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Germ Cell Tumor - Childhood - Diagnosis [1]

This section has been reviewed and approved by the Cancer.Net Editorial Board [2], 09/2014

ON THIS PAGE: You will find a list of the common tests, procedures, and scans that doctors can use to find out what?s wrong and identify the cause of the problem. To see other pages, use the menu on the side of your screen.

Doctors use many tests to diagnose a germ cell tumor and find out if it is cancerous, and if so, whether it has spread to another part of the body, called metastasis. Some tests may also determine which treatments may be the most effective. For most types of tumors, a biopsy is the only way to make a definitive diagnosis. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether the tumor has spread. This list describes options for diagnosing this type of tumor, and not all tests listed will be used for every child. Your child?s doctor may consider these factors when choosing a diagnostic test:

- Age and medical condition
- Type of tumor suspected
- Signs and symptoms
- Previous test results

In addition to a physical examination, the following tests may be used to diagnose a germ cell tumor:

Biopsy [3]**.** A biopsy is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that a germ cell tumor is present, but only a biopsy can make a definite diagnosis and determine if the tumor is benign or cancerous. The sample removed during the biopsy is analyzed by a pathologist. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease. The pathologist will examine the tissue sample for abnormalities in the cells. This is called a histologic examination. The pathologist will also examine the tissue sample for signs of cancer. This is called a cytologic examination.

Blood tests.

- **Alphafetoprotein (AFP).** A germ cell tumor may cause high levels of AFP, which is a protein that increases in the mother?s blood during pregnancy. This protein is produced by the fetal

(unborn child?s) liver and yolk sac, a pouch that protects the embryo early in development. It can be detected by amniocentesis, a test used to monitor the health of a fetus by using a needle inserted into the abdomen and uterus of a pregnant woman to collect amniotic fluid. AFP is also a tumor marker in patients with certain germ cell tumors [4]. A tumor marker [5] is a substance found in higher than normal amounts in the blood, urine, or body of people with certain kinds of tumors. The levels of AFP in the blood may be monitored to determine how well a treatment is working.

- **Beta HCG.** A germ cell tumor may also cause high levels of beta human chorionic gonadotropin (hCG). Women who are pregnant produce high levels of the hormone beta hCG in their blood. High levels of beta hCG in a woman who is not pregnant could mean that a germ cell tumor is present.

Ultrasound [6]**.** An ultrasound uses sound waves to create a picture of the internal organs. A tumor produces different echoes of the sound waves than normal tissue. When the sound waves are bounced back to a computer, creating images, the doctor can locate a mass inside the body.

Computed tomography (CT or CAT) scan [7]**.** A CT scan creates a three-dimensional picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. A CT scan can also be used to measure the tumor?s size. Sometimes, a special dye called a contrast medium is given before the scan to provide better detail on the image. This dye can be injected into a patient?s vein or given as a pill to swallow.

Magnetic resonance imaging (MRI) [8]**.** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. MRI can also be used to measure the tumor?s size. A special dye called a contrast medium is given before the scan to create a clearer picture. This dye can be injected into a patient?s vein or given as a pill to swallow.

After diagnostic tests are done, your child?s doctor will review all of the results with you. If a germ cell tumor is diagnosed, these results also help the doctor describe the tumor; this is called staging.

The next section helps explain the different stages for this type of cancer. Use the menu on the side of your screen to select Stages, or you can select another section, to continue reading this guide.

Links:
[1] http://www.cancer.net/cancer-types/germ-cell-tumor-childhood/diagnosis
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/24406
[4] http://www.cancer.net/node/29861
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