

## **Melanoma**

### **What is melanoma?**

Melanoma is a cancer that arises in pigment cells of the skin (melanocytes). If not detected early, it has the capacity to spread through blood vessels and lymph channels to other parts of the body. Fifteen hundred Australians die from melanoma each year. Australia has the highest rates of melanoma in the world. This is because of our sunny climate and fair skinned and mainly Celtic population. Melanoma is the most common cancer in Australians under fifty years of age and rates continue to increase. At least one in ten men and one in 16 women will develop a melanoma. Early diagnosis is essential to enable treatment before the melanoma spreads and becomes life threatening.

### **What causes melanoma?**

There is overwhelming evidence that almost all melanomas are the result of previous sun exposure. Most melanomas in younger Australians (under 50 years) are due to occasional sun exposure of the kind that produces sunburn. Childhood sun exposure is a particularly important contributor to these melanomas. Melanomas in older Australians (over 50 years) are more strongly related to regular sun exposure over a long period.

### **What do melanomas look like?**

Seventy-five percent of melanomas begin as a new spot, though some arise from a mole. They begin as a flat, light brown to black spot that looks like a mole. However, melanomas, unlike moles, will grow progressively larger at a rate that will often be detected over a few months. As they enlarge, changes in shape and colour also progress so that the spot becomes increasingly irregular in shape or variable in colour (Figure 1 and 2).

Melanomas that are detected while they are still flat are almost always cured by removal. All melanomas will eventually become raised, increase in depth and become more life threatening. All Australians should check their own skin to look for changes, including parts of the body such as the back that are harder to see. It helps to have a partner or use two mirrors to examine your skin. A good way to remember is to check your skin at the beginning of each new season.

### **What other problems can occur with melanomas?**

Melanomas are more common in people with fair skin. People with large numbers of moles or unstable (dysplastic) moles are more likely to develop a melanoma. Light hair (especially red hair) and light eye colour are associated with a greater risk of developing melanoma. Other risk factors include freckles (a marker of fair skin) and solar lentigines (sunburn freckles).

People who have had any kind of skin cancer are at higher risk and those who have already had a melanoma are at especially high risk (about 1% develop new melanomas each year). Those who have a close blood relative with melanoma have double the average risk.

People with strong risk factors for melanoma should be assessed regularly by a dermatologist.

### **How are melanomas diagnosed?**

If you become suspicious about a spot, you should consult your GP. If the spot is obviously suspicious, it may be removed surgically or you may be referred to a dermatologist urgently for assessment. If you have good reason to be suspicious, do not hesitate to question your doctor's opinion and explain your reasons for concern. If possible, any suspicious spot should be removed completely and the entire spot sent to pathology for assessment. Partial biopsies can be unreliable for diagnosis but are sometimes necessary. When the pathology report is back, in a week or so, you will be told the result. The pathologist measures the depth of the melanoma in millimetres and this is the most important determinant of the risk

attached to it. At this stage, your doctor may explain the risk and the treatment options or refer you to an expert.

### **How are melanomas treated?**

All melanomas are treated surgically by removing both the melanoma along with a safety margin of normal appearing skin around it.

The width of the safety margin removed varies according to the depth of the melanoma. If the melanoma is more than 1.0 mm in depth, there is the option of a sentinel node biopsy. This procedure identifies the first lymph node that drains the site of the melanoma and then the lymph node is removed at the same time as a wider safety margin. If melanoma is present in the lymph node the risk of further spread of the melanoma is greater.

Sentinel node biopsy has been the subject of a large international trial that has demonstrated no change to survival whether or not a sentinel node biopsy has been performed. It is an option that you can choose if you want more information about the threat attached to your melanoma and you are willing to undergo an additional operation.

Targeted therapy is now available for a melanoma that has spread to other organs (metastases) and has a mutation called BRAF. Treatment includes drugs such as vemurafenib, dabrafenib and trametinib. Checkpoint inhibitors such as ipilimumab and PD-1 can be used to allow the immune system to deal more effectively with melanoma.

### **What is the likely outcome of melanoma?**

Factors that affect your risk for further issues with spread from your melanoma include the depth of the melanoma (thickness), ulceration (surface breakdown and crusting), the rate of growth of your melanoma (mitotic rate) and the stage of your melanoma (how advanced and how far spread it already is).