



# SOUTH CAROLINA FAMILY AND COMMUNITY LEADERS

Affiliated with  
National Volunteer Outreach Network, Country Women's Council, U.S.A., Associated Country Women of the World and in partnership  
with Clemson University Cooperative Extension Service

## LEADER TRAINING GUIDE

# Sun Safety

### Objectives

1. To learn how the UV rays can be harmful to the skin
2. To know risk factors and some prevention tips to use when exposed to the sun
3. To be aware of signs and symptoms of skin cancer

### Suggested Activities

- \* Ask participants to take the Sun-Safety IQ test (handout 1)
- \* Ask participants to read the risks factors for skin cancer
- \* Share handout 2: "How to Examine Your Skin"
- \* Go over the ABCD Rule of melanoma
- \* Make a bracelet that will remind participants to wear protective clothing and sunscreen
- \* Share or read Survivor Story

**Give out Handout 1, the Sun Safety quiz.** Share answers, were they surprised? Let's begin our adventure outside.

### The Bare Facts:

Cancer of the skin is the most common of all cancers. Melanoma accounts for about 3% of skin cancer cases, but it causes most skin cancer deaths. The number of new cases of melanoma in the United States is on the rise. The American Cancer Society estimates that in 2008 there will be 62,480 new cases of melanoma in this country. About 8,420 people will die of this disease this year. It is preventable!

### What is the skin?

- The largest organ of the body
- Serves as a barrier between microbes and bacteria
- Prevents the loss of too much water and other fluids
- Regulates body temperature and helps rid the body of excess water and salts
- Skin cells communicate with the brain and allow for temperature, touch, and pain sensations

### Why is the sun harmful?

The sun itself is not what harms our skin. It is the UV radiation that the sun gives off that actually causes the damage. There are three types of UV rays that hit your skin when you are outdoors. Can anybody name them? **UVA UVB and UVC**

UVA rays penetrate deepest into your skin, reaching the new skin that lies far beneath the surface. UVB Rays penetrate 50% farther than UVC rays which stop at your skin's surface. UVB rays are responsible for most of the damage that your skin incurs from the sun, but UVA rays (which are used in tanning booths) can cause more serious damage because they affect new skin. A sunscreen that protects against all types of UV radiation is the most effective.

### **What is non-melanoma (basal or squamous cell) skin cancer?**

The most common skin cancers are classified as non-melanoma, usually occurring in either basal cells or squamous cells. These cells are located at the base of the outer layer of skin or cover the internal and external surfaces of the body. Most non-melanoma cancers develop on sun exposed areas of the body.

Can you name these? *Face, ears, neck, lips, back of hands*

These can be fast or slow growing and rarely spread to other parts of the body.

Melanoma skin cancer is the most dangerous of the skin cancers. It begins in the melanocytes, the cells that produce the skin coloring or pigment known as melanin. Melanin helps protect the deeper layers of the skin from the UV radiation from the sun. The good news is melanoma is almost always curable when it is detected early. Although melanoma accounts for only a small percentage of skin cancers, it is responsible for the majority of skin cancer deaths. Can you survive melanoma? YES! The five year relative survival rate for melanoma patients is 89%.

**What are the risks?** (There are eight small paragraphs below, pass around a copy and let participants read these or use a display.)

**Sun Exposure** – UV rays are the primary cause of skin cancer. Excessive exposure can cause blistering sunburns and mutations to the genetic make up of the skin. These mutations can lead to skin cancer.

**Skin Tone** – People at the highest risk are those with fair skin, red or blonde hair and blue, green, or gray eyes who tend to freckle or burn rather than tan. They are 8 times more likely to develop skin cancer than people with dark complexions or dark hair.

**Race** – Caucasians are a higher risk for skin cancer than African Americans, Asians, and other darker skinned people. However, anyone can get skin cancer. Dark-skinned people should look for melanoma warning signs in light colored areas such as the palms, soles of the feet, and nail beds.

**Heredity** – People with family histories of unusual moles or malignant melanomas are at the highest risk for developing skin cancer. They should pay extra attention to changes in moles due to hormonal fluxes due to puberty or pregnancy and when taking birth control pills.

**Location** – Skin cancers are most evident the closer to the equator that you live. Some people raised near the equator have permanent damage by their 20's.

