NOTTINGHAM CENTRE FOR TRANSGENDER HEALTH

Feminising hormone treatment for trans women and non-binary people: Information for primary care professionals

Introduction

The following information has been produced by the Nottingham Centre for Transgender Health (NCTH) and is designed to inform healthcare professionals of the recommended hormonal treatment for trans and non-binary people.

The NCTH is a national service which carries out assessments to determine eligibility and readiness for hormone treatments amongst other functions. Once hormone treatment has been recommended the patient is guided through an information sheet to enable them to give informed consent. NCTH is not commissioned by NHS England to do blood monitoring, prescribe or administer hormone treatment. NCTH aims to work collaboratively with primary care teams in England to offer support and advice to GP's and their patients.

Primary care responsibilities-GMC guidance

The General Medical Council 2018 have online ethical guidance for General Practitioners for treating adult patients who are trans and non-binary. This guidance states:

"GPs must co-operate with GICs (Gender Identity Clinics) and gender specialists in the same way as they would other specialists, collaborating with them to provide effective and timely treatment for trans and non-binary people. This includes:

- prescribing medicines recommended by a gender specialist for the treatment of gender dysphoria;
- following recommendations for safety and treatment monitoring;
- making referrals to NHS services that have been recommended by a specialist."

With regard to the prescribing of off licence medication;

"Most of the medications used for the treatment of gender dysphoria are not licensed for this specific indication, although GPs will be familiar with their use in primary care for other purposes."

Further information can be found at https://www.gmc-uk.org/ethical-guidance/ethical-hub/trans-healthcare#prescribing

Initiating Feminising Hormone Treatment

NCTH Responsibilities

It is the NCTH's responsibility to carry out the following:

- Assess for a diagnosis of gender dysphoria
- Discuss hormonal treatments including likely effects, risks and impact on fertility
- Assess for readiness for hormonal treatments
- Provide guidance to GP's in relation to baseline blood and blood pressure, height and weight monitoring before commencing hormonal treatment
- Review baseline blood monitoring
- Arrange an endocrinology review within the clinic for those patients with significant physical health issues or significant abnormalities in baseline blood results
- Send an information sheet about feminising hormone treatment which has been signed by the patient and a clinician in the clinic with advice to the GP to start hormones including advice on the preparation and dose
- Review of the patient every 3 to 4 months
- Advise to the GP on preparation changes and dose adjustments as well as ongoing monitoring required
- Provide endocrinological advice to the GP regarding adverse effects if they come to the attention of the GP.

A copy of the 'information about feminising hormone treatment' sheet is attached as Appendix 1.

The usual baseline blood tests are as follows:

FBC, U&E's, LFT's, Lipid profile, Prolactin, Oestradiol, Testosterone, SHBG, LH, FSH and Glucose or HBA1C. These baseline bloods should be sent to the NCTH to be reviewed.

GP responsibilities

NCTH works collaboratively with GP's and will request GP's to do the following:

- Baseline blood monitoring. It is also recommended to record blood pressure, height and weight and to send copies of all the results to the NCTH
- Refer to local fertility services and request funding for gamete storage from the local CCG for those patients who wish to preserve their fertility prior to hormone treatment. Gamete storage is not funded through gender services which are themselves funded nationally via NHS England
- Prescribe hormone treatments as advised by NCTH
- Arrange blood monitoring as advised by NCTH and send copies of the results to NCTH.

Patient Responsibilities

Without safe monitoring of hormone therapy we may no longer support the prescribing of hormone therapy. We will require patients on hormone treatments to do the following:

- To attend review appointments every 3 to 4 months
- To attend for blood monitoring
- To be alert for and report any adverse effects e.g. DVT

Hormone regimens used

The hormone regimens that we commonly use in the initiation phase are summarised in Table 1.

Most patients will start with oestrogens which also have the effect of supressing the testosterone. For most patients the testosterone suppression will not be enough to put the testosterone level into the female range. The addition of a testosterone blocker aids feminisation, reduces the risk of capitol hair loss and reduces facial and body hair vigour and thickness. Some patients who do not want surgery may opt not to have a testosterone blocker.

For patients wanting genital surgery including removal of the testes, they will need to show a fully supressed testosterone treatment prior to surgery. However, not all patients wish to have surgery or to have a fully supressed testosterone level.

Patients undergoing surgery will need to come off oestrogens approximately 6 weeks prior to a planned operation to reduce the risk of thromboembolic complications. After surgery, patients will go back onto oestrogens, typically 2 to 4 weeks after their operation but will no longer require a testosterone blocker if their testes have been removed.

Ongoing Feminising Hormone Treatment

Once satisfactory oestrogen levels have been achieved the blood monitoring required is set out in Table 2. Once treatment is established and other treatments such as surgeries, speech and language therapy, psychotherapy and facial hair removal treatment are complete, patients are discharged from NCTH.

