THE ROLE OF SHADE IN SKIN CANCER PREVENTION

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One of the essential components of a comprehensive approach to skin cancer prevention is the provision and use of effective shade. The term 'effective shade' refers to shade that:

- falls in the right place at the right time of day and at the right time of year;
- protects against indirect solar ultraviolet radiation (UVR);
- is comfortable to use;
- is sympathetic to the surrounding environment.

To encourage the greater provision of more effective shade in the community the NSW Cancer Council and the NSW Department of Health have published a book *Under cover: Guidelines for shade planning and design.*

Under cover explains the fundamentals of shade planning and design in a clear, comprehensive and user-friendly manner. Its content focuses on the following six subject areas, an understanding of which is considered necessary to achieve effective shade.

SUN FACTS

Shade planners need to understand the phenomena of direct and indirect UVR. Direct UVR reaches us in a straight line from the sun. Indirect UVR is reflected or scattered from the ground and other surfaces or from atmospheric particles such as dust or clouds. Because of indirect UVR, it is possible for an individual to become sunburnt while seemingly protected by shade. Being sunburnt while sitting in the shade of a beach umbrella is an example of this.

The sun's daily and annual pathways also need to be understood. These determine where shade will fall at a particular time of the day and year as well having a major influence on UVR intensity. Other factors that affect UVR levels include geographic location, cloud cover, stratospheric ozone, altitude, surrounding environment and atmospheric dust and air pollution.

PROTECTING AGAINST SOLAR UVR

For protection against UVR, environmental strategies (that is, the use of barriers to provide shade) such as landscaping and the provision of built structures should be used to support personal strategies (such the use of protective clothing, hats and sunscreen).

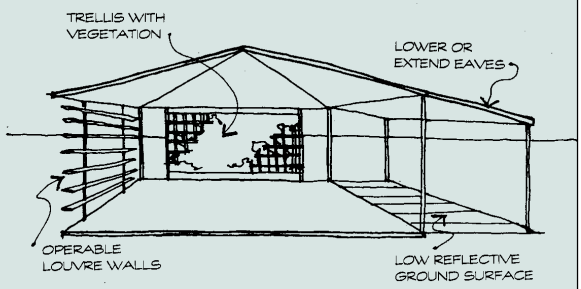
Shade barriers need to be of sufficient size, located in the right place and provide at least 94 per cent protection against direct UVR.

Key strategies for controlling indirect UVR include the following:

- ensure shade structures or trees are of an adequate size (so that people can move away from the edges of a shaded area where indirect UVR will be greater);
- treat ground or other surfaces (hard, smooth surfaces reflect more than soft, varied surfaces);
- provide shade for surfaces that are likely to act as a source of indirect UVR.

FIGURE 2

COMBINING STRATEGIES TO CONTROL INDIRECT UVR



One of the fundamental truths in shade planning and design is that if a shaded space is not comfortable then people will not use it. Examples of methods often used for increasing the comfort of a shaded space include orienting openings of structures to capture prevailing summer breezes (cross-ventilation) and excluding winter winds. *Under cover* provides examples of methods applicable to the specific climate zones of NSW.

PROVIDING SHADE

There are a large range of available shade solutions and ways of creating attractive UVR-protective environments. They can incorporate natural shade or built shade (or combinations of these). However it is important to note that there are advantages *and* disadvantages of both natural and built shade.

Examples of the benefits of natural shade include its aesthetic appeal, its characteristic cooling effect and its environmental benefits: for example, low levels of embodied energy (that is, the sum of all energy used to produce a product, material or structure including extraction and processing of raw materials, manufacturing, assembly and transportation), and fewer disposal problems. On the other hand, there are disadvantages associated with natural shade

(vegetation takes a long time to grow and the growth patterns are not entirely predictable).

Examples of the benefits of built shade include the precision with which shade needs can be met and the different possible uses of built systems (for example: weather protection, rainwater collection for irrigation purposes, and the support of photovoltaic cells for electricity generation). The disadvantages of built shade are mainly environmental. For example, many building materials contain non-renewable resources. Also, built systems often contain high levels of embodied energy.

Shade planners should be aware of the various qualities of commonly used shade materials. Considerations include materials' UVR-protective performance, light transmission levels, solar heat gain, maintenance requirements, environmental considerations and relative costs.

THE SHADE PROJECT

There are three main stages in a shade project: planning, design and construction (or in the case of natural shade, planting). The following steps and principles should be considered during each of these stages.

In the planning stage consider:

- the establishment of a project team, including key stakeholders such as property owners; and managers, site user representatives and other interested parties;
- consultation with other interested parties such as site users and workers;
- undertaking a shade audit—this will determine the adequacy of existing shade and whether there is a need for more shade (*Under cover* includes a comprehensive step-by-step procedure for conducting a shade audit);
- preparation of a design brief for the purpose of documenting the shade needs of a site so that an appropriate solution can be designed;
- exploration of potential sources of funding.

Key issues that need to be considered during the design stage include:

- the need to consult with local councils (regarding development controls, etc.);
- the most appropriate shade system (natural, built or combinations of these);
- whether professional assistance (for example: architects and landscape architects) will be required;
- the relative costs of various shade solutions (structures that are cheap to purchase may have high ongoing maintenance costs).

