



A Sun Protection Curriculum
for
Kindergarten - 4th grades

Developed by:
The Dept. of Community & Family Medicine
Dartmouth-Hitchcock Medical Center
and The Norris Cotton Cancer Center
Hanover, NH

Being safe in the sun can still be fun



SunSafe

A Community Skin Cancer Prevention Project

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The SunSafe Project would like to acknowledge the following organizations from whose work contributed to the development of this manual:

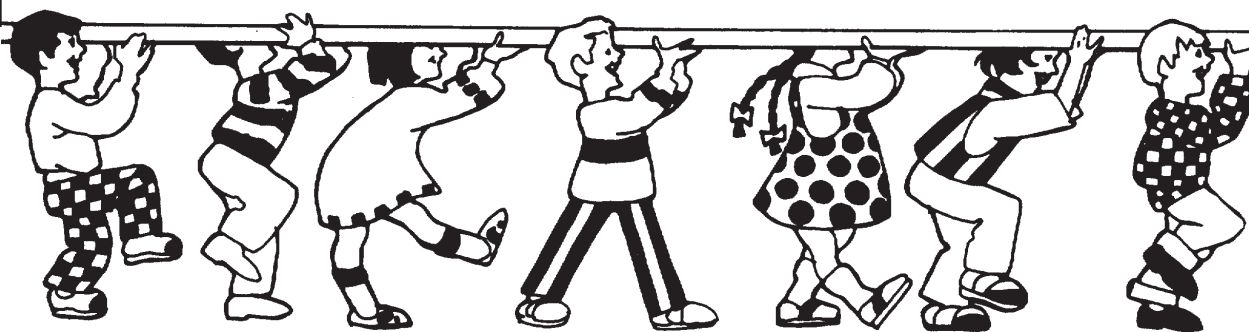
- ◆ American Cancer Society of New Hampshire, Colorado and Texas Divisions, Slip, Slop, Slap Curriculum
- ◆ American Academy of Dermatology, Children's Guide to Sun Protection
 - ◆ Anti-Cancer Council of Victoria, Living with Sunshine Curriculum
 - ◆ Anti-Cancer Foundation of South Australia
- ◆ New South Wales State Cancer Council and Department of Education, Sydney, Australia, Skin Safe Curriculum
- ◆ The Skin Cancer Foundation, New York, NY

Funded by the U.S. National Cancer Institute, Grant #CA63029

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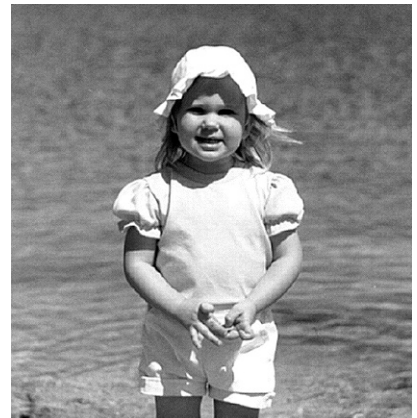
Special thanks to Fairlee Elementary School, Fairlee, Vermont, and Canaan Elementary School, Canaan, New Hampshire for piloting this curriculum and providing us with valuable feedback.

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Graphic Design/Layout: Abigail Reponen, *Dancing Bears Design*



Introduction

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Background Information

- This curriculum was developed for elementary school teachers in conjunction with The SunSafe Project of Dartmouth Medical School, Hanover, NH. The SunSafe Project was a skin cancer prevention study funded by the National Cancer Institute. The project engaged health care professionals, elementary school teachers and administrators, child care providers, recreation department personnel, parents, and children. It effectively promoted sun protection for children ages 2-9 to reduce their risk of later developing of skin cancer.* In addition to this manual, child care sites participating in the SunSafe Project received a parent/teacher presentation on sun protection, supplementary materials such as posters and activity books, and any necessary follow-up support.

The Important Role Of Teachers In Delivering the SunSafe Message:



50 to 80% of each person's lifetime exposure to sunlight occurs before adulthood.