**Exposure at WORK** – People exposed to the following should wear protective clothing and use protective equipment when dealing with the following:  
*coal tar, pitch, creosotes, arsenic, x-rays, asphalt, soot, paraffin waxes, lubrication oils and radium*

**Age** - Although skin cancer affects all age groups, the sun exposure you get before adulthood is what usually results in skin cancer. People get 80% of their sun exposure by the time they are 18. Moles present at birth should be examined by a doctor as should any increase in abnormal moles that develop around puberty.

**Ozone** – Yes, Ozone depletion can increase the risk of skin cancer. Man-made chlorofluorocarbons are depleting the protective layer of the earth's atmosphere, the ozone. Products such as Freon releases chlorofluorocarbons which deplete the ozone, as the ozone is depleted, more UV rays reach us. This increases everyone's risk for skin cancer.

## Prevention Tips

**Which sunscreen is right for you?** The spf or sun protection factor tells you how powerful a certain sunscreen protects. Make sure the bottle provides protection from all types of UV radiation. The spf lets you know how long you can stay in the sun.

**EXAMPLE:** If you are normally in the sun 20 minutes before you start to burn a little, a sunscreen with a spf of 15 allows you to stay in the sun 15 times longer. This is only a guide and it will only protect you in perfect conditions. It must cover all exposed areas. Additionally, time of day, location, and altitude affect how fast you burn. Recent studies tell us that a spf of 30 offers the best protection. It is also important to note that sunscreens with a spf of 45 or higher do not really offer that much more protection, but you don't lose anything by choosing a higher spf if the price is comparable.

### What are the signs and symptoms?

- \*Any change on the skin, especially in the size or color of a mole or other darkly pigmented growth or spot or a new growth.
- \*Scaliness, oozing, bleeding, or change in the appearance of a bump or nodule.
- \*The spread of pigmentation beyond its border such as dark coloring that spreads past the edge of a mole or mark.
- \*A change in sensation, itchiness, tenderness, or pain.

**Go over Handout 2, "How to Examine Your Skin" and the ABCD Rule of melanoma.**

**UV Bracelet** - Now we are going to make a bracelet that will remind you to wear protective clothing and sunscreen. Show the ultraviolet detecting beads; ask a member to walk outside for a few minutes and then return (the beads should be a bright color). The ultraviolet detecting beads can be purchased in quantity by going to

<http://www.teachersource.com/lightandcolor/ultraviolet/ultravioletdetectingbeads.aspx>

Five white beads can be strung on a pipe cleaner or rawhide string and tied. UV Beads may be purchased on the website or by calling at 1-888-912-7474. A 2 ounce package (240 beads) is \$6.95 and 3000 beads are \$54.95 plus shipping and handling (\$7.95 for under \$100.00 order).

**Conclude by reading a "Survivor Story."**

For additional information and treatment options go to [www.cancer.org](http://www.cancer.org).

*Prepared by Barbara H. Lupo, CFCS, Food Safety & Nutrition Educator, Clemson Extension Service.*



# What's Your Sun-Safety IQ?

## Answer sheet

1. I can't get skin cancer, because my routine (work, drive to work, indoor hobbies and vacations) doesn't include any outdoor activities.

A. True B. False The correct answer is B. False

**Dermatologists say brief sun exposures all year round can add up to significant damage for people with fair skin. The sun's ultraviolet rays do pass through car windows, so driving during peak sun hours, 10:00am to 4:00pm, to lunch or on weekends, bathes your hands and arms in damaging UV rays. Such cumulative, everyday exposures are linked to squamous cell cancer. Although not as dangerous as melanoma, squamous cell cancer is still believed to be the cause of up to 20% of skin cancer deaths.**

2. My husband should use sunscreen at football games, even though he only goes (and gets a burn!) once or twice a year.

A. True B. False The correct answer is A. True

**Many people think it's OK to get a sunburn now and then, but studies show that occasional exposure to strong sunlight seems to increase the risk of the most serious type of skin cancer, melanoma.**

3. If I wear sunscreen, I can stay in the sun as long as I want.

A. True B. False The correct answer is B. False

**It's not smart to broil in the sun for several hours, even if you are wearing sunscreen. These products don't provide total protection from ultraviolet (UV) rays. The American Cancer Society recommends that people seek shade and limit time in the sun at midday. Also, cover up with a shirt, wear a wide-brimmed hat, and use a sunscreen rated SPF 15 or higher. Don't forget sunglasses for eye protection.**

