



SKIN CANCER PREVENTION

USEFUL INFORMATION FOR PARENTS FROM THE FIELDS OF BEHAVIORAL SCIENCE AND DERMATOLOGY

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PREFACE

This handbook is to help parents understand and address important issues when talking with their children about how to reduce the potential for developing skin cancer. Much of what is covered is based on large bodies of evidence based literature from the scientific fields of medicine, psychology, and communication as well as the innovative research conducted at the Prevention Research Center for the last 15 years. This handbook offers practical advice for opening communication channels with young individuals and strengthening communication between parents and their children.

As with any project, there are people whose efforts made this possible. Specifically, we would like to acknowledge the numerous parents who gave their valuable time and advice. We would also like to thank all of the children that took the time out to help. Without their insights, there would be no book. Finally, we would like to thank our colleagues for their suggestions and the individuals who provided us with updated statistics and information.



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INTRODUCTION

Skin cancer is the most common form of cancer. It affects individuals of all ages, but is especially problematic for young individuals because they tend to be outside in sunlight more than adults. The causes of skin cancer vary, but there is substantial evidence that suggests that the primary cause is due to exposure to ultraviolet rays that come from sun or artificial light exposure. Information on how to protect yourself and your family from these rays can perhaps save someone's life.



Here are seven facts to consider:

FACT 1: One in five Americans will develop skin cancer in their lifetime.

FACT 2: A sunburn at any time in your life will increase the risk of skin cancer. A sunburn is a sign of DNA damage in skin cells that may result in cancer formation. Sunburns hurt because the body is sending blood to the affected area to remove the dying and DNA damaged cells.

FACT 3: Tanned skin and freckles are other signs of sun damage. Later signs of sun damage include sun spots, wrinkles, thin skin, and other features of premature aging.

FACT 4: Skin cancer can spread to other parts of the body. People do die from skin cancer.

FACT 5: Melanoma, the most deadly form of skin cancer, is now the most common form of cancer for young adults 25-29 years old and the second most common form of cancer for adolescents and young adults 15-29 years old.

FACT 6: Skin cancer is one of the most preventable cancers as up to 90 percent of these cancers are caused by ultraviolet (UV) exposure from the sun or tanning beds.

FACT 7: You can easily prevent sunburns and other forms of skin damage (e.g. tans, wrinkles, sun spots) that may result in skin cancer. This handbook will show you how.

Results from a study conducted by the American Academy of Dermatology on Child Sun Exposure show that 43 percent of sixth and seventh graders say they lay out in the sun, and 63 percent of this age group believe they look better when they have a tan, These potentially dangerous views increase as the children become teenagers.

THE RISK OF SKIN CANCER



People are exposed to ultraviolet rays in many different ways. Both sunbathing and tanning salon use have increased significantly among young people in recent years. Being tan is perceived as being and looking healthy. In fact, 59 percent of young individuals believe that people in general look healthier with a tan. Results from a study conducted by the American Academy of Dermatology on Child Sun Exposure show that 43 percent of sixth and seventh graders say they lay out in the sun, and 63 percent of this age group believe they look better when they have a tan. These potentially dangerous views increase as the children become teenagers.

Parents can be an ideal source of information for their children. The useful information in this booklet has been given to parents just like you throughout the country and their children decreased their risks for developing skin cancer. Despite studies that show when parents have these conversations their children are healthier, many parents still do not take the time to have these important conversations. Remember, you CAN make a difference!



TALKING ABOUT SKIN CANCER, SUNBATHING, TANNING SALONS, AND SUN PROTECTION

Skin cancer is the most diagnosed type of cancer in our society. Most people do not even know what causes skin cancer, how it can be treated, or how it can be prevented. In our review of educational materials, we discovered that most health texts did not cover the topic of skin cancer, risk factors, and methods of prevention in a level of detail sufficient to inform children about the risks. Parents, we believe, can be a tremendous source of information to their children on this topic.

Parental Reluctance to Talk with Their Children and Adolescents about Skin Cancer

Many parents do not talk with their children or adolescents about skin cancer. Some parents believe that their child is not interested in being tan. This is a dangerous assumption to make. Six out of ten children think they look better when they have a tan. During the summer, a large percentage of children tan daily. Your child needs to be informed about the risks. You must provide that information.

