

Hormones and male fertility: testosterone and hormonal imbalance



The hormonal axis behind sperm production

Testosterone is essential, but more is not always better

Patterns of hormonal imbalance that can affect fertility

Low testosterone with high LH and FSH: This pattern may suggest primary testicular dysfunction, where the pituitary is trying to stimulate the testes but the testes respond inadequately.

Low testosterone with low or inappropriately normal LH and FSH: This may point toward secondary hypogonadism, involving the hypothalamus or pituitary gland, or functional suppression from obesity, illness, medications, sleep disorders, or stress physiology.

High testosterone with low LH and FSH: This pattern is concerning for exogenous androgen exposure, including prescribed testosterone, anabolic steroids, or some supplements contaminated with androgenic compounds.

Abnormal prolactin: Elevated prolactin can suppress GnRH and reduce LH and FSH signaling, potentially affecting testosterone and sexual function.

Thyroid or metabolic disorders: Thyroid dysfunction, poorly controlled diabetes, severe obesity, and systemic illness can influence sex hormone-binding globulin, testosterone availability, libido, erectile function,

and semen quality.

External testosterone and anabolic steroids: a major fertility caution

When to consider hormone testing in a fertility evaluation

Low testosterone symptoms and the fertility trade-off

Lifestyle and medical factors that interact with hormones

Working with a fertility-focused clinician