

Pituitary Tumor: Diagnosis



How are pituitary tumors diagnosed?

If your healthcare provider thinks you might have a pituitary tumor, you will need certain exams and tests to know for sure. The process starts with your healthcare provider asking you questions. You'll be asked about your health history, the symptoms you've been having, risk factors, and your family history of disease.

A full medical evaluation will be done. It includes a complete physical exam, neurological exam, blood and urine tests, and vision testing. This will help your healthcare provider decide if you need more tests.

What tests might I need?

If a pituitary tumor is suspected, you may have one or more of these tests:

- Blood or urine tests
- Venous blood sampling
- Imaging tests
- Biopsy (most often done as part of treatment)

Blood or urine tests

The kind of tests done depends on what the healthcare provider finds during your history and physical exam. Certain tests can measure the levels of different hormones in your urine or blood. This helps your healthcare provider figure out what kind of pituitary tumor you might have. Some blood tests may need to be done at certain times of the day. Urine may need to be collected in a large container over a 24-hour period.

Venous blood sampling

Venous blood sampling (inferior petrosal sinus sampling) is a special test that might be done if you have high levels of the hormone ACTH (corticotropin) in your blood, but your MRI scan is normal. Pituitary tumors that make ACTH may be too small to show up on MRI. This test can help find these tumors. To do it, you are sedated and then long, tiny tubes (catheters) are put into veins inside each of your inner thighs through small cuts. The tubes are guided up to the veins that drain blood on each side of your pituitary gland. Blood samples are taken from both sides and the hormone levels are checked. Then a hormone that causes the pituitary to make ACTH is put into your blood. More blood samples are taken to see if your ACTH level goes up a lot or is higher on one side of your pituitary gland. If this happens, a pituitary tumor is likely the cause.

Imaging tests

MRI

An MRI uses large magnets and radio waves and a computer to make 3-D pictures of the inside of your body. MRI is the best imaging test to find all types of pituitary tumors. It can also help surgeons decide on the type of surgery to use to remove the tumor, if needed.

A special substance called gadolinium might be put into your blood through a vein before an MRI scan. It helps make the pictures clearer so that even small changes can be seen.

During the test, you lie still on a narrow table as it passes into a long, narrow scanner tube. If you're uncomfortable in small spaces (claustrophobic), you may need medicine (a sedative) to help you relax before the test. The entire test may last an hour or more, but each image takes only a few minutes. You'll need to be

very still while the images are taken. An MRI scan doesn't hurt, but it is noisy. You can ask for earphones and music or ask for earplugs.

CT scan

A CT scan takes many X-rays from different angles as a camera moves around you. A computer combines these images to create detailed pictures of the inside of your body. This test may be done if you can't have an MRI scan because you have a pacemaker or other implanted metal device.

During the test, you lie on a table as it slides through the ring-shaped scanner. A CT scan is painless. But you'll need to be still and may be asked to briefly hold your breath a few times during the scan.

You may have a special contrast medium put into one of your veins as part of this test. The contrast helps your provider see certain parts of your body more clearly. It will pass through your body and come out through your bowel movements. When the dye is injected, you may have a warm feeling flush from your chest to your groin. Before you get a CT scan, be sure to tell your provider about any allergies or if you've ever had a reaction to contrast dye. This includes hives, trouble breathing, or suddenly feeling hot. Medicines can be given before the test to help prevent these kinds of reactions.

Pituitary tissue biopsy

A biopsy is rarely needed before treating a pituitary tumor. A biopsy is when a small piece of tissue (called a sample) is taken out of the tumor for testing. It can help your healthcare provider figure out the exact kind of pituitary tumor you have, and if it's cancer. Biopsies of pituitary tumors are mostly done as a part of surgery to remove the tumor. This is because high-resolution MRI scans and detailed hormone blood tests work very well for diagnosing a pituitary tumor.

Getting your test results

It might take a days for your test results to come back. When your healthcare provider has the results of your tests, they will contact you. Ask how you can expect to find out your test results. Will it be a phone call or do you need to make an appointment?

Your provider will talk with you about other tests you may need if a pituitary tumor is found. Make sure you understand the test results and know what your next steps should be.

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