

**Dr. Rick Wilcox**

Coogee Skin Cancer Clinic

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## **SOLAR (Actinic) KERATOSES (SK'S/AK'S)**

### **& FIELD DIRECTED TREATMENT**

Chronic sun damaged skin often has hyperkeratitic lesions. These lesions are crusty and may be precursors for Squamous Cell Carcinomas (SCC's). There are a number of ways to treat these lesions.

If they are isolated, and there are only a few of them, we can treat them with Liquid Nitrogen Cryotherapy. The SK is sprayed with frozen gas liquid nitrogen (LN). The LN causes a frost-bite type burn to the skin. When the frozen skin thaws out, the pre-cancer SK cell ruptures. The skin usually blisters and flakes off in a couple of days. The LN feels like a burn. It's not very sophisticated; it's a bit like stubbing a cigarette out in the SK. It can burn the pigment out of the skin and leave a scar. It's OK for a few isolated lesions.

#### **Field Directed Therapy**

The concept of field pre-cancerisation is gaining acceptance amongst many skin cancer doctors. This refers to widespread skin damage and potential pre-cancerisation to a wide anatomical area such as a whole limb like a forearm and hand or the whole face including forehead, temples, cheeks, nose and scalp. In this situation it may not be appropriate to use LN as it will entail a great number of painful burns.

I use the bush fire analogy. Using LN spray to isolated lesions is like putting out spot bush fires. It may help cure the obvious lesion but it doesn't do anything for the underlying problem. To carry the bush fire analogy through what we need is some 'back-burning' to get rid of the underlying fuel load. This 'back burning' is the Field Directed Therapy (FDT).

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FDT entails using a cream or lotion to the whole affected anatomical area. There are a number of different creams with different costs and varying efficacies.

Typically the creams that work best cost more (they also usually have less or at least shorter duration of the side effects).

### **Salicylic Acid 5% in Sorbolene and 10% Glycerine**

This is my first line FDT. It's cheapest and probably least effective. The salicylic acid gel is a keratolytic agent. It softens up the crusty lesions. The sorbolene and glycerine moisturises the dry skin. The skin feels soften and smoother but the underlying damage hasn't really been changed.

### **Solaraze (3% diclofenac)**

Solaraze is Voltaren in a tube. It costs \$60.00 for 25gm. You use it twice a day for 3 months. It is probably more effective than salicylic acid but not by much. It doesn't have many side effects (sometimes redness, itching and flaking) but it doesn't really do that much either.

### **Allmedic Alpha Hydroxy Acids (AHA)**

The clinic sells the Allmedic products which contain AHA. Allmedic is an Australian product which has been developed by skin cancer doctors, pharmacists and pharmacologists. It can only be purchased at skin cancer clinics. The Allmedic range can be used as a standalone product for the treatment and rejuvenation of sun damaged skin and, as the pre-treatment for Photo Dynamic Therapy (PDT).

The active ingredient of the Allmedic repair creams are AHA's. AHA's break down the bonds between dry and damaged skin cells allowing them to 'slough' off. It is used in higher concentrations by cosmetic physicians to perform a skin peel. The Allmedic Face Repair cream has 10% AHA whilst the Body Repair has 15%.

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At this concentration there isn't an obvious peel. The creams gently remove dead skin and stimulate the growth of healthy new cells. The new skin looks fresher and the creams help remove SK's.

The areas I normally use Allmedic repair creams on are; the face, arms and hands and bald men's scalps and women's sun damaged décolletage/chests. I usually recommend 4 creams which together cost \$200. These creams are the Face and Body Cleanser, Face Repair, Body Repair and Antioxidant Sunscreen. There is also an Exfoliating and an Eye Repair Cream.

The Allmedic AHA works extremely well. It is better than Salicylic Acid or Solaraze but not as inflammatory as Efudix or Aldara. It is suitable for long term use and should be used as an ongoing daily regime.

It is also used prior to PDT to prepare the skin. It helps by removing the SK's prior to illumination, so the light can penetrate the skin deeper without being reflected off or bouncing back.

### **Efudix (5 fluorouracil)**

Efudix has been around for years. It is quite a potent chemo-therapy drug in lotion form. It also costs \$60.00 for a 20 gm tube. You use it for twice a day for 1 month. It can be quite inflammatory and people often look blistered and sunburnt when they use it on their face. The rash feels hot and inflamed and usually starts after the first week of treatment and lasts until a week or so after treatment has stopped (i.e. the rash lasts a month). It works well but often people feel very uncomfortable during treatment. I often find they won't use it a second time.

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### **Aldara (Imiquimod)**

Aldara Cream is one of the newer treatments. You usually use it 3 nights a week for 3-4 weeks. It gives an inflammatory response like Efudix but not quite as bad or quite as long.

You apply it less frequently than Efudix for a shorter period of time and get as good as or better result. Unfortunately it is more expensive. 12 small sachets cost \$150. It can take 2 sachets to do one anatomical area per application (e.g. arm/head or face/scalp). That is 2 sachets a night, 3 nights a week for 4 weeks. i.e. 24 sachets or \$300 per region. Normally you need to do 3 regions (2 arms and your head) for an all up cost of \$900. Some health funds may subsidize some of the cost. The manufacturers claim that it gives a longer lasting benefit than Efudix.

None of the FDT's is a cure. Once an Actinic Kerasotes patient, always an AK patient. Using my bush-fire analogy, back burning a field should decrease the fuel load and give you a couple of trouble-free seasons, but ultimately the undergrowth will grow back and needs to be addressed again. FDT is still my preferred option for wide spread damage. It makes more sense than the 'band-aid' or spot-fire management of LN.

### **Photo Dynamic Therapy (PDT)**

PDT is the newest, probably the best and certainly the most expensive treatment. It costs \$800 per region. It is much quicker and has fewer side effects. PDT is also a cream. It is even more expensive than Aldara. The cream is applied to the whole region to be treated in our surgery. We then wait for 5 hours for the cream to be absorbed through the skin on the face. The incubation is longer for other areas. The active ingredient of the cream penetrates the skin and attaches itself to the pre-cancerous cells. This ingredient is activated by having the skin illuminated by a special lamp, in the surgery for about 30 minutes, 5 hours after application. The lamp has a red

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light and a blue light. The different lights have different wave lengths and as such, penetrate the skin to different depths. When the cream is activated by the lamp it kills the pre-cancer cell it has attached to. The lamp feels a bit like a sun lamp and makes you look sun burnt for the next couple of days. There is no UV involved, it is not actually sunburn. The redness tends to settle quicker than the inflammation from the Efudix or Aldara and most people say it is not nearly as uncomfortable.

The region will need a second illumination in about 2 weeks. This is included in the \$800 price. PDT can usually achieve the same or even better result than Aldara or Efudix. It only needs 2 applications, 2-4 weeks apart.

The inflammation isn't as bad and there is less 'down time' of having to present a red/crusty inflamed looking face in public. The down side is it costs \$800 per region vs. \$300 for Aldara vs. \$60 for Efudix, per region. Again some health funds may subsidize some of these costs.

As we view the order of the list below, an increase in effectiveness is coupled with shorter side effects.

Salicylic acid	\$15 for 100 g
Solaraze	\$60 per region
Allmedic AHA	\$200 for 4 creams
Efudix	\$60 per region
Aldara	\$300 per region
PDT	\$800 per region (Includes pre-treatment cream & two illuminations)