March 11, 2026

Maryland General Assembly
Health Committee

**UNF HB 1380**, Health Insurance – Prescriptions for Gender–Affirming Care and Hormone Therapy – Coverage and Dispensing Requirements

Dear Committee Members,

This letter is to **oppose HB 1380** and comes from Democrats for an Informed Approach to Gender (DIAG), a national, all-volunteer 501(c)(3) organization of lifelong Democratic voters who are committed to open, science-based dialogue on gender policy. DIAG has many supporters in Maryland. DIAG supports free speech, civil discourse, and evidence-based policymaking while advocating for the protection of women's rights, the well-being of young people, and the integrity of medical ethics.

**DIAG urges the Committee to oppose HB 1380.**

Requiring insurance providers to approve prescriptions for opposite-sex hormones is misguided. The Committee may be unaware that opposite-sex hormones can irreparably damage healthy bodies, affecting cognition, introducing endocrine disorders, increasing risk of serious illness like stroke, pulmonary thrombosis, autoimmune disease, and some cancers, and causing sexual dysfunction and sterility.

As detailed in the attached fact sheets, the health impacts of opposite-sex hormones are quite serious.

When females take testosterone, side effects include:

- Lowered bone density and osteoporosis in the spine
- Certain hormone-dependent cancers
- Vaginal atrophy—thinning of vaginal walls and poor lubrication of vaginal tissues, leads to tearing, micro-abrasions, bleeding, and painful intercourse

- Symptoms of menopause
- Eventual hysterectomy due to uterine atrophy
- Elevated risk of cardiovascular problems, including blood clots, cardiovascular disease, high blood pressure, heart attack, and stroke

When males take estrogen, side effects include:

- Reduced water content within the glial or "glue" cells called astrocytes and the oligodendrocytes as well as the axons in the brain, thereby reducing the cortical white matter integrity in the brain, which is related to cognitive instability
- Increased relative concentration of glutamate and glutamine in the brain, associated with Parkinson's, Alzheimer's, and Huntington's diseases
- Decreased brain cortical volume, associated with general intelligence and linked to schizophrenia and bipolar disorder
- Increased risk of blood clots and stroke
- Increased autoimmune diseases such as rheumatoid arthritis, spondyloarthritis (characterized by low back pain), systemic lupus erythematosus (the most common type of lupus, where the body's immune system attacks its tissues in joints, skin, brain, lungs, kidneys, and blood vessels), systemic sclerosis, and vasculitis, which results in the destruction of blood vessels
- Research has also shown a strong association between gender identity disorder and multiple sclerosis in trans-identifying males
- Decreased insulin sensitivity
- Nearly double the rate of suicidality for young men

It is time for our policies to reflect the evidence. Introducing illness into healthy bodies is reckless and inhumane.

Sincerely,

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*Attachments*

# HEALTH RISKS OF TESTOSTERONE FOR FEMALES

The use of testosterone in females to induce male secondary sex characteristics is associated with a range of significant health risks across multiple organ systems. This document summarizes key adverse outcomes and safety signals—new observed effects that suggest association with testosterone use—identified in the medical literature.

## Cardiovascular and Blood Risks

Increased risk of heart attack, blood clots, and stroke.

- **Heart Attack:** Studies report a significantly increased risk. One analysis found nearly fivefold increased odds of a heart attack compared to other women not on hormones. Another large cohort study found a 3.7-fold higher incidence.
- **Adverse Lipid Profile:** Testosterone consistently creates a more atherogenic lipid profile by significantly increasing "bad" cholesterol (LDL) and triglycerides while significantly decreasing "good" cholesterol (HDL). These changes are sustained over the long term.
- **Erythrocytosis (dangerously high number of red blood cells):** A well-established risk, occurring in 11% of individuals in one large study. The cumulative risk increases over time, reaching 38% at 10 years and 50% at 14 years. This condition thickens the blood, increasing the risk of blood clots, stroke, and heart attack.
- **Blood Clots (VTE):** Evidence suggests an increased risk for VTE, including deep vein thrombosis and pulmonary embolism.
- **High Blood Pressure:** Increased systolic blood pressure is a known effect.
- **Atherosclerosis (hardening of the arteries):** Testosterone is associated with an increased risk of early-stage atherosclerosis, a precursor to heart attack and stroke.

