



Be sunsmart during outdoor events

A real-time UV Index display monitor

Achieving SunSmart South African schools

By Caradee Wright, PhD (Public Health)

Schools have a unique advantage to help curb the negative human health effects of excess personal sun exposure by providing a sun safe environment and promoting sun protection behaviour among children and adolescents.

Some sunshine is good for human health to help make vitamin D and induce a sense of well-being. The major health benefit of exposure to solar UV-B radiation is the production of vitamin D, which is needed for bone metabolism and is important for the protection against certain diseases. There is some, inconclusive but strong, evidence that it may protect against colorectal cancer, for example. Vitamin D also has a role in protecting against some autoimmune diseases, especially multiple sclerosis. Recent research is searching for whether vitamin D has a role to play in protecting against infectious and coronary diseases too.

Too much sun exposure can cause skin ageing and wrinkles, skin cancer, cataracts and suppress the immune system. The harmful effects of solar UV radiation are primarily on the skin and the eye. Solar UV radiation causes some types of cataracts and pterygium, we are less sure of its role in ocular melanoma but it seems to play a role in causing it, and we're even less sure about its role for causing macular degeneration – more research is needed but there is a risk it does.

For skin effects, the most harmful effects are skin cancers, including melanoma, and non-melanoma (which includes basal cell carcinoma and squamous cell carcinoma). Excess solar UV radiation exposure together with some genetic factors and immune effects are the risk factors for developing skin cancer.

There is also a concern that exposure to solar UV radiation may suppress parts of the immune system and this may affect how the body responds to immune control for infectious diseases, for vaccination and for tumours.

Sun exposure during childhood and adolescence greatly increases the chances of developing skin cancer later in life. Research shows that the melanoma skin cancer incidence rate in the Western Cape may be as high as that of Australia, a country known to have the highest melanoma skin cancer rates in the world.

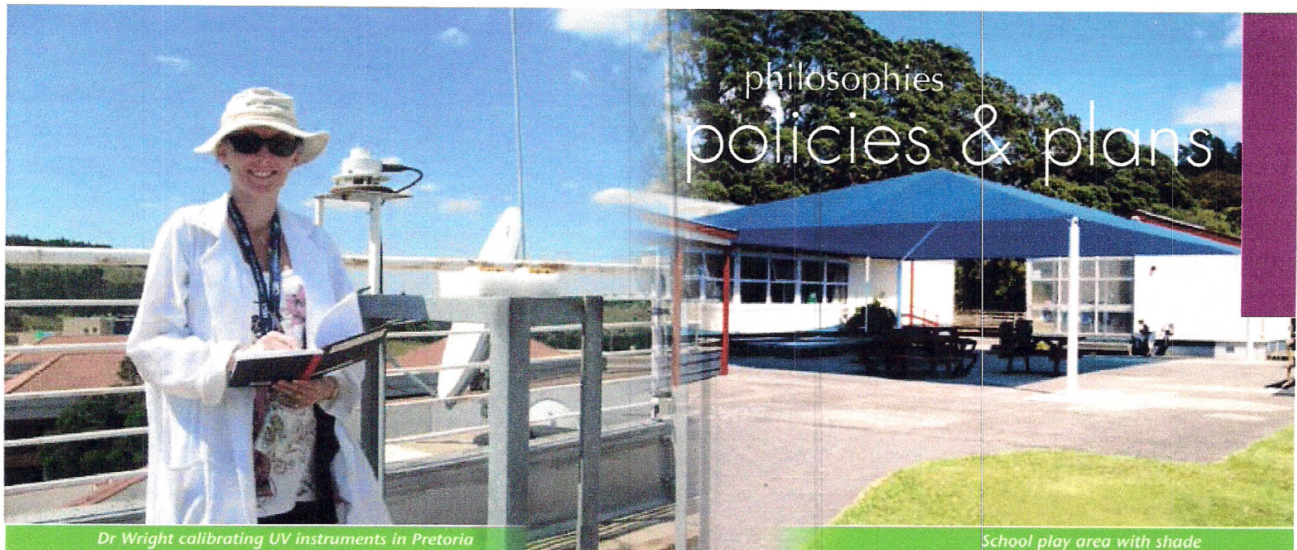
Being a SunSmart school

Being a SunSmart school is about demonstrating commitment to the health of the school's children, parents and staff by actively reducing the risks of excess sun exposure. It involves the following steps:

