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# Non-melanoma Skin Cancer

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Non-melanoma skin cancers are any skin cancers that are not **melanoma**. The term is used because melanoma is very different to other skin cancers, so it's important to think of them as separate types of skin cancers.

Basal cell carcinomas and squamous cell carcinomas are the main types of non-melanoma skin cancers.

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Most basal cell carcinomas (BCCs) and squamous cell carcinomas (SCCs) occur in older people, over the age of 65. BCCs are directly related to sun exposure and are usually easily treated. SCCs are related to smoking, too much alcohol, and a weak immune system (such as being on chemotherapy or other medicines that suppress the immune system). They are harder to treat than BCCs but can still usually be treated well.

BCCs and SCCs are very different to melanoma and should not be confused.

## Who gets basal cell carcinoma and squamous cell carcinoma of the skin?

BCCs and SCCs become more common with increasing age. Over 7 in 10 cases occur in people over the age of 60. Over 60,000 people in the UK develop a BCC or SCC each year. (BCC is the most common type of cancer of all.) They are rare in children. BCC is the most common skin cancer in white and fair-skinned people. SCC is the second most common skin cancer in white and fair-skinned people.

## What causes basal cell carcinoma and squamous cell carcinoma of the skin?

A cancerous tumour starts from one abnormal cell. The exact reason why a cell becomes cancerous is unclear. It is thought that something damages or alters certain genes in the cell. This makes the cell abnormal and multiply out of control.

### Sun damage to skin

A BCC typically develops on a sun-exposed area of the skin such as the scalp and face. The main risk factor for a BCC is sun exposure.

People most at risk of skin damage are people with fair skin. In particular, those with skin which always burns and never tans, red or blond hair, or green or blue eyes. Dark-skinned people rarely develop BCC or SCC, as they have more protective melanin in their skin.

Someone who works outside a lot, like a gardener, is at risk of getting a BCC in later life; or someone with pale skin who has lived in a very sunny part of the world, like Africa.

SCCs can also be brought on by too much sun exposure, but they are also caused by other things like smoking, excessive alcohol or being on **immunosuppressant medication**. If someone has received an organ transplant and is on medications that suppress the immune system, they are at a higher risk of developing an SCC later in life. A bad knock or injury in an elderly person, like banging their leg on a wall, can cause an SCC to develop in the injured skin.

### Other risk factors

Other factors which increase the risk of developing an SCC or BCC include the following:

- A family history of skin cancer. This may be related to the fact that you may inherit fair skin which is more easily sun-damaged but other genetic factors may play a part in some cases.
- Using sunbeds or similar tanning machines which emit UV light.
- If you have a **solar keratosis** (actinic keratosis). This is a small, rough bump which develops on the skin. It is caused by a lot of exposure to the sun over many years.
- If you have already had a previous skin cancer.
- Occasionally, a skin cancer can develop on an area of skin previously damaged with a burn, scar, a long-standing sore, persistent inflammation, X-ray exposure or certain chemicals (such as arsenic or creosote).
- A weakened immune system. For example, if you take immunosuppressant medication following an organ transplant.
- Some rare inherited disorders, which are associated with an increased risk, such as **albinism**, **xeroderma pigmentosa**, Gorlin's syndrome and Bazex syndrome.

## Basal cell carcinoma and squamous cell carcinoma symptoms

Always see your doctor if you develop an abnormal lump or patch of skin which does not go away within a few weeks.

### Basal cell carcinoma (BCC)

A BCC typically develops on a sun-exposed area of the skin such as the scalp or face. However, they 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. They usually grow very slowly and it can take many months for one to grow to a centimetre or more. They are not usually painful.

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 crater with a raised edge. BCCs very rarely spread (metastasise) to other parts of the body. However, untreated they 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.

This photo shows a small BCC just below and to the left of a man's nose. You can see how it isn't very noticeable and many people ignore small BCCs before seeing a doctor.



By Skarmoutsos V (Own work) via Wikimedia Commons

This photos shows a basal cell carcinoma in the same place, just under and to the left of the nose, but in a much more advanced state. The size of this BCC makes surgery more difficult.



Image source: Open-i (S Chung) - see Further reading reference below

### **Squamous cell carcinoma (SCC)**

An SCC typically develops on the face - most commonly on or around the ears or lips. But, again, 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. Unlike BCCs, SCCs are painful.

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.

