

Pituitary Tumor: Surgery



Surgery is often the main treatment for people with pituitary tumors. The goal is to take out all of the tumor. In some cases, chemotherapy, certain medicines, or radiation may be used before surgery. This is done to shrink the tumor and make it easier to remove. Surgery is done by a neurosurgeon and an ear, nose, and throat doctor (ENT or otolaryngologist). The surgeon will consider several factors before surgery. These may include the type of pituitary tumor, tumor size, if the tumor makes hormones, if the tumor extends into the brain around the pituitary, and other factors.

Types of surgery used to treat pituitary tumors

Pituitary tumor surgery may be done in 2 ways:

- **Transsphenoidal surgery.** This is the most common surgery used to remove pituitary tumors. It's done through a small cut behind the upper lip or below the cartilage that divides the two sides of the nose. The surgeon uses long, thin tools to make a hole through the bone at the back of the nasal passage. This is done to get to the pituitary gland. The tumor is then removed. In this surgery, no part of the brain is touched. And there's no scar that anyone can see. Another choice may be to put a very tiny camera on the end of a long, thin, flexible tube (endoscope). The tube is put into the nose and through a hole made in the back wall of the sinus to see the pituitary gland. Long, thin tools can then be used through the normal passages of the nose to remove the tumor.
- **Endoscopic pituitary surgery (craniotomy).** This type of surgery may be needed if the tumor is very large, or has spread to nearby nerves or the brain. To do this, the surgeon has to get access to the brain by removing a piece of the skull. The surgeon then works between and below parts of the brain to take out the tumor. This part of the surgery is done using a microscope or an endoscope to clearly see the tumor and nearby structures, like blood vessels and nerves.

Side effects of surgery

Side effects from pituitary tumor surgery are uncommon, but can occur. This includes damage to large arteries, nearby brain tissue, or nerves near the pituitary. In rare cases, these can cause brain damage, a stroke, or blindness.

In rare cases, the membranes around the brain (meninges) may get infected. This is called meningitis. It's often due to the opening in the bone between the sinuses and the brain. This opening heals shut over time.

Other side effects that may occur include:

- **Headaches and congestion.** These may occur for a week or so after transsphenoidal surgery.
- **Diabetes insipidus.** This condition sometimes occurs after surgery. It affects the way the kidney functions, resulting in too much water excretion into the urine. The urine looks almost clear. This condition also causes severe thirst and loss of fluids (dehydration). It's caused by the lack of a hormone called ADH (antidiuretic hormone). ADH is made by the pituitary. It lets the kidneys keep healthy amounts of water rather than sending it out in urine. Diabetes insipidus often goes away in a week or two with no treatment. If needed, it can be treated with medicine.
- **Levels of other pituitary hormones may also be low after surgery.** This may not happen after surgery for a small tumor. It's more likely when larger tumors or the entire pituitary gland are removed. Blood tests will be done to watch your hormone levels. You may be given hormone replacements if needed.

Ask your healthcare provider what signs to watch for and when to call. Know how to get help after office hours when the office or clinic is closed, and during weekends and holidays.

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