



# Dermatologic Surgery



Changi  
General Hospital  

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SingHealth

## Dermatologic surgery

The skin is the largest organ of the human body. It is susceptible to a wide variety of diseases, damage from the environment, and the body's ageing process.

The severity and appearance of skin problems vary considerably. Most of them can be removed or improved with minimal pain and risk in a dermatologist's office.

## Reasons for skin surgery

**Dermatologists may perform skin surgery for the following reasons:**

- ▶ To establish a diagnosis with a skin biopsy
- ▶ To treat both benign and cancerous skin tumours
- ▶ To improve the cosmetic appearance of the skin

A change in a skin lesion can sometimes indicate a serious problem. Consult a dermatologist if a skin lesion becomes larger, changes colour or develops an irregular border. Other warning signs that warrant medical attention include itching, crusting, pain and bleeding.

## Types of skin cancer

**Skin tumours may be benign (non-cancerous) or malignant (cancerous)**

### Basal cell cancer

Of the three main types of skin cancer, the most common and least serious is basal cell cancer. Typically, it appears as a shiny, small lump on sun-exposed areas of people who have spent a lot of time outdoors. If left untreated, basal cell cancer tumours will gradually increase in size and depth. With time, basal cell cancers may bleed, ulcerate or become crusted.

## Squamous cell cancer

Squamous cell cancer is usually not life-threatening, although it may spread to other parts of the body. It may present as a lump, an ulcer or a red scaly growth. Squamous cell carcinomas may be painful, bleed or become crusted.

## Malignant melanoma

Malignant melanoma is the least common but most serious form of skin cancer. It appears as a dark brown or black mole with uneven borders and irregular colour, in shades of black, blue, red or white. Malignant melanoma occurs most commonly on the upper back of both men and women and on the lower legs of women. It can also develop on the face and other areas of the body such as the nails. There is a rare form of melanoma that occurs in families with atypical moles. These individuals may have many unusual moles, some of which may need to be removed.

## Treatment for skin cancer

Treatment of skin cancer varies according to the type, location, extent and aggressiveness of the cancer and the patient's overall health. In most cases, the dermatologist will biopsy a small piece of the abnormal tissue. A trained doctor will then examine the tissue to ascertain its nature.

Malignant tumours require further treatment for complete removal. These can be performed in the skin clinic or at the day surgery operating theatre.

## Biopsy

Biopsy means to remove a small piece of the skin for examination under the microscope to confirm the diagnosis.

## Cryosurgery

Cryosurgery involves the use of a machine that sprays liquid nitrogen directly onto the skin, or contacts the skin with an instrument, which freezes the cancerous tissue. Freezing can destroy cancer cells and wound healing will occur with minimal scarring.

## Curettage and electrosurgery

Curettage and electrosurgery involves scraping away the malignant tissue with a sharp surgical instrument called a curette. An electrosurgical machine is then used to control the bleeding and destroy any remaining cancer cells.

## Topical chemotherapy

Topical chemotherapy involves the application of a chemical (5-fluorouracil or imiquimod) to the skin to destroy pre-cancerous growths or certain superficial skin cancers.

## Photodynamic therapy

Photodynamic therapy is a technique used to treat certain superficial skin cancers or a field of pre-cancerous change. A cream is first applied to the area to be treated. A special light is then used to irradiate the area and activate the cream. The interaction of light and the cream helps to destroy abnormal cells in the skin.

## Surgical excision

Excision involves removing a skin tumour with surgery and closing the wound with stitches. Sometimes a skin graft or skin flap may be needed to repair the wound.

## Mohs micrographic surgery

Mohs micrographic surgery is a specialised technique of removing skin cancer that involves the removal of the skin tumour in stages. The skin cancer is first removed in a thin layer and the layer of skin is carefully examined to see if there are any remaining tumour cells. Removal of a further layer is required if residual cancer cells are detected. Removing the skin cancer cells in layers helps to ensure that the least amount of healthy skin around the skin tumour is removed, allowing for maximal tissue preservation. It also provides a higher reported cure rate than conventional surgical excision.

## Radiation therapy

Radiation is delivered in fractionated doses over a few weeks to destroy the skin tumour. This is often done for selected individuals for whom surgery is not possible.



## Improving the skin's appearance

Many lesions that occur on the skin, such as sun spots, birthmarks, moles, warts, wrinkles and scars can be eliminated or at least improved by an appropriate dermatological surgical procedure.

### Age or sun spots

Age or sun spots are large freckles which develop on sun-exposed areas. They can be minimised by using sunscreens, and respond well to treatment with creams, lasers, cryotherapy or chemical peels.

### Moles

Moles are removed if there is a suspicion of skin cancer or to improve appearances. They are usually removed by surgery.

### Warts

Warts can be treated with cryotherapy, curettage and electrosurgery or lasers.

## Blood vessels

Prominent blood vessels on the skin can be eliminated by electrosurgery or lasers.

## Scars

Scars resulting from acne, chickenpox, trauma or previous surgery may be improved by lasers or surgery. Raised scars such as keloids can be improved with corticosteroid injections. Depressed scars may benefit from subcision or filler injections.

## Wrinkles

Wrinkles and facial lines can be improved with lasers, botulinum toxin injections, chemical peels or dermal fillers. These methods can also be used to restore a more youthful appearance.

## Actinic keratoses

Actinic keratosis may sometimes develop into squamous cell cancer. They are usually treated with cryosurgery, curettage and electrocautery, topical chemotherapy or photodynamic therapy.

## Seborrhoeic keratoses

Seborrhoeic Keratoses are raised, tan or brown benign growths. They can become irritated and may be removed by cryosurgery, electrosurgery, lasers or surgery.

## Cysts

Cysts are harmless, sac-like growths in the deeper layers of the skin that can become inflamed or infected. Treatment involves surgical removal of the cyst.

## In the skin clinic

During the patient's clinic visit, the dermatologist will discuss the person's medical history, examine and diagnose the skin problem, explain what could happen if it is not treated and then describe treatment options and follow-up care.

In most cases, the dermatologist will select and carry out the appropriate treatment procedure at the same visit. However, if the examination indicates a likelihood of cancer, the dermatologist may take a biopsy and schedule the patient for surgery at a later date.

Typically, consultations are required before cosmetic surgical procedures are performed. During the consultation, the dermatologist will explain the procedure and outline any potential post-operative side effects or discomfort, as well as address any other queries or concerns.



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2 Simei Street 3 Singapore 529889

Tel: 6788 8833 Fax: 6788 0933

Reg No 198904226R

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