What is melanoma?

The skin and melanoma
Melanoma is a type of cancer of the skin. The skin is really another body organ. We do not normally think of it as an organ because it is not just in one place. The skin covers every part of the outside of the body. It does several jobs for us.

- Protects the inside of the body from damage
- Helps to keep our body temperature more or less the same
- Gets rid of some waste products through sweat

The skin is made up of two layers, the epidermis and the dermis.

You can see from the diagram that the thickness of the epidermis and the dermis varies from about 2mm to 4mm. This depends on the part of the body the skin is covering. The skin on the back, for example, is quite thick, with an epidermis and dermis of about 4mm. The skin on the face is much thinner.

The cells that become cancerous in malignant melanoma are called 'melanocytes'. They are found in the epidermis. The job of melanocytes is to make a pigment or colouring for the skin. The pigment helps to protect the body from the ultraviolet light of the sun which can cause burns.

Races that originally come from hotter climates with more sunshine tend to have naturally darker skins. They do not have more of the melanocyte cells than paler races, but their melanocytes are more active, making more of the pigment. In the paler races, the pigment is usually called a sun tan! Exposing your skin to the sun makes the melanocytes make more of the pigment. The pigment is then transferred to the other skin cells to protect them against the sun's rays, while the melanocytes get on with making more pigment.

Types of malignant melanoma

There are four main types of malignant melanoma which occur in the skin. These are known as cutaneous melanoma:

- **Superficial spreading melanoma** is the most common type of melanoma. About 7 out of 10 (70%) are this type. They occur mostly in middle-aged people. The most common place in women is on the legs, while in men it is more common on the trunk, particularly the back. They tend to start by spreading out across the surface of the skin: this is known as the radial growth phase. If the melanoma is removed at this stage there is a very high chance of cure. If the melanoma is not removed, it will start to grow down deeper into the layers of the skin. There is then a risk that it will spread in the bloodstream or lymph system to other parts of the body.

- **Nodular melanoma** occurs most often on the chest or back. It is most commonly found in middle-aged people. It tends to grow deeper into the skin quite quickly if it is not removed. This type of melanoma is often raised above the rest of the skin surface and feels like a bump. It may be very dark brown-black or black.

- **Lentigo maligna melanoma** is most commonly found on the face, particularly in older people. It grows slowly and may take several years to develop.

- **Acral melanoma** is usually found on the palms of the hands, soles of the feet or around the toenails.

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

Malignant melanoma can start in parts of the body other than the skin but this is very rare. The parts of the body that may be affected are the eye, the mouth, under the fingernails (known as subungual melanoma) the vulval or vaginal tissues, or internally.

Source: www.cancerhelp.org.uk, WCISU

Source: www.cancerbacup.org.uk

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People with concerns about their own health should contact their GP or cancer team
What causes malignant melanoma?

The main cause of malignant melanoma is ultraviolet (UV) rays from the sun. These damage the skin. People whose skin burns easily are most at risk of developing melanoma – typically people with fair skin, fair or red hair, and blue eyes.

Malignant melanoma is very rare in childhood. However, children and young adults who are overexposed to the sun and have severe burning or blistering are at risk of 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.

As people take sunshine holidays abroad more often, 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.

Clothing made of closely woven material does protect the skin. A high-factor sunscreen (SPF 30 or above) should be used on any exposed areas of skin. Using a fake tan to colour your skin can also mean that you do not need to sunbathe.

In a few families there are several people who have melanoma. Therefore, it is possible that occasionally melanoma may be caused by an inherited faulty gene. In most people though, this is not the case and if you have melanoma it does not mean that other family members are likely to develop it.

If a member of your family has melanoma and you are worried that you may be at risk of developing it, you can talk to your GP who can reassure you and refer you to a family cancer clinic if necessary.

People who have a lot of abnormal moles (known as dysplastic naevus syndrome) have a higher risk of developing melanoma than other people.

Research studies have looked at whether the contraceptive pill can play a part in causing melanoma. They have found that taking the pill does not seem to be a cause.

Research has also shown that taking hormone replacement therapy does not increase the risk of developing melanoma.

Source: www.cancerbacup.org.uk

Symptoms

It is very important to recognise the signs of malignant change in a mole, and if you notice anything unusual about your skin, to see your GP as soon as possible.

Some of the changes to watch out for are:

- a change in shape, especially an increasingly irregular outline,
- a change in size,
- increased projection (height) above the surface of the skin,
- a change in colour,
- sudden darkening and the development of colour irregularities appearing as different shades of brown, grey, pink, red or blue,
- itching, pain or bleeding.

Another possible sign of malignant melanoma is:

- blood blisters under the toenails that aren't the result of another injury.

Melanomas are most common on areas exposed to the sun, but may occur anywhere on the skin. In people with fair skin, malignant melanomas occur most often on the upper part of the back in both men and women. In women, it is also equally common on the legs between the ankle and the knee. Melanomas are very rare in people with dark skin, but when they do occur they are usually on the palms and soles and behind the nails on the fingers and toes.

