annual surveillance should be left to an assessment of each individual’s cardiovascular risk.

**MANAGEMENT**

1. Mental health support or treatment may be required if:
	* suicidal ideation or intent, or self‑harming behaviour
	* requested by patient
	* diagnostic uncertainty
	* co-existing mental health disorder
	* doubt about person’s ability to consent
	* Psychiatrists who have a special interest in working with transgender patients include Drs Patrick Toohey and Steven Koder and Michael Scott in Sydney and Dr Sharat Lal in Wollongong and Drs Fintan Harte and Carolyn Ward in Melbourne. Dr Steven Koder also works with headspace in Camperdown so patients who can’t afford to see a psychiatrist privately can be referred there.
	* In Canberra, Dr Claire Pattison has an interest in working with children and adolescents but has closed her books for a while now. Dr Emma Adams has seen some of my transgender patients.
	* Psychologists who have an interest in working with transgender patients in Canberra are Dr Tushara Wickramariyaratne, Ms Judy Frith, Ms Sue Driscoll, Ms Julia Byford and Ms Genna Ward. There is also a mental health social worker with a Medicare provider number called Lisa Grant who works with gender diverse clients. Jane Keany who is a social worker and works at Lisa Grants’ practice and Shona Elliott who is a counsellor/psychotherapist and neither of whom have a Medicare provider number also work with gender diverse clients. The counsellors at the AIDS Action Council also have an interest in working with transgender clients. headspace Canberra have also been helpful.
2. Discuss:
	* lifestyle changes to reduce any cardiovascular risks associated with hormone treatments e.g., [smoking cessation](http://hnedraft.healthpathways.org.au/16604.htm), [weight loss](http://hnedraft.healthpathways.org.au/36555.htm), hypertension, diabetes.
	* comorbidities e.g., [sexually transmitted infections](http://hnedraft.healthpathways.org.au/15529.htm), and [drug or alcohol dependency](http://hnedraft.healthpathways.org.au/54123.htm).
	* [school](http://www.safeschoolscoalition.org.au/) or [work](http://www.prideindiversity.com.au/) environment. Not all schools are part of the Safe School Coalition.
3. Ensure appropriate cancer screening according to National Guidelines.
	* Sex and gender diverse people who have not undergone the surgical removal of breasts, cervix, uterus, ovaries or testicles remain at risk of cancer in these organs and should undergo screening recommended for these cancers.
	* Manage this carefully, as many sex and gender diverse people find cancer screening physically and emotionally challenging.
4. Discuss gamete cryopreservation as hormonal therapy may affect future fertility. In Canberra, I would probably refer to Dr Tween Low for further discussion.
5. Management of paediatric patients in Canberra will usually be done under the aegis of Dr Tony Lafferty, the paediatric endocrinologist at The Canberra Hospital. He can arrange access to GnRH analogues via The Canberra Hospital for patients who are <18 years old. Unfortunately, there is no access to psychologists or psychiatrists in Canberra who have a particular interest in gender dysphoria. headspace Canberra and Queanbeyan will see patients <25 years and have provided psychological support to young patients and are happy to work in collaboration with Dr Steven Koder in Sydney(see below).

**Feminising therapy**

* + - 1. While some guidelines suggest starting with an androgen blocker first, we have tended to initiate both androgen blockers and oestrogens at the same time. The UCSF guidelines actually suggests initiating oestrogens first and only adding Spironolactone later because of the theoretical risk of premature breast bud fusion.
			2. The options for oestradiol are
				* Progynova 1 mg daily increasing gradually (up to 8 mg daily dose), measure oestradiol level 4 hours post-dose.
				* Sandrenal oestradiol gel 1 mg a day (maximum 5 mg) not applied to breast area, measure oestradiol level 4 hours post-application.
				* Estradot or Estraderm 50 microgram every 24 hours (change patch twice a week), measure oestradiol 48 hours after application and prior to the new patch.
				* These are suggested starting doses, which may need to be increased according to the patient context, and biochemical levels achieved with therapy.
			3. The options for antiandrogens are
			* Spironolactone. Depending on which guideline you look at, you could start between 25-100mg. Check baseline BP and EUC and repeat in 4-6 weeks.
			* Cyproterone acetate. This is now a PBS restricted drug so it does not need a phone authority anymore. A starting dose would be 50mg and it can be titrated up to 100mg. The UCSF guidelines mentions the rare risk of fulminant hepatic failure.
			1. Progesterone therapy is not recommended as it is associated with cardiovascular disease, breast cancer, weight gain and depression and there is no evidence that it enhances breast development
			2. Biochemical targets:
				* testosterone <2 nmol/L
				* oestradiol approximately 400 to 600 pmol/L after 6 to 9 months (adjusted according to the patients’ biological response)
				* The UCSF guidelines also suggest monitoring for adequate suppression of LH and FSH levels to indicate adequate hormonal replacement to prevent osteoporosis.

