Rhabdomyosarcoma - Childhood - Diagnosis [1]

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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 cancer and find out if 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 cancer, a biopsy is the only way to make a definitive diagnosis of cancer. 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 cancer has spread. This list describes options for diagnosing this type of cancer, and not all tests listed will be used for every person. Your child?s doctor may consider these factors when choosing a diagnostic test:

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

In addition to a physical examination, the following tests may be used to diagnose rhabdomyosarcoma:

Biopsy [3]**.** A biopsy is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that cancer is present, but only a biopsy can make a definite diagnosis. The type of biopsy performed will depend on the location of the cancer. If the tumor is near the surface of the body, the child will be given a local anesthetic to numb the area during the procedure; if it is deeper inside the body, a general anesthetic (medication to block the awareness of pain) will be used. 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.

Immunocytochemistry tests. These are special stains done on the cells taken during the biopsy to help the doctor make an accurate diagnosis of rhabdomyosarcoma. Stains that show muscle cell development, including actin, desmin, MyoD-1 and Myogenin, are most helpful.

Genetic tests of tumor tissue. Chromosomes are the structures that contain the genes in a cell.

Changes in certain chromosomes in the tumor cells, called chromosomal translocations, can help doctors identify the alveolar subtype of rhabdomyosarcoma (see Overview [4]), although some alveolar rhabdomyosarcomas lack any specific translocation. Doctors will do a genetic test of the tumor tissue to see if translocations have occurred.

Bone marrow biopsy [5]. The doctor may also perform a bone marrow biopsy. Rhabdomyosarcoma can spread to the bone marrow, and only a biopsy can detect it there. Bone marrow has both a solid and a liquid part. A bone marrow biopsy is the removal of a small amount of solid tissue using a needle. The sample(s) are then analyzed by a pathologist. A common site for a bone marrow biopsy is the pelvic bone, which is located in the lower back by the hip. The skin in that area is usually numbed with medication beforehand, and other types of anesthesia may be used.

Imaging tests

To determine where the cancer is located and if it has spread, the doctor may use the following imaging tests:

X-ray. An x-ray is a way to create a picture of the structures inside of the body using a small amount of radiation.

Computed tomography (CT or CAT) scan [6]**.** 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) [7]**.** 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.

Bone scan [8]**.** A bone scan uses a radioactive tracer to look at the inside of the bones. The tracer is injected into a patient?s vein. It collects in areas of the bone and is detected by a special camera. Healthy bone appears gray to the camera, and areas of injury, such as those caused by cancer, appear dark.

Positron emission tomography (PET) scan [9]**.** A PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive sugar substance is injected into the patient?s body. This sugar substance is taken up by cells that use the most energy. Because cancer tends to use energy actively, it absorbs more of the radioactive substance. A scanner then detects this substance to produce images of the inside of the body.

After diagnostic tests are done, your child?s doctor will review all of the results with you. If the diagnosis is cancer, these results also help the doctor describe the cancer; this is called the stage [10].

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/rhabdomyosarcoma-childhood/diagnosis
[2] http://www.cancer.net/about-us
[3] http://www.cancer.net/node/24406
[4] http://www.cancer.net/node/19595
[5] http://www.cancer.net/node/24409
[6] http://www.cancer.net/node/24486
[7] http://www.cancer.net/node/24578
[8] http://www.cancer.net/node/24410
[9] http://www.cancer.net/node/24648
[10] http://www.cancer.net/cancer-types/rhabdomyosarcoma-childhood/stages-and-groups