

Squamous cell carcinoma of the skin

Squamous cell carcinoma (SCC) is a common type of skin cancer. It is derived from squamous cells, the flat cells that make up the outside layers of the skin, the epidermis. These cells are keratinising i.e., they produce keratin, the horny protein that makes up skin, hair and nails. Invasive SCC refers to cancer cells that have grown into the deeper layers of the skin, the dermis.

What does SCC look like?

Invasive SCCs are usually slowly-growing, tender, scaly or crusted lumps. The lesions may develop sores or ulcers that fail to heal.

Most SCCs are found on sun-exposed sites, particularly the face, lips, ears, hands, forearms and lower legs.

They vary in size from a few millimetres to several centimetres in diameter. Sometimes they grow to the size of a pea or larger in a few weeks, though more commonly they grow slowly over months or years.

Squamous cell carcinoma



More images of squamous cell carcinoma ...

- [SCC on the face](#)
- [BCC on the lip](#)
- [SCC on the nose](#)
- [SCC on the ear](#)

- SCC on the limbs

Other types of SCC

When the cancerous cells are confined to the epithelium (outside layers of the tissue), the lesion is called SCC in situ. SCC in situ of the skin, intraepidermal SCC, is also called Bowen disease. SCC in situ of mucosal surfaces includes:

- Oral leukoplakia
- Vulval intraepithelial neoplasia
- Penile intraepithelial neoplasia
- Bowenoid papulosis

There are some special types of invasive SCC of the skin:

- Keratoacanthoma – a rapidly growing keratinising skin nodule that may resolve without treatment.
- Carcinoma cuniculatum ('verruccous carcinoma'), a slowly-growing warty tumour found on the sole of the foot.

Carcinoma cuniculatum



Types of invasive SCC of mucosal surfaces include:

- Vulval cancer
- Oral cancer

What is the cause of SCC?

The majority of invasive cutaneous SCCs are due to exposure to ultraviolet radiation, which damages the DNA of fair-skinned individuals. SCCs most often arise within solar keratoses, and less often within Bowen's disease. Other risk factors for invasive SCC include:

- Inherited predisposition to skin cancer.
- Smoking – especially SCC of the lip.
- Thermal burn scars.

- Longstanding leg ulcers.
- Immunosuppression from drugs such as ciclosporin or azathioprine, especially in organ transplant recipients.
- Infection with human papillomavirus (HPV), the cause of viral warts, genital warts, and many mucosal SCCs. It is the cause of carcinoma cuniculatum but rarely causes other forms of cutaneous SCC.

Treatment of invasive SCC

The treatment for SCC depends upon its size and location, the number to be treated, and the preference or expertise of the doctor.

Patients with larger or aggressive lesions, or one in a difficult site, may first require imaging with ultrasound, CT or MRI to determine the extent of the tumour and to look for metastases in the regional lymph nodes or elsewhere.

Surgery

Invasive SCCs are usually excised, i.e., a full thickness surgical procedure to cut out the lesion completely. Mohs micrographic surgery may be necessary for large, ill-defined, deep or recurrent tumours.

After excising a large tumour, the dermatologic surgeon or plastic surgeon may create a flap or graft to repair the defect.

Radiotherapy

Radiotherapy or radiation treatment refers to treatment using X-rays. It is sometimes used for high risk primary skin cancers on the face and for metastatic disease.

What happens after treatment?

Treatment is usually curative. Occasionally, SCC recurs at the same site, requiring further treatment with surgery or radiotherapy.

Patients with SCC are at increased risk of developing further SCCs. They are also at increased risk of other skin cancers, especially basal cell carcinoma and melanoma. Arrange a complete skin examination from time to time. Ask your dermatologist or GP to check any persisting or growing lumps or sores or otherwise odd-looking skin lesions. Early detection means easier treatment, and less scarring.

Protect your skin from excessive exposure to the sun. Stay indoors or under the shade in the middle of the day. Wear covering clothing. Apply broad spectrum sunscreens to exposed skin if you are outdoors for prolonged periods, especially during the summer months.

Metastatic SCC

Unfortunately, about 5% of SCCs metastasise, i.e., spread to other sites of the body. Metastasis is most likely if the original SCC was on the lip or ear; or if it was large, deeply invading or involving nerve fibres (perineural spread). The risk of metastasis is increased if the immune system is functioning poorly, as in the following situations:

- Organ transplantation
- Chronic lymphocytic leukaemia
- Advanced age
- Alcoholism
- Multiple skin cancers
- Genetic defect in skin repair e.g., xeroderma pigmentosum

In 80% of cases, the metastases develop in the nearest lymph glands. Metastases are more difficult to treat than the original skin lesion.



Many thousands of New Zealanders are treated for SCC each year, and about 100 die from their disease.