**Masculinising therapy**

* + - 1. Give Axiron or Testogel for gradual initiation of testosterone:
				* Axiron:

Half an actuation (15 mg) to 1 axilla on alternate days for two weeks

Half an actuation (15 mg) to 1 axilla daily for a further two weeks

One full actuation (30 mg) to 1 axilla for one month

One full actuation (30 mg) to both axillae daily to continue

* + - * + Testogel:

Two actuations (2.5 mg) alternate days for one month

Two actuations (2.5 mg) daily for one month

Four actuations (5 mg) daily to continue

* + - * + Biochemical target – 10 to 20 nmol/L at the end of the titration phase, taken 4 to 6 hours after application. Ensure no topical solution is present on the patient’s skin at the site of blood sampling.
			1. Consider transition to injectable therapy. Testosterone monitoring depends on the route of administration and biological response. Some patients will prefer to initiate with injectable therapy. In this case, I have usually initiated injections of 100mg of Sustanon or Primoteston fortnightly and increased the dose by 50mg per month until the target dose is reached.
				* Sustanon or Primoteston 250 mg intramuscular 3 to 6 weekly

Target testosterone peak, day 5 to 7, 25 to 30 nmol/L, trough 8 to 12 nmol/L

Note: Sustanon 100 mg has been discontinued.

* + - * + Reandron 1 g:

Initial dose – two intramuscular injections at 6 weekly intervals.

Maintenance dose – 1 g every 10 to 15 weeks (average 12 weeks)

Target testosterone 15 to 20 mmol/L, measured on two separate weeks prior to injection and on day of injection just prior to injection.

* + - 1. Menses usually cease 2 to 3 cycles after commencement of testosterone therapy.
				* Consider a Medroxyprogesterone 150 mg depot (single dose) or Mirena IUD if amenorrhea does not occur
				* Ongoing progesterone therapy is not recommended, as it is associated with cardiovascular disease, breast cancer, weight gain, and depression.

**Surveillance for ongoing feminising therapy**

Every 3 to 6 months for first year then every 6 to 12 months:

* + - FBC, EUC, LFT, FBG, lipids, oestradiol, testosterone
		- Blood pressure, height, weight, waist circumference

Annually:

* + - Prolactin (recommended although abnormality unlikely)

If patient is on spironolactone:

* + - Serum electrolytes 1 to 6 weeks after starting or changing dose

Consider BMD testing if risk factors for osteoporotic fracture are present (e.g., previous fracture, family history, glucocorticoid use, prolonged hypogonadism)

* + - In individuals at low risk, screening for osteoporosis should be conducted at age 60 years, or in those who are not compliant with hormone therapy

General biochemical targets:

* + - Testosterone: < 2 nmol/L
		- Oestradiol:
			1. 400 to 600 pmol/L after 6 to 9 months (adjusted according to the patients’ biological response.)
			2. After menopausal age – 200 to 400 pmol/L

Potential complications:

* + - VTE
			1. particularly if > 40 years old
			2. most common in first 2 years of treatment
			3. lower on transdermal oestrogen
		- Cardiovascular disease
			1. Adverse lipid profile, hypertension
		- Insulin resistance
		- Liver dysfunction
		- Gallstones
		- Alterations in mood and libido
		- Small risk of osteoporosis, breast cancer and rarely hyperprolactinaemia

**Surveillance for ongoing masculinising therapy**

Every 3 to 6 months for first year then every 6 to 12 months:

* FBC, EUC, LFT, FBG, lipids, oestradiol, testosterone, SHBG
* Blood pressure, height, weight, waist circumference

After 2 years:

* Consider ultrasound to monitor endometrial thickness
* Consider hysterectomy and bilateral oophorectomy after 2 to 5 years as long term effect of testosterone on these tissues is unknown

Consider BMD testing if risk factors for osteoporotic fracture are present (e.g., previous fracture, family history, glucocorticoid use, prolonged hypogonadism)

* In individuals at low risk, screening for osteoporosis should be conducted at age 60 years, or in those who are not compliant with hormone therapy

General biochemical targets (depending on patient’s biological response):

* Testosterone – 15 to 20 pmol/L
* Oestradiol – < 70 pmol/L

Potential complications:

* Polycythemia – if severe could lead to stroke
* Adverse lipid profile
* Mood and libido changes
* Obstructive sleep apnoea
* Small risk of liver dysfunction, insulin resistance, cardiovascular disease, endometrial hyperplasia, and osteoporosis

**Speech Therapy**

In Canberra, speech therapy is available through

1. Ms Margaret Jacobs. She is based at 60, Garran Place, Garran, ACT 2605 and her telephone number is 0409 784 408. Ms Jacobs also does some work at The Canberra Hospital and patients can be referred for treatment there.
2. Ms Sharon Moore. She is at 15, Tench Street, Kingston. Her telephone number is 6299 8859. Another speech pathologist called Sheryl Mailing who comes up from Melbourne and has experience at working with the transgender community also works with Sharon Moore.

