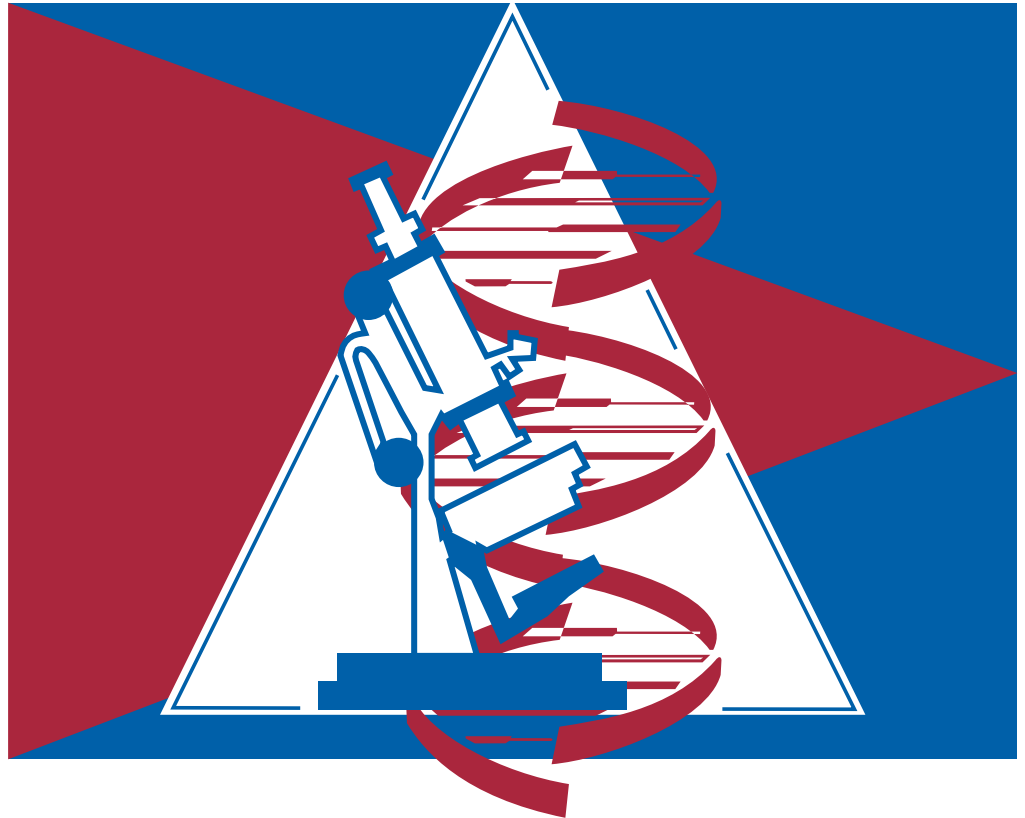


Diagnostic Cytology, Histology and Molecular Pathology

# OncoDiagnostic Laboratory, Inc.



## **FYI** **Malignant Melanoma**

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### WHAT IS MALIGNANT MELANOMA?

Malignant melanoma is a cancer which usually starts in the skin, either in moles or normal-looking skin.

Although the number of people who develop melanoma is rising, it is still an uncommon type of cancer.

There are four main types of malignant melanoma which occur in the skin:

- **Superficial spreading melanoma** – this is the most common type.
- **Nodular melanoma** – this can grow more quickly
- **Lentigo maligna melanoma** – this type of melanoma is most commonly found on the face, particularly in older people. It grows slowly and may take several years to develop
- **Acral melanoma** – this is usually found on the palms of the hands, soles of the feet or around the toenails

Other rare types of melanoma include amelanotic melanoma (in which the melanoma loses its pigment and appears as a white area) and desmoplastic melanoma (which contains fibrous scar tissue).

Although melanoma can affect most parts of the body, the most common site in women is on the legs, while in men it's more common on the trunk, particularly the back. Melanoma can start in parts of the body other than the skin such as the eye, under fingernails, vulva and vagina. However, this is very rare.

### WHAT CAUSES MALIGNANT MELANOMA?

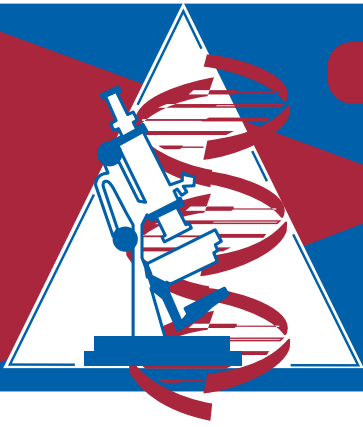
**Sun exposure:** Ultraviolet (UV) rays from the sun damage the skin and can cause malignant melanoma. People whose skin burns easily are most at risk – typically people with fair skin, fair or red hair, and blue eyes.

As more and more people take sunshine holidays abroad the number of people developing malignant melanoma and other skin cancers is rising. It is also increasing among people who take part in outdoor sports. Damage to the ozone layer, which protects us from UV rays, is also contributing to the increase.