4. A sunscreen labeled SPF 30 blocks twice as much UV radiation as one labeled SPF 15.

A. True B. False The correct answer is B. False

**The Sun protection Factor (SPF) describes how long a product will protect your skin, if you apply the sunscreen correctly. Fair-skinned people begin to burn in about 15 minutes on a sunny day, so wearing an SPF 15 sunscreen (if applied and reapplied properly) would prevent sunburn for about 225 minutes ( $15 \times 15=225$ ), or 3 hours and 45 minutes. The SPF 30 sunscreen should last for 450 minutes ( $30 \times 15=450$ ), or 4 hours and 45 minutes. In practical use, you'll need to reapply sunscreen every 2 hours. Be sure to choose a broad spectrum product that blocks UVB and UVA light.**

5. It's safe to let my children stay in the pool all day if they slip on a T-shirt after a couple hours and reapply the sunscreen to their face, arms, and legs.

A. True B. False The correct answer is B. False

**UV rays easily penetrate a white cotton T-shirt, particularly if it's wet. Your children will get only about as much protection as an SPF 4 sunscreen – certainly not enough for all day and well below the minimum of SPF 15 recommended by the ACS. Better clothing choices include dark colors, fabrics with tight weaves, and specially treated garments and bathing suits. Another good choice is moving into the shade. Sun-protective clothing is often found at sporting goods stores. For babies younger than 6 months, shade, sun-protective clothing, and hats are best. As a last resort, pediatricians now say that very small amounts of sunscreen can be used on small areas, such as the face and back of the hands.**

### Answer sheet continued

6. How often do you need to reapply water-resistant sunscreen?
- A. Every 2 hours or sooner
  - B. After sweating or swimming
  - C. After you towel dry
  - D. All of the above

**The correct answer is D. All of the above**

**For best results, most sunscreens need to be reapplied about every 2 hours or sooner, but be sure to check the label. Sunscreens labeled “water resistant” are made to protect you when swimming or sweating, but may only last for 40 minutes. Also, remember that sunscreen usually rubs off when you towel dry.**

7. Getting a “base tan” at an indoor tanning salon is as good way to prevent sunburn when I go to the beach later this summer.
- A. True    B. False    **The correct answer is B. False**

**Our experts say a “base tan” gives you very little protection against sunburn. That goes for indoor tans, too, which provide a sun protective factor of 4, much less than most sunscreens. So in practice, a base tan may increase the chance you’ll get a burn, because you’re likely to stay out longer without properly protecting your skin. Also, tanning itself injures the skin. What you don’t see is UV damage to deeper layers, where it accumulates from every tan and burn you’ve ever had. There is no such thing as a “safe tan.”**

8. What are the two most common (and painful) sunscreen mistakes?
- A. Choosing an SPF below 15 and missing spots
  - B. Using too little and waiting too long to reapply
- The correct answer is B. Using too little and waiting too long to reapply**

**A study of beachgoers found most people who used sunscreen came home with a sun burn, thanks, to those two mistakes listed in B. Adults need an ounce of sunscreen to cover their arms, legs, face, hands, neck, and ears. Spreading it too thin cuts the protection in half, according to Mary O’Connell, a health educator for the American Cancer Society. Sunscreen should be reapplied every 2 hours or sooner.**

9. Now put it all together. You applied sunscreen at 12:00 noon for an afternoon of reading beside the pool. At 2:00pm, which one of the following actions would best protect your skin?
- A. Slip on a long cotton dress
  - B. Move to the shade
  - C. Reapply sunscreen

**The correct answer is B. Move to the shade**

**While all three actions help, getting out of the mid-day sun is the best choice in this situation. Seeking shade is a key element in preventing skin cancer, especially between 10:00am to 4:00pm. The sundress blocks very little UV radiation because it’s made of cotton. It compares to a sunscreen rated SPF 4. Covering up is the right idea, but dark colors, tight weaves, and clothing labeled at least SPF 30 work better. Sunscreen should not be used to extend your time in intense sunlight. It’s an important part of a larger strategy that the American Cancer Society recommends to protect your skin, but it does not provide total protection. To get the most from sunscreen, choose products of SPF 15 or higher that block both UVA and UVB rays, reapply at least every 2 hours, and use at least 1 ounce for an adult.**

## Ultraviolet Detecting Beads

Ultraviolet (“UV”) light is one of the invisible frequencies of light that is given off by the sun. Overexposure to it can be harmful to many things including humans. Its effects can be seen in faded paper, a sunburn, and a cracked rubber hose that has been left out in the sun. There are many products at Educational Innovations that can be used to explain and explore UV light including Sunprint Paper (#SPP-40), UV Nail Polish (#NP-AST), UV Filter Set (#FIL-235), and Outside Detectors (#UV-360).

