

How to Choose the Right Sunscreen?

There are literally hundreds of different sunscreens available, so how do you pick the right one for your client?

To recognise a good sunscreen we need to understand that sunlight has three main components.

UVA - This is the "aging" ray. UVA penetrates past the epidermis and into the dermis, damaging the support structure of the skin and causing wrinkles. UVA is present all day and can pass through glass.

If you regularly sit by a window, you may not get burnt but you are still being exposed to the skin cancer inducing and aging aspects of UVA.

UVB - This is the "burning" ray, responsible for sunburn. It peaks between 10am and 2pm.

UVC - This is almost completely absorbed by the ozone layer, and has minimal effects on the skin.

What does "broad spectrum" mean?

Broad spectrum on the label means that the product blocks both UVA and UVB rays, but don't assume that means 100 percent of the UVA and UVB is blocked out. Read the label closely, many "broad spectrum" sunblocks actually only give partial cover for UVA and UVB. You may find, in the small print that 100 percent of UVB but only 50 percent of UVA is blocked.

Look specifically for a sunblock providing 100 percent UVA and 100 percent UVB protection.

What is SPF?

SPF or Sun Protection Factor is a method of measuring the relative length of time an individual can stay in the sun without burning, compared to using no sunscreen at

all.

SPF only gives an idea of the UVB ("burning rays") protection.

For instance, if you usually start burning (level of mild redness) after 10 minutes in the sun, and you apply a sunblock with an SPF20, you will then start to burn after $20 \times 10\text{mins} = 200$ minutes or 3.3 hours.

Reapplying the sunblock at the end of 3.3 hours however does not then provide you with a further 3.3 hours protection. The effects of the sun are cumulative.

Another common error occurs with adding sunblocks together. Adding two products with an SPF of 10 each does not produce protection equal to SPF20.

I have had a number of patients using a sunscreen of perhaps SPF10, who have then applied foundation with an SPF of 8 who then believe they are well-protected with a total SPF of 18. In fact their protection would only be a maximum of 10.

In New Zealand we accept the Australian Testing Standards, which tests to a maximum of SPF30. Beyond this rating the methodology is not considered accurate. If a sunblock does still protect beyond SPF30 on testing, it is simply labelled SPF30+.

Products tested using the American standards method, however will be rated with higher SPF numbers e.g. SPF45.

Be cautious and wary about the accuracy of SPF ratings greater than SPF30.

For New Zealand conditions, look for a sunblock with a minimum SPF25.

How sunblocks work.

There are two main methods of sun protection.

1. Chemical Sunscreen:

PABA (para-amino benzoic acid) was the first patented sunscreen; developed in 1943. Today it has limited usefulness, as it blocks only UVB. There is a four percent risk of contact dermatitis.

Various organic chemicals are used which work by absorbing UV light.

Cinnimates and Salicylates both absorb UVB only. Avobenzone (Parsol-1789) absorbs nearly 100% of UVA but no UVB, so should always be combined with another agent to absorb the UVB.

2. Physical Sunscreen

The physical blocks are either Zinc Oxide or Titanium Dioxide.

These block both UVA and UVB by reflecting the sun's rays, so there is no interaction between harmful rays and the skin.

They are highly effective, providing a physical barrier between the skin and the environment. So not only is skin protected from the sun, its also protected from other damaging environmental agents (pollution,

wind, and so on).

The earliest physical sunscreen was the white Zinc Oxide once favoured by surfies. New technology has reduced the particle size to microfine (called micronised) for a more cosmetically acceptable formula.

Zinc Oxide is the only sunscreen that offers true coverage against UVA ("aging ray"). The closest competitor is Avobenzone which doesn't cover UVA completely (Dr Pinnell, Prof. Dermatology, Duke Uni, NC 1998).

Sensitive Skin

For clients with sensitive skin it is prudent to avoid the chemical screens with their risk of contact dermatitis.

Zinc Oxide is recommended by the American Academy of Dermatologists (1999 Guidelines) as an acceptable sunscreen for sensitive skin having been successfully tested on cases of extreme skin sensitivity (atopic eczema and Rosacea).

The Academy reported that even women who were unable to wear cosmetics because of sensitive skin, were able to use Zinc Oxide for broad-spectrum sun protection.

Acne Prone Skin

Both Zinc Oxide and Titanium are non-comedogenic. That sounds surprising when

you consider what effective physical blocks they are. The secret is that they are in the form of crystals, if you look under a microscope you would see overlapping layers of crystals which reflect the rays, arranged rather like fish scales. The skin can still "breathe" between the scales.

Ensure that the product is oil-free - silicone is the ideal base for a sunblock.

Silicone is classified by the FDA as a skin protectant, which prevents pollutants penetrating the skin while protecting the skin from free radicals.

Advice to Clients

As skin care professionals, the important message to pass on to your client is that the sunblock you recommend to them should be worn every day, year round.

In the summer a hat and shade should still be used, as well as using a good sunblock.

If your clients still have any doubts about the aging effects of the sun, get them to compare an area exposed to the sun (e.g. backs of hands) with an area with minimal sun exposure (e.g. buttocks). The difference is usually frightening!

If you have any questions regarding this article or would like to know more about FaceWorks Environmental Protector SPF30+, contact Teresa Cattin at Teresa@FaceWorks.co.nz.