

## Prolactinoma

### *Symptoms, diagnosis, and treatments*

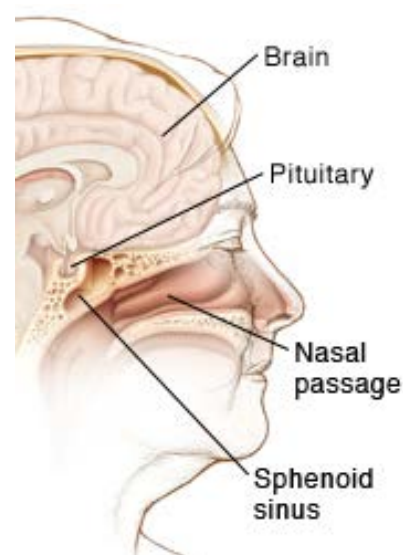
*This handout explains a prolactinoma, its symptoms, diagnosis, and treatment options.*

### What is a prolactinoma?

A *prolactinoma* is a tumor (*adenoma*) in the pituitary gland. It causes the gland to produce a lot of the hormone *prolactin*. These tumors affect more women than men, and rarely occur in children.

When prolactin levels are high, it can cause:

- A woman's breasts to produce milk and a man's breasts to enlarge
- Lower *libido* (sexual interest)
- Infertility (not being able to conceive a child) for both men and women
- Menstrual periods to stop
- *Osteoporosis* (bone weakness) over time



*The pituitary gland is below the brain, behind the nose and sinuses.*

### What are the symptoms?

- Women who are still having their menstrual periods may have:
  - Periods that are irregular or stop
  - Breast discharge (*galactorrhea*)
  - Reduced sex drive
  - Problems getting pregnant
- Women who have been through menopause and men may have:
  - Lower *testosterone* (male hormone) levels, causing *fatigue* (feeling very tired) and low libido
  - Enlarged breasts (*gynecomastia*)
  - Breast discharge from time to time

If the tumor grows very big, it can cause *hypopituitarism* (a lack of the pituitary hormone). Symptoms are loss of vision, severe headaches, stunted growth (*dwarfism*) in children, and early aging in adults.

## **How is a prolactinoma diagnosed?**

When you tell your provider about your symptoms, they will give you a full exam. You will most likely have blood tests to check your levels of prolactin and other pituitary hormones. You may also have a vision test and a *magnetic resonance imaging* (MRI) scan of your brain.

An *endocrinologist* is needed to diagnose a prolactinoma. An endocrinologist is a doctor who has special training in disorders of the *endocrine system* (the glands and organs that make hormones).

Your endocrinologist might ask you to have more testing done in a special lab. If your endocrinologist believes you have a very large pituitary tumor, you will have another blood test using a *dilution* method.

## **The Hook Effect**

Sometimes, a very high prolactin level cannot be read. This can result in a wrong diagnosis. This is called the *hook effect*.

The results of the first prolactin level (PRL) for someone with a very large tumor may be “normal” or “mildly elevated.” This is because some labs cannot read PRLs above 5,000. The lab must do many dilutions of the blood sample to avoid the hook effect.

Your provider will require that dilutions be done for your PRL test. UWMC’s lab will be able to do this.

## **How is a prolactinoma treated?**

Treatment depends on your symptoms. Most times, your endocrinologist will prescribe one of these drugs to reduce the amount of prolactin your pituitary gland produces:

- *Cabergoline*: This drug is used most often. It is very effective and has the fewest side effects.
- *Bromocriptine*: This drug has been used for many years, but patients tend to have more side effects.

## **What are the results of this drug treatment?**

- The tumor gets smaller in about 75% of patients (75 out of 100) who receive one of these drugs.
- Most women start their periods again. Many become fertile again with medical therapy.
- After 1 year or more of drug therapy, about 1/3 of patients (33 out of 100) are cured. The tumor does not return.

## **What if the drug does not work?**

Sometimes, the tumor does not reduce in size, or patients cannot handle side effects from the drug. If this happens, your endocrinologist may advise you to have surgery to remove the tumor. (See the handout, “Pituitary Gland Surgery.”)

### **Question?**

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

Pituitary Program/  
Neurosurgery Clinic:  
206.598.5637