Points to consider during the construction of built shade include:

- the need to read and understand contract documents;
- the need to obtain the builder's construction program, insurance certificates, guarantees on materials and anticipated schedule for progress payments;
- the need to obtain the engineering certification of structures and components.

SITE-SPECIFIC CONSIDERATIONS

There are a range of issues that need to be considered when planning and designing shade for specific sites. Examples of issues that need to be considered at most sites include:

Safety

For example, it is important to ensure that structures do not create safety hazards. Support systems should be placed so as to minimise intrusion into circulation areas (that is, areas through which people move). At sites such as child care centres and schools, upright posts should be clearly visible and have rounded edges and padding. The planting of hazardous plant and tree species (for example, those that are toxic, have spikes or thorns or attract bees) should be avoided.

Site usage patterns

The type of activities that take place at a site and the time of day and year they are likely to occur is a major consideration in planning shade. Sufficient shade should be available at times of heaviest usage, especially when these coincide with periods of peak ambient UVR. To achieve this, it may often be necessary to supplement permanent shade with demountable structures.

Climatic conditions

It is important to take into account the overall climate as well as the micro-climatic conditions of the area in which shade is to be provided. Such an understanding helps to ensure that the shaded area will be comfortable to use as well as minimising the risk of damage to shade structures (for example, from strong winds or weather-induced corrosion).

Aesthetics

A poorly designed or located structure can generate enormous community displeasure. Shade design should therefore aim to be aesthetically pleasing as well as practical. Generally, an approach that combines both natural and built shade will contribute to greater aesthetic appeal.

Sightlines

This consideration is important at any site where supervision of site users is necessary. Such sites would include child care centres, schools and public swimming pools. At these sites, shade structures and trees should not obstruct the view of supervisors (for example, teachers and lifeguards). This consideration is also important at outdoor entertainment venues where audience or spectator views may be obstructed.

Vandalism
At many locations, the risk of vandalism needs to be considered. In high-risk areas, built structures need to be—as much as is possible—vandal-resistant. The use of demountable instead of permanent structures is one strategy that may overcome the problem of vandalism.

CONCLUSION

It should be noted that despite the obvious benefits of using effective shade as a means of protecting against solar UVR, it is unlikely that shade in outdoor environments will ever provide total UVR protection. It is therefore prudent that individuals also use personal forms of protection such as wearing sun protective clothing, hats, sunscreen and sunglasses. Particular care should be taken during the hours of 10.00 a.m. and 3.00 p.m. when solar UVR levels are at their peak.

For further information about the role of shade in skin cancer prevention, or to obtain copies of *Under cover: Guidelines for shade planning and design*, (at a cost of $22 per copy including GST, postage and handling) contact the Cancer Prevention Unit, Cancer Council New South Wales, PO Box 572, Kings Cross, New South Wales 1340; telephone: 61 2 9334 1900; fax: 61 2 9326 9328; or email: gregs@nswcc.org.au.

SUICIDE IN NEW SOUTH WALES: THE NSW SUICIDE DATA REPORT

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The NSW Suicide Prevention Strategy has identified suicide prevention as a high priority for government and the community.[1] Death by suicide is a relatively uncommon event; however, more people in NSW now die from suicide than road injury. Nationally, two per cent of all deaths were attributed to suicide in 1998.[2] This article describes the *Suicide in New South Wales—The NSW Suicide Data Report*,[3] which has been developed and produced by the Centre for Mental Health, and presents improved information on suicide, hospitalisation following attempted suicide, and risk of suicide, both at a state and an area health service level.

BACKGROUND

The main objective of the report is to provide statistical information about suicide in NSW to assist program planners, policy makers and health care providers to identify risks, trends, magnitude, and other features of suicide-related problems, for the effective planning of population-based and clinical interventions such as suicide prevention programs and other services.

The report has been compiled using mortality data from the Australian Bureau of Statistics (ABS), hospitalisation data from the Inpatient Statistics Collection (ISC), and data from other published sources in Australia and overseas. The latest financial year for which complete mortality data was available at the time of the report was 1996–97.

The report is divided into four chapters:

- all ages (15 to 80+)
- young people (15 to 24 years)
- older people (65+)
- groups at risk.

Each chapter includes a short section on suicide prevention issues, and relevant sub-sections on:

- suicide deaths
- suicide attempts
- suicide means.

The report also provides comprehensive information on suicide death for every area health service by calender year, age and gender. This information will be updated annually on the Web version of the report, as the ABS mortality data becomes available for subsequent years.

An overview of suicide in NSW has been assembled using prevalence data for:

- suicide attempts
- hospitalisation following attempted suicide
- access to community services by mental health patients
- the time between transfer and discharge to death,

allowing an estimation of the number of suicide-related events for a single year. An example of this overview is presented as Figure 3. The major results of the report are described below.

SUICIDE DEATHS

All ages
Suicide death rates, between 1973–74 and 1996–97, notwithstanding some fluctuations in the intervening years, have remained relatively stable for both males and females in all age groups (Figure 4).

Males have higher suicide death rates than females across all age groups. For males, the suicide death rate for 1996–