UV-sensitive beads (#UV-AST) contain a pigment that changes color when exposed to ultra-violet light from the sun or certain other UV sources. The pony beads are not, however, affected by visible light and so will remain white indoors or when shielded from UV light.

The electromagnetic radiation needed to affect change is between 360 and 300 nm in wavelength. This includes the high-energy part of UV Type A (400-320 nm) and the low energy part of UV Type B (320-280 nm). Long fluorescent type black lights work well. Incandescent black lights, the type used to make fluorescent paints glow, will not change the color of the beads, nor will UV Type C (280 –1 nm).

### Simple Activities

1. **Make a UV detecting bracelet.** Take a set of UV detecting beads; two each of red, orange, yellow, blue and purple. Place the beads onto a rawhide string (#UV-RAW), to create a pattern so that two beads of the same color are not next to each other. Your FCL members can check their progress by exposing the beads to sunlight.
2. **Test the effectiveness of sun block.** By coating two pieces of overhead acetate with different levels of sun block, and placing a few purple UV beads under each, then exposing the sheets to UV light, you can observe which beads change most quickly, and determine if the SPF or brand of lotion actually affects the amount of UV light that passes through to your skin.
3. **Measure the UV light emitted from the sun on different colored beads and at different times of the day.** You will find that the beads change color much faster at noontime than in the late afternoon. As an added twist, take your beads outside at the same time of the day, but under different weather conditions. Does cloud cover change the amount of UV light you are exposed to?
4. **Investigate UV absorption.** Place different transparent filters between a UV light source and the beads. Try eyeglasses and UV absorbing window film. You will find that the front windshield of most automobiles absorbs UV radiation. Usually the side windows do not have this built-in protection.
5. **A Great Inquiry Lesson** – Give each of your FCL members 5 white beads on a pipe cleaner to take home (or use different colored beads). Do not tell them what to expect. Have them determine what makes the beads “special”.

Source: *Educational Innovations, 362 Main Avenue, Norwalk, CT 06851 Phone (888) 912-7474*  
Fax (203) 229-0740      [www.teachersource.com](http://www.teachersource.com)      [info@teachersource.com](mailto:info@teachersource.com)

## **Survivor Story**

### **Melanoma Survivor Relishes Every Day**

When Linda Talbott was a child in Pratt, Kansas, she spent most days outdoors, playing in the sun so fierce, she got blistering sunburns on more than one occasion. But it was the 1940's, and no one thought much about the damage such extreme sun exposure might cause.

Now a melanoma survivor, Talbott wants to make sure everyone gets the message about sun safety. "Prevention is my middle name," says Talbott. The grandmother of two spends most of her time working to raise awareness of the dangers of melanoma and the simple habits that help prevent the disease or find it early. "I would love to see a siren that goes off every couple of hours at beaches and pools to remind people to reapply their sunscreen," she says.

Talbott also would like to see skin cancer awareness programs included in public school health classes, and national public service announcements that warn people about the dangers of overexposure to the sun and tanning devices. She's working to set up free skin cancer screenings twice a year in Kansas City, Missouri, where she now lives.

Her mission has taken her all the way to Capitol Hill, where she represented Missouri as an ambassador during the American Cancer Society's Celebration on the Hill gathering.

Talbott is no newcomer to cancer advocacy, the efforts people make to change a community or law for the better. She has been volunteering with the American Cancer Society since the 1970's, and was involved with other organizations even before that, spurred by her family's grim experience with the disease. Her grandmother, mother, sister, and first husband all died of cancer, and other relatives are survivors like her.

#### **A Fleck That Got Bigger**

Talbott's personal battle with melanoma began in 1997. While washing her face one day, she noticed a dark fleck under her left eye that wouldn't wash away. About a week later, the fleck seemed bigger, so Talbott made an appointment with a dermatologist. Over the next few weeks, as she waited for the day of her appointment to arrive, the fleck grew noticeably larger. Then one day it began to bleed. Talbott rushed to see the doctor the next day. His diagnosis was swift and devastating: melanoma.

