

Implications

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Getting Personal

In this summer issue of *Implications*, we have decided to focus on a growing body of knowledge that you are undoubtedly familiar with on one level or another. For most of us, “summer” brings connotations primarily focused around warmth and getting out in the sun as much as possible (yes, this is the Minnesota, not Florida perspective).

For some of you “sun” means warmth, and brings with it images of enjoyable summertime activities, especially sports, outdoor dining, and camping. As designers of the built environment, we are intentionally less focused on the interior environment, as we attend outside events and conspire to capture some vacation time.

However, for others, hearing the term “sun” brings to mind the phrase “sun damage,” and along with it other scarier phrases like “premature aging,” “skin damage,” and “skin cancer.” If you’re over 25, you can remember those endless summers of your youth, purposefully baking outside with baby oil, sure that vicious burn would turn you into a bronze god or goddess in short order. Zinc oxide on noses was the extent of sun protection, or how we thought about “skin protection.” Grandmothers who sat

under beach umbrellas, fully clothed seemed old-fashioned and foolish.

Also, we must not forget the construction workers, surveyors, groundskeepers, and others who work for the contractor that construct the environments we design and those that work for the facility managers who maintain them. No matter the temperature, some people work or play outdoors year round.

Ask the Experts

How to keep ourselves safe in the summertime is a two-fold theme in this issue of *Implications*: personal sun safety and environmen-



tally designed sun safety. Regarding personal sun safety, we have called upon an expert in the field, Sherri Gahring, University of Minnesota Extension Specialist and Associate Professor.

Sherri has worked at a grass-roots level with everyone from middle-school aged children to farmers to create awareness about how to personally protect oneself when enjoying outdoor activities, bringing information from her research and collaboration with medical experts.



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Sherri, with Karen LaBat and Marilyn DeLong, as part of a research project developed “Sun Smart,” an innovative program to raise children’s perception and attitudes about the risk of skin cancer. Sun Smart concept hats, designed by University of Minnesota clothing design students, were used to illustrate sun safety concepts to middle-school children. (To read more about the project, go to Sherri’s Web site, noted below.)



Hope you find her ‘short course’ about personal sun safety to be concise and informative. Sherri has also provided us with some excellent references to pass along. If you want more information on the Sun Smart program and Sherri Gahrning's work, be sure to check out her Web site, <http://dha.che.umn.edu/gahrning/sherrihp.html>.

—Caren Martin, Ph.D., Director

Cover Your Skin – Be Sun Smart

The Facts

Skin cancer is one of the most common forms of cancer in the United States today. According to the American Cancer Society, over one million new cases of skin cancer will be diagnosed this year. The American Academy of Dermatology predicts that over 53,000 cases of malignant melanoma, the more serious and life threatening form of skin cancer, will be

diagnosed in 2003 with about 17,000 cases resulting in death. The incidence continues to rise and is affecting people at younger ages.

Sun damage to the skin begins in the childhood years and accumulates over a lifetime, though skin cancer may not develop until a person reaches middle age or older. Research has shown that sunburn in early childhood may be a risk factor in developing skin cancer in later life. By educating children and youth about the harmful effects of overexposure to the sun and how to be “sun smart,” parents, teachers, daycare providers, and camp counselors can play an important role in skin cancer prevention.

The Sun: Friend or Foe

The sun can be good for us because it makes plants grow, gives us light, and keeps us warm. The sun also helps the body produce vitamin D, which is needed for developing healthy bones. But too much sun can be harmful, especially after prolonged or repeated exposure. It can lead to serious and permanent damage to the skin including skin cancer.

The most common types of skin cancer — basal cell and squamous cell carcinoma — have been linked to daily and prolonged exposure to the sun. These types of skin cancer are most commonly found on sun-exposed areas of the body — the face, head, and neck, and have a fairly high cure rate if treated early. The third type of skin cancer, malignant melanoma, is the most life-threatening type of skin cancer and has been associated with individuals who received blistering sunburns as children and teenagers. Malignant melanoma starts in moles or in the tanning cells of the skin. If not treated, it can spread quickly to other parts of the body causing death.

