

UV Radiation and the school timetable



Rationale

Excessive exposure to ultraviolet radiation (UVR) from the sun causes sunburn, skin damage and increases the risk of skin cancer. New Zealand, along with Australia, has the highest skin cancer rates, including melanoma, in the world. One or more episodes of sunburn in childhood and adolescence have been shown to increase the risk of melanoma.

Schools are in a position to help reduce the incidence of skin cancer in New Zealand by encouraging students to protect their skin from excessive exposure to UVR. Sometimes it is difficult to provide adequate shade, or to enforce sun protective behaviours such as hat wearing or the use of protective clothing (eg. collars, long sleeves) and sunscreens. In such instances, schools should consider altering the timetable to reduce the risk of harmful student exposure during times when UVR levels are highest. The peak UVR period is between September and April inclusive, especially between 10am and 4pm. Therefore, schools sun protection policies apply to Terms 1 and 4.

Note: There are also benefits from sun exposure, including vitamin D absorption. Students with naturally very dark skin require more sun exposure to produce vitamin D, but it is important that they do not get sunburnt. **It is recommended that students do NOT wear hats, sunscreen or stay in the shade during the winter months, when they should be encouraged to actively enjoy the sun.**

What is ultraviolet radiation?

Ultraviolet (UVR) is not necessarily felt as heat – we neither feel it nor see it – but it causes sunburn, skin damage and skin cancers, including melanoma. It is possible to get sunburnt on a cloudy, cool day.

UVR is made up of three components: UVA, UVB and UVC. UVA causes ageing and skin damage and increases the risk of developing skin cancers, including melanoma. UVB is a significant cause of sunburn and other skin damage, including skin cancer. UVC does not reach the earth's surface, as it is absorbed by ozone and other atmospheric components.

The time of year

The highest risk months for skin damage are usually September – April inclusive. However, there can be considerable differences from day to day. Radiation can, at times, be higher on bright, cloudy days than on clear days, as UVR is reflected from the edges of clouds. In the northern parts of New Zealand and at high altitudes UVR levels can also sometimes be high in Terms 2 and 3. This needs to be considered when planning ski trips or all day outdoor events, for example:

The time of day

UVR levels also vary throughout the day.

On a cloud-free day the maximum UVR level occurs when the sun is overhead at solar noon (on average 1.30pm in New Zealand during the daylight savings months, although the maximum temperature usually occurs later in the day).

On both clear days and bright, cloudy days the greatest danger period is from 10am – 4pm. These are the hours when school students will burn fastest.

The school timetable

Typically, most schools schedule lunchtime for around 12 – 1pm when UVR levels are generally at their peak. Physical education and other outdoor activities are often scheduled after the lunch break, when UVR levels are likely to be high.

One of the simplest ways to reduce the risk of sunburn and skin cancer is to reduce harmful exposure to UVR, particularly at peak times of the day and year.

Schools could help students and staff do this by shortening lunch times. Some schools have done this by making the morning break longer. In addition, many primary schools keep students indoors or on shaded verandas for the first 15 minutes while they eat their lunch. This helps to reduce the risk of harmful exposure.

Some schools have timetabled outdoor physical education activities earlier in the day rather than around midday or early afternoon. This also minimises the risk of excessive UVR exposure.

Timetabling for school excursions

When planning trips such as school camps, if possible, schedule outdoor activities such as swimming before 10am or after 4pm. Activities that can be done in the shade or indoors can be scheduled between 10am and 4pm when the UVR is high.

For information about the Cancer Society’s Sunsmart Schools Accreditation Programme for Primary and Intermediate schools, go to:
<http://www.sunsmartschools.co.nz/>

The Ultraviolet Index (UVI) is an international, scientific measure of the level of ultraviolet radiation (UVR) in the environment. The higher the number the greater the risk of skin damage. The Cancer Society advises sun protection when the UVI is 3 or higher.

UV Index	Sun Protection
1-2 Green LOW	No protection required
3-5 Yellow MODERATE	Protection required when spending extended periods in the sun, especially if you have fair skin
6-7 Amber HIGH	Protection essential between 10am and 4pm. Slip, slop, slap and wrap.
8-10 Red VERY HIGH	Seek shade between 10am and 4pm. Slip, slop, slap and wrap. Cover up. Reapply sunscreen regularly.
11+ Purple EXTREME	Reschedule outdoor activities for early morning and evening. Full protection essential.

UVI levels can be found in daily newspapers and on TV One’s weather forecast (during the summer months) and on the SunSmart website www.sunsmart.org.nz.