The GMC advocates “Once the patient has been discharged by a GIC or gender specialist, the prescribing and monitoring of hormone therapy can be carried out in primary care without specialist input. From the patient’s perspective, management in primary care is far easier, and there is no specific expertise necessary to prescribe for and monitor patients on hormone therapy.”

Once patients are discharged, a re-referral to a specialist team can be made if it is felt that the patient is experiencing distress or difficulties in adjustment in relation to their gender or treatment, regret, or adverse effects of hormone treatment.

Information about national NHS screening Programmes for transgender and non-binary people can be found at: www.gov.uk/government/publications/nhs-population-screening-information-for-transgender-people

Table 1: Oestrogen therapy Initiation

	Starting dose	Monitoring	Target	Safety
Tablets Estradiol Valerate (generic) Progynova (Oestradiol Valerate) Elleste solo (oestradiol hemihydrate)	1 mg bd	After 3 months Trough sample **prior to morning tablet** Dose titrate every 3 months if trough levels not at target to 4mg bd max dose *Option to blood test 2-4 hrs after morning tablet if trough levels are not achieved on highest dose to confirm absorption/adherence*	400-600 pmol/l	**Before each dose titration** Oestradiol LH/FSH SHBG Prolactin LFT
Gel Sandrena sachet (0.5 mg or 1mg sachet) Oestragel pump pack (1 measure = 0.6 mg)	0.5 mg daily 0.6 mg daily *Consider higher starting dose if switching from higher dose tablet regimen to gel*	After 3 months Sample 4-6 hrs **after** gel application *(early afternoon typically)* Dose titrate every 3 months if trough levels not at target to 6 mg od max dose	400-600 pmol/l	**Before each dose titration** Oestradiol LH/FSH SHBG Prolactin LFT
Patches Evorel (25, 50, 75 and 100 mcg/24hr patches) Estradot (25, 37.5, 50, 75 and 100 mcg/24hr patches)	50 mcg/24hr patch *Consider higher starting dose if switching from tablet to patch e.g.2mg bd or greater start 100 mcg/24hr patch*	After 3 months Sample 2 days after patch application Dose titrate every 3 months if trough levels not at target to 400mcg/24hr max patch dose	400-600 pool/l	**Before each dose titration** Oestradiol LH/FSH SHBG Prolactin LFT

Author: SR Page; Consultant Endocrinologist

Adapted from: Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H.,… T'Sjoen, G. (2017). Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline. *Journal of Clinical Endocrinology & Metabolism*. doi: 10.1210/jc.2017-01658

Table 2: Oestrogen therapy Steady state

	Dose range	Monitoring	Target	Safety
Tablets Estradiol Valerate (generic) Progynova (Oestradiol Valerate) Elleste solo (oestradiol hemihydrate)	1 mg bd – 4 mg bd	Trough sample **prior to morning tablet** *Option to blood test 2-4 hrs after morning tablet if trough levels are not achieved on highest dose to confirm absorption/ adherence*	400-600 pmol/l	**Annual** Oestradiol LH/FSH SHBG Prolactin LFT Lipids
Gel Sandrena sachet (0.5 or 1mg sachet) Oestragel pump pack (1 measure = 0.6 mg)	0.5 - 6 mg daily 0.6 – 6 mg daily	Sample 4-6 hrs **after** gel application *(early afternoon typically)*	400-600 pmol/l	**Annual** Oestradiol LH/FSH SHBG Prolactin LFT Lipids
Patches Evorel (25, 50, 75 and 100 mcg/24 hr patches) Estradot (25, 37.5, 50, 75 and 100 mcg/24 hr patches)	50 mcg - 400 mcg/24hr patches twice weekly	Sample 2 days after patch application (steady state)	400-600 pmol/l	**Annual** Oestradiol LH/FSH SHBG Prolactin LFT Lipids

Author: SR Page, Consultant Endocrinologist

Adapted from: Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H.,… T'Sjoen, G. (2017). Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline. *Journal of Clinical Endocrinology & Metabolism*. doi: 10.1210/jc.2017-01658

GnRH analogues (Testosterone blockers)

GnRH analogue injections are used in the endocrine management of the majority of trans females where adequate oestradiol treatment does not suppress testosterone levels into the female reference range.

We recommend starting therapy with a monthly GnRH injection (according to local Formulary recommendations and availability) for 2 injections before moving to a 3 monthly dosing schedule.

Some trans-females may experience symptoms associated with a transient increase in testosterone levels after the 1st injection of a GnRH agonist. This may cause mood change, increased libido and an increase in or reoccurrence of erections. It is self-limiting and last 1-2 weeks only; it does not recur with subsequent injections.

