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**treated effectively**  
if diagnosis is made at an early stage

## TREATMENT APPROACHES FOR NON-MELANOMA SKIN CANCERS (NMSC): WHAT ARE THE OPTIONS?

### Background Information

#### TREATMENT OF BASAL CELL CARCINOMA AND ACTINIC KERATOSIS

##### Photodynamic Therapy (PDT)

Photodynamic Therapy is among the newer treatments for non-melanoma skin cancers. Photodynamic therapy involves the topical application of a light sensitive substance followed by its activation through illumination with a specific light source. The technique is very specific, targeting tumour cells only, and sparing healthy tissue. Comparative trials with the standards of treatment and recent five year data in BCC reinforce the long term efficacy and reliability of photodynamic therapy and its place as a standard treatment for AK, BCC and Bowens. The non-invasive nature and excellent cosmetic results are key features of this therapy.

##### Cryotherapy

Cryotherapy is currently the most widely used treatment for AK and occasionally for superficial BCCs. It tends to be used when there is a small number of lesions. Tumour and surrounding healthy tissue is destroyed by freezing. It is most often performed using the open-spray technique.

##### Surgical approaches

- **Curettage** – The scraping away of a superficial skin disorder, usually with a scalpel or a curette. When this scraping is done, the curette is used to remove the base of the lesion.
- **Elliptical excision** – When optimally done, surgery can offer excellent results, both medically and cosmetically. However, the technique requires considerable skill. A safety margin of healthy looking tissue is also included in excision. Closing and suturing the wound requires a high degree of skill, which can make a difference to the scar's visibility later.
- **Excision and reconstructive surgery (flaps or grafts)** – The need for reconstructive surgery depends on the size, nature and site of the tumour, as well as the number of previous attempts to remove the cancer: when there have been many recurrences, extensive disfigurement is possible.
- **Mohs' micrographic surgery** – Mohs' surgery has the highest cure rate for primary BCC and SCCs. Mohs' surgery is very precise. Instead of removing the whole clinically visible tumour and a large area of normal appearing skin around it, the Mohs' surgeon removes the minimum amount of healthy tissue around the cancer. Thin layers of tissue are systematically excised and examined under a microscope for malignant cells. When all areas of tissue are tumour free, surgery is complete. Mohs' surgery saves the greatest amount of healthy tissue and reduces the rate of recurrence but is extremely expensive.

##### Radiotherapy

Several types of radiotherapy are used in the treatment of skin lesions:

- **Superficial contact therapy**
- **Conventional radiotherapy**
- **Interstitial brachytherapy**



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## Topical Therapies

- **5-fluorouracil:** The cytotoxic agent, 5-fluorouracil (5FU), is applied directly to the skin to treat small superficial lesions. It is particularly used for AK, but can also be used for superficial BCC. This agent acts by interfering with DNA synthesis in abnormal cells and preventing cell division. 5FU cream is applied to the affected and surrounding normal skin twice-daily after washing. It is generally applied for two to eight weeks during which time erosion, necrosis and ulceration of the lesion occurs. The pain, itching and inflammation vary from patient to patient and can be quite severe. Side effects include irritant dermatitis, soreness, swelling, scaling, and distended blood vessels. Patients who have been treated with 5FU are advised to stay out of the sun, as UV light can enhance the response.
- **3% Diclofenac gel:** Diclofenac is a non-steroidal anti-inflammatory NSAID agent available for the treatment of AK lesions only. The mechanism of action of this agent has not yet been clarified. It is applied locally to the skin two times daily. The usual duration of therapy is from 60 to 90 days. Most frequently reported reactions include localised skin reactions such as contact dermatitis, erythema and rash or application site reactions such as inflammation, irritation, pain and blistering. Direct sunlight should be avoided during treatment. The long term efficacy of this therapy has not been established.
- **5% Imiquimod cream:** Imiquimod is a topical immune modulator, the mechanism of action of which is also unclear. It is available for the treatment of AKs and sBCC in the US and Australia, and for the treatment of small sBCC in Europe. It is applied to the affected area and surrounding skin five times per week for six weeks for the treatment of sBCC and two to three times a week for 16 weeks for the treatment of AK. During therapy and until healed, affected skin is likely to appear noticeably different from normal skin. Local skin reactions are common, such as burning, irritation, pain, erythema and scabbing.

## Abbreviations

**AK** actinic keratosis  
**ALA** aminolevulinic acid  
**BCC** basal cell carcinoma  
**sBCC** superficial basal cell carcinoma  
**nBCC** nodular basal cell carcinoma  
**CR** complete response  
**MAL** methyl-aminolevulinate  
**PDD** photodynamic diagnosis  
**PDT** photodynamic therapy  
**PAP** photoactive porphyrin  
**PR** partial response  
**ROS** reactive oxygen species  
**SCC** squamous cell carcinoma