**Standards of care****8**

**Criteria for hormones and upper body surgery**

|  |  |  |  |
| --- | --- | --- | --- |
| **Adults** | **Hormone Therapy** | **Chest surgery** | **Breast implant\*** |
| One letter from health provider with experience in transgender health |   |   |   |
| Persistent well-documented gender dysphoria | Yes | Yes | Yes |
| Capacity to make a fully informed decision and to consent for treatment | Yes | Yes | Yes |
| Age of majority in a given country | Yes | Yes | Yes |
| If significant medical or mental concerns are present they must be reasonably well controlled | Yes | Yes | Yes |

\*Recommended 12 months of feminizing hormones to improve outcome (not a criterion)

**Criteria for lower body surgery**

|  |  |  |
| --- | --- | --- |
| **Adults** | **Gonadectomy** | **Genital surgery** |
| Two letters from health providers with experience in transgender health |   |   |
| Persistent well-documented gender dysphoria | Yes | Yes |
| Capacity to make a fully informed decision and to consent for treatment | Yes | Yes |
| If significant medical or mental concerns are present they must be reasonably well controlled | Yes | Yes |
| 12 continuous months of hormone therapy as appropriate to goals (unless unwilling or unable to take) | Yes | Yes |
| 12 continuous months of living in gender role congruent with their gender identity |   | Yes |

**Surgery**

The options for genital reassignment surgery in Australia are

1. Dr Peter Haertsch in Sydney. I’ve had a couple of patients have MTF surgery done recently and in one case, he used a colonic graft which I’ve had negative things about so I’m cautious about recommending him.
2. Dr Andrew Ives in Melbourne.
3. Dr Hans Goossen is a urologist in Brisbane who is now performing phalloplasty using either a forearm or thigh graft. He trained in London and is working with a plastic surgeon here in Brisbane. He does not offer metoidioplasty. He does also offer some limited MTF genital surgery, such as vulvoplasty.

For top surgery, other options are

1. Dr Vladimir Milovic in Canberra.
2. Dr Megan Hassall in Sydney.
3. Dr Steve Merten in Sydney.
4. Dr Lisa Friederich in Sydney.

There was a discussion on the ANZPATH site so here are some opinions about surgeons overseas.

“In a paper published 2014\*, In Thailand it is given that:

"To date, there are about 20 Thai surgeons able to perform SRS. However, the highest number of the procedures (MTF only) in concentrated among 6 major groups are as follows: PAI (Preecha¹s Aesthetic Institute) (Bangkok), Suporn (Pattaya, Cholburee), Chettawut (Bangkok), Kamol (Bangkok), Sanguan (Phuket), and Yanhee (Bangkok).²

There is also in Thailand Dr Pichet Rodchareon ( <http://www.bangkokplasticsurgery.com> ) and colleagues, who have a clinic in Bangkok. Dr Pichet did a reasonable job on me, 2010, though he was my second choice, and the surgical result subsequently needing to be 'fine tuned¹ (i.e., reduced) by Assoc Prof Peter Haertch in Sydney.”

“In my opinion Dr Sanguan Kunaporn in Phuket is amongst the finest of the GRS surgeons in Thailand. The results I have seen are very good.

He is also a very nice person, and does philanthropic clinics for the local community (burns victims etc). He is not cheap, probably on a par with Suporn. One patient was recently quoted $23,000 for a package that included SRS, breast augmentation, all hospital and hotel fees, and return flights.

Pretty good deal I think!

A word regarding Dr Suporn in Bangkok - he is getting on in years and

apparently often lets his more junior surgeons operate.”

“Miroslav L. Djordjevic, MD, PhD, Professor of Urology/Surgery, that you were thinking of? He is now in Mount Sinai in New York for long or short term I do not know. whiz at metoidioplasty “

**Changes in name and gender markers**

1. Change of name in ACT. <https://www.accesscanberra.act.gov.au/app/answers/detail/a_id/1936#!tabs-2>
2. Change of gender for person born in ACT. <https://www.accesscanberra.act.gov.au/app/answers/detail/a_id/1691#!tabs-2>
3. Change of gender for person born in NSW. <http://www.bdm.nsw.gov.au/Pages/amend-certificate/change-of-sex.aspx>
4. Change of gender with Medicare. <https://www.humanservices.gov.au/customer/enablers/updating-your-personal-details-medicare-card>
5. Change of gender on passport. <https://www.passports.gov.au/passportsexplained/theapplicationprocess/eligibilityoverview/Pages/changeofsexdoborpob.aspx>