

# **Reduce UV Exposure to Prevent Skin Cancer:**

## **Tools to promote protection from harmful UV rays and reduce skin cancer risk**



# Introduction



Skin cancer prevention guidelines recommend multiple behaviors to protect against harmful ultraviolet rays, yet few adults sufficiently protect themselves from sun exposure. The purpose of this study was to identify common beliefs among white adults regarding sun protection behaviors, and to create and test effective messages based on those findings.

This toolkit contains messages that can be utilized by public health professionals to encourage sun protection behaviors. Messages are available in three formats: 30-second video PSAs, 30-second radio PSAs, and posters.

This toolkit provides strategies you can use when sharing messages. You can also head to our website for links to all of the videos, PSAs, posters and social media messages. Share them with your audience to educate and encourage them to adopt sun protection behaviors.





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# Project Overview

This study assessed the knowledge, attitudes, and beliefs of U.S. adults about UV avoidance and sun protection behaviors. Most research participants were non-Hispanic white adults aged 18-49. We focused on this population because of their higher risk for skin cancer. However, we also included smaller samples of older white adults (aged 50-65) and non-White participants aged 18-65. These groups are still at risk of skin cancer, but less is known about sun protection beliefs and behaviors in these populations.

The study included multiple phases. First we conducted formative research to help inform what messages would be effective. We then created messages in various formats, and in the final phase, we tested the effectiveness of the resulting video PSAs. The study drew on the Integrative Model of Behavioral Prediction and Change (IM) as well as constructs associated with effective health communications.

## Formative Research

We conducted qualitative interviews to elicit beliefs, referents, and facilitators and barriers for UV avoidance or sun protection. For example, participants were asked what they perceived to be the advantages (and disadvantages) of wearing sunscreen, who might approve (or disapprove) of them wearing sunscreen, and what would make it easier (or harder) to wear sunscreen.

The major themes that emerged from the interviews were incorporated into a closed-ended, national online survey. The survey provided quantitative information about which themes, and which combinations of themes, were most strongly driving participants' intention to adopt sun safety behaviors.

## Message Development

We partnered with a multimedia firm (Klein Buendel) to craft messages based on findings from the formative research. First, we conducted focus groups in Colorado and Philadelphia to gather feedback on the proposed messages (presented through storyboards). Only the most successful messages proceeded into development. We created 6 video PSAs, 8 radio PSAs, and 8 posters.

These messages promoted the following skin cancer prevention behaviors: seeking shade, wearing sunscreen, and covering up (i.e. wearing protective clothing like a shirt and hat).

## Message Testing

We tested videos in two stages. First, we conducted a national online survey to evaluate reactions to the messages. The questionnaire included measures of message appeal (whether participants enjoyed the videos), argument strength (whether the videos were deemed convincing), and behavioral intention (whether participants planned to adopt sun protection behaviors).

Second, we conducted laboratory testing in which participants' eye movements were tracked while they watched the videos. Two weeks later, participants completed an online follow-up survey to measure what they remembered from the videos. These findings helped us determine what visual cues were most likely to capture and sustain attention.



# UV Protection Messages



Participants in our study were surveyed for their responses to the videos, posters, and radio PSAs that we produced. We were able to gather their responses into data that told us what hit home, and would encourage using more than one sun protection strategy. Each of the next pages, or “tools,” contain the following:

- the main message
- a link to the video the participants viewed
- the transcript and link to the Radio PSA
- a poster designed for our study
- a social media message with hashtags
- some of the tools contain interesting facts from the data we collected

## How to use this toolkit:

- Share these pages, facts, and graphics with your network and audience.
- Use the behavior icons to target your audience, and create a message with impact. Look for the icon on each page to find the focus of each tool, including its poster, video and audio message.
- Share a link to our interactive website on your social channels, where you can view the video, listen to the radio PSA, and download the poster image.

[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

## Recommended Behaviors

The messages in this toolkit correspond to the following behaviors. You can keep this in mind when sharing this information. Some messages contain more than one behavior, and some of them contain all of them.

### Avoidance



### Protection



### Covering-up



Some messages  
contain multiple  
themes



## Use shade to be sun safe.

And remember your shirt, hat, and sunscreen with a SPF of 15 or higher to prevent skin cancer, and to protect yourself from the sun's harmful rays.



