

How safe is sunscreen?



The message to slip, slop, slap is clear, but research has raised questions about the safety of some sunscreens.

Sunscreen is an important barrier against the sun's rays, but could its use pose its own risks, asks KYLIE MATTHEWS.

The evidence is irrefutable - sun exposure can cause skin cancer.

This fact isn't a surprise to any of us in the Illawarra, where our dominant beach culture makes the risks associated with sun exposure a daily concern and applying sunscreen to our skin has become a regular and essential part of our lives.

But how much do we really know about the chemicals used in sunscreens and do these chemicals pose their own health risks?

Recent scientific research reveals that the existence of the nanoparticles in sunscreens, added to make the zinc oxide in creams invisible, "might" cause damage to the skin when exposed to the sun.

The Australian Government's Therapeutic Goods Administration (TGA) is the governing body that regulates sunscreen formulas and their components. It has also identified that nanoparticles in sunscreens "may" have a damaging effect on the skin.

The TGA's online fact sheet states: "Concerns relate to the theoretical

possibility that if nanoparticles were to be absorbed into skin cells, they could possibly interact with sunlight to increase the risk of damage to these cells".

In other words, if nanoparticles are absorbed into the skin and are then exposed to the sun, they may actually accelerate the risk of a person getting skin cancer.

After extensive research into the available scientific literature, in 2009 the TGA determined that the chance of damage from these nanoparticles is slim because the allegedly dangerous particles remain on the outside layer of the skin and are not absorbed.

The TGA does not require sunscreen brands that include nanoparticles to publish a specific warning on their packaging, but it must be declared in the ingredients.

In an article to be published in the *Australasian Journal of Dermatology*, Wollongong dermatologist Dr Robert Salmon resolves that all sunscreens and cosmetic products containing nanoparticles should be labelled.

From his clinic in Osborne St, Wollongong, Dr Salmon runs a specialist dermatology practice focusing on skin cancer surgery and laser procedures.

His interest in the nanoparticles debate was sparked after he read a scientific paper on a study that observed the corrosive effects of sun exposure on Colorbond steel roofing.

The study observed that nanoparticles in sunscreen which rubbed off roofers' hands and onto the roofing was actually deteriorating the paint coating on the roof.

"Concerns about the use of nanoparticles in sunscreens had been around before, but this study, which was written by Wollongong scientist and academic Philip Barker and Amos Branch, was a significant breakthrough," he says.

Dr Salmon says the study suggests there may be a crossover between the damage the sun caused the paint after sunscreen containing nanoparticles was applied and the potential damage they might have to skin exposed to the sun. But with few objective scientific studies on the issue, the scientific proof that nanoparticles may be causing skin damage is not yet conclusive.

"Nanoparticles have been added to sunscreens in Australia for about eight years and these days around 70 per cent of all sunscreens in Australia contain them," he says. "At the moment the current research on the issue doesn't prove or disprove anything."

"What we need are some well controlled, objective studies into the effects of nanoparticles that are either financed by the government or from the cosmetic industry as a whole."

Dr Salmon says owing to the limited research being done, it may be 20 or 30 years before we know for certain whether nanoparticles in sunscreens and cosmetics pose a significant threat.

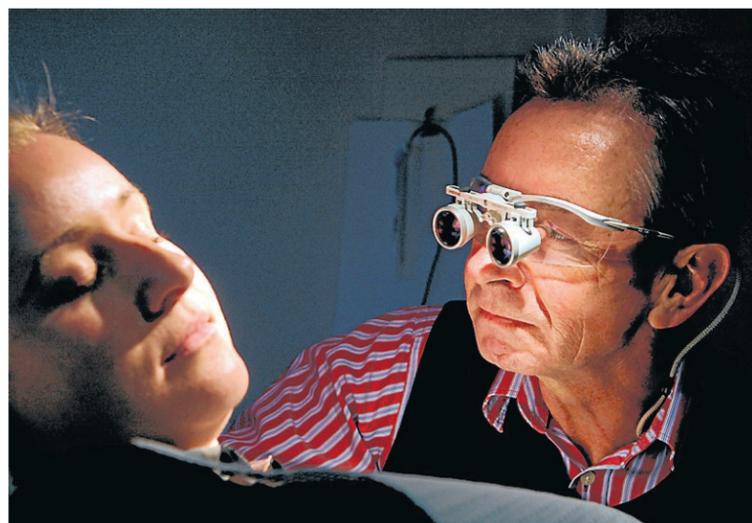
So who is most at risk? "There's little concern, really, for people who use sunscreen irregularly, like those who go out on the weekend for a surf or mow the lawn," he says.

"People most at risk are those with existing skin conditions such as eczema, those using retinoids and also tradespeople who work outside and apply sunscreen everyday."

Dr Salmon advises people to seek out sunscreens that do not contain nanoparticles and to use other methods of prevention, like wearing a hat and a long-sleeved shirt when outside.

Some nano-free sunscreen brands

- Invisible Zinc
 - The Wiggles
 - Chemmart
 - Face of Australia
 - Le Tan
 - Natio
 - Cancer Council
 - Woolworths Select and Coles
 - Jurlique
 - Auscreen
 - Amcal
 - Banana Boat
 - Nutrimetics
 - UV SolarCare
- Source: Friends of the Earth Australia



Wollongong dermatologist Dr Robert Salmon says all sunscreens containing nanoparticles should be clearly labelled. Picture: ADAM MCLEAN

Cancer Council taking a cautious approach

Cancer Council Australia has been educating communities across our sunburnt country on the dangers of the sun's UV rays for years.

From the *Slip Slop Slap* campaign of the 1980s to the hard-hitting approach of *The Dark Side of Tanning*, the Cancer Council's preventative SunSmart message has always been the same - wear a high SPF sunscreen, a hat, shirt and sunglasses when outside.

In January, Brazilian supermodel Gisele Bundchen made international headlines when she publicly stated that sunscreen was "poison".

When a supermodel makes such a startling statement, there is always the concern that impressionable young

fans will take their word for it, says Cancer Council Southern Division general manager Merewyn Partland.

"It's dangerous when a celebrity makes these kinds of claims," she says.

"Parents need to talk to their children and continue to educate them about why we must wear sunscreen, particularly here in Australia where we have the highest rate of skin cancer in the world."

Bundchen has since retracted her comments, but not before they added fuel to an already raging debate concerning the use of certain chemicals in sunscreens.

After undertaking its own review, Cancer Council Australia has

removed nanoparticle ingredients from its own brand of sunscreens.

"The Cancer Council have come to the conclusion that there currently isn't enough evidence to back up the claim that nanoparticles are harmful," Partland says.

"But yes, we have removed the ingredient from our products, just to be careful."

Partland says that despite the debate on the use of nanoparticles, the sun's harmful UV rays pose a much more immediate and detrimental threat to our health.

"We urge everyone to use a combination of measures to protect themselves from the sun... people need to wear sunscreen," she says.