Sun Safety Guidelines

So what can you do as a parent or teacher to reduce your child’s risk of getting skin cancer as an adult?

Teach children good sun safety habits by helping them follow these simple guidelines:

1) **Limit overexposure** to the sun between 10:00 A.M. and 3:00 P.M. Play inside or stay in the shade when the sun's rays are most intense. Talk about the "shadow signal" concept, which means if your shadow is shorter than you are then you need to protect yourself from the sun.

2) Use a **broad spectrum sunscreen** with a sun protection factor (SPF) of 15 or higher on all sun exposed areas of the body. SPF 15 means that it takes your skin 15 times longer to burn with sunscreen than without it. There are a variety of formulations from



which to choose: lotions, lip balms, gels, sprays, wipes, etc. Make sure that you apply it liberally at least 20 minutes before going outside and don't forget to cover those areas that burn easily such as the ears, lips, nose, and neck. Reapply at least every two hours, sometimes more often if you perspire easily or swim. According to recent research, the regular use of SPF 15 sunscreen during the first 18 years of life may lower the risk of basal cell and squamous cell carcinoma by about 80%.

3) Wear **protective clothing** that covers as much skin as possible, such as long sleeved shirts and pants and a hat with at least a 3 inch wide brim. Select clothing that is tightly woven or knitted. Darker colors usually absorb more UV radiation than undyed fabrics and are a good choice. A new cloth-

ing labeling system called Ultraviolet Protection Factor (UPF) measures the sun protection offered by fabrics and is similar to SPF used in sunscreen. A UPF rating of:

—15-24: "good" UV radiation (UVR) protection

—25-39: "very good" UVR protection

—40+: "excellent" UVR protection

Washing cotton clothing using detergents with brighteners can also increase their UPF protection.

4) **DO NOT** work on a **tan**. Some people think a tan looks great. But there is no such thing as a "safe" or "healthy" tan. A tan means that the skin has been damaged. Skin exposed to the sun takes on a darker color, called pigment to block the sun's dangerous rays. By tanning your skin you're making it work harder to protect you.

5) **DO NOT** use **tanning beds**. Getting tanned by the sun is harmful to your skin and so is getting tanned by a machine. We equate it to putting yourself in a toaster! According to the Skin Cancer Foundation, the "safe" tan promised you by many tanning salons does not exist.

6) **Watch your skin** for any "dots" that might appear strange. A funny-looking mole or growth that gets bigger, changes color, or doesn't stop bleeding for days should be checked out by your doctor. Sometimes a new or changing mole or growth can be the first sign of skin cancer. Here's an easy way to remember what to look for:

A - Asymetry: If you draw a line down the middle of the spot the two sides are not the same.

B - Border: Spot is zigzaggy in shape, not a circle.

C - Color: Several colors ranging from red to black.

D - Diameter: Larger than a pencil eraser.

In terms of prevention, protecting against skin damage from the sun is one of your most obvious choices. Protect yourself and educate others.

—*Sherri Gahring, Extension Specialist and Associate Professor, University of Minnesota*

When In Doubt

If you are looking for more information about skin cancer and related concerns, please visit any of the following skin cancer related Web sites recommended by Sherri Gahring:

American Cancer Society

<http://www.cancer.org>

Skin Cancer Foundation

<http://www.skincancer.org>

American Academy of Dermatology

<http://www.aad.org>

National Cancer Institute

<http://www.cancer.gov/cancerinfo/wyntk/skin>

A Place Out of the Sun

Beyond how we protect ourselves from the sun when outdoors, there is the realm of how the built environment protects us when we are indoors. As designers of the built environment, we are responsible for creating safe, productive, healing, invigorating, inspiring, relaxing, and meaningful interior environments. As educators or students, we are engaged in exploring the creation of those environments and how they are achieved, and their basis of success. The myriad

