Ultraviolet (sun) blocks to prevent sunburn, premature aging of the skin (wrinkles), redness, brown spots and skin cancer:

Everybody loves a sunny day! It can lift our spirits and a tan can make our skin look better and our teeth look whiter. The sun shining on our skin is also our primary source of vitamin D. However, too much ultra violet light (UVL) from sunlight or artificial light from sunbeds can harm our skin. The most obvious and immediate harmful effect is sunburn. Sudden bursts of sunshine on the skin that is not accustomed to it (e.g. on a sun holiday or starting a session on the sunbed) can cause sunburn. As much as 70% of UVL can penetrate thin clouds, so you can sunburn even on a cloudy day. This is mistakenly called "windburn" but of course the wind can't burn you! 10% of UV rays are reflected from sand or grass, 20% from the sea and 80% from snow! The World Health Organization has identified UVL as a proven human carcinogen. Repeated or severe sunburn, even in early life, is one of the major identifiable risk factors for skin cancer, especially melanoma. Low grade chronic exposure to ultra violet light over months and years as a result of regular tanning, outdoor occupation, outdoor hobbies or living in a hot climate for a few years can also predispose to skin cancer, especially the non-melanoma skin cancers.

Another common effect of too much UVL over the years is premature aging of the skin and wrinkles. This is known as solar elastosis and can lead to thinning and sagging of the skin, especially on the exposed areas such as the face, neck and the back of the hands. Most dermatologists agree that the best prevention against wrinkles and premature aging of the skin is to protect the skin from natural sunlight and artificial UVL (sunbeds). Since sun damage is cumulative it is never too late to protect your skin ! Sun blocks with a high SPF (sun protective factor 30 or greater) will help but have to be applied generously and be reapplied frequently especially if sweating or swimming. SPF is a relative measure of how long a sunscreen will protect a person from UVB burning rays.

Assuming it is used correctly, if a person burns after 20 minutes in the sun, an SPF 30 sunscreen protects for about 10 hours (20minutes x 30 = 600minutes = 10 hours). To get the most protection, use a "broad spectrum sunscreen"—these protect against UVB *and* UVA (aging) rays. However, no sunscreen blocks 100% of UVB rays, and ultrahigh SPFs are not much more protective than SPFs of 30. SPF 15 blocks 93% of UVB rays. SPF 30 blocks 97%. The increase in protection is even more gradual after that, 98% for SPF 50 and 99% for SPF 100. So a SPF of 50 does not give double the protection of an SPF 25.

High-SPF chemical sun blocks require higher concentrations of sun-filtering chemicals than low-SPF sunscreens. Some of these ingredients may pose health risks when they penetrate the skin and have been linked to tissue damage and potential hormone disruption. SPF higher than 50 may be inherently misleading and sunscreen products are capped at "50+" in Europe, Canada and Australia. When used correctly, sunscreen with SPF values in the range of 30 to 40 will offer adequate sunburn protection, even for people most sensitive to sunburn.

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There are basically two types of sun blocks - **chemical and physical.** See Table 1 for the differences between the two. Physical sun blocks are considered safer and more effective as they have no chemicals and have a broad spectrum protecting against UVA (aging rays) and UVB (burning rays).

The **AlumierMD** range of **physical sunscreens** has no chemical filters and have been specially formulated with antioxidants which protect the skin form damaging free radicals caused by UV rays. AlumierMD sunscreens have a unique micro encapsulated colour bead technology which ensures your sunscreen is not white and pasty. Some also have an added tint and can be moisturising ("Sheer Hydration" tinted or untinted), oil free ("Clear Shield") or have a lightly moisturising matt finish to reduce shine("Moisture Matt" ivory , sand or amber tint). This range of sun blocks is imported from Canada and only available from Caroline our aesthetician or see our website www.kerryskinclinic.ie/shop where you can get more details about prices and to place an order or go straight to www.alumiermd.co.uk/join and please quote our unique clinic number: **(F8592074)**

Table 1: Sun Protective Factors (SPF)

SPF	**Physical**	**Chemical**
Mode of action	Reflecting or scattering UVR	Absorbs UVR
Contents	Contains minerals (titanium dioxide and/or zinc oxide)	Numerous chemicals
Stability	Stable in sunlight	May be unstable in sunlight
Cosmetic acceptability	May be pasty unless formulated as an ultrafine grade like the **AlumiaMD** products	Translucent and thinner
Environmental impact	Nil	May be harmful to marine environment
Allergies	Low allergy potential	Increased allergy potential
Effect on eyes	No stinging	May irritate
Onset of action after applying	Immediate	10-20 minutes
Effect on rosacea and telangectasia	Cools the skin. AlumierMD sunblocks contain antioxidants which reduces inflammation.	May heat up the skin by absorbing UVR
Effects on acne prone skin	Does not cause comedones (non-comedogenic)	May cause comedones (blackheads)
Shelf life	Long	Short
Penetration	Sits on the skin	Absorbed by the skin
How much protection from ultra violet light	Broad spectrum UVA and UVB protection	Varies