DIY HORMONE REPLACEMENT THERAPY: HARM REDUCTION GUIDE
WHAT IS HORMONE REPLACEMENT THERAPY?

HRT is a medical treatment by which sex hormones (testosterone, estrogen, and progesterone) are supplemented and/or changed by the use of hormones or hormone blockers. HRT has a variety of uses and is often used for cisgender folks who are experiencing a decreased hormone level often due to aging and hormone sensitive cancers. Here we will be talking about HRT as it is used by Trans and gender expansive folks.

The information in this booklet is NOT medical advice. This information is compiled from the life experience of Trans folks receiving Hormone treatment either under the supervision of a doctor or self-managed (often called self-m edding), online resources from health clinics serving Trans folks, and physicians who have answered our questions about HRT. Thank you to all those who supported us in compiling this and answering our questions.
THE EXPECTED EFFECTS OF TESTOSTERONE THERAPY

<table>
<thead>
<tr>
<th>Effect</th>
<th>Reversibility</th>
<th>Expected Onset</th>
<th>Expected Maximum Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin oiliness/acne</td>
<td>Reversible</td>
<td>1–6 months</td>
<td>1–2 years</td>
</tr>
<tr>
<td>Facial/body hair growth</td>
<td>Irreversible</td>
<td>3–6 months</td>
<td>3–5 years</td>
</tr>
<tr>
<td>Scalp hair loss</td>
<td>Irreversible</td>
<td>&gt;12 months</td>
<td>Variable</td>
</tr>
<tr>
<td>Body fat redistribution</td>
<td>Reversible</td>
<td>3–6 months</td>
<td>2–5 year</td>
</tr>
<tr>
<td>Cessation of menses</td>
<td>Reversible</td>
<td>2–6 months</td>
<td>n/a</td>
</tr>
<tr>
<td>Clitoral enlargement</td>
<td>Irreversible</td>
<td>3–6 months</td>
<td>1–2 years</td>
</tr>
<tr>
<td>Vaginal atrophy</td>
<td>Reversible</td>
<td>3–6 months</td>
<td>1–2 years</td>
</tr>
<tr>
<td>Deepened voice</td>
<td>Irreversible</td>
<td>3–12 months</td>
<td>1–2 years</td>
</tr>
</tbody>
</table>

THE RISKS AND POSSIBLE SIDE EFFECTS OF TESTOSTERONE THERAPY

Possible loss of fertility: you may not be able to get pregnant after being on testosterone therapy for some time.

Testosterone is not reliable birth control, however. Even if your periods stop, you could still get pregnant.

If you do get pregnant while taking testosterone, the high levels of testosterone in your system may cause harm and even death to the developing fetus.

Some may develop pelvic pain; often this will go away after some time, but it may persist; the cause of this is not known.

The lining of the cervix and walls of the vagina may become more dry and fragile. This may cause irritation and discomfort. It also may make you more susceptible to sexually transmitted infections and HIV if you have unprotected penetrative sex.

Possible changes in cholesterol, higher blood pressure and other changes to the body that might lead to an increased risk of cardiovascular disease (heart attacks, strokes and blockages in the arteries).

Increased risk of sleep apnea (breathing problems while you are sleeping).

Possible abnormalities in blood tests for the liver; possible worsening of damage to the liver from other causes.

An increase in the hemoglobin and hematocrit (the number of red blood cells); if this increases to levels higher than is normal, it may cause problems with circulation, such as blood clots, strokes and heart attacks.

*Adapted from Fanway Health’s Informed Consent Form for Masculinizing Hormone Therapy
### The Expected Effects of Feminizing Hormone Therapy

