Testosterone Therapy and the Female Voice: Debunking the Myths

Evidence does not support the claim that medically appropriate testosterone therapy causes significant voice changes in women.

Reference: Glaser, R., York, A., & Dimitrakakis, C. (2016). Effect of testosterone therapy on the female voice. Climacteric, 19(2), 198–203. DOI: 10.3109/13697137.2015.1136925

Summary

Testosterone therapy for women, using subcutaneous implants at replacement doses, does not negatively affect the female voice—there's no evidence it makes the voice lower, deeper, or hoarse over 12 months of treatment.

What This Study Found

- Women in this study were treated with testosterone implants and had their voices measured before starting therapy and at 3, 6, and 12 months while on treatment.
- Researchers used voice recordings while women read sentences, paragraphs, and spoke in conversation. They measured "fundamental frequency" (F0)—how high or low a voice sounds, in hertz (Hz).
- The average speaking pitch did not change for women on testosterone therapy, regardless of whether women were premenopausal or postmenopausal, smokers or non-smokers, or had different weights or body types.
- A small increase in pitch for sentence reading was seen at 6 months, but was not permanent and did not mean the voice got deeper.

Common Myths and the Reality

- Many worry that testosterone will make a woman's voice deep or masculine. Some reports and stories online have claimed long-term or irreversible changes, but those are based on extremely high doses or older animal research—not on doses used for hormone replacement in women.
- This research tested realistic medical doses for women—not the very high doses used for gender transition or bodybuilding, which can have different effects.
- In fact, some women whose voices were already lower than normal saw their pitch improve slightly on therapy, possibly due to benefits for muscle and connective tissue health.

Why Voice Might Change—But Not Due to Testosterone

- Many common medical problems and medications—not testosterone—can affect a woman's voice. These include:
    - Acid reflux

    - Thyroid issues
    - Infections, inflammation, or allergies
    - Medication side effects (certain blood pressure drugs, inhalers, psych meds)
    - Vocal cord injury or polyps
- “Hoarseness” is much more common in women than men, and can happen with aging, hormonal changes, and other factors.
- Testosterone deficiency itself is linked to hoarseness, so therapy could even help some women.

What’s Important for Patients and Providers

- If a woman notices voice changes while using testosterone, other causes should be checked first—don’t assume testosterone is the reason.
- The fears about permanent voice deepening from testosterone therapy at medical doses for women are not supported by current evidence from prospective studies.
- Singers and professionals who rely on their voice may want more research, but for most women, testosterone replacement has been shown to be safe for the voice.

Bottom Line

Testosterone implants for women at replacement doses are unlikely to cause voice deepening or hoarseness. If voice changes occur, look for other common causes first. Modern research does not support the myth of permanent voice changes from routine testosterone therapy in women.