Source: www.nhsdirect.nhs.uk
**How is melanoma diagnosed?**

Usually you will begin by seeing your GP (family doctor) who will examine you and, if necessary, arrange for you to see a doctor who specialises in skin conditions (a dermatologist) or a surgeon.

In many cases, when they examine the whole mole, the specialist will be able to see if it is benign or malignant. However, if they are not sure, they may suggest an excision biopsy.

**Excision biopsy**

The mole is removed, using a local anaesthetic, and the wound is closed using stitches, which will be removed after 7–14 days. The mole is examined under the microscope by a pathologist to see if any melanoma cells are present. You will normally get the results within a week. If it is a melanoma, further surgery, known as a **wide local excision**, will usually be done to make sure that all the melanoma cells in the area have been removed.

**Wide local excision**

The surgeon removes a margin of normal-looking tissue all around the area where the melanoma was. This is necessary to make sure that no melanoma cells have been left behind.

The amount of skin removed depends on how deeply the melanoma had gone into the skin, but it is often at least 1cm all around the melanoma. The area will look red and sore at first, but over a few weeks it will gradually fade and become less noticeable.

Occasionally, a wider area of skin is removed and the surgeon may need to do a skin graft.

Most melanomas are found at an early stage when there is a high chance of a cure. Most people need no further treatment after the surgery mentioned above.

**Source:** www.cancerbacup.org.uk

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**Staging of malignant melanoma**

**What is staging?**

The stage of a melanoma describes how deeply it has grown into the skin, and whether it has spread. In the UK, most melanomas are found at an early stage when the chance of cure is very high. It is important to know the stage because doctors will often use this to decide on:

- The kind of treatment you need
- The likely risk of the melanoma coming back after treatment
- Whether you need tests to see if the melanoma has spread into lymph nodes close to the melanoma.

It is important that you ask your doctor about the stage of your melanoma.

**The different systems doctors use**

Doctors use a number of different systems and scales to describe the stages of melanoma:

- The Breslow scale looks at the thickness of the melanoma within the skin
- The Clark scale describes the different levels within the skin that the melanoma might have reached
- TNM staging of melanoma describes the thickness of the melanoma and whether there is any spread to lymph nodes or other parts of the body
- Number stages of melanoma group together the TNM staging in a simpler way and also according to the treatment needed.

There is more information on the Breslow and Clark scales below.

**Thickness of the melanoma (Breslow scale)**

Measuring the thickness (depth) of the cancer is important. Doctors use a scale called the primary tumour thickness scale. This is sometimes called the Breslow thickness. It is given in millimetres (mm) and measures how far the melanoma cells have reached down through the skin from the surface. The tumour thickness scale classifies number stage 1 melanomas into three categories depending on how deep they are:

- Less than 0.76mm thick - a low risk of the melanoma coming back
- Between 0.76mm and 1.5mm thick - a moderate risk of the melanoma coming back
- More than 1.5mm thick - a high risk of the melanoma coming back

So if your melanoma was less than 0.76mm (low risk), it is very unlikely that it will come back. It has been removed before it had a chance to grow deeply enough for any cells to have broken away and spread. You are unlikely to need any more treatment. But your specialist may want you to come back to the hospital for check ups for a short time.

**Source:** www.cancerhelp.org.uk
Although most people with thin melanomas are cured by simply having the mole removed, a few people later develop another melanoma. Your doctor may want to do some more tests. You will almost certainly have to come back for check-ups for the next few years anyway.

**The Clark scale**

You might also hear your doctor talk about Clark levels. This is another way of measuring how deeply the melanoma has grown into the skin and which levels of the skin are affected. Here are what the different levels of the Clark scale mean:

- **Level 1** - ‘melanoma in situ’, the melanoma cells are only in the outer layer of the skin (the epidermis)
- **Level 2** - there are melanoma cells in the layer directly under the epidermis (the papillary dermis)
- **Level 3** - melanoma cells are throughout the papillary dermis and touching on the next layer down (the reticular dermis)
- **Level 4** - the melanoma has spread into the reticular or deep dermis
- **Level 5** - the melanoma has grown into the layer of fat under the skin (subcutaneous fat)

It is important not to confuse Clark levels with the TNM stage or number stage. The Clark levels only look at the depth of melanoma cells in the skin. The number stage is looking at whether the melanoma has spread to lymph nodes or another part of the body.

**Source:** www.cancerhelp.org.uk

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**Treatment**

Melanomas are removed surgically along with a wide area of normal-looking tissue around them. A skin graft may be needed. This is when healthy skin from another part of your body is taken to use on a wound.

If the melanoma is 1mm thick or less, the survival rate is over 90 per cent. This emphasises the importance of reporting any suspicious changes to your GP as soon as possible.