## Gynecological and Reproductive Harms

Testosterone causes significant and potentially irreversible damage to the female reproductive system.

- **Ovarian Damage:** Testosterone exposure leads to poorer ovarian follicle health and increased DNA damage in oocytes (eggs). This suggests adverse effects on the primordial follicle pool and reduced egg viability, impacting future fertility.
- **Uterine and Endometrial Pathology:** Despite stopping periods, the uterine lining often remains active. Pathologies are common, including endometrial polyps, fibroids, and hyperplasia. A multicenter study found active endometrium in 69% of individuals on testosterone who underwent hysterectomy.
- Infertility: The therapy suppresses ovarian function, leading to infertility. The reversibility of these effects is not guaranteed.

## Bone Health

- **Reduced Bone Density:** Individuals who undergo oophorectomy (removal of ovaries) can experience significant reductions in bone mineral density, with one study finding low bone density in 10.5% of a 10-year cohort.

## Cancer Risks

Emerging data signals potential cancer risks in hormone-sensitive tissues.

- **Endometrial Cancer:** The presence of endometrial hyperplasia, a precursor to cancer, has been documented. A case of endometrial intraepithelial neoplasia was reported in a 32-year-old after four years of testosterone.
- **Breast Cancer:** Data have identified reports of breast cancer as an adverse drug reaction.
- **Liver Cancer:** A case of androgen-receptor-positive hepatocellular carcinoma (HCC) was documented in a 17-year-old after just 14 months of testosterone therapy.

## Urogenital and Pelvic Issues

Symptoms impacting quality of life and long-term health are common.

- **Vaginal Atrophy:** Testosterone induces vaginal atrophy, leading to dryness, irritation, and painful intercourse (dyspareunia).
- **Prostatic Metaplasia:** In one study, 100% of individuals on testosterone developed prostatic metaplasia in their vaginal tissue—the growth of prostate-like glands. The long-term cancer risk of this change is unknown.
- **Pelvic Pain:** Among 486 participants, 72% of survey respondents experienced pelvic pain after starting testosterone.
- **Pelvic Floor Dysfunction:** A study found 94% of participants on testosterone had symptoms of pelvic floor dysfunction, including urinary incontinence (leakage of urine) and other urinary and bowel issues.

## Neurological and Psychiatric Risks

- **Idiopathic Intracranial Hypertension (IIH) (high pressure around the brain):** IIH is the most predominant serious neurological adverse event found in an analysis of the FDA's reporting system. It can cause severe headaches and vision loss.
- **Psychiatric and Behavioral Risks:** Reports include anxiety, depression, and suicidal ideation.

## Surgical Complications

- **Vaginal Cuff Dehiscence (separation of the edges of the tissue that is sewn together after hysterectomy):** Testosterone use is associated with more than double the risk of the vaginal cuff tearing open, a serious surgical complication.

## Mortality

- **Increased Mortality (early death):** A large, multi-decade study found that individuals on testosterone had an 80% increased overall mortality risk compared to other women, an increase primarily attributed to non-natural causes of death.

In addition to the known increased risks, many long-term consequences remain unknown, underscoring the need for caution and comprehensive, ethically sound informed consent.

**Scan the QR code for an online version of this document and links to citations or go to di-ag.org/testosterone-health-risks.**

# HEALTH RISKS OF ESTROGEN FOR MALES

**From *Emerging and accumulating safety signals for the use of estrogen among transgender women*, Schwartz, L., Lal, M., Cohn, J. et al.**

The use of exogenous estrogen (typically with anti-androgens) in males to induce female secondary sex characteristics is associated with a range of significant health risks across multiple organ systems. This document summarizes key adverse outcomes and safety signals—new observed effects that suggest association with estrogen use—identified in the medical literature.