<table>
<thead>
<tr>
<th>Effect</th>
<th>Expected onset</th>
<th>Expected maximum effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body fat redistribution</td>
<td>Reversible</td>
<td>3–6 months</td>
</tr>
<tr>
<td>Decreased muscle mass/strength</td>
<td>Reversible</td>
<td>3–6 months</td>
</tr>
<tr>
<td>Softening of skin/decreased oiliness</td>
<td>Reversible</td>
<td>3–6 months</td>
</tr>
<tr>
<td>Decreased libido</td>
<td>Reversible</td>
<td>1-3 months</td>
</tr>
<tr>
<td>Decreased spontaneous erections</td>
<td>Reversible</td>
<td>1-3 months</td>
</tr>
<tr>
<td>Breast growth</td>
<td>Irreversible</td>
<td>3–6 months</td>
</tr>
<tr>
<td>Decreased testicular volume</td>
<td>Irreversible</td>
<td>3–6 months</td>
</tr>
<tr>
<td>Thinning and slowed growth of body and facial hair</td>
<td>Reversible</td>
<td>6-12 months</td>
</tr>
<tr>
<td>Male pattern baldness</td>
<td>Reversible</td>
<td>No regrowth, loss stops 1–3 months</td>
</tr>
</tbody>
</table>

### The Risks and Possible Side Effects of Estrogen Therapy

- **Loss of fertility** (unable to get someone pregnant). Even after stopping hormone therapy, the ability to make healthy sperm may not come back. How long this takes to become permanent is difficult to predict. Some people choose to bank some of their sperm before starting hormone therapy. Because the effect on sperm is hard to predict, if you have penetrative sex with an AFAB partner, you or your partner should still use birth control.

- **Increased risk of developing blood clots:** blood clots in the legs or arms (DVT) can cause pain and swelling; blood clots to the lungs (pulmonary embolus) can interfere with breathing and getting oxygen to the body; blood clots in the arteries of the heart can cause heart attacks; blood clots in the arteries of the brain can cause a stroke. Blood clots in the lungs, heart or brain could result in death.

- **Possible increased risk of having cardiovascular disease,** resulting in a heart attack or stroke

- **Possible increase in blood pressure,** which might require medication for treatment.

- **Nausea and vomiting** (like morning sickness in a pregnant person), especially when first starting estrogen therapy.
THE RISKS AND POSSIBLE SIDE EFFECTS OF ESTROGEN THERAPY CONT.

Increased risk of gallbladder disease and gallstones.

Changes in blood tests for the liver; estrogen may possibly contribute to damage of the liver from other causes.

May cause elevated levels of prolactin (a hormone made by the pituitary gland); a few people on estrogen for hormone therapy have developed prolactinomas, a benign tumor of the pituitary gland that can cause headaches and problems with vision and cause other hormone problems.

May worsen depression or cause mood swings.

May increase the risk of breast cancer.

THE RISKS AND POSSIBLE SIDE EFFECTS OF ANDROGEN BLOCKERS (SPIRONOLACTONE)

Increased urine production and needing to urinate more frequently; possible changes in kidney function

A drop in blood pressure and feeling lightheaded.

Increased thirst.

Increase in the potassium in the blood and in your body. This can lead to muscle weakness, nerve problems and dangerous heart arrhythmias (irregular heart rhythm).

*Adapted from Fenway Health’s Informed Consent Form for Feminizing Hormone Therapy*
**DRUGS USED FOR HORMONE REPLACEMENT THERAPY**

Estradiol (17-beta estradiol): Bioidentical form of estrogen. Administered via trans-dermal patch, oral or sublingual tablet, or injection.

**Anti-androgens: Used to suppress testosterone production to minimize associated secondary sexual characteristics**

**Spironolactone:** Most common anti-androgen used in the U.S., Spironolactone is a potassium sparing diuretic, which in higher doses also has direct anti-androgen receptor activity as well as a suppressive effect on testosterone synthesis (from UCSF Center for Excellence in Transgender Health). It’s recommended that you eat a low potassium diet on spironolactone.

5-alpha reductase inhibitors (finasteride and dutasteride): Finasteride prevents the conversion of testosterone to dihydrotestosterone (DHT) in the body. DHT is many times more potent than testosterone, and is responsible for many of testosterone’s effects on the body. Finasteride is often prescribed for the treatment of male pattern baldness. Dutasteride works in a similar way but has been known to have more dramatic feminizing effects.

**Progesterone:** Progesterone is sometimes used to aid in breast development for trans feminine people, or to stop the menstrual cycle for people who have dysphoria due to menstruation but do not desire masculinization.

**Testosterone:** Hormone that causes masculinization. Commonly administered via injection, trans-dermal gel, trans-dermal patch, or trans-dermal cream.