**Bowen's disease** is a condition which is thought to be a very flat early pre-cancerous SCC. It looks like a red-brown, scaly patch which may resemble psoriasis or eczema. If untreated, it may become a true SCC.

This image shows a SCC on the tip of someone's nose. Note how it has ulcerated and looks more angry than a BCC.



By US government, with derivative work by James Heilman, via Wikimedia Commons

## How is basal cell carcinoma or squamous cell carcinoma diagnosed?

Skin specialists are adept at diagnosing BCCs and SCCs. Most family doctors are able to recognise a BCC and possibly an SCC, or at the very least be aware that a specialist opinion should be sought. The initial suspicion is based on the way a BCC or an SCC looks. Some dermatologists use a dermatoscope, a handheld microscope, to help with the diagnosis.

### Biopsy

A small sample (biopsy) of tissue can be taken from a suspicious lump on the skin. This is looked at under the microscope, which can confirm the diagnosis. If the skin lump is small, the whole lump may be removed and then looked at under the microscope (an excisional biopsy). This may diagnose and cure the problem at the same time.

### Further tests

No further tests are usually needed for a BCC or an SCC which is diagnosed when it is small. If a doctor suspects that there has been some spread from an SCC to other parts of the body then further tests such as X-rays, blood tests or scans may be advised.

## What is the treatment for basal cell carcinoma or squamous cell carcinoma of the skin?

### Treatment for small skin cancers

Most cases are diagnosed when the skin cancer is still quite small. Depending on the site, size and depth of the tumour, one of the following treatments may be used:

- A common treatment is a simple operation done under local anaesthetic to cut out the cancer. The edges of the normal skin are then stitched together.
- Cryosurgery. This is a freezing treatment with liquid nitrogen which destroys cancer cells.
- Photodynamic therapy. This is a special kind of light therapy which kills cancer cells.
- Chemotherapy creams are sometimes placed on skin cancers to kill cancer cells. These are usually either 5-fluorouracil (5-FU) or imiquimod.
- Mohs' micrographic surgery is done in some situations. In this technique, the tumour is removed piece by piece. Each piece is looked at under the microscope straightaway for cancer cells. Further pieces are removed until no cancer cells are seen. The aim is to remove all the cancer but to remove as little healthy tissue as possible.

### More extensive surgery is needed in some cases

If the skin cancer is larger then a more extensive operation may be required. This may need a general anaesthetic. For example, if a large area of affected skin is cut away you may need plastic surgery to place a skin graft over the wound.

If an SCC has spread to the nearby lymph glands (nodes) then an operation to remove these glands may be advised.



## Other treatments

**Radiotherapy** is sometimes used as an alternative to surgery. For example, if the area covered by the cancer is large, if the site is difficult to operate on or if an operation cannot be done for any other reason. Radiotherapy is a treatment which uses high-energy beams of radiation which are focused on cancerous tissue to kill cancer cells.

If an SCC has spread to lymph nodes or other areas of the body, radiotherapy and/or **chemotherapy** may be used to treat the secondary cancers.

## What is the outlook?

The outlook (prognosis) for almost all BCCs is that they can be treated and cured, mostly with a simple operation or other simple technique. They don't spread to other parts of the body. Most SCCs can also be treated and cured, as most are treated before there has been any spread to other parts of the body. Treatment is less likely to be curative if there has been any spread to other parts of the body.

**Note:** people who have one skin cancer have an increased risk of developing another one in the future.

## Can BCCs and SCCs be prevented?

For BCCs, standard sun-protection advice can help prevent them. Avoiding the sun at its peak in midday, using sun cream, avoiding getting sunburnt and never using tanning booths can all help.

For SCCs, general sun protection advice is a good idea, but trying to prevent SCCs probably depends more on a generally healthy lifestyle: no smoking, and drinking in moderation. If you are taking immunosuppressant medication then you should report any growths in your skin to your doctor.

See the separate leaflet called [Preventing Skin Cancer](#) for more details.

## Further reading & references

- [Guideline on the Treatment of Basal Cell Carcinoma](#); European Dermatology Forum (2012)
- [Multi-professional guidelines for the management of the patient with primary cutaneous squamous cell carcinoma](#); British Association of Dermatologists (2009)
- [Chung S](#); Basal cell carcinoma. Arch Plast Surg. 2012 Mar;39(2):166-70. doi: 10.5999/aps.2012.39.2.166. Epub 2012 Mar 14.

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