Children are most receptive to health messages during the preschool through fourth grade years. Preventive health habits developed at these young ages are likely to continue into adulthood. Children are particularly receptive to health messages received in an environment where they are comfortable, have peer support, and have their teachers as role models. Quality schools provide such an atmosphere.

Citations

Dietrich, AJ, AL Olson, CH Sox, CW Winchell, J Grant-Petersson, DW Collison. Sun protection counseling for children: New Hampshire primary care practice patterns and the impact of an intervention. (in press, Archives of Family Medicine)

*Grant-Petersson, J, AJ Dietrich, CH Sox, CW Winchell, & MM Stevens. Promotion of sun protection in elementary schools and child care settings: The SunSafe Project. Journal of School Health (slated for publication Spring 1999)

* Dietrich, AJ, Olson, AL, CH Sox, MM Stevens, TD Tosteson, T Ahles, CW Winchell, J Grant-Petersson, DW Collison, R Sanson-Fisher. 1998. A community-based randomized trial encouraging sun protection for children. Pediatrics 102(6): .

Olson, AL, AJ Dietrich, CH Sox, MM Stevens, CW Winchell, TA Ahles. 1997. Solar protection of children at the beach. Pediatrics 99(6): URL: <http://www.pediatrics.org/cgi/content/full/99/6/e2>



About this curriculum:

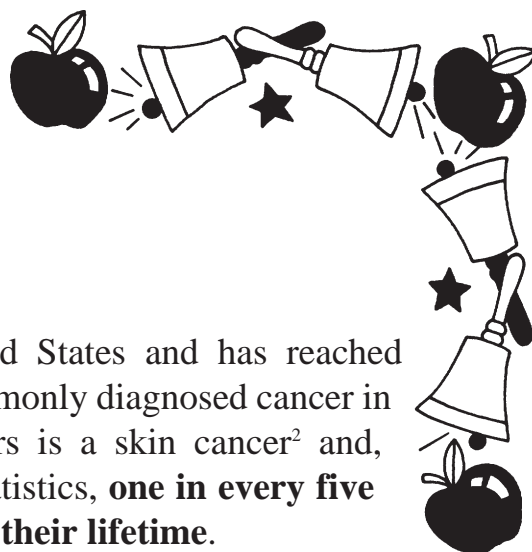
This manual is a sun protection curriculum for elementary school children. The curriculum includes Learning Objectives, Curriculum Overview, Suggested SunSafe Lesson Plans, and Support Activities.

We have provided the masters where appropriate so that you may make photocopies for your class.

The Suggested Lesson Plans are intended to provide you a starting point for introducing the SunSafe concepts. We suggest that you have two SunSafe classroom periods to introduce the concepts and follow up with weekly reminder activities. We encourage you to look through the **Plans and Activities** and choose those which are most appropriate for your classroom.

Thank you for teaching the SunSafe curriculum and taking a **leadership** role in addressing this increasingly serious public health problem.

Teacher Information



Why worry about skin cancer?

Skin cancer is increasing in the United States and has reached epidemic proportions. It is the most commonly diagnosed cancer in the world.¹ One in every three cancers is a skin cancer² and, according to Skin Cancer Foundation statistics, **one in every five Americans will develop skin cancer in their lifetime.**

Are all skin cancers the same?

Three types of Skin Cancer: basal cell carcinoma, squamous cell carcinoma, and malignant melanoma

There are three common types of skin cancer. The most common is **basal cell carcinoma, followed by squamous cell carcinoma.** These two cancers together are referred to as the nonmelanoma skin cancers and **more than half a million new cases are diagnosed annually in the United States.**² Frequent exposure to sunlight greatly increases the risk of developing these cancers.

The third type of skin cancer, **malignant melanoma,** is the most life-threatening. Once it begins to develop, it can spread quickly throughout the body. Painful, blistering sunburns received as a child or adolescent greatly increase the risk of developing malignant melanoma. Unfortunately, the incidence of malignant melanoma is also on the rise. An estimated 32,000 Americans are diagnosed with malignant melanoma annually³ and **the average American's lifetime risk of getting malignant melanoma is 1 in 86.**³



Citations

¹ Armstrong BK, Kricger A. Skin Cancer. *Dermatoepidemiology* 13(3): 583-594, 1995.