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**IF POSSIBLE USE BIOIDENTICAL HORMONES, AND TRY TO AVOID SYNTHETIC HORMONES.**
DOSING

Start with initial low dose (dosing range recommendations on the next page) and wait 6 months to see if there are visible changes. If there are, then stay on that dose. If there are no visible changes you can then increase to the next highest dosing recommendation. **When you have a dose that is producing physical changes going to a higher dose won’t bring about faster changes or increased changes and will increase your risk of negative side effects.**

It’s important if you’re using trans-dermal testosterone or estrogen (gel or cream) that you don’t expose others to it. The best way to do this is to apply it somewhere others aren’t likely to come into contact with, especially before it dries.

**IF AT ALL POSSIBLE, GET BLOOD WORK DONE!**

Ideally get your blood work done every 6 months. Making sure your hormone levels aren’t too high and are holding steady will greatly reduce the risks of HRT.

You can ask your general practitioner for blood work. You can also get it done at a local lab through www.privatemdlabs.com under “Gender Reassignment Testing”
## Androgen Dosage Recommendations

<table>
<thead>
<tr>
<th>Androgen</th>
<th>Initial - low dose</th>
<th>Initial-typical</th>
<th>Maximum-typical</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testosterone Cypionate</td>
<td>20 mg/week IM/SQ</td>
<td>50mg/week IM/SQ</td>
<td>100mg/week IM/SQ</td>
<td>For q 2 wk dosing, double each dose</td>
</tr>
<tr>
<td>Testosterone Enthanate</td>
<td>20mg/week IM/SQ</td>
<td>50mg/week IM/SQ</td>
<td>100mg/week IM/SQ</td>
<td></td>
</tr>
<tr>
<td>Testosterone topical gel 1%</td>
<td>12.5-25 mg Q AM</td>
<td>50mg Q AM</td>
<td>100mg Q AM</td>
<td>May come in pump or packet form</td>
</tr>
<tr>
<td>Testosterone topical gel 1.62%</td>
<td>20.25mg Q AM</td>
<td>40.5 - 60.75mg Q AM</td>
<td>103.25mg Q AM</td>
<td></td>
</tr>
<tr>
<td>Testosterone patch</td>
<td>1-2mg Q PM</td>
<td>4mg Q PM</td>
<td>8mg Q PM</td>
<td>Patches come in 2mg and 4mg size. For lower doses, may cut patch</td>
</tr>
<tr>
<td>Testosterone cream</td>
<td>10mg</td>
<td>50mg</td>
<td>100mg</td>
<td></td>
</tr>
<tr>
<td>Testosterone axillary gel 2%</td>
<td>30mg Q AM</td>
<td>60mg Q AM</td>
<td>90-120mg Q AM</td>
<td>Comes in pump only, one pump = 30mg</td>
</tr>
</tbody>
</table>
**Feminizing Hormone Dosage Recommendations**

From The Center for Excellence in Transgender Health

<table>
<thead>
<tr>
<th>Hormone</th>
<th>Initial - low dose</th>
<th>Initial-typical</th>
<th>Maximum-typical</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol oral sublingual</td>
<td>1mg/day</td>
<td>2-4mg/day</td>
<td>8mg/day</td>
<td>if &gt;2mg recommend divided bid dosing</td>
</tr>
<tr>
<td>Estradiol transdermal</td>
<td>50mcg</td>
<td>100mcg</td>
<td>100-400 mcg</td>
<td>Max single patch dose available is 100mcg. Frequency of change is brand/product dependent. More than 2 patches at a time may be cumbersome for patients</td>
</tr>
<tr>
<td>Estradiol valerate IMa</td>
<td>&lt;20mg IM q 2 wk</td>
<td>20mg IM q 2 wk</td>
<td>40mg IM q 2 wk</td>
<td>May divide dose into weekly injections for cyclical symptoms</td>
</tr>
<tr>
<td>Estradiol cypionate IM</td>
<td>&lt;2mg q 2wk</td>
<td>2mg IM q 2 wk</td>
<td>5mg IM q 2 wk</td>
<td>May divide dose into weekly injections for cyclical symptoms</td>
</tr>
</tbody>
</table>

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<th>Hormone</th>
<th>Initial - low dose</th>
<th>Initial-typical</th>
<th>Maximum-typical</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spironolactone</td>
<td>25mg qd</td>
<td>50mg bid</td>
<td>200mg bid</td>
<td></td>
</tr>
<tr>
<td>Dutasteride</td>
<td></td>
<td></td>
<td>0.5mg qd</td>
<td></td>
</tr>
</tbody>
</table>

*Bid dosing means taking it twice (two times) a day*
SAFE INJECTION INFORMATION
ADAPTED FROM HARLEM UNITED

FIRST ASK YOURSELF THESE QUESTIONS:

Will I give myself a subcutaneous injection (in the fat) or intramuscular injection (in the muscle)?

