



KATARZYNA MACKENZIE

PLASTIC SURGEON

## Squamous Cell Carcinoma

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Squamous cell carcinoma (SCC) is the second most common skin cancer. It is sometimes called cutaneous squamous cell carcinoma (cSCC) to differentiate it from very different kinds of SCCs elsewhere in the body.

It can often appear as a firm pink lump with a rough or crusted surface. It is more common on sun exposed areas such as the head, ears, neck and back of the hands. It can metastasize elsewhere and must be treated early. 1 in every 770 New Zealanders develops SCC each year.

Length of surgery	30-90 minutes
Anaesthesia	General or local anaesthetic
Hospital stay	Day case
Risks/complications of surgery	Frequent: Swelling, bruising Infrequent: Infection, unsightly scarring, bleeding (haematoma), wound healing problems, permanent numbness, incomplete excision, flap/graft loss
Recovery	5 days facial sutures removed 2 weeks body sutures removed 2-4 weeks until swelling disappears 2-4 weeks until return to gym and other strenuous activities 12 weeks until final result – scars continue to improve over the next 12 months
Driving	1-7 days
Follow up	2 weeks, 6 weeks, 3 months
Duration of results	Permanent unless recurrence

## What is cutaneous SCC?

Cutaneous squamous cell carcinoma (cSCC) is a common type of non-melanoma skin cancer. It is derived from cells within the epidermis that make keratin — the horny protein that makes up skin, hair and nails.

## What are the risk factors for cSCC?

The main risks factors for developing cSCC are:

- Cumulative sun exposure
- Older age
- Gender-more common in male patients
- Fair skin, blue or green eyes, blond or red hair
- Previous skin cancer
- Actinic keratosis
- Ionizing radiation
- Immunosuppression
- Chronic inflammation
- Scars & chronic wound (Marjolin's ulcer)
- Chemical-arsenic exposure, smoking, hydrocarbons
- Family history

## Who is more likely to develop cSCC?

The following groups of people are at greater risk of developing the SCC:

- Immunosuppressed patients
- Organ transplant patients
- People who have had significant cumulative ultraviolet light exposure
- People susceptible to sunburn
- People with UV-sensitive skin conditions such as albinism and xeroderma pigmentosum

## What are the clinical features of cSCC?

SCC can vary in their appearance, but most usually it appears as:

- Scaly or crusty raised area of skin with a red, inflamed base
- Hard plaque or a papule

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- May look like warts
- May be painful or tender
- Can bleed, especially from the lip
- May ulcerate
- Grows over weeks or months
- Vary in size from few millimetres to several centimetres in diameter
- In addition to the signs of SCC listed above, any change in a pre-existing skin growth, such as an open sore that fails to heal, or the development of a new growth, should prompt an immediate review

## Which precancerous lesions can lead to cSCC?

**Actinic keratosis-** rough, scaly, slightly raised lesions -found on sun-exposed areas of the body, most often in older people. They can range in colour from brown to red. 2-10% of untreated AK advance to cSCC. AKs are often palpable before becoming visible-can be felt by running the fingers over sun-exposed areas. The rough texture that feels different from surrounding healthy skin can provide an early sign of their development.

**Actinic cheilitis-** form of actinic keratosis which occurs on the lower lip, causing it to become dry, cracked, scaly and pale or white. If not treated promptly, actinic cheilitis can lead to squamous cell carcinoma on the lip. If the lips are frequently chapped or burning, you may have actinic cheilitis.

**Bowen's disease-** early, noninvasive (in situ) stage of SCC. It appears as a persistent red-brown, scaly patch that may resemble psoriasis or eczema. Associated with arsenic compound and HPV and It may occur anywhere on the mucocutaneous surface of the body.

## How is cSCC diagnosed?

Diagnosis of cutaneous SCC is based on clinical features. To confirm the diagnosis, a small piece of the abnormal skin (a biopsy), or the whole area (an excision biopsy), is removed under a local anaesthetic and sent to a pathologist to be examined.

Patients with high-risk SCC may also undergo staging investigations to determine whether it has spread to lymph nodes or elsewhere.

