

# Solar protection: let us make it clearer!

## Introduction

Since many years all the doctors recommend their patients to avoid the exposure to the sun, or at least to protect their skin with suitable lotions for this goal.

This responds to a very important motivation: when assumed in excess, the ultraviolet radiation provokes:

- skin cancer
- early photo aging
- wrinkles
- cutaneous hyper pigmentation of the face.

It needs to be underlined that in short time many thousands of new cases of melanoma will be diagnosed in the world, and many of these could be avoided with an accurate solar protection.

I also have to say that I think that if the solar protection products are not used with the right diligence and rigours, the aesthetic cares, in most of the cases, are less efficient: face, neck, décolleté and hands will inexorably continue to age.

Surely the most important of all the advice we, the aesthetic doctors, can give to our patients in order to prevent the aging is to protect the skin from the UVA and UVB rays.

## Goal

Protect the skin from the aggression of the ultraviolet B (UVB) and A (UVA rays. The UVB are responsible for the erythema, the immediate reddening of the skin after the exposure to the sun, while the UVA provoke a late reddening.

## Terminology (what you find written on the label)

SPF: it is the solar protection's factor expressed in degrees from 2 to more than 30. It represents the power of a product to deviate and interrupt the solar rays reducing the skin's damages.

- Minimum protection: from 2 to 12
- Average protection: from 13 to >30
- High protection: < 30

## What does it mean?

The skin will take 15 times more to turn red if it has been rubbed with a protection factor 15!! Water resistant: if it is active after 40 minutes of immersion in water.

The solar screen is applied to the volunteers that swim for the following 20 minutes, make their skin dry, swim again for other 20 minutes and make their skin dry again.

At this point the remaining protection is evaluated. Only if it is still protective it can be called water resistant.

Physical screens: they mechanically reflect the solar rays, they do not make them get to the epidermis. They are essentially the titanium dioxide (TiO<sub>2</sub>) and the zinc oxide (ZnO).

Chemical screens: they absorb the solar radiations instead of the skin. They are usually added to the physical screens to increase the protection and they can be responsible for some cutaneous reactions. I personally suggest them a little.

## **Rules of application**

The rules of applications of solar screen, from the lighter to the most protective, are fundamental in order to truly make an impression. They are fundamentally few of them:

- adequate quantity on the areas to protect (about 2 mg/cm<sup>2</sup>). It is very easy to see applications of solar screens absolutely insufficient to protect from the solar aggression, especially on the kids. The layer of the protective lotion has to be suitable on the whole epidermis.
- application of the lotion before the exposition: the solar protection is often applied on the beach. It should be always applied before starting the exposure, still at home.
- daily use: it is very important to use the solar screen with diligence, also when you take a trip in the country or in the city.

## **PASSIVE PHOTOPROTECTION**

As I said more than once, the photoaging added to the chronoaging, the one due to the age, give as result the cutaneous aging, the appearance of more marked wrinkles compared to the ones we would have had without an exaggerated exposure to the sun, the possibility of appearance of very serious cutaneous cancers as melanoma.

Also the appearance of hypermelanosis spots tightly tied to the solar exposure.

The solar screens, then, till the sun block, the total screen, represent a very important passive protection. Besides the development of free radicals is very well faced with the use of antioxidant substances such as Vit E and Vit C, substances that are often added to the commercial preparations of solar protection.

## **Passive photo protection with clothes**

The solar protection given by suitable clothes is often higher than the one given by a solar screen with SPF higher than 30!

A shirt and baseball cap will protect from the solar rays in a natural and very efficient way.

Some companies suggest clothes treated with detergents that contain absorbent UV agents, with an effect of protection even higher.

## **ACTIVE PHOTO PROTECTION**

Always more numerous studies have validated the use of the revitalization of the face, neck, décolleté and hands with vitamin, amino acidic cocktails with the addition of pure biointeractive hyaluronic acid specific for revitalization.

These substances contrast the photoinduced aging and especially they reduce the formation of free radicals developing an important detoxicant action of the skin.

## **Conclusions**

The damage that the human body suffers from an exaggerated and inadequate exposure to the sun is well documented by numerous scientific studies.