What size and length needles will I use?
- 21 or 23 gauge, 0.5 inches or 1 inch long is the most common for intramuscular injection
- 25 gauge, 3/8 to 5/8 inches long is the most common for subcutaneous injection

What is the volume of my syringe –
- 1ml or 3ml syringe are most commonly used for both types of injections

Do I have the following supplies?
- Alcohol pad
- Gloves
- Extra needles
- Band-Aids
- Gauze

1. Wash hands with soap and water; dry thoroughly. Put on gloves. To disinfect the top of the hormone bottle, vigorously rub the top of the hormone bottle with an alcohol pad. Repeat.

2. Attach syringe to the needle. Avoid touching the area where the barrel and needle meet. Push plunger of syringe forward to ensure no air is present in the syringe.

3. Insert needle into hormone bottle. Draw up hormone in the syringe. Draw up only the intended volume. Remove needle from hormone bottle. Push up the needle protector to shield the needle.

4. If you choose to, you can change your needle here. If you do not want to change your needle, proceed to step 6. Remove the needle, and attach a new needle to the syringe. Remove bubbles by gently tapping the barrel while pointing the needle up. Slowly push plunger forward to get rid of air bubbles. *Switching your needles more often can decrease the risk of infection.*

5. Cleanse desired location of injection on your skin with an alcohol pad in an outward spiral fashion. Repeat with a new alcohol pad.
For Intramuscular Injections: The most common locations for muscle injections are the front of the thigh and the upper outer portion of the buttocks. Cleanse desired location of injection on your skin with an alcohol pad in an outward spiral fashion, as shown to you by your doctor. Repeat with a new alcohol pad. Remove the needle cap. Grasp 4-5 inches of the muscle between your thumb and first finger. Inject the hormone by inserting the needle at a 90 degree angle, gently pull back on the plunger of the syringe to check for blood. If you see blood in the syringe, do not inject the medicine, and remove the needle immediately. Replace the IM needle and try again at a different site. If you do not see any blood in the syringe, you can complete the injection by pushing the medicine slowly into the muscle using the plunger.

For Subcutaneous Injections: The most common locations for injections in the fat is the stomach and the outer thigh. Cleanse desired location of injection on your skin with an alcohol pad in an outward spiral fashion, as shown to you by your doctor. Repeat with a new alcohol pad. Remove needle cap. Grasp 2-3 inches of the fat between your thumb and first finger. Inject the hormone by inserting the needle at a 45 degree angle, gently pull back on the plunger of the syringe to check for blood. If you see blood in the syringe, do not inject the medicine, and remove the needle immediately. Replace the IM needle and try again at a different site. If you do not see any blood in the syringe, you can complete the injection by pushing the medicine slowly into the muscle using the plunger.

9) Remove needle from skin. Push up the needle protector to cover the needle.

10) Apply pressure with gauze to injection site, and gently massage.

12) Apply Band-Aid if needed.

13) Dispose of needles and syringes in a sharps container ONLY. When your sharps container is full you can mail it to a disposal site (listed on the container if you bought a sharps container). You can also take it to your local needle exchange is there’s one in your area.
RESOURCES

Kentucky Health Justice Network - Trans Health Program
  kentuckyhealthjusticenetwork.org/trans-health
  transhealth@khjn.org

Kentucky Needle Exchange Locations
  kyhrc.org/needle-exchange-program/

The Transgender Law Center
  transgenderlawcenter.org/legalin

National Center for Transgender Equality - Health Coverage Guide
  transequality.org/health-coverage-guide

Trans Lifeline
  (877) 565-8860 - www.translifeline.org/

Queer Appalachia Harm Reduction
  https://www.instagram.com/qaharmreduction/