Another reason parents do not talk with their children is that they believe that their children will learn about skin cancer in school. Although most children do learn about cancer in their health classes, we have found that many important issues never get covered in these courses. As a parent you must ensure that your child has full and accurate information about the risk of skin cancer.

Another reason parents do not talk with their children about skin cancer is because they believe that they may have difficulty explaining things. Some parents believe they may not be well informed about the different issues. This handbook is designed to address this issue by giving you the information you need. Parents may also believe that they can't articulate things very well. One solution is to rehearse what you are going to say in your mind several times before talking with your child. You might even want to write an outline as a way of organizing your thoughts.

Some parents don't think it is a relevant topic for their children and do not make the time for communication. The fact is that overexposure of ultraviolet rays during childhood and adolescence actually greatly increases the chance of skin cancer by nearly 20 times. One strategy is to establish a routine where, once every other week or so, you and your child set aside a formal time to exchange viewpoints and discuss things that are bothering each of you. These special communication periods are a regular routine and are like family meetings. Such routines guarantee a right time and place to discuss important topics, such as skin cancer as well as other topics that affect your child. Initiating discussions at these times indicates to your children that you feel these issues are indeed important.





Some parents might think that at this point their child should know better. The reality is that many children at this point in their lives are still uninformed about how harmful the sun and tanning beds can be. A misconception that many children have is that it is okay to sunbathe because other children like them are sunbathing. In fact, our review of popular magazines (e.g., Seventeen, Teen) not only featured tanned models and ads for suntan oil, not sunscreen. A majority of the magazines only gave advice on how to soothe a sunburn, not how to prevent a sunburn. Also many children begin going to tanning salons during the spring months as preparation for sunbathing during the summer months, thus exposing themselves even more to many of the negative consequences mentioned earlier. These tanning facilities advertise indoor tanning as a safer alternative and a healthy lifestyle because it produces Vitamin D. However, the UV rays in tanning beds are just as potent and are not the same rays that produce Vitamin D. We will talk more about this issue shortly

Most children do not think about or are unaware of alternative activities that they may participate in when the sun's rays are the strongest, usually from 11:00 a.m. to 4:00 p.m. For example they could read a book, go to the movies, create a service project, workout, or even go shopping.

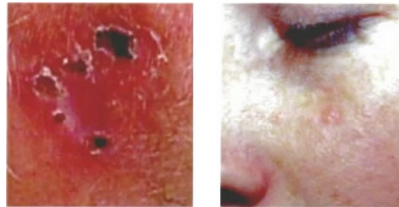
We understand that it is difficult to discuss every health risk your child faces in an in-depth manner, especially during times when the primary issues are alcohol, drugs, and sex. However, the topic of skin cancer is crucial to your child's health and can be discussed in a simple conversation that addresses sunbathing and the alternatives. It is important for you as a parent to take responsibility for the development of your child's values and to help your child grow into a happy, healthy, productive adult. All children are exposed to situations where tans are perceived as being "healthy and attractive." You should help your child realize that tans are not healthy and the tremendous risk associated with having a tan.



MORE SKIN CANCER FACTS

There are three types of skin cancer. The most common type of skin cancer is basal cell carcinoma. It accounts for 90 percent of all skin cancers. This is a tumor that usually looks like a small, fleshy bump, and is most commonly found on the head, neck and hands. Although this cancer is not as life threatening as other cancers, it can lead to local scarring and disfiguration. The second most common type of skin cancer is called squamous cell carcinoma. This tumor usually looks like a small bump or a

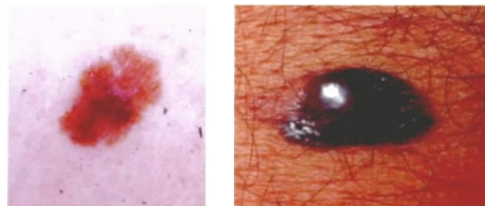
red scaly patch. Squamous cell carcinomas are most commonly found on the ears and face. The third type of skin cancer is melanoma. This cancer is usually found near or on moles or other dark spots on the skin. It is always malignant. In other words, it always has the potential to spread to other parts of the body. Therefore, melanoma is the most dangerous type of skin cancer. The good news is that it is generally curable if detected in the very early stages.



Basal



Squamous



Melanoma

SKIN CANCER RISK FACTORS



There are many risk factors that increase the possibility of developing skin cancer.