The use of sunbeds (which give off artificial UV radiation) may increase the risk of developing malignant melanoma, even if they are used occasionally throughout the year to maintain a tan. A tan from a sunbed is less protective than a tan from natural sunlight, so a sunbed tan will not protect your skin from the harmful effects of the sun. A high skin protection factor sunscreen (SPF 30 or above) gives much better protection. You can also use fake tans.

**Age, race and gender:** Malignant melanoma is very rare in childhood, but children and young adults who are overexposed to the sun and suffer severe burning or blistering, are at risk of

## Symptoms & Diagnosis



developing melanoma in later life. It is less common in hispanic or black people, but more common in women, particularly between the ages of 40 and 60.

**Genetics:** Rarely, melanoma may develop in people who have not been exposed to excessive sunlight. This may be due to a faulty gene which can be inherited. Less than 2% of people with melanoma have a relative who is also affected. If a member of your family has melanoma and you are worried, you can talk to your general practitioner who can reassure you and refer you to a family cancer clinic if necessary. People who have lots of abnormal moles (known as dysplastic nevus syndrome) have a higher risk of developing melanoma.

**Contraceptive pills:** Research studies have looked at whether the contraceptive pill can play a part in causing melanoma and they have found that use of the pill does not seem to be a cause. However, some studies seem to show that taking the pill for longer than 10 years may slightly increase the risk of developing melanoma.

### WHAT ARE THE SYMPTOMS OF MALIGNANT MELANOMA?

Most melanomas start with a change in the appearance of normal skin. Less than a third develop in existing moles. If a melanoma develops from a mole any or all of the following changes may occur:

**Change in size** – the mole may become more lumpy or spread outwards over the skin. Most melanomas are larger than 6 millimeters in size.

**Change in shape** – most moles have a smooth, regular outline but a melanoma is more likely to have an irregular, ragged edge.

**Change in color** – the mole may become inflamed or develop a reddish edge. It may become darker or appear to have different shades of color on its surface.

**Itching, crusting or bleeding** – these are less common signs but should not be ignored.

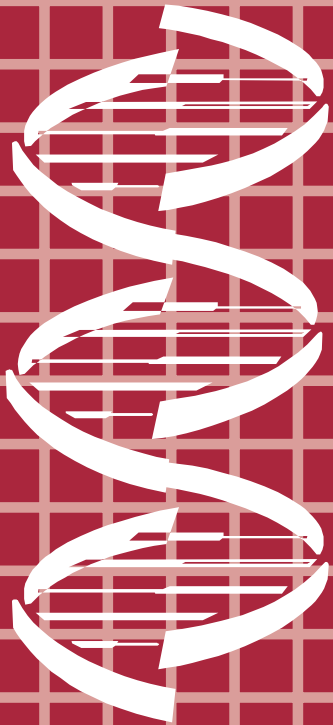
**It is important to see your doctor if you have any unusual marks on the skin that last more than a few weeks, or an existing mole which shows any of the above signs.**

Very few ordinary moles become malignant melanomas but it is best to discuss any changes with your doctor, as the sooner the disease is discovered, the more successful the treatment.

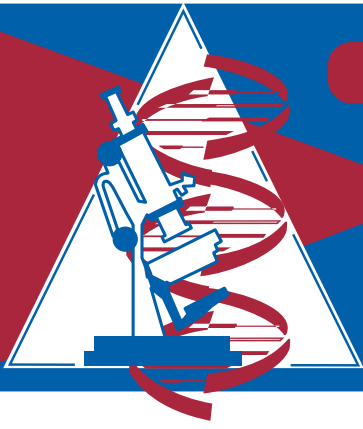
### HOW IS IT DIAGNOSED?

Usually you will begin by seeing your family doctor (general practitioner) who will examine you and, if necessary, arrange for you to see a skin specialist (dermatologist) or a surgeon.

In many cases, the dermatologist will be able to see by examining the mole whether it is benign or malignant but if there is any doubt, they may suggest an excision biopsy. This means that



# Pathology Report & Prevention



the mole will be removed, using a local anesthetic, and examined under the microscope by a pathologist to see if the cells are malignant. After the pathologist reviews the biopsy, a report will be sent back to the specialist. If the cells are malignant then further surgery will usually be carried out to ensure that all the melanoma cells in the area have been removed.

## WHAT INFORMATION IS INCLUDED IN A PATHOLOGY REPORT?

The pathology report will contain a definitive diagnosis, meaning the biopsy specimen contains or does not contain malignant melanoma. If melanoma is found, the report will state the type of melanoma. It will also tell the specialist the thickness and depth of the tumor which are the most important factors in predicting the outcome of the disease (see staging). In addition, it will tell the specialist if the tumor has been completely excised by indicating whether or not the biopsy margins are free of tumor.

Definitive treatment of the tumor greatly depends on the pathology findings.