**Source:** www.nhsdirect.nhs.uk

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**Check-ups**

Once your treatment ends you will need regular check-ups. These will be every few months at first but will become less frequent.

Although most people with thin melanomas are cured by simply having the mole removed, a few people later develop another melanoma. It is important, therefore, to have regular check-ups and to know what to look for.

It is possible for the melanoma to come back in the same area, so if you notice any change or lumps in the area on the scar or nearby it is essential to see your doctor. If you notice any new symptoms or are worried in between appointments you can always contact your specialist nurse at the hospital. You can also arrange to have an earlier appointment by contacting your doctor’s secretary.

At your regular check-ups your doctor will check the lymph nodes close to the area where the melanoma was removed.

- For melanomas in the head or neck area, the doctor will check the lymph nodes in the sides of the neck, under the chin, above the collar bones, behind the ears and at the back of the neck.
- If the melanoma occurred in the chest, back or abdomen, the lymph nodes in the groins, armpits, above the collar bones and in the neck will be checked.
- A melanoma that occurred in the arm may spread to the lymph nodes in the armpit on the affected side, above the collar bones and in the lower neck.
- If the melanoma occurred in the leg the doctor will check the lymph nodes behind the knees and in the groins.

If it is thought that the malignant melanoma has spread into the lymph nodes, the lymph nodes will usually be removed. This is to try to remove all of the melanoma cells and prevent them from spreading to other parts of the body.

**Source:** www.cancerbacup.org.uk

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**Prevention**

Avoid prolonged exposure to the sun and be aware of the intensity of the sun if you are out of doors. Many weather forecasts now include a Sun Index which is an assessment of the risk burning by ultraviolet (UV) radiation. Between April and September, and in hot climates, you should try to avoid going out when the sun is at its strongest (between the hours of 11am and 3pm).

Use sunscreen creams but don’t rely on them to protect you entirely. It is much better to avoid the direct rays of the sun by covering up with sunhats and loose clothing. Some summer clothing now has sun protection factor information similar to sunscreen creams.

Babies, children and people with very fair skin are particularly at risk and should take extra care.

Building up a tan does not protect against the damaging effects of sunlight. Ultraviolet radiation from sunbeds has a similarly damaging effect to intense sunlight.

**Source:** www.nhsdirect.nhs.uk
Summary

Malignant melanoma accounts for 2% of all male cancer registrations and 2.5% of all female cancer registrations and is ranked 13th most common cancer for males and 11th for females. The mean age of diagnosis was 60 years for males and nearly 59 years for females.

### Average registrations per annum (1992-2006)

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cases</td>
<td>215</td>
<td>215</td>
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### Relative Frequency

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<tr>
<td>Number of cases</td>
<td>2.0%</td>
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### Mean age at diagnosis (years)

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<tr>
<td>Number of cases</td>
<td>60.3</td>
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### Cumulative Rate (0-64 years)

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<tbody>
<tr>
<td>Number of cases</td>
<td>0.5%</td>
<td>0.6%</td>
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### Cumulative Rate (65+ years)

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<td>Number of cases</td>
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### Percentage Annual Change in EASR (incidence)

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### Percentage Annual Change in EAR (mortality)

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<td>Number of cases</td>
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### Average death certificate only

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<tr>
<td>Number of cases</td>
<td>1.7%</td>
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### Average deaths per annum (1992-2006)

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<tr>
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<td>141</td>
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<table>
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<tbody>
<tr>
<td>Number of cases</td>
<td>25.4%</td>
<td>21.4%</td>
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**Prevalence Statistics (at 31st December 2006) in Wales**

### Males

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<thead>
<tr>
<th>Age Group</th>
<th>Number</th>
<th>Rate per 100,000</th>
<th>% prev in pop</th>
<th>% in each time interval</th>
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<tbody>
<tr>
<td>Up to 1 year</td>
<td>233</td>
<td>16.13</td>
<td>0.02</td>
<td>12.99</td>
</tr>
<tr>
<td>&gt;1 to 5 years</td>
<td>638</td>
<td>44.16</td>
<td>0.04</td>
<td>35.56</td>
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<tr>
<td>&gt;5 to 10 years</td>
<td>453</td>
<td>31.35</td>
<td>0.03</td>
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<tr>
<td>&gt;10 to 20 years</td>
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<tr>
<td>Total up to 20 years</td>
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### Females

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<th>Rate per 100,000</th>
<th>% prev in pop</th>
<th>% in each time interval</th>
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<tbody>
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<td>16.44</td>
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<tr>
<td>&gt;5 to 10 years</td>
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<tr>
<td>&gt;10 to 20 years</td>
<td>820</td>
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<td>31.83</td>
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<tr>
<td>Total up to 20 years</td>
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<td>169.35</td>
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### MALIGNANT MELANOMA FACTSHEET

#### Trends in Incidence 1992-2006

#### Males

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<td>8.72</td>
<td>8.87</td>
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#### Females

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