- Implementing a sun protection policy;
- Raising awareness about the importance of sun protection among teachers, children and parents;
- Promoting and supporting positive sun protection behaviours such as hat wearing; and
- Developing and maintaining an adequate safe sun environment, for example, with sufficient natural and built shade.

Ideas to make a SunSmart programme work for your school

- Implement a **SunSmart School Policy** that defines appropriate sun protection practices and clothing use, event scheduling, sun safe environment, staff role-modelling, etc.
- Consult the CANSA **Be SunSmart: A Guide for Schools** for more advice.



Dr Wright calibrating UV instruments in Pretoria

School play area with shade

- Have a **champion** for SunSmart at your school.
- Hold a **SunSmart Schools Video Competition** with your local schools to see who can produce the best video about educating schools and students about being sunsmart.
- Buy a science-grade, **UV Index real-time display** and use it as a guide for timing your sports activities and the need for sun protection.

SunSmart School Programmes have been successfully implemented in Australia, New Zealand and the USA, among other countries. These School Programmes help contribute towards the objectives of a National SunSmart Programme, soon to be implemented, that includes raising awareness among adults, outdoor workers, etc.

Are all schoolchildren at risk?

People with fair skin are most at risk of sunburn and excess solar UV radiation exposure, depending on how much time they spend outside, if it's continuous or intermittent exposure, what sun protection they use, etc. People with dark skin are more susceptible to vitamin D insufficiency or deficiency, but this depends on how much time they spend outside and their diet.

Many people ask whether sun protection is necessary for all children. Regardless of skin type or skin colour, all children's eyes and immune systems are susceptible to the effects of excess solar ultraviolet radiation exposure. Fair skinned children are at greatest risk of the harmful effects of too much sun exposure on the skin, for example, sunburn. However, children with darker skin may sunburn too. Finally, while skin cancer is rare among individuals with dark skin, it does occur.

Parents have an important role to play

There is substantial, strong evidence to support that sunburn during childhood and adolescence is linked to melanoma skin cancer development during adulthood. The World Health Organisation therefore advises that effective sun protection should be introduced early in life by parents and caregivers. Sunsmart behaviours that should be

promoted and encouraged include wearing a suitable hat (with a broad brim, not a cap that exposes the ears) and clothing, making use of shade whenever possible, applying sunscreen protective against both UV-A and UV-B, wearing wrap-around sunglasses and avoiding sun beds and sun tanning devices.

What's happening in South Africa?

Places in South Africa generally experience between six to 12 hours of sunshine every day. South African schoolchildren are at school during the day when solar ultraviolet radiation levels are at their highest, ie between 10:00 and 14:00, and may spend a considerable amount of time outdoors during school and extracurricular activities.

Preparatory research and work, spearheaded by the Cancer Association of South Africa (CANSA) and the Council for Scientific and Industrial Research (CSIR) is presently under way to establish a similar programme tailored for South Africa.

Recently, a nationwide study to assess primary schoolchildren's sun-related knowledge, attitudes and behaviours, as well as schools' sunsmart practices, is being carried out to generate baseline information for planning and appropriate intervention. ●

The CANSA Be SunSmart: A Guide for Schools (available at <http://www.cansa.org.za/sunsmart/>) includes a sun protection programme for schools and ideas for lessons from Grades 1 to 7.

About the author

Caradee Wright leads the environmental health team at the Council for Scientific and Industrial Research (CSIR) in Pretoria and is the founder of the SunSmart Research Programme and Lab (www.ehm.co.za/sunsmart). Caradee is also co-chair of the South African Young Academy of Science. Her contact details are: Email: cwright@csir.co.za, Tel: 012 841 3092.