The 5 Things You Must Know About Cancer Diagnostic Tests

You might not have thought very deeply about cancer diagnostic tests before, but it is a good idea to know what tests are available and commonly performed in case you or a loved one is ever dealing with a potential cancer diagnosis. Recent breakthroughs in cancer diagnosis and therapy have broadened the landscape of diagnostic tests available, and it’s important to keep up with these modern developments.

1) Blood tests may be ordered if a cancer diagnosis is suspected

Blood tests can be useful as part of cancer diagnostic testing, particularly if your doctor orders a complete blood count (CBC). The CBC determines how many of each type of blood cell is circulating in your body, including red blood cells, white blood cells, and platelets. Changes in the number of each type of cell can be suggestive of various types of cancer. For example, a change in the number of white blood cells might suggest that a blood cancer such as a leukemia or lymphoma is present. If the ratio returned by the CBC is suspicious, your doctor will likely recommend follow-up testing.

2) Some cancers release substances that can be detected in the blood

Thanks to recent advances in molecular diagnostics, your healthcare provider can determine whether certain cancers may be present in your body using simple, minimally invasive blood tests. Detecting various types of cancers in the blood is possible because tumors release molecules into the blood called tumor markers. These tumor markers are often proteins that serve as a molecular signature for a particular type of cancer. For example, prostate cancer can be detected using a tumor marker called prostate specific antigen (PSA). If the level of PSA in the blood is higher than normal, this can indicate that prostate cancer is present. However, these types of molecular diagnostic tests can be inconclusive by themselves, and follow-up testing is often required.

3) Genetic diagnostic tests take a modern, noninvasive approach to cancer diagnosis

Like molecular diagnostic tests that rely on the presence of circulating tumor markers, genetic diagnostic tests are noninvasive. However, these tests look for the genetic signatures of various types of cancer, zeroing in on the mutations that can lead to formation of a tumor. These tests provide another alternative to traditional biopsy procedures, sometimes using as little as a urine sample. For example, the urine-based molecular oncology tests offered by Trovagene can detect the V600E BRAF mutation, KRAS mutations, and EGFR mutations entirely non-invasively. These tests detect circulating tumor DNA and can be instrumental in determining a cancer diagnosis.

4) Bone marrow biopsy may be performed if your doctor suspects a leukemia

Leukemia, a form of cancer that occurs in the blood, can often be diagnosed via a bone marrow biopsy. The bone marrow contains a liquid that looks very much like blood, and it is here that certain blood cells are produced. If your doctor suspects a leukemia, he or she will extract some of the bone marrow and examine it under a microscope. If abnormal cells are seen under the microscope, this can confirm a diagnosis of leukemia.

5) CT scans provide your doctor with detailed cross-sectional views of your body

Computed tomography scans, also commonly known as CT scans, are a special type of X-ray. Your doctor can use these diagnostic tests to create cross-sectional pictures of your body. These images provide your doctor with highly detailed images of organs, bones, other tissues, and potentially tumors, if these are present. If your doctor suspects the presence of a tumor based on a CT scan, he or she may order other confirmatory tests, such as a traditional biopsy.