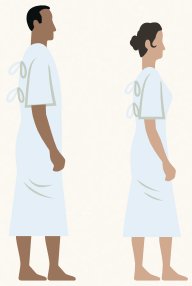
Melanoma

INFORM™ DIAGNOSTICS

What is melanoma?

Melanoma is one of the most dangerous types of skin cancer. It develops as skin cells are damaged. This damage can occur as a result of genetic predisposition or by environmental exposure to ultraviolet radiation—which often come from sources such as tanning beds or sunshine. However, some forms of melanoma, such as acral melanoma, are not linked to sun exposure. It is possible to have a melanoma even though a patient may have had minimal sun exposure.

Damage to the genetic material (DNA) of skin cells triggers genetic changes, or mutations. Cancer occurs when the skin cells grow abnormally and divide beyond what is normal. The American Cancer Society estimates that approximately 120,000 new cases of melanomas are diagnosed in the US each year.



What are the risk factors?

Anyone who has had severe blistering sunburn is at an increased risk for skin cancer. Cumulative sun exposure, tanning, a personal or family history of melanoma or atypical moles, skin that burns easily, certain medical conditions or medications, and having over 50 common moles are all other risk factors for developing melanoma.

Not all melanoma are caused by sun exposure.

What is a malignant growth?

Normal cells grow and multiply to form more cells according to the body's needs. When cells get old or damaged, they die and give room to newer cells. Unfortunately, sometimes this process goes wrong and newer cells are formed when the body does not need them, and old and damaged cells do not die as they should. This accumulation of extra cells in the body forms a mass of tissue called a growth or tumor.

Growths in the skin can be benign growths or malignant growths. The basic difference between these two types of growths is that benign growths are seldom a threat to life. Benign growths are removed easily and rarely grow back. They do not invade tissues around them and do not spread to other parts of the body. On the other hand, malignant tumors, such as melanomas, are growths that may be a threat to life. They may invade and damage other organs and may spread to other parts of the body.

Where does melanoma occur?

Melanoma can occur in any part of the skin. In men, it is common to appear on the top of the head, skin on the neck and between the shoulders and the hips. In women, melanoma tends to occur most commonly on the skin of the lower legs, or between the shoulders and the hips. It is rare that melanoma will develop on people with darker skin. However when it does, it is usually present underneath fingernails, palms of the hand and soles of the feet.

What does melanoma look like?

Melanomas resemble moles and some actually develop from moles. The majority of melanomas are black or brown, but they can also be pink, skin-colored, red, purple, blue, or white.

Often the first sign of melanoma is a change in the shape, feel, or color of a mole. ABCDE is a great mnemonic for early recognition of melanoma.

- **A = Asymmetry**
  The shape of one half of the mole does not match the other.
- **B = Border**
  The borders tend to be uneven, ragged, notched or blurred in outline.
- **C = Color**
  Having a variety of colors; shades of tan, black and brown may be present. A melanoma can also become blue, red or pink.
- **D = Diameter**
  There is a change in size, usually an increase. Melanomas are usually bigger than the size of a pencil eraser or the larger than the size of a pea (larger than ¼ inch).
- **E = Evolving**
  Any changes in size, shape or texture of the mole can point to danger.

Melanoma

If melanoma is recognized and treated early, it is usually curable. However, if not caught early enough, it can spread to other parts of the body and become fatal.

How is melanoma diagnosed at the lab?

A physician will remove all or part of the suspicious tissue and send it to a pathology lab. There the tissue is prepared on glass slides and reviewed by a pathologist, a clinician who has specialized in the diagnosis of disease. At Inform Diagnostics, all of the pathologists have further specialized in their specific field of practice, such as dermatopathology for skin conditions.

The pathologist looks for abnormal cellular changes under a microscope. He or she interprets the findings under the microscope in the context of the clinical information provided by the healthcare professional. Some cases require additional special analysis to evaluate proteins, RNA and/or DNA.

At Inform Diagnostics, difficult and unusual cases are reviewed together by our specialists at large multi-headed microscopes to ensure the most accurate and definitive diagnoses.

The pathologist creates a pathology report with all the important findings, including critical information to help guide treatment and assess prognosis, which is sent back to the healthcare provider.

Treatment options

The first step is the removal of the tumor by surgical removal (cutting it out). In most instances this can be done at a healthcare provider's office or as an outpatient procedure. People with more advanced types of skin cancer may be referred to a medical oncologist, radiation oncologist, or oncology nurse.

Chemotherapy treatment may be used. People with melanoma may receive chemotherapy medications by mouth or through the vein. In either case, the medicine ultimately enters the bloodstream and then travels throughout the rest of the body to kill any malignancies.

Prognosis

The course of illness for melanoma depends on several factors. The most important of which is whether the melanoma was detected early, or later after spreading to lymph nodes or other organs. The overall survival rate after five years for patients who have their melanoma detected early (before spreading to lymph nodes or organs) is 98% in the United States. If the melanoma reaches the lymph nodes, the five-year survival rate falls to 62%. For patients who have more advanced melanoma that has spread to distant organs the overall five-year survival rate falls to 15%.

What's next?

It is important to check the skin for new moles as well as for changes on any moles. Anyone with more than 100 moles is at a greater risk for melanoma.

Remember, if melanoma is recognized and treated early, it is usually curable. However, if not caught early enough, it can spread to other parts of the body and become fatal. It is important to see a healthcare professional right away if the patient experiences any changes in health or has any symptoms of recurrence.

Headquartered in Irving, Texas, **Inform Diagnostics** is a premier national provider of the highest-quality anatomic pathology services, primarily in the fields of breast pathology, dermatopathology, hematopathology, gastrointestinal pathology, and urologic pathology. The company's pathologists—all fellowship-trained subspecialists—utilize state-of-the-art laboratories. Inform Diagnostics continuously improves diagnostic precision through a unique consensus approach, rigorous quality assurance, comprehensive expertise, ongoing education and research, and close relationships with clinician clients.
Find more patient information and resources on our website at www.InformDiagnostics.com.