## How can cSCC be treated?

If caught early, most squamous cell carcinomas are curable and cause minimal damage. However, the larger and deeper a tumor grows, the more dangerous and potentially disfiguring it may become, and the more extensive the treatment must be.

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The treatment used will depend on the type, depth of penetration, size and location of the cSCC, as well as the patient's age and general health.

Surgery is usually the recommended treatment. This involves removing the SCC with a margin of normal skin around it, using a local anaesthetic. The skin is then closed with stitches or defect is reconstructed with a local flap or skin graft.

Sometimes other surgical methods are used such as:

## **Curettage and cautery**

It is reserved for low risk and small lesions. This involves scraping the SCC away under local anaesthetic. It is not recommended for any invasive or aggressive SCCs, those in high-risk or difficult sites, such as the eyelids, genitalia, lips and ears, or any other sites (especially those around the face) that would be left with cosmetically undesirable results, since the procedure leaves a sizable, hypopigmented scar.

## **Cryotherapy (freezing)**

It is reserved for small, low risk superficial SCC. The tumor tissue is destroyed by freezing it with liquid nitrogen, using a spray device. Later, the lesion and surrounding frozen skin may blister or become crusted and fall off, usually within weeks. The procedure may be repeated several times at the same session to help ensure destruction of all malignant cells. Redness, swelling, blistering and crusting can occur following treatment, and in dark-skinned patients, some pigment may be lost. It has a lower overall cure rate than the surgical methods. It is not used for invasive SCC because it may miss deeper portions of the tumor and because scar tissue at the cryotherapy site might obscure a recurrence.

## **Topical anti-cancer ointments**

5-fluorouracil (5-FU) and imiquimod are used for treatment of actinic keratoses and superficial basal cell carcinomas, and sometimes used off-label for superficial squamous cell carcinoma. Should not be used for invasive SCC. Imiquimod stimulates the immune system to produce interferon, a chemical that attacks cancerous and precancerous cells, while 5-FU is a topical form of chemotherapy that has a direct toxic effect on cancerous cells. Treatment is normally applied for 3–6 weeks and can take up to 12 weeks to fully settle down.

## **Photodynamic therapy**

It may be used for some superficial SCCs on the face and scalp but is not recommended for invasive SCC.

## Radiotherapy

It is reserved for patients in whom surgery is not feasible and as an adjuvant therapy for those with metastatic or high-risk cutaneous SCC.

## Combined treatment

For advanced SCC, a combination of treatments may be used. For SCC that has spread to other parts of the body a combination of surgery, radiotherapy, immunotherapy and/or chemotherapy may be used. That is discussed by a multidisciplinary team of specialists.

## What is involved in the operation?

Usually this surgery is carried out under local anaesthesia or under general anaesthesia if it is more extensive or in a difficult location. The procedure can take between 30 and 90 minutes depending on the extent of surgery. Multiple lesions can be removed at the same time.

The skin lesion is removed with a margin of normal appearing skin around to ensure that it is fully removed. The size of this margin is usually in the region of 3 to 4 mm but for some skin cancers can be up to 2 cm. This will depend on the exact type and size of the skin cancer. The lesion will be sent away to be examined by pathologist.

The skin is usually stitch together directly or a local flap or a skin graft is required to reconstruct the defect. A local flap involves moving skin from the surrounding area in a carefully planned way so that the wound can close nicely. The borrowed skin is then stitched in place. A skin graft involves transferring skin from one area to another to heal the wound. The skin graft is then stitched into its new position. Where it is taken from (the donor site) is either stitched together or allowed to heal from the remaining bottom layer of skin depending which type of skin graft is used.

Dr Mackenzie will apply a dressing to the operation site, which will need to be left in place for a few days. You will be given additional dressings as required, and any appropriate post-operative medication will be prescribed.

## What can you expect after the operation?

As the local anaesthetic wears off, the operation site may feel sore. Painkillers such as paracetamol will help.

You should take it easy for the first few days and take special care not to bump or knock the operation site. If you have had a lesion removed from your face, it may be helpful to sleep using some extra

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pillows as this will help to reduce swelling and bruising. If the skin lesion was on your arm or leg, it is best to try to elevate the limb as much as possible for the first few days.