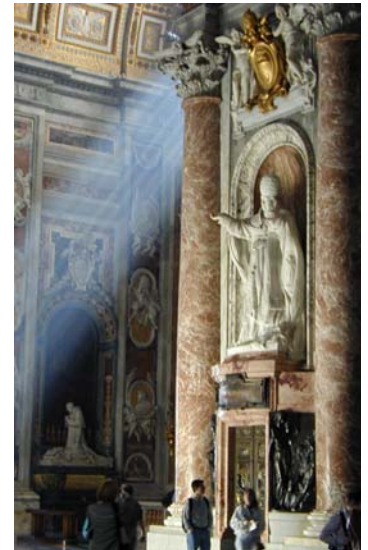


of concerns that must be addressed to achieve the design of the spatial outcome within the scope of the project are environmental, structural, systemic, aesthetic, ergonomic, social, psychological, economic, cultural, accessible, and functional—and you can probably think of others.

As the medical community has advanced knowledge about health and safety risks associated with expo-

sure to the sun, the imperative of the energy crisis of the 1970s and the origination of Earth Day kick-started our environmental concerns. On both fronts, concern born of knowledge has grown exponentially as we now find ourselves in a period of significant socioeconomic, political, and environmental change.

As sustainability and green design take center stage (some would say way too late), we are also reminded that as designers of the built environment we must think long term, conservation-oriented. Proper selection of materials and finishes not only include how long they will be serviceable in the interior, but the energy, product consumption, and waste involved with their harvesting, production, shipping, packing, and repair and maintenance.



Research points out that the sun, too, is an influence we need to consider as we design and specify. Proper siting of the building, specification and orientation of windows and skylights and their glazing, ventilation and mechanical systems, material color and finish, and shading devices are all key in our sustainability efforts.

The sun can damage our built environment, creating either surface or structural problems. However, accommodating the sun can also increase energy efficiency and can certainly improve our perceptions of the space and wellness. Much research exists as to the importance of an external view, sunshine, and the color of natural sunlight in the interior. Yes, consideration of all of these interactive factors is compli-

cated, however, every element that can be wisely considered will make a positive influence on the occupants, the space, and the natural environment, and the effect is additive.



—Caren Martin, Ph.D., Director

Sun Related Research

InformeDesign has many Research Summaries about the sun and its effects on the built environment. We believe that this knowledge will be valuable as you consider your next design solution and worth sharing with your clients and collaborators.

Sun and Quality of Life

- “Color of Light Affects Psychological Processes”
— *Journal of Environmental Psychology*
- “Lighting Affects Behavior of Alzheimer's Patients”
— *Journal of Interior Design*
- “Workplace Windows Promote Job Satisfaction and Well-being” and
“Natural Settings Influence Children with ADD”
— *Environment and Behavior*
- “Institutionalized Older Adults Are Affected by Lighting”
— *Journal of Gerontology: Medical Sciences*

“Therapeutic Effects of Light”

— *Archives of General Psychiatry*

“Children At Risk for Sun Damage”

— *Family and Consumer Sciences Research Journal*

Sun and Textiles

“Sun Damage to Wool Reduced with UV Absorbers” and “Textile Properties Affect Window Shade Performance”— *Textile Research Journal*

Sunlight and Building Site

“Courtyard Houses Ideal for Saudi Society”

— *Journal of Architectural and Planning Research*

“Daylighting Saves Energy”

— *Energy and Buildings*

“Increase Hotel Profits Through Planning”

— *Cornell Hotel and Restaurant Administration Quarterly*

Photos Courtesy of:

Dave Hansen
Ag Experiment Station,
University of Minnesota
(Kids p. 3; Atrium p. 4;
Woman p.5)



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Where Research Informs Design

The Mission

The Mission of Informedesign is to facilitate interior designers' use of current, research-based information as a decision-making tool in the design process, thereby integrating research and practice.

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