

## Republication: In That Case

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### Sunscreen Safety

Narelle Brown, a pregnant mother of two children, purchases a sunscreen product for her children prior to taking them for their annual summer holiday at the beach. One of her children, a 10-year-old girl, has eczema and the other, an 8-year-old boy, is always cutting himself in his games. Both children will spend long periods in the sun on the holidays, requiring repeated applications of sunscreen.

Narelle notices that on the pack, the sunscreen is described as “microfine.” There are instructions, but no warnings about its use. Narelle takes her family on the holiday and uses the sunscreen repeatedly, including on herself. During the stay she meets a couple from next door, both of whom work for the Australian Therapeutic Goods Administration (TGA). They notice her sunscreen and tell her that it contains titanium dioxide (TiO<sub>2</sub>) and zinc oxide (ZnO) in

nanoparticulate form. They tell her that in 2006, of the 1,200 sunscreens authorised by the TGA, most (70%) contained these insoluble metal oxide particles in a nanoscale form. They say that when reduced to nanoscale dimensions, TiO<sub>2</sub> and ZnO become increasingly translucent, which provides sunscreens’ greater transparency when applied to the skin.

Narelle asks if any health risks are associated with using nanoparticles in sunscreens for herself or her children. She also has friends in London who are now using sunscreen regularly because of global warming. The neighbours say that the evidence is equivocal. There may be some cellular damage in laboratory conditions, but there is no proof that the particles can get beneath the dead outer layer of the skin. They tell her that the TGA has taken the position that there is no firm evidence that sunscreens containing these materials pose any risk to the people using them. Narelle wonders whether this is the position taken around the rest of the world.

Some days after the holiday Narelle’s girl develops a worsening of her eczema. Some months later Narelle gives birth to a baby and is told it has a severe genetic abnormality that is not hereditary. She wonders if there is more information she should get from the TGA, to see whether nano-sunscreens could have been involved, whether there are any international standards that are relevant, and whether she ought to have been better warned of the uncertainty concerning possible risks.

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