



Sun Safety

Presentation Length: Approximately 30 minutes

Key Terms

Exposure: Condition of being unprotected or uncovered.

Broad-spectrum protection: A property of sunscreen providing protection against both ultraviolet A (UVA) and ultraviolet B (UVB) rays.

Cancer: A group of diseases with one thing in common: the uncontrolled growth of abnormal cells in the body.

Ozone layer: A layer in the lower region of the stratosphere containing ozone (most commonly found 6 to 30 miles above the Earth's surface), which absorbs some of the ultraviolet radiation from the sun.

Sun protection factor (SPF): The amount of protection from ultraviolet (UV) radiation that a sun protection product will provide.

Sunblock: A topical substance that contains physical or inorganic ingredients that physically block UV rays; used to protect the skin from UV rays.

Sunburn: Inflammation and damage of the skin caused by overexposure to the UV rays from the sun or artificial sources.

Sunscreen: A topical substance that contains chemicals that absorb UV rays; used to protect the skin from UV rays.

Risk factor: Something that increases risk or susceptibility.

Ultraviolet (UV) rays: Rays from the sun and artificial sources that can cause sunburn. These invisible rays are part of the energy that comes from the sun, but can also be delivered from artificial sources like tanning beds or sunlamps. Overexposure to UV rays can cause skin cancer, premature aging of the skin and eye damage.

Objectives

After completing this presentation, participants will be able to:

- List types of skin damage caused by too much sun.
- Explain how sunscreen prevents sunburn and helps prevent skin cancer.
- Explain the importance of wearing protective clothing while in the sun.
- Describe steps to take to reduce exposure to ultraviolet (UV) rays.
- List types of eye damage caused by too much sun.
- Name one thing everyone should do to avoid eye damage.
- Recognize the importance of being sun safe.

Materials, Equipment and Supplies

- American Red Cross identification
- Easel pad and markers, chalkboard and chalk or white board and markers
- Handout (one for each participant):
 - The UV Index

- *American Red Cross Swimming and Water Safety*
- Brochures that list local Red Cross courses (optional)

Presentation Outline

Topic	Length
Introduction	2 minutes
Sun Overexposure	3 minutes
Ultraviolet (UV) Radiation	3 minutes
The UV Index	8 minutes
Staying Sun Safe	12 minutes
Wrap-Up	2 minutes
Approximate Time for Total Presentation	30 minutes

Topic: Introduction

Time: 2 minutes

Activity

- Welcome participants and thank them for allowing you to speak today about this important information.
- Have participants introduce themselves and explain their reasons for attending this presentation.
- Explain that in this presentation, you are going to discuss general sun safety information that will help them and their families avoid negative health consequences associated with overexposure to the sun's harmful rays.
- Distribute brochures, newsletters or course catalogs that list Red Cross courses offered locally.

Topic: Sun Overexposure

Time: 3 minutes

Key Points

- Everyone enjoys spending time outside on a warm, sunny day, but spending too much time in the sun without taking steps to protect yourself from the sun's damaging rays is a case of too much of a good thing.
- The consequences of overexposure are severe. Too much unprotected exposure to the sun causes sunburn and other skin damage, such as:
 - Dark patches.
 - Loss of skin elasticity (sagging skin).
 - Wrinkles.
 - Premature aging of skin (skin that looks older than it should).
 - Skin cancer.
- In fact, skin cancer has become the most common type of cancer in the United States. According to the American Academy of Dermatology's current estimates, one in five Americans will develop skin cancer in their lifetime.
- Of the different types of skin cancer, melanoma is the most serious.
 - Dermatologists think that sunburns suffered in childhood may lead to melanomas later in life.
- Non-melanoma skin cancers, including basal cell carcinomas and squamous cell carcinomas, are less deadly than melanomas, but can be disfiguring and cause serious health problems if left untreated.

- Besides sunburn and skin damage, too much exposure to sun can cause eye damage such as:
 - Cataracts, a condition that causes cloudy vision.
 - Skin cancer around the eyes.
 - Sunburn to the cornea, the clear layer that covers the front of the eye.
- Fortunately, everyone can take steps to reduce exposure to the sun's damaging rays.

Topic: **Ultraviolet Radiation**

Time: 3 minutes

Key Points and Discussion

- What is it about the sun that is dangerous to our skin?

Answer: *Ultraviolet radiation.*

- Energy from the sun is called solar radiation. Solar radiation reaches the Earth in a range of wavelengths, or rays, including ultraviolet (UV), infrared, visible light, gamma ray and X-ray.
- There are two types of rays to be concerned about—ultraviolet A (UVA) rays and ultraviolet B (UVB) rays.
 - UVA rays, also found in tanning salons, can cause premature aging of the skin and contribute to the development of skin cancer.
 - UVB rays are the burn-producing rays. Overexposure to UVB rays is thought to be the most common cause of skin cancer.
- In the past, the ozone layer of the atmosphere offered more protection from dangerous UV rays, but this layer is becoming depleted, permitting greater amounts of UV radiation to reach the Earth's surface.
- Worldwide efforts are being made to stop the production of chemicals that have contributed to thinning of the ozone layer.
- The current belief is that that with full compliance with these efforts, the ozone layer can return to normal levels by 2050. Why is sun safety especially important for children growing up during this time frame?