## Previously identified adverse physiological effects

- Cardiovascular risks: Risk of both venous thromboembolism (VTE) and stroke are significantly elevated. Emerging evidence suggests that cardiovascular risks escalate significantly with prolonged estrogen use. VTE incidence became 5.1 times higher after 2 years, and ischemic stroke incidence rose to nearly 10 times higher after 6 years.
- Fertility risks: Range in ability to produce sperm. Several studies report that some fraction of patients can produce sperm, while others have complete inability to produce sperm, along with testicular atrophy and abnormal changes to testicular tissue. Estrogen and anti-androgen treatment also causes higher proportions of sperm abnormalities (i.e., low total sperm count, low sperm concentration, poor sperm motility), however, some of these effects may be reversible once estrogen use has stopped.
- Cognitive impairment: A systematic review of cognitive impairment among young adults [62] found no effect of hormones. However, a study with a larger sample size and long-term follow-up (average 25.8 years) found lower scores in information-processing speed and episodic memory than men not using estrogen and women (matched in education and age). There is a known doubling of relative risk for probable dementia after an average follow-up of 4 years for older adults.

## Emerging safety signals: other associated adverse physiological effects

- Overall health risks and early mortality: Studies show that males who use estrogen die younger than expected compared to other men and women. The overall survival odds decreased within a few years of starting estrogen, and continued to decrease over time. The major causes of death included cardiovascular disease, cancer, infection-related disease, and suicide. (Note that a recent Finnish record study found that suicide rates of young people were correlated with mental health issues (as measured by specialist psychiatrist visits) rather than gender dysphoria diagnosis or associated medical interventions.)
- Autoimmune disease: Studies are inconclusive, but suggest a possible increased autoimmune disease risk for males using estrogen. Several case studies show rheumatoid arthritis (1), ankylosing spondylitis (1), systemic lupus erythematosus (SLE, 4), skin lupus erythematosus (1), systemic sclerosis (4), and dangerous autoimmune disease progression.
- Diabetes: Estradiol, with or without anti-androgen, decreases lean mass, increases fat mass, and may worsen insulin resistance.
- Pancreatitis: Males who use estrogen could be at a higher risk for severe pancreatitis and gallstone pancreatitis.

- **Thyroid cancer:** Experimental studies indicate a possible role of estrogen in the development of thyroid cancer, specifically a more aggressive type.
- **Testicular cancer:** Case studies suggest a significantly higher risk of testicular cancer with estrogen use.
- **Breast cancer:** A recent systematic review and meta-analysis of the incidence of breast cancer among males who use estrogen indicate a significant increase in breast cancer risk.
- **Adverse drug reaction reports:** Adverse drug reactions (ADRs) in the US FDA Adverse Event Reporting System (FAERS) database for males who use estrogen included tumors (benign, malignant, and unspecified, including cysts and polyps). In the comparable French database, the main ADR was meningiomas, a tumor that grows from the membranes that surround the brain and spinal cord, followed by cardiovascular events.

## Physiological effects of estrogen on the male brain

- Cognitive Decline: Animal studies suggest estrogen use is associated with an increase in ventricular volume and a decrease in brain volume, possibly by lowering water content in brain cells, causing cognitive decline comparable to age-related decline.
- Major Depressive Disorder: Use of estrogen and antiandrogens may increase risk of developing major depressive disorder by reducing serum BDNF (Brain-Derived Neurotrophic Factor), thought to be associated with psychosocial "stress." In addition, major depression is associated with reduced hippocampal (and frontal lobe and gray and white matter) volume. Higher levels of estradiol (a type of estrogen) in the blood were associated with increased symptoms of depression in men under 60 and elevated depression and anxiety scores in boys.

The poorly understood but significant rise in gender dysphoria diagnoses among young people in recent decades necessitates prioritizing adequate long-term follow-up studies. Given the increasing reports of harm and regret, and the lack of research demonstrating the safety and efficacy of current treatment options for this vulnerable population, it is imperative that future research endeavors prioritize the identification of safe and effective interventions. Furthermore, it is essential to enhance our understanding of and ability to communicate potential risks, including life-altering and permanent adverse effects, to patients and families. This will enable informed decision-making and minimize harm.

**To view the publication and citations, scan the QR code or go to https://link.springer.com/article/10.1007/s44192-025-00216-3.**