PHYSICAL FEATURES: Although anyone can get skin cancer, a person with naturally pale skin, blonde or red hair and blue or light colored eyes has a greater chance of getting skin cancer.



SUNBURN: Sunburns during the summer are very common among children. Each time a child gets a sunburn his or her skin is being damaged. Sun exposure has a cumulative effect and increases the chances of getting skin cancer.

SUNBATHING: The sun gives off ultraviolet radiation that causes skin damage and skin cancer. Every time an individual sunbathes, she or he is being exposed to these harmful rays. People who sunbathe often are at great risk of developing skin cancer. Tanned skin is actually a sign of sun damage. Some individuals' skin color is naturally dark, while others tan to alter their skin color. There are individuals who burn first and then tan afterward. Even though these individuals believe they are safe because they are not getting sunburned, they are actually still accumulating skin damage and DNA damage which leads to skin cancer.

TANNING SALONS OR SUNLAMPS: These also give off ultraviolet radiation, which causes skin damage and skin cancer. Every time an individual goes to a tanning salon or under a sun lamp, she or he is being exposed to these harmful rays. People who go to tanning salons or sit under sun lamps are at great risk of developing skin cancer.

TIME OF DAY: The sun's rays are usually strongest between 11:00 a.m. and 4:00 p.m. This is the most dangerous time to be exposed to the sun. Individuals who expose themselves to the sun during this time are at great risk of developing skin cancer.

BEING OUTSIDE WITHOUT PROTECTION: There are many methods of protecting your children. One method is by using sunscreen with a SPF of 15 or higher and following re-application instructions on the back of the sunscreen bottle. Other methods of protection include wearing a wide brimmed hat, sunglasses, swim shirts or shirts with long sleeves, pants, lipbalm, and sunblock. Avoiding reflective surfaces such as sand and/or cement, and seeking shade between the hours of 11:00 a.m. and 4:00 p.m. are also ways to protect oneself from the sun. Individuals who go outside without protection are at great risk of developing skin cancer.

PROTECTING YOUR CHILDREN

There are many ways to protect your children from skin damage and skin cancer.

1. BE AWARE OF THE RISK FACTORS listed on the previous page and increase your knowledge on the topic. If your child fits any of the risk factors you need to take action right away. The more knowledgeable you are the better off your children will be. This guidebook represents one source of information. Other sources are listed at the end of this handbook. Learn and act.

2. GET YOUR CHILDREN IN THE HABIT OF CHECKING THE DAILY UV INDEX provided by the National Weather Service. The UV index stands for the Ultraviolet Radiation Index and it ranges in value from 0 to 15. Higher numbers indicate greater radiation. Most people are already in the habit of checking to see what the weather will be like in their daily newspaper. Fortunately, the Daily UV Index is located in the same section as the weather in most daily newspapers. It can also be found by listening to the weather portion of your local news or on the Internet (www.pointcast.com). Here is an example of UV index:

UV INDEX

| Index | Exposure | Time to Burn |
|-------|-----------|---------------|
| 0-2 | Minimal | 60 minutes |
| 3-4 | Low | 45 minutes |
| 5-6 | Moderate | 30 minutes |
| 7-9 | High | 15-24 minutes |
| 10-15 | Very High | 10 minutes |

The UV index generally provides three pieces of information: the index number, the amount of UV exposure, and an estimate of the time to develop a sunburn. The one above suggests that the index is 5-6, the UV exposure is moderate, and that it would take individuals having fair skin only thirty minutes to burn. Here are some suggestions from the National Weather Service:

| When the UV index is: | Take these precautions: |
|-----------------------------|--|
| Minimal (0-2) | Hat |
| Low (3-4) to Moderate (5-6) | Hat, sunscreen (15+) |
| High (7-9) | Hat, sunscreen (15+), shady areas, stay indoors from 11 a.m. to 4 p.m. |
| Very High (10-15) | Stay indoors, take other precautions when outdoors |

The UV index can still be high on cloudy days. So use sun protection, even when it is not sunny



3. TAKE SUNBURNS AND TANS SERIOUSLY. Sunburns and tanned skin are warning signs!

Here are ways to prevent sunburns and tanning:

- **ALWAYS USE SUNSCREEN OR SUN BLOCK** with a SPF of 15 or higher at least two times a day on exposed skin. The best approach is to apply sunscreen (lotions, lipbalm, etc.) in the morning everyday during the summer and then again at lunchtime. If your child is going to swim or engage in an activity that will make him or her sweat, it is good to reapply again right after the activity. Many sunscreens advertise that they offer eight hours of protection or are waterproof, water resistant, or sweat resistant. Unfortunately, the scientific evidence for many of these claims is just not reliable. Your best strategy is to re-apply sunscreen often. Individuals who use and re-apply sunscreen with a SPF of 15 or higher every two hours get fewer sunburns and are at less risk of skin cancer.