Answer: *Responses could include the following:*

- *Children growing up in this time frame will live most of their lives with higher levels of UV radiation, increasing their lifelong exposure.*
- *Severe sunburns during childhood significantly increase the risk for developing skin cancer later in life.*

Topic: **The UV Index**

Time: 8 minutes

Key Points

- The amount of UV light reaching the ground in any given place depends on a number of things, such as time of day, time of year, how high a location is (altitude) and how much cloud cover there is.
- To help people understand the UV rays in their area, the National Weather Service and the Environmental Protection Agency (EPA) have developed the UV Index.
- The UV Index number gives information about the strength of the UV rays reaching the ground. The higher the number, the higher the chance of sunburn and skin damage.
- UV intensity levels are listed on a scale of 0 to 11. On a day with an intensity level of 1, there is a low risk for overexposure; on a day with an intensity level of 11, there is an extreme risk.

Leader's Note: Distribute a copy of the handout, *The UV Index*, to each participant.

- The UV Index is issued daily in selected cities across the United States.
- You can find the UV Index on the Internet at <http://www2.epa.gov/sunwise/uv-index>.

Leader's Note: If you have access to the Internet, go to <http://www2.epa.gov/sunwise/uv-index> and check the UV index in your city for today. Show participants how to check the UV index.

Where Are UV Rays the Strongest?

- UV rays are stronger near the equator, where the sun is most directly overhead.
- UV rays are stronger at high altitudes, such as in mountainous areas.
 - A person can get sunburn while snow skiing on a cold day in the mountains.
 - Eye damage can also be worse at high altitudes.
- The south and southwestern part of the United States is known as the Sunbelt region, which is an area that has long summers and short winters.
 - Because the summers are long, the UV index is high on more days each year than in the northern states.
- Can you tell me which states are in the Sunbelt?

Answer: The following states are in the Sunbelt:

- Southern California
- Southern tip of Nevada
- Arizona
- New Mexico
- Texas
- Oklahoma
- Arkansas
- Louisiana
- Mississippi
- Tennessee
- Alabama
- Georgia
- North Carolina
- South Carolina
- Florida
- Hawaii

When Are UV Rays the Strongest?

Key Points

- The sun's angle changes with the seasons. UV rays are strongest in the summer.
- The sun's rays are the strongest between 10 a.m. and 4 p.m.
 - You should limit exposure to the sun during these hours.

- An easy way to tell how much UV exposure you are getting is to look for your shadow:
 - If your shadow is taller than you are (in the early morning and late afternoon), your UV exposure is likely to be lower.
 - If your shadow is shorter than you are (around midday), you are being exposed to higher levels of UV radiation.

Topic: **Staying Sun Safe**

Time: 12 minutes

Key Points

- Taking steps to reduce exposure to the sun every day is the best defense against skin cancer and the other negative effects of the sun.
- One of the most important actions you can take to reduce your risk for health problems as a result of sun overexposure is to use sunscreen or sunblock regularly and properly.
- Choose a sunscreen or sunblock labeled “broad-spectrum.” This means it will provide protection against both UVA and UVB rays.
- Choose a sunscreen or sunblock with a sun protection factor (SPF) of at least 30.
- Apply the recommended amount of sunscreen or sunblock to all exposed skin at least 15 minutes before you go outside, even if it is cloudy out. (It is possible to burn on a cloudy day.)
 - Be sure to remember commonly missed areas, such as the lips, ears and the tops of the feet.
 - Reapply sunscreen every 2 hours and after swimming or sweating.
- Do not allow your skin to get sunburned—ever.
- Avoid tanning beds. UV light from tanning beds causes skin cancer and wrinkling, just as UV rays from the sun do.
- Wear protective clothing, such as a long-sleeved shirt, long pants, a wide-brimmed hat and sunglasses, when possible.
 - Choose sunglasses that offer 99 to 100 percent protection against UV rays.
- Seek shade when appropriate, remembering that the sun’s UV rays are strongest between 10 a.m. and 4 p.m.
- Carefully examine all of your skin once a month and report any changes. Early detection of skin cancer can save your life. Have any new or changing mole evaluated by a health care provider.
- Use extra caution near water, snow and sand. Water, snow and sand reflect the damaging rays of the sun, which can increase your chance of sunburn.
- Get vitamin D safely through a diet that includes vitamin supplements and foods fortified with vitamin D. Do not seek the sun for your vitamin D.
- Plan your outdoor activities in ways that prevent overexposure to the sun. Check the UV Index before you go outside.