You should not apply make-up to the operation site until you have had your stitches removed.

You need to keep the wounds dry for 48 hours. You can shower then and gently dab the wounds dry. You may use a hairdryer on a cool setting to speed up drying. In the face, stitches will need to be removed between 5 and 7 days following surgery. When possible elsewhere on the body, Dr Mackenzie uses absorbable sutures, which do not need to be removed. If she has to use non-absorbable sutures, they will need to be removed between 10 and 14 days following surgery. It is usual to have some swelling and bruising in the area in the early stages.

A skin graft will usually be left undisturbed for 5 to 7 days and will have a dressing on it that will need to be kept clean and dry until then. If you had a split thickness skin graft, a well-padded dressing will be placed on the donor site as this may ooze for a few days. Unless problematic, this dressing should be left undisturbed until your follow up appointment.

It is usually possible to return to light activities the next day but strenuous activities will need to be avoided for about 2-4 weeks.

The area is usually healed in 2 to 3 weeks but the scar will continue to strengthen and then to soften and fade for 12 to 18 months afterwards.

## What is the follow up for cSCC?

Some people will only need follow up appointments for 6 months. While others might have appointments every 3 to 6 months for 5 years.

Dr Mackenzie will tell you what type of squamous cell carcinoma you have had removed. Patients who have had a 'well differentiated' SCC only need to be followed up for a short period of time as there is a low risk of these returning if they have been removed with a suitable margin of safety.

If it is 'moderately' or 'poorly differentiated', you will be followed for a few years. At each visit Dr Mackenzie will check the area of your body where the tumour was removed from, as well as examining the nearest lymph glands to check for any sign of tumour cells having spread and formed a lump that can be felt in clinic. If a lump is found, biopsy (FNA) will be organized.

## What are the complications of skin cancer surgery?

In general, this operation is safe. Nevertheless, no surgery is without risk. All general anaesthetics carry risks such as deep vein thrombosis and chest infection but with modern anaesthetic techniques, these are minimised. The most common complications include:

- Bleeding- holding firm pressure for 10 to 15 minutes with a clean towel or tissue is usually sufficient to stop this. If this is more than expected, please contact the hospital or clinic so that you can be advised or assessed
- Delayed wound healing
- Infection-if inflamed or ulcerated, Dr Mackenzie will prescribe antibiotics
- Poor scarring- they may be red or raised or lumpy or stretched than expected and further treatments will be recommended
- Partial or complete loss of a skin graft or skin flap- if part or all of the transferred tissue is lost, it may mean a longer time with dressings on the wound or occasionally further surgery to remedy the problem and heal the wound quicker
- Incomplete excision-we can see the cancer cells with a bare eye. Sometimes microscopically there are some cancer cells at the edge of the skin cancer excised. Dr Mackenzie will normally recommend a further procedure in this instance to completely treat the skin cancer and reduce the risk of it recurring

## How can cSCC be prevented?

Sun protection and being sun-smart reduces the risk of cSCC and is especially vital for high risk patients. The following preventative measures will help to reduce the risk of cSCC:

- Always wear sunscreen- at least SPF30+, should be broad spectrum (blocking both UVA and UVB radiation). Should be applied 15-30 minutes before going outside and then again immediately before going outside. Sunscreen needs to be reapplied regularly during the day (2-hourly in sunny weather, otherwise 3 to 4-hourly)
- Daily application to the face and hands regardless of your intended activities should be considered
- Avoid sun exposure-remain indoors or in shade during the middle of the day, between 11 am and 4 pm, when UV radiation levels are at their highest
- Cover up well- protect your skin with clothing, and don't forget to wear a hat that protects the face, neck and ears, and sunglasses
- Sunbeds and sunlamps should be avoided
- Don't get sunburn
- Keep newborns out of the sun
- Regularly checking your skin for signs of skin cancer can help lead to an early diagnosis and increase your chances of successful treatment

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- It's also important to be aware that if you've had a non-melanoma skin cancer, your risk of developing another one in the future is increased therefore regular skin check-ups are recommended