- **HAVE YOUR CHILD GET IN THE HABIT OF WEARING PROTECTIVE CLOTHING** such as wide brimmed hats, long sleeve shirts, pants, and sunglasses when they are going to be outside. Individuals who wear protective clothing regularly get fewer sunburns and are less at risk of skin cancer.

- **AVOID THE SUN WHEN THE RAYS ARE THE STRONGEST**, from 11:00-4:00 p.m. Although this is difficult, parents have told us that the best strategy is to plan or suggest alternative activities for your child during these hours. It is also important to be aware of reflective surfaces such as sand, water, concrete, snow, and clouds. Many people are not aware that 80 percent of the sun's rays can pass through clouds. If being outdoors during these hours cannot be avoided, try to stay in a shaded area. Individuals who avoid the sun during these times get fewer sunburns and are less at risk of skin cancer.



MYTHS ABOUT SUNBURNS AND SKIN CANCER

Some children acknowledge that getting sunburned may have some long-term consequences, but they go ahead and participate in outdoor activities without using the different types of sun protection. Many children believe that skin damage is reversible and can be cured. This is not accurate. Once your skin is damaged, it cannot be repaired. There are a number of false beliefs that many children hold concerning “methods of curing a sunburn/skin damage.” These methods do not repair the skin after being sunburned; they can only offer possible pain relief. Here is a list of beliefs that many children hold which are **NOT TRUE**:

IT IS NOT TRUE THAT:

- You can't get burned on a cloudy day
- Taking a cold shower will cure a sunburn
- Aloe Vera can repair your skin after being burned
- Tanning salons are safer than the sun
- Almost everyone getting skin cancer is over 50
- People don't die from skin cancer
- Thin, light colored clothing will protect you from a sunburn
- If you burn and then tan afterwards, you are safe
- If you tan and do not burn, you are safe
- If you only get sunburned once in a while, you are safe
- Sunscreen is protective against skin cancer when it is not used as an agent to tan. Using sunscreen to tan and not burn still increases your total sun exposure.

These myths are critical to dispel because children do get skin cancer!



THE VITAMIN D ISSUE



Vitamin D is actually a hormone that regulates many processes in the body. It is produced by the skin upon exposure to certain wavelength of UV rays, called UV-B. Because low levels of Vitamin D have been associated with many chronic diseases including cancer, the issue of over-protection from the sun has become a hot topic in the media and medical community.

Those at highest risk for Vitamin D deficiency are those of darker skin tone and those who are rarely exposed to the sun, such as nursing home residents or those living in the highest latitudes of the world. Many multivitamins contain Vitamin D and have been proven to be effective at treating vitamin D deficiency. This is a safer alternative to using UV exposure for treatment due to the known risk of developing skin cancer. Also Vitamin D is only produced in the first 20 minutes of exposure and prolonged sun exposure will only lead to UV related risk of skin cancer and eye damage. The exact amount of oral supplementation is still currently being debated. If you are concerned about vitamin deficiency in your child, please consult your physician.



REASONS WHY CHILDREN WANT TO BE TAN

It is important for parents to recognize that there will be “positive” reasons for why children choose to sunbathe or get a tan. If parents only choose to focus discussions on the negative aspects of tanning, ignoring the positive aspects, they run the risk of losing credibility in their child’s eyes. A good discussion strategy would be to start with the sunbathing alternatives.

This allows parents to offer and decide upon alternatives to sunbathing that the parent and child both agree to. Alternatives that parents and children in our studies found effective were: going to a movie with a friend, reading a book, renting a movie, going shopping, or working-out or swimming indoors. Here are some of the major beliefs that have an impact on sunbathing behavior:

PERCEPTION THAT SUNBATHING IS SAFE. Many children perceive that sunbathing is a safe activity. They simply lack the knowledge of the risk involved in sunbathing. As a result they cannot understand why they should bother using sun protection or when it would be important to do so. In fact, they have many misconceptions about how getting a tan prevents their skin from further damage. For example, most children believe that if they have a tan, they are safe from skin damage. This is not correct. Every time individuals expose themselves to ultraviolet radiation, they are cumulatively damaging their skin. Even freckles are a sign of sun damage. In addition, children tend to think that going to tanning salons is a better alternative than sunbathing. This also is wrong. Tanning beds actually cause more damage by attacking blood vessels under your skin, causing more damage to the DNA of the skin. Each time you are exposed to ultraviolet rays and don’t take precautions you increase your chances of skin cancer.