Decapeptyl is recommended in Nottinghamshire for cost and convenience reasons – intramuscular injections are straightforward to administer for both 28 day and 3 month preparations.

A summary of available preparations is shown below:

1 month preparations

Dose and frequency	**Every 28 days**			
Drug and dose	**Goserelin 3.6mg**	**Leuprorelin 3.75mg**	**Triptorelin 3mg**	**Triptorelin 3.75mg**
Brand name	**Zoladex**	**Prostap SR**	**Decapeptyl SR**	**Gonapeptyl Depot**
Form	**Implant in prefilled syringe**	**Powder to reconstitute**	**Powder to reconstitute**	**Microcapsules to reconstitute**
Injection route	**s/c**	**s/c or i/m**	**i/m**	**s/c or i/m**

3 month preparations

Dose and frequency	**Every 3 months**		
Drug and dose	**Goserelin 10.8mg**	**Leuprorelin 11.25mg**	**Triptorelin 11.25mg**
Brand name	**Zoladex LA**	**Prostap 3**	**Decapeptyl SR**
Form	**Implant in prefilled syringe**	**Powder to reconstitute**	**Powder to reconstitute**
Injection route	**s/c**	**s/c**	**i/m**

Author: SR Page, Consultant Endocrinologist

Adapted from: Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H.,… T'Sjoen, G. (2017). Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline. *Journal of Clinical Endocrinology & Metabolism*. doi: 10.1210/jc.2017-01658

Appendix 1 – 'Information about Feminising Hormone Treatment' Sheet

Feminising hormone treatment for people assigned male at birth may involve the use of oestrogen (female hormone) and testosterone blocking medication. This sheet gives some information about the expected changes and the risks of this treatment.

The effects of taking hormones may include breast growth and body fat redistribution to give a more feminine body shape. You may become less muscular. Body hair may grow more slowly and become softer, but facial hair growth may not change much. NHS funded facial hair removal treatment is available. Mood changes, both positive and negative, may happen but these don't often require treatment. Female hormones will not change your voice. Speech and Language Therapy is available.

Female hormone treatment may affect sex drive. You will probably also be unable to get a full erection after some time on treatment. You are likely to become infertile (not able to have children) and even if you stop treatment you may still be infertile. You need to consider storing gametes (sperm) before treatment if you wish to have biologically-related children in the future. Although hormones are likely to make you infertile, there is a possibility that if you engage in penile-vaginal intercourse your sexual partner could become pregnant so you should use contraception if this is a possibility.

Research on the treatment with hormones of people assigned male at birth is limited. More evidence may be found in future about the benefits and risks. It is important to have regular blood tests as there may be changes to things like liver function and prolactin which could require more investigation. For this reason we recommend that you have your blood tested regularly so that we know if there have been any changes.

There is a risk of developing DVT (also called 'deep vein thrombosis' or 'blood clots') on this treatment. This is important as it may result in serious illness or even death, particularly if it is not treated quickly. If you develop unexpected pain or swelling (usually in your leg), sudden chest pain, shortness of breath and cough you should see a doctor very quickly. For example you should go to the Accident & Emergency Department (A&E), a Walk-in Centre, or see your GP as an emergency on that day. The chance of getting a DVT is greater if you smoke or if you are overweight.

There may be long-term risks in taking feminising hormone treatment. These are not fully known but include cardiovascular risks such as heart attack and strokes which can

make you very ill or even cause death. These risks will be increased if you are overweight, smoke, have high blood pressure, high cholesterol levels, or diabetes.

If you are on a testosterone blocker or have had surgery to remove your testicles then your testosterone levels will be low. If your testosterone level is low you must take oestrogen treatment regularly. You must also have blood tests to make sure you are taking enough oestrogen. Otherwise there is a risk that you could develop osteoporosis (also called thinning of the bones) which may increase the risk of breaking your bones.

The risk of breast cancer in people assigned male at birth is low but may be higher than that of cisgender (non-trans/non-binary) men. You should go for regular breast screening when asked to. The risk of prostate cancer may be less than for cisgender men, but your GP should be aware that it is still a risk and should screen or investigate you as usual.

You may stop this treatment at any time but some of the effects such as breast growth and infertility may not be reversed if you do. It is important to have regular blood tests and to attend appointments at our clinic to reduce the chances of unwanted effects. If you are unable to attend appointments regularly we may no longer support your treatment and your GP may decide to stop your treatment.

Declaration

I confirm that I have read and understood all the information above.

I confirm I understand feminising hormones are not licenced for the treatment of gender dysphoria, however I am happy to receive this treatment.

Signed…….

Patient name……. (DOB……..)

In the presence of:

Signed…….

Clinician name……..

Date……