Skin Cancer Types

This leaflet gives a general overview about skin cancer and the different types of skin cancer - melanoma and non-melanoma.

Understanding the skin

The skin has two layers - the epidermis and the dermis. Beneath the dermis is a layer of fat and then the deeper structures such as muscles and tendons.

The epidermis has three main types of cell:

- **Basal cells.** These are the bottom layer of cells in the epidermis.
- **Keratinocytes.** These cells are in layers above the basal layer. They make a substance called keratin which is a hard wax-like material. Keratinocytes are constantly dividing and a certain number are dying at any given time. The top horny layer of the epidermis is made of dead keratinocytes which contain keratin. The top of the skin is constantly being shed and replaced by new dead cells which contain keratin.
- **Melanocytes.** These cells are dotted about at the bottom of the epidermis. They make a pigment called melanin when skin is exposed to sun. The melanin is passed to the nearby skin cells to protect them from the sun's rays. Melanin causes the skin to tan in fair-skinned people. Dark-skinned people have more active melanocytes.

What are cancer, skin cancer and tumours?

**Cancer** is a disease of the cells in the body. There are many different types of cell in the body, and there are many different types of cancer which arise from different types of cell. What all types of cancer have in common is that the cancer cells are abnormal and multiply out of control. See separate leaflet called Cancer for more details.

**Skin cancer** is the most common cancer in the UK. Around 100,000 cases are diagnosed each year. Skin cancers are divided into:

- **Melanoma (malignant melanoma).** This type of skin cancer develops from melanocytes.
- **Non-melanoma.** These are about 20 times more common than melanomas. These are divided into:
  - **Basal cell carcinoma (BCC) -** skin cancer which develops from basal cells.
  - **Squamous cell carcinoma (SCC) -** skin cancer which develops from keratinocytes.
  - **Other -** other types of skin cancer, which are rare.
A malignant tumour is a growth of tissue made up from cancer cells which continue to multiply. Malignant tumours can invade into nearby tissues and cause damage. Most types of malignant tumour also tend to spread (metastasise) to other parts of the body. Melanoma skin cancer has a high risk of spread. However, it is very rare for a BCC to spread, and uncommon with an SCC.

**Basal cell carcinoma (BCC)**

This is the most common skin cancer in white and fair-skinned people. BCC is rare in dark-skinned people. BCC is more common in older people. Those aged over 75 years are about five times more likely to have a BCC than those people aged between 50-55 years.

A BCC typically develops on a sun-exposed area of the skin such as the head and neck. However, one can develop on any area of skin. The first sign is often a small red, pink or pearly lump which appears on previously normal skin. The lump is often dome-shaped. However, BCCs can vary in shape and colour. They usually grow very slowly and it can take many months for one to grow to a centimetre or more.

In time, the lump on the skin may crust over, ulcerate or bleed from time to time. A skin ulcer caused by a BCC is sometimes called a rodent ulcer which often looks like a small inflamed crater with a raised edge. BCCs very rarely spread (metastasise) to other parts of the body. However, untreated they will continue to grow locally and can cause damage to nearby structures. For example, a BCC on the face may erode and damage the nose or an ear.

**Squamous cell carcinoma (SCC)**
This is the second most common skin cancer in white and fair-skinned people. SCC is rare in dark-skinned people. Like BCCs, SCCs are more common in older people. Those aged over 75 years are about thirty-five times more likely to have an SCC than those aged between 50-55 years.

An SCC typically develops on the face - most commonly on or around the ears or lips. However any area of skin can be affected. It typically starts as a small crusted or scaly area of skin with a red or pink base. It may grow into a lump which may look like a wart. An SCC may ulcerate or bleed from time to time. However, an early SCC can vary in shape, appearance and colour.

As an SCC grows larger and deeper, it damages nearby structures. For example, if left untreated, an SCC next to a nose or ear can grow into, erode and then completely destroy the nose or ear. An SCC may also spread to other areas of the body. However, this is uncommon in the early stages and most are treated before any spread occurs.