Children are also notoriously bad at estimating how much sun exposure they are receiving. In cases where they are very, very burned, it is indeed obvious. But more often than not, people are participating in outdoor activities such as swimming, outdoor concerts, working, etc., and they do not realize they are burned until it is too late. Many people try to judge how burned they are by looking at their skin themselves, or having a friend look to see if they are getting burned. This is a really poor strategy since it is very common for the skin not to appear burned for six to twenty-four hours after exposure. Study

after study has demonstrated that people are extremely poor judges of how much sun exposure they can have before getting burned. Your child should know that despite what he or she may think, odds are that she or he will be unable to accurately anticipate when she or he has had too much sun exposure.

HELPS MOOD TO BE OUTDOORS. Many children and people in general, feel that being outdoors in the sun helps out with their mood. This is true, and many people enjoy being out in the sun. We are not telling people they cannot go outside, but to take precautions when they do go outside. It is also important to stay out of the sun or use stronger precautions during the hours of 11:00 a.m. and 4:00 p.m. when the sun’s rays are strongest. Parents can suggest to their children other alternatives to being in the sun during these hours. It is also important for children to know that it is normal to feel sad and stressed at times. Activities other than tanning, like exercising, are always a good alternative to help improve one’s mood.

MAKES YOU LOOK GOOD. Some children believe that having a tan is a key to their physical attractiveness. Many children report feeling more attractive with a tan than without a tan. In fact 63 percent of children said they think people look better with a tan. Appearance is very important to children. Many children’s self-esteem will be linked to their appearance. The current trend is that individuals look better when tanned. Unfortunately, this belief is dangerous from a health standpoint. You need to address that there are other, safer, methods of improving one’s physical appearance that do not increase health risks like working out, exercising, good nutrition, clothing, and personal hygiene. Also sun damage will lead to wrinkles, sun spots, freckles, and many other signs of aging skin that most adults are trying to avoid or prevent. It is important to have your child considering the future negative consequence of their actions.



GIVES YOU SOMETHING TO DO. Some children get bored during the summer months and choose to lie out in the sun as a way to pass the time with their friends. To confront this, you can offer alternatives as suggested above. Children could also become involved in volunteer activities that are associated with causes they really care about, such as protecting the environment or promoting literacy. This is a good way to meet others with similar interests and also to increase self-esteem.

PEER PRESSURE. Another important reason why children want to be tan is the influence of friends. Your child may feel pressured to be tan. This pressure can be direct, as in the form of someone wanting to sunbathe together, or it can be indirect, such as your child not wanting to use sun protection because his/her friends don't use sun protection. Parents can also help their child understand the dynamics of peer pressure and stress the importance of being your own person. Finally, parents and children can talk about situations that could come up, such as a friend thinking your child is strange for using sun protection, so that children can anticipate how to react.



WHY CHILDREN DO NOT SUNTAN

Many children choose not to sunbathe and the reasons they cite for not doing so can form the cornerstone of your conversations about the disadvantages of tanning. Before discussing these, we must interject a word of caution. If you try strong scare tactics with children by inducing a great deal of fear about negative consequences, then your efforts might actually backfire. Research has shown that when faced with highly fear arousing information, some people will often “turn off to it and not pay as much attention to it. This is because such information and thoughts are anxiety provoking and people are motivated to avoid anxiety. Why think about something when it is unpleasant to do so? In addition, strong scare tactics will often result in a loss of credibility. If you paint a picture based solely

on the dire consequences of skin cancer and a child fails to see such consequences materialize when he, she, or a friend gets a sunburn, then the child will infer that you were wrong or that you were exaggerating the consequences. Discuss the negative consequences in a matter of fact, honest, and straightforward fashion.