Talbott's doctors were able to determine that the spot under her eye was actually a second melanoma. The original was a couple of inches away, on her cheek. It had been misdiagnosed years earlier as an age spot and burned off. That meant that doctors were going to have to do an extensive surgery on Talbott's face to excise all the cancerous tissue. "I said, Listen, I want to live. Do whatever you have to get it" she recalls. The treatment left her permanently scarred. Her eye no longer closes completely, most of her cheek is gone, and she had to work to regain proper motion in her mouth. "But, my gosh, those are minor things," she says. "I'm so fortunate to be here."

#### **Making Every Moment Count**

Talbott's days are now filled with speaking engagements and other volunteer activities designed to drive home her message of prevention. She takes every opportunity to warn people away from tanning beds, and encourage them to examine themselves for suspicious moles regularly. She has even written a book about her experiences. Now she takes time to pursue the things she enjoys: She goes dancing twice a week, and plans fishing trips with her granddaughter. "I wake up every day and say 'Thank you for this day.' I don't postpone joy. I try to make every single moment count," she says.



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### Handout 1

### What's Your Sun-Safety IQ?

- I can't get skin cancer, because my routine (work, drive to work, indoor hobbies and vacations) doesn't include any outdoor activities.  
A. True B. False
- My husband should use sunscreen at football games, even though he only goes (and gets a burn!) once or twice a year.  
A. True B. False
- If I am wearing sunscreen, I can stay in the sun as long as I want.  
A. True B. False
- A sunscreen labeled SPF 30 blocks twice as much UV radiation as one labeled SPF 15.  
A. True B. False
- It's safe to let my children stay in the pool all day if they slip on a T-shirt after a couple hours and reapply sunscreen to their face, arms, and legs.  
A. True B. False
- How often do you need to reapply water-resistant sunscreen?  
A. Every 2 hours or sooner  
B. After sweating or swimming  
C. After you towel dry  
D. All of the above
- Getting a "base tan" at an indoor tanning salon is as good way to prevent sunburn when I go to the beach later this summer.  
A. True B. False
- What are the two most common (and painful) sunscreen mistakes?  
A. Choosing an SPF below 15 and missing spots  
B. Using too little and waiting too long to reapply
- Now put it all together. You applied sunscreen at 12:00 noon for an afternoon of reading beside the pool. At 2:00pm, which one of the following actions would best protect your skin?  
A. Slip on a long cotton dress  
B. Move to the shade  
C. Reapply sunscreen



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### HANDOUT 2

## How to Examine Your Skin

Get familiar with your skin and your own pattern of moles, freckles, blemishes, and birthmarks.

Check your skin monthly, and be alert to changes in the number, size, shape, or color of spots on your skin or sores that do not heal.

The best time to do this simple exam is after a bath or shower. Use a full length and a hand mirror so you can check your skin from head to toe, noting anything new.

### Face the mirror:

Check your face, ears, neck, chest, and belly.

Check both sides of your arms and tops and palms of your hands.

### Sit down:

Check the front of your thighs, shins, tops of your feet, and in between your toes. Now look at the bottom of your feet, your calves, and backs of your thighs – first one leg, then the other.

### Stand up:

Use the hand mirror to check the buttocks, lower back, upper back, and the back of the neck.

If you do this exam regularly you will know what is normal for you and can feel confident. Remember the warning signs and check with your health care professional or dermatologist if you find something.

The most common skin cancers – basal cell and squamous cell – often take the form of a pale, wax-like, pearly nodule, a red scaly, sharply outlined patch, or a sore that does not heal. Another form of skin cancer - melanoma – often starts as a small mole-like growth.

### THE ABCD Rule

**A** is for Asymmetry: One half of a mole or birthmark does not match the other.

**B** is for Border: The edges are irregular, ragged, notched, or blurred.

**C** is for Color: The color is not the same all over, but may have differing shades of brown or black, sometimes with patches of red, white, or blue.

**D** is for Diameter: The area is larger than 6 millimeters (about ¼ of an inch - the size of a pencil eraser) or is growing larger.

Some melanomas do not follow the rules, it is important to note any changes in size, shape, or color of a mole or new spot.

### Other warning signs include:

\*a sore that does not heal

\*a new growth

\*spread of pigment from the border of a spot to surrounding skin

\*redness or a new swelling beyond the border

\*change in the surface of a mole – scaliness, oozing, bleeding, or appearance of a bump or nodule

*This information is from the American Cancer Society. More information can be found at [www.cancer.org](http://www.cancer.org)*