

HORMONE REPLACEMENT THERAPY

HORMONE, DRUG OR PROCEDURE	PERMANENT EFFECTS	TEMPORARY EFFECTS	RISKS	CONTRAINDICATIONS	NOTES
TESTOSTERONE	Atrophy of uterus and ovaries (resulting in sterility) Hair loss, baldness Increased body/facial hair Deepening of voice Enlargement of clitoris Mild breast atrophy	Acne, increased muscle mass Redistribution of fat from breasts, hips, and thighs to abdominal area Weight gain Increased libido	Sift in lipid levels (levels of fats in the blood) to typical male patterns, which increase risk of cardiovascular disease Emotional instability Benign or malignant liver tumors	Active heart disease Pregnancy Smoking (may increase risk of heart attack)	Injected testosterone is released gradually from muscle tissue and transdermal androgen patch delivers a constant dose of testosterone, thus avoiding spikes in hormone levels for those who are more sensitive to them
ESTROGEN	Breast development Enlargement of nipples Loss of erection Loss of ejaculation Shrinkage of testicles Sterility	Decreased acne, facial/body hair and muscle mass strength Softening of the skin Slowing of balding pattern Decreased libido Suppression of testosterone production Redistribution of fat from abdominal area to hips and buttocks Emotional changes and mood swings	Prolactinoma (non-cancerous pituitary-gland tumors) Deep vein thrombosis (blood clot) Pulmonary embolism (blood clot in the lung) Aneurysm High blood pressure Gallbladder disease Thyroid problems Liver disease Migraine headaches Weight gain Worsening of existing depression Increased sensitivity to stress Melasma (skin darkening) Lipid abnormalities Nausea, vomiting Diabetes mellitus	Presence of estrogen-dependent cancers History of thromboembolism (blood clot that can move in the bloodstream and block blood vessels) or severe thrombophlebitis (vein inflammation due to a blood clot)	ORAL FORMS stress the liver more than transdermal and injectable estrogens, but are easy to stop in case of adverse events NON-ORAL FORMS do not pass through the liver; may be preferable for older patients or those with underlying liver disease or elevated lipids TRANSDERMAL PATCHES may cause skin irritation; creams require frequent application to large areas of skin INJECTIONS require large-gauge needles which may create large puncture wounds and increase susceptibility to infection if the area is not kept clean; this form may stay in the body for four weeks or longer

Maximizing the Benefits, Minimizing the Risks

Gender-affirming treatment for transgender and gender diverse adults at 26Health is managed by the primary care and behavioral care team under an informed consent model of care. Patients work with a medical provider to develop a treatment plan based on the individual's goals of treatment and any medical and mental health care needs. Your provider will discuss the informed consent process, discuss your gender identity development history, review effects and possible risk factors for hormone therapy prior to writing a prescription. As long as you are taking hormones (possibly the rest of your life), you need to have regular physical exams and lab tests to monitor your overall health. The first year after starting hormones, the prescribing provider will want to see you at least every 3-4 months. After that, you will have appointments at least every 6 months. At each of these appointments, the provider will likely ask questions about your overall health, check your blood pressure and your weight, and listen to your lungs. The provider will likely also look at your arms, legs, hands and feet to check your overall circulation, as well as any signs of swelling, fluid retention, or pain. The provider will likely check for early warning signs of health problems that can be caused by hormone therapy or made worse by hormone therapy. The provider will likely recommend blood tests to check your blood sugar, blood fats, blood cells and liver health, as well as recommend other tests as needed, depending on your health history, age, and any signs of possible health problems.

HORMONE REPLACEMENT THERAPY

ANTI-ANDROGEN DRUGS

HORMONE, DRUG OR PROCEDURE	PERMANENT EFFECTS	TEMPORARY EFFECTS	RISKS	CONTRAINDICATIONS	NOTES
SPIRONOLACTONE (Aldactone)	<p>Suppression of testosterone</p> <p>Decreased facial hair and body growth</p> <p>Decreased progression of male pattern baldness</p> <p>Decreased libido</p> <p>Decreased erections</p> <p>Mild breast growth</p>		<p>More frequent urination</p> <p>Hyperkalemia (high levels of potassium in the blood)</p> <p>Increased excretion of sodium, calcium, chloride</p> <p>Decreased libido</p>	<p>Renal insufficiency</p> <p>Serum potassium greater than 5.5 mEq/L</p>	
FINASTERIDE (Proscar, Propecia)	<p>Reduced size of prostate gland</p> <p>Decreased progression of male pattern baldness</p>			<p>Prostate cancer</p>	<p>Used alone or in combination with spironolactone</p> <p>Inhibits the intracellular enzyme responsible for converting testosterone to its potent form</p>
GNRH (gonadotropin-releasing hormone)					<p>Desensitizes pituitary gland</p> <p>Effects fully reversible in adolescents</p> <p>Does not carry risk of thromboembolism</p>
BILATERAL ORCHIECTOMY (removal of testicles)	<p>Eliminates 90% of testosterone production</p> <p>Results in a lower estrogen dose required for therapy</p>				<p>Irreversible procedure</p> <p>May shrink the amount of skin available for creating a neovagina</p> <p>May cause scarring of scrotal tissue</p>
PROGESTERONE	<p>Enhanced estrogen-related feminization effects</p>		<p>Cardiovascular disease</p> <p>Breast cancer</p> <p>Lipid abnormalities</p> <p>Weight gain</p> <p>Varicose veins</p> <p>Blood clots</p> <p>Edema (swelling caused by fluid retention)</p> <p>Mood disorders (depression, irritability)</p> <p>Facial and body hair growth and coarsening</p>		<p>Not often prescribed; used for MTF patients on maximum estrogen doses who have had unsatisfactory effects, and for patients who cannot tolerate other drugs</p> <p>Limited to 6 months</p>