COMMITMENT TO A HEALTHY LIFESTYLE. Children are becoming much more aware of the benefits of a healthy lifestyle than in the past. Many children choose to become vegetarians or avoid red meat, exercise regularly in order to keep fit, and avoid harmful activities, such as, smoking, drinking, and tanning. Concern for the environment and the planet is coupled



WARNING SIGNS OF A POTENTIAL SKIN PROBLEM



with a genuine commitment to take care of one's body and lead a long, healthy life. To these children, the idea of smoking cigarettes, drinking alcohol, tanning, or taking other drugs is decidedly "uncool". They have learned to respect their bodies. For many of these children, this choice of healthy lifestyle is their way of asserting their independence.

Most parents underestimate the possibility of their child developing skin cancer. There are several symptoms of skin cancer that parents should talk to their children about. It is important to note that many family doctors miss the signs of potential skin cancers more than 50 percent of the time. If your child has one of the signs, it is better to contact a dermatologist or someone specializing in diagnosing and treating skin cancer. Many of the treatments are more successful if detected in the early stages. Here are some potential warning signs:

- A new growth or a sore that doesn't heal within two weeks
- A sore that seems to heal, but returns to the same site
- Rough, dry, or scaly red areas of the skin that are exposed to sunlight
- A change in size, shape, color, border or diameter of a mole

Most parents do not think skin cancer can happen in their family. Unfortunately, it does happen. You need to help reduce the chances that your child will be the next statistic. Please learn and act.

Things You Should Do and Think About

- We recommend you initiate a conversation with your child about the issues that you think are most important. Put a check mark next to paragraphs that you have discussed with your child. Keep track of what you have talked about and when you talked about it. It will help to use the communication pointers that we have discussed in this manual.
- You should talk about how ultraviolet rays affect the body. Children need to know that tanning on any given occasion can affect them.
- Make clear your own position concerning your child's tanning habits. Some parents permit their children to go to tanning salons/sunbathe on certain occasions. This needs to be directly addressed with your child.
- Discuss with your child the reasons why many children want to be tan. These motivations for tanning need to be put into perspective for the child. If you address these issues directly with your child, then he or she will be better able to think through and reason about the choices he or she makes when confronted with such motivations.
- Discuss with your child the reasons for not tanning and the many negative consequences that can result from tanning.
- We also recommend you talk to your child about the risks associated with sunbathing and going to tanning salons, such as skin cancer and premature aging.
- Finally, make clear your willingness to help your child find constructive alternatives to tanning. Ideally, your discussions will result in an explicit agreement that tanning will not be pursued.

You now have all the useful information that parents just like you, used to talk to their children and reduced their risk for skin cancer.

Remember, you can make a difference.

GLOSSARY AND RESOURCES

BROAD-SPECTRUM: Indicates that a sunscreen protects against both UVB and UVA rays.

PABA-FREE: Para-aminobenzoic acid is a very effective sunscreen that was once used widely. However, some people had allergic reactions to it and it can discolor clothing, so many manufacturers stopped using it.

SPF: Sun protection factor. The ratio between the amount of exposure to ultraviolet rays that causes skin to redden with and without sunscreen. That is, if a sunscreen has an SPF of 15, skin it is applied to can be exposed to the sun fifteen times longer than skin without protection. Currently, SPF measures protection against UVB rays only.

SUNBLOCK: Physically blocks or reflects UV rays. Titanium dioxide and zinc oxide are probably the best known sunblocks and do not blend into the skin. New “micronized” sunscreens now break zinc oxide molecules into tiny pieces that do blend. The FDA is considering classifying zinc oxide as safe and effective for both UVA and UVB sunscreen.

SUNSCREEN: Chemical or mineral preparations that work by absorbing UV rays. Some common ingredients are PABA, benzophenones, cinnamates, salicylates and anthranilates.

UVA: Ultraviolet A radiation, believed to cause wrinkling and leathering of the skin. Once thought to be safer than UVB rays, recent research has shown that UA penetrates deeper into the skin than UVB and may exacerbate skin cancers.

UVB: Ultraviolet B rays are linked to skin cancers. UVB is the main cause of sunburn; sunscreens have long effectively protected against UVB rays.

WATERPROOF: Sunscreen remains effective after 80 minutes in the water.

WATER RESISTANT: Sunscreen remains effective 40 minutes in the water.



For More Information

For more information about skin cancer, contact:

American Cancer Society

www.cancer.org

American Academy of Dermatology

<http://www.aad.org/public/sun/smart.html>



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