UNDERSTANDING PROLACTIN:

More Than Just a Breastfeeding Hormone

SUPPLEMENTS & TESTING

What Is Prolactin and Why Does It Matter?

Prolactin is a hormone best known for its role in milk production during breastfeeding. But did you know it does much more than that? Prolactin plays a part in immune function, metabolism, mood regulation, reproductive health, and even bone density. This handout offers a comprehensive overview of prolactin's many roles and what happens when levels are too high—or too low.

What Is Prolactin and Why Does It Matter?

Prolactin is primarily produced by the **anterior pituitary gland,** and its release is regulated by **dopamine**(which inhibits it) and **estrogen**(which stimulates it).

It is normally present at low levels in both men and women, but levels naturally rise during **pregnancy and breastfeeding**. During pregnancy, prolactin works with estrogen and progesterone to prepare the breasts for milk production. After birth, prolactin follows a **positive feedback loop**, meaning nipple stimulation leads to more prolactin, which leads to more milk production.

What Else Increases Prolactin?

Other short-term causes of increased prolactin include:

- Nipple stimulation (even if not breastfeeding)
- Sexual intercourse
- Intense exercise
- Stress

Other Functions of Prolactin (Beyond Breastfeeding)

- Enhances **calcium absorption** in the gut
- Promotes **growth hormone release**
- Suppresses gonadotropin-releasing hormone (GnRH), lowering **LH** and **FSH** secretion, which can affect fertility

Prolactin Reference Ranges

Group	Normal Prolactin Range
Men	< 20 ng/mL
Women (non-pregnant)	< 25 ng/mL
Pregnancy & Lactation	Can range from 8 - 400 ng/mL

Signs and Symptoms of High Prolactin (Hyperprolactinemia)

When prolactin levels are elevated outside of pregnancy or breastfeeding, it can disrupt hormone balance and lead to various symptoms:

In Women:

High prolactin can suppress estrogen production, leading to many symptoms associated with low estrogen, such as:

- Irregular periods or no periods (amenorrhea)
- Infertility or anovulation
- Premenstrual symptoms (e.g., breast tenderness)
- Hot flashes
- Vaginal dryness
- Low bone density
- Galactorrhea (milk production without pregnancy)
- Acne and facial hair (if DHEA is also increased)

In Men:

- Low libido or erectile dysfunction
- Low sperm count
- Gynecomastia (breast tissue development)
- Low bone mass

In Children:

- Delayed puberty
- Slow growth

In All Genders:

- Mood imbalances (due to reduced dopamine)
- Weight gain and poor glucose metabolism (due to poor metabolic function)

What Can Cause High Prolactin?

Beyond pregnancy, there are several other potential contributors:

Hormonal or Physiological Factors

- Elevated estrogen (including from obesity or environmental estrogen mimickers)
- Low dopamine (dopamine normally inhibits prolactin)
- High cortisol (stress hormone) reduces dopamine availability
  - Poor sleep, overexercising, or disordered breathing such as sleep apnea can all increase cortisol and should be considered
- Hypothyroidism
- Anorexia or chronic under-eating
- Liver or kidney disease
- Hypothalamic disease
- Prolactinoma – a benign tumor on the pituitary gland that secretes prolactin

How to Address High Prolactin

Managing hyperprolactinemia requires identifying and addressing the root cause. Steps may include:

- **Correct hormonal imbalances:** Optimize thyroid function, review hormone replacement therapy, and avoid oral contraception.
- **Support dopamine production:** Nutrients like vitamin B6 and L-tyrosine may help, along with regular exercise.
- **Reduce stress and cortisol:** Improve sleep, reduce overtraining, and practice stress management techniques.
- **Try herbal support:** Vitex agnus-castus (chaste tree) may help if low dopamine is a factor.
- **Avoid barley and beer:** Barley can increase prolactin levels.
- **Treat prolactinomas:** These often respond well to dopamine agonists; surgery may be needed in rare cases.

Low Prolactin: Less Common, But Possible

Low prolactin is rare, but possible causes include:

- High dopamine activity
- Excess vitamin B6 supplementation

Testing Tips for Accurate Prolactin Levels

If prolactin is high, first consider if there are any reasons for a temporary increase, as mentioned above.
For best results, test prolactin:

- In the morning
- While fasting
- During the early follicular phase (Day 1 to ovulation if you menstruate)
- Well-hydrated
- Without recent exercise or sexual activity

If any of these factors were not in place, re-testing may be necessary.