² Marks R. An Overview of Skin Cancers. *CANCER Supplement* 75(2): 607-612, 1995.

³ Brink S, Wu C. Sun Struck. *US News & World Report*: 62-68, June 24, 1996

Don't children need a certain amount of sunlight?

● We do need some sunlight; the **ultraviolet (UV-B)** portion of the solar spectrum stimulates the production of vitamin D. Vitamin D is essential for healthy bones. However, **fifteen minutes of summer sun, three times a week**, is all that is needed to produce enough vitamin D. Vitamin D can also be obtained from milk or from multivitamins.



Holick, MF. Vitamin D Deficiency. Nutrition Action Healthletter 24(9): 3-6, October 1997

Won't a good base tan protect me from sunburns and damage?

This is one of the biggest myths. It is important to distinguish between natural pigmentation and pigmentation which is induced by exposure to UV rays. Natural pigmentation does protect individuals from sunburn and skin cancer; cancer rates are significantly lower for dark-skinned people than for fair-skinned people. When a fair person's skin is exposed to the sun, it turns brown because the skin is producing a pigment called **melanin**. Melanin is the skin's way of trying to protect itself from further injury. Unfortunately, the level of melanin that the skin produces is insufficient to protect it from the harmful effects of everyday exposure to sunlight. So while most people associate tanned skin with good health, it is really a sign of damage. In reality, there is **no such thing as a "healthy tan"**.



Do we have to worry about sun protection?

The thinning of the ozone layer, particularly in higher latitudes, exposes people to more intense UV than twenty years ago.

As a result of the thinning of the ozone layer, **more radiation is reaching the earth's surface and damaging our skin.** It is important to realize that ultraviolet radiation is not hot. A cool breeze or a cloudy sky may make us think that we don't need to worry about getting a sunburn, but this is not true. People can burn as readily on a moderately cloudy day as under a clear blue sky. Clouds tend to block the heat-producing infrared rays, but not the ultraviolet radiation which causes damage. This may tempt us to stay outdoors longer, leading to a worse sunburn than on a clear, hot day which would have driven us inside.

Sun protection should be a concern everywhere, but certain factors make it of special concern in some areas of the United States. People living in high altitude areas, such as Colorado, are at increased risk due to less atmosphere to shield out the sun. **For every 1000 feet above sea level, there is 4% more UV exposure,** resulting in a greater risk of sunburn. States which receive plentiful sunshine, such as Arizona, also have increased skin cancer rates.

Even seemingly “safe” states such as New Hampshire have residents at risk, as the thinning of the ozone is worse at higher latitudes and people in cooler states often have “tanning binges” on summer weekends, trying to soak up as much sun as possible while there’s sunshine available. **This intermittent exposure is linked to the development of melanoma.**

Who needs protection?

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How can we enjoy the sun and protect our skin?

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It's simple as: A B C'S



Follow the ABCS to
sun protection

- * **A**void
- * **B**lock
- * **C**over-up
- * **S**ay something

Is there any good news?

Yes

Yes, there is good news about skin cancer. Since **90% of all skin cancers are caused by sun exposure**, we can greatly reduce our children's risk by following the SunSafe guidelines. Also, skin cancer is completely curable when treated in its earliest stages. So the really good news is that we don't have to stay inside all the time, we just need to learn how to be safe and still have fun in the sun.

School-Wide Sun Protection

There are two complementary ways for schools and day care centers to encourage sun protection and prevention of sun cancer. (See Resource List on pages 10 & 11.)

1. Raising awareness and providing information

Providing people with information about health issues assists them in making healthy lifestyle choices. This can be achieved through:

- Displaying posters
- Distributing pamphlets
- Inviting guest speakers
- Implementing a skin protection curriculum

2. Developing a healthy school environment

People are influenced by their environment. Providing an environment that encourages sun safety can help people make healthy choices. These can be achieved through:

- Encouraging a commitment by staff and parents to model sun protection behaviors, both at school and outside school hours.
- Implementing sun protection policies.
- Rescheduling outdoor play times and special events to reduce the exposure of students to the sun.
- Encouraging the use of hats and sunscreen by all children.
- Increasing the available shade by planting trees and by installing shade structures.