Activity

- Tell participants that it is easy to overlook the many ways we can limit our exposure to the sun.
- Explain that the way many of us normally participate in typical recreational or day-to-day activities may in fact increase our exposure to UV rays.
- Divide participants into groups of two or three.
- Give each group two sheets of easel pad paper and markers.
- Have each group select one day-to-day activity and one recreational activity that typically take place outside.
- Tell the groups to write the names of the activities on the sheets of paper.
- Have the groups divide the paper into two columns using the marker.
- For each activity, have each group identify common behaviors or ways of participating that do not limit UV exposure in one column and modifications that can be made or new behaviors to reduce the risk in the other column.

- Give groups approximately 5 minutes to complete this task. Use the examples below to help groups who may have difficulty completing this task.
- Have each group share their results.

Example 1

At Work or School

Behavior	Sun Safe Behavior
Check the weather. If it is warm, wear a short-sleeved shirt and shorts.	Check the UV Index. If it is high, wear a long-sleeved shirt and pants, if possible.
Eat outside for lunch.	Eat lunch inside or in the shade. Put on sunscreen before heading outdoors.
Go for a jog or walk during lunch.	Jog or walk after work or school (past 4 p.m.) or before work or school.
Leave the house without a hat or a pair of sunglasses.	Wear sunglasses and a hat when in the sun.

Example 2

Golfing

Behavior	Sun Safe Behavior
Check the weather. Decide to play if it is warm.	Check the UV Index. Decide not to play if it is high.
Make an 11 a.m. tee time.	Play early in the morning or late in the afternoon.
Do not wear sunscreen.	Put on sunscreen.
Wear shorts and a short-sleeved shirt.	Wear long pants and a long-sleeved shirt.
Do not wear sunglasses.	Wear sunglasses and a hat.

Leader's Note: *It may be necessary to guide participants to the appropriate modifications. Conduct a short discussion on each of the behaviors and modifications to ensure that participants can understand and apply the sun safety tips.*

Topic: **Wrap-Up**

Time: 2 minutes

Key Points and Discussion

- Today we learned the importance of being sun safe and steps you can take to reduce your exposure to UV rays.
- Does anyone have any other questions about any of the topics we covered today?
 - Remember to go to redcross.org/takeaclass to enroll in swim lessons; water safety training; and first aid, CPR and AED classes. You can also call swimming pools in your area and be sure to ask for Red Cross training.
 - Be sure to download the free Red Cross Swim mobile application, as well as other Red Cross apps that provide lifesaving information on topics such as first aid, tornadoes, hurricanes and more. Download American Red Cross apps directly from the iTunes, Google Play or Amazon Marketplace app stores.

Leader's Notes:

- Briefly answer any questions and thank participants for their time and participation.
- Report your teaching activity and the results of this course to the Red Cross Learning Center.



UV Index Scale



0 to 2: Low



A UV Index reading of 0 to 2 means low danger from the sun's UV rays for the average person.

- Wear sunglasses on bright days.
- If you burn easily, cover up and use broad spectrum SPF 30+ sunscreen.
- Watch out for bright surfaces, like sand, water and snow, which reflect UV and increase exposure.

3 to 5: Moderate



A UV Index reading of 3 to 5 means moderate risk of harm from unprotected sun exposure.

- Stay in shade near midday when the sun is strongest.
- If outdoors, wear protective clothing, a wide-brimmed hat, and UV-blocking sunglasses.
- Generously apply broad spectrum SPF 30+ sunscreen every 2 hours, even on cloudy days, and after swimming or sweating.
- Watch out for bright surfaces, like sand, water and snow, which reflect UV and increase exposure.

6 to 7: High



A UV Index reading of 6 to 7 means high risk of harm from unprotected sun exposure. Protection against skin and eye damage is needed.

- Reduce time in the sun between 10 a.m. and 4 p.m.
- If outdoors, seek shade and wear protective clothing, a wide-brimmed hat, and UV-blocking sunglasses.

- Generously apply broad spectrum SPF 30+ sunscreen every 2 hours, even on cloudy days, and after swimming or sweating.
- Watch out for bright surfaces, like sand, water and snow, which reflect UV and increase exposure.

8 to 10: Very High



A UV Index reading of 8 to 10 means very high risk of harm from unprotected sun exposure. Take extra precautions because unprotected skin and eyes will be damaged and can burn quickly.

- Minimize sun exposure between 10 a.m. and 4 p.m.
- If outdoors, seek shade and wear protective clothing, a wide-brimmed hat, and UV-blocking sunglasses.
- Generously apply broad spectrum SPF 30+ sunscreen every 2 hours, even on cloudy days, and after swimming or sweating.
- Watch out for bright surfaces, like sand, water and snow, which reflect UV and increase exposure.

11 or more: Extreme



A UV Index reading of 11 or more means extreme risk of harm from unprotected sun exposure. Take all precautions because unprotected skin and eyes can burn in minutes.

- Try to avoid sun exposure between 10 a.m. and 4 p.m.
- If outdoors, seek shade and wear protective clothing, a wide-brimmed hat, and UV-blocking sunglasses.
- Generously apply broad spectrum SPF 30+ sunscreen every 2 hours, even on cloudy days, and after swimming or sweating.
- Watch out for bright surfaces, like sand, water and snow, which reflect UV and increase exposure.

Source: United States Environmental Protection Agency