## WHAT CAN I DO FOR PREVENTION OF THIS DISEASE?

Avoiding sun exposure is the best preventative measure you can take to protect yourself. Severe sunburn is a major melanoma risk factor. Some recent clinical studies indicate that childhood sun exposure presents the greatest risk. To be safe in the sun, always take the following important steps:

- **Use generous amounts of sunscreen (SPF 30)**
- **Wear protective sunglasses**
- **Wear protective clothing (long sleeves and long pants)**
- **Wear broad-brimmed hats to protect the face, nose, ears and neck**
- **Avoid the peak hours of sun intensity (10 am to 4 pm)**
- **Ask your doctor if any of your medications (prescription and non-prescription) increase your sensitivity to the sun as many medications (prescription and non-prescription) make your skin more sensitive to sun damage.**

Also, avoid tanning salons. Instead, use commercial sunless tanning creams.

Melanoma is visible on your skin, therefore making early detection much easier than internal cancers. If you have risk factors for melanoma, ask your physician for a complete skin evaluation. See how often you should undergo skin checks by your physician. If you have worrisome-looking moles, your physician may want to take photographs to record their appearance and help him/her to detect future subtle changes.

Perform your own skin self-examinations regularly, especially if you have risk factors for melanoma. Use both a full-length mirror and a hand mirror. Have someone examine your scalp (use a hair-dryer to part your hair), back and other areas that are hard for you to examine by yourself. Watch for changes in any existing moles and the appearance of any new moles. Carefully watch any moles present since birth since these moles have a greater risk of turning into melanoma.



## Treatment Options & Staging



### WHAT ARE MY TREATMENT OPTIONS?

The physician or surgeon must remove the suspected tumor along with a margin of normal-looking skin. Thinner tumors require removal of a smaller margin of normal skin than thicker tumors.

Patients with increased risk of developing widespread disease may undergo sentinel-node identification. In this procedure, radioactive, blue-colored dye is injected into the tumor. The tracer then travels to the first draining lymph node (the sentinel node). This node is removed and examined by a pathologist for cancer cells. If cancer cells are present, all the lymph nodes in the region are removed (an elective lymph-node dissection) hoping that the tumor has only spread to nearby lymph nodes. Patients with lymph-node spread have poorer outcomes.

Patients with deep and invading tumors or cancer cells in their lymph nodes may be treated with additional therapy, such as the melanoma vaccine or immunotherapy. Immunotherapy uses drugs like interferon to stimulate the body's capacity to fight melanoma. Cancer that has spread to distant organs is incurable, but treatment with chemotherapy, radiation therapy or immunotherapy may improve symptoms and prolong patient survival.

### STAGING OF MALIGNANT MELANOMA

The "stage" of a cancer is a term used to describe whether it has spread beyond its original site. Malignant melanoma is generally divided into four stages from melanoma just in the surface layers of the skin (stage one) to melanoma that has spread to other parts of the body (stage four). Most melanomas are now found at an early stage when there is a high chance of cure. Once a melanoma has been removed the doctors need to find out how deep it is. Knowing the depth helps the doctors to decide on the most appropriate treatment, and can give an idea of whether the melanoma may spread or come back in the future.

There are several systems which can be used to assess the depth of a melanoma. The most common is the Breslow thickness scale.

The thinner the melanoma, the better the chance of a complete cure. Melanomas of less than 2 mm have a very good chance of cure. Most people who are diagnosed with malignant melanoma will have a thickness of less than 2 mm. In these people the complete removal of the melanoma is likely to cure it and further investigations or treatment will not usually be necessary. The chance of the melanoma coming back increases with the increasing thickness of the initial tumor in the skin.

Malignant melanoma cells can sometimes spread to the lymph glands close to the site of the melanoma. This is unlikely to happen if the melanoma is less than 1 mm in depth. If the melanoma cells go more than 1 mm into the skin though, some hospital pathologists may do a test during the surgery to try and find out whether the melanoma cells have spread to the lymph nodes.



## Additional Information



### ADDITIONAL INFORMATION FOR MELANOMA PATIENTS

#### **National Cancer Institute (NCI)**

Building 31  
Room 10A03  
31 Center Dr., MSC 2580  
Bethesda, MD 20892-2580  
Phone: (301) 435-3848  
Toll-free: (800) 422-6237  
<http://www.nci.nih.gov/>

#### **American Cancer Society (ACS)**

1599 Clifton Rd., NE  
Atlanta, GA 30329-4251  
Toll-free: (800) 227-2345  
<http://www.cancer.org/>

#### **Cancer Net**

Building 31  
Room 10A03  
31 Center Dr., MSC 2580  
Bethesda, MD 20892-2580  
Phone: (301) 435-3848  
<http://cancernet.nci.nih.gov/index.html>

#### **Cancer Research Institute**

681 Fifth Ave.  
New York, NY 10022-4209  
Phone: (212) 688-7515  
Fax: (212) 832-9376  
<http://www.cancerresearch.org/>