Adapted from the C.A. R.T. Research Project, Quirindi, Australia

Impact of the SunSafe Project



Before the start of the SunSafe Project, we observed 1500 children (aged 2-9) in New Hampshire towns that had agreed to participate in the project. Children were observed at local beaches on sunny summer days and their caregivers were interviewed. Seventy-nine percent of children had at least some sunscreen, but

Only half of the children were fully protected and nearly one in five was totally unprotected by either sunscreen, clothing, hats, or shade!*

Olson, AL, AJ Dietrich, CH Sox, MM Stevens, CW Winchell, TA Ahles. 1997. Solar protection of children at the beach. *Pediatrics* 99(6): URL: <http://www.pediatrics.org/cgi/content/full/99/6/e2>



After the SunSafe Project was brought to participating towns in NH, children at local beaches were better protected from the sun. In towns that had been exposed to the SunSafe Project for one year, three-quarters of the children were now fully protected and only one in ten was totally unprotected.²

At least some of this improvement in sun protection was due to participating schools and child care sites encouraging sun protection. Sixty-one percent of parents in SunSafe towns reported receiving sun protection information from their child's school or day care, compared to only twenty percent of parents in control towns.³

1 Olson, AL, AJ Dietrich, CH Sox, MM Stevens, CW Winchell, TA Ahles. 1997. Solar protection of children at the beach. *Pediatrics* 99(6): URL: <http://www.pediatrics.org/cgi/content/full/99/6/e2>

2 AJ Dietrich, AL Olson, CH Sox, MM Stevens, TD Tosteson, T Ahles, CW Winchell, J Grant-Petersson, DW Collison, R Sanson-Fisher. 1998. A community-based randomized trial encouraging sun protection for children. *Pediatrics* 102(6): URL: <http://www.pediatrics.org/cgi/content/full/102/6/e64>

3 Grant-Petersson, J, AJ Dietrich, CH Sox, CW Winchell, & MM Stevens. Promotion of sun protection in elementary schools and child care settings: The SunSafe Project. *Journal of School Health* (slated for publication Spring 1999)

Resource List

Reading List

The reading list file will be downloaded along with this manual.

Certificates for Children

See the file “Certificate” downloaded along with this manual. We recommend copying these on light yellow cardstock.

Videos

“Slip, Slop, Slap”: This cartoon video uses music and storytelling to teach the phrase “Slip on a shirt, Slop on some sunscreen, and Slap on a hat”. The phrase and video were developed by The Anti-Cancer Council of Victoria. “Slip, Slop, Slap” is available from the American Cancer Society, 800-227-2345.

“Cover Up”: This live action video uses catchy music to teach grade schoolers about sun protection. Available from the Altschul Group Corporation, Phone 847-328-6700 or FAX 847-328-6706

“Play it Safe in the Sun” Activity Books

Play it Safe in the Sun is coloring & activity book with perky illustrations. Available from Positive Promotions 1-800-635-2666 (Request Item KCB-188)

Posters, Pamphlets, and Stickers

Free skin cancer posters and pamphlets are available from the American Cancer Society. It may be possible to obtain stickers as well. The national number is 800-227-2345 and they can connect you with your local office.

Posters and pamphlets are also available from the Skin Cancer Foundation at 212-725-5176, as well as a great children’s book for school libraries. The “Play It Safe in the Sun” reader explains the “whys” of sun protection and was illustrated by a fifth grader.

Washable Tattoos

Removable “tattoos” with the SunSafe Sam logo can provide a literal “take-home” message for children. These can be ordered from the California Tattoo Manufacturing Co. Phone 941-923-4110 or FAX 941-923-3139 and request PressRun # 7074-DART

Guest Speakers

Contact your American Cancer Society for suggestions. The national number is 800-227-2345 and they can connect you with your local office.