**Melanoma (malignant melanoma)**

Melanoma is the least common form of skin cancer, but it is the most serious. It is the one most likely to spread to other parts of the body. There are about 9,000 new cases of melanoma each year in the UK. Melanoma is the second most common cancer in people aged 15-34 years. It is more than twice as common in young women as it is in young men.

A typical melanoma starts as a small dark patch on the skin (similar to a mole). It can develop from a normal part of skin, or from an existing mole. A melanoma is often different to a mole in one or more of the following ways (summed up as ABCDE) - that is:

- **A**symmetry - the shape of a melanoma is often uneven and asymmetrical, unlike a mole which is usually round and even.
- **B**order - the border or edges of a melanoma are often ragged, notched or blurred. A mole has a smooth well-defined edge.
- **C**olour - the colour (pigmentation) of a melanoma is often not uniform. So there may be 2-3 shades of brown or black. A mole usually has one uniform colour.
- **D**iameter - the size of a melanoma is usually larger than a normal mole and it continues to grow.
- **E**volving - any change in size, shape, colour, or elevation or any new symptom such as bleeding, itching or crusting may be due to a melanoma.

Read more about melanoma skin cancer. The section includes diagrams of melanos and compares them to normal moles.

**What causes skin cancer?**

The cause of most skin cancers is sun damage to the skin. About 9 in 10 non-melanoma skin cancers and about 6 in 10 melanomas are thought to be caused by excessive exposure to the sun. In particular, past episodes of sunburn significantly increase the risk. It is the ultraviolet (UV) radiation in the sunshine which does the damage. Skin cells which are damaged are at greater risk of becoming abnormal and cancerous.

See leaflets called Skin Cancer (Melanoma), Skin Cancer (Non-melanoma) and Preventing Skin Cancer, for other possible risk factors and causes.

Although skin cancer is rare in children, the amount of sun exposure during childhood is thought to increase the risk of developing skin cancers in adult life. Therefore, it is vital to protect children from too much sunshine (see below).

**What is the treatment and prognosis for skin cancer?**

All three main types of skin cancer - basal cell carcinoma (BCC), squamous cell carcinoma (SCC) and melanoma - are curable if they are detected at an early stage. A small operation or other method to remove the affected area of skin is all that is required in early cases.

For non-melanoma skin cancers

The overall cure rate is over 95%, even for ones which have been present for a while. However, the larger they grow, the more difficult they are to treat. More extensive surgery or other localised treatments may be needed if they grow large or deep before they are treated.

For melanomas

The risk of spread to other parts of the body is high. This is why urgent early treatment is needed. An operation is required to remove the melanoma. If it has already spread to other areas of the body then there is less chance of a cure. Treatments such as chemotherapy, radiotherapy or immunotherapy may be used for melanomas which have spread.

**How can I check for the early signs of skin cancer?**

Try to get to know the site and look of the normal moles or marks on your body so that you will know if there has been any change. If you notice any new growth or new change on your skin and you do not know what it is then see a doctor. In particular, if you notice any change in the size, shape or colour of an existing mole, or if a new dark area of skin develops.

**How can I prevent skin cancer from developing?**
Most skin cancers are caused by excessive exposure to the sun. We should all limit our sun exposure in the summer months (or all year when in hot countries nearer the equator) by:

- Staying indoors or seeking the shade as much as possible between 11 am and 3 pm.
- Covering up with clothes and a wide-brimmed hat when you are out in the sunshine.
- Applying sunscreen of at least sun protection factor (SPF) 15 (SPF 30 for children or people with pale skin) which also has high ultraviolet A (UVA) protection.

In particular, children should be protected from the sun. Sunburn or excessive exposure to the sun in childhood is thought to be the biggest risk factor for the developing of skin cancer as an adult.

Further reading & references

- Melanoma: assessment and management; NICE Guidance (July 2015)
- Guideline on the Treatment of Basal Cell Carcinoma; European Dermatology Forum (2012)
- Guidelines for the management of cutaneous melanoma; British Association of Dermatologists (2010)
- Multi-professional guidelines for the management of the patient with primary cutaneous squamous cell carcinoma; British Association of Dermatologists (2009)
- DermIS - Dermatology Information System
- DermNet NZ
- UV forecast; Met Office

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