This message focuses on the UV protection strategy of avoidance, like seeking shade and staying out of the sun during peak hours.



View the digital version of this tool, go to:  
[opennprc.org/skin-cancer-outdoor-exposure-tools/](http://opennprc.org/skin-cancer-outdoor-exposure-tools/)

Soccer poster



### Watch the Video: Soccer

Click the icon on the right to view the video associated with this message, or go to our website to view all of the videos. This message focuses seeking shade and avoiding the sun during peak hours.



### Hear the Radio PSA: Soccer

TRANSCRIPT: "(Hot and sunny today with a high of 90! Have fun out there)  
If you are going to the park to watch your favorite soccer player's game, remember to use shade to be sun safe. Bring along a pop-up shade tent and share it with your friends and neighbors. Everybody scores! And remember, a cover-up shirt, hat, and sunscreen with an SPF of 15 or higher, to prevent skin cancer and to protect yourself from the sun's harmful rays."

[Use this message](#)

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Use shade to be sun safe. Remember your shirt, hat, and sunscreen with a SPF of 15 or higher to prevent skin cancer. #skincancerawareness #prevention

# Shade. It can turn a picnic into a party.



You'll have a great time and protect yourself and your friends from harmful UV rays.

This message focuses UV protection strategy of avoidance, like seeking shade and staying out of the sun during peak hours.



View the digital version of this tool, go to:  
[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

Shade poster



[Use this message](#)

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[Download the poster](#)



Shade. It can turn a picnic into a party. You'll have a great time and protect yourself and your friends from harmful UV rays. #skincancerawareness #prevention

## Enjoy your time in the sun.

**Don't damage your skin or ruin your vacation. Wear a sunscreen of SPF 15 or higher along with a hat and shirt to protect yourself from the harmful UV rays.**

This message focuses UV protection strategy of protection, by using sunscreen to protect your skin from a sunburn.



 View the digital version of this tool, go to: [upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

First Day Out poster



### Watch the Video: First Day Out

Click the icon on the right to view the video associated with this message, or go to our website to view all of the videos. This message focuses on using sunscreen to protect your skin.



### Hear the Radio PSA: First Day Out

TRANSCRIPT: "When you start your day, you need enough time to take care of the basics, like getting breakfast, hopping in the shower, and preparing for anything that might come your way - like too much sun exposure. Add sunscreen to your daily routine to cover the bases. Five minutes is all it takes. Use a sunscreen of SPF 15 or higher to help prevent skin cancer. Protecting your skin won't slow you down."

[Use this message](#)

[Download this page](#)

[Download the poster](#)



Enjoy your time in the sun. Don't damage your skin or ruin your vacation. Wear a sunscreen of SPF 15 or higher along with a hat & shirt to protect yourself from harmful UV rays. #skincancerawareness #prevention

## Avoid the apocalypse.

Take the time to protect yourself from the harmful rays of the sun.



This message focuses on all of the UV protection strategies, covering up with a hat and shirt, avoidance by seeking shade, and protective measures, like sunscreen.



View the digital version of this tool, go to:  
[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

Zombie Apocalypse poster



### Watch the Video: Zombie Apocalypse

Click the icon on the right to view the video associated with this message, or go to our website to view all of the videos. This message focuses on using sunscreen and wearing clothing to protect your skin.



A screenshot of a YouTube video player. The video title is "Outdoor Tanning PSA Zombies Mixdown". It shows a thumbnail image of four people with red-painted skin. The video duration is 15 minutes ago. The Penn Prevention Research Center logo is visible in the top right corner of the video frame.

### Hear the Radio PSA: Zombie Apocalypse

TRANSCRIPT: "Music festivals are a great way to spend a day, but too much sun can have a powerful effect on your skin. A full day of UV radiation can make you feel like a zombie crawling for shade. Take the time to protect yourself from the harmful rays of the sun. Use a sunscreen with an SPF of 15 or higher, and reapply every two hours to avoid the apocalypse, or at least a sunburn. A shirt and hat will help too."

[Use this message](#)

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A full day of UV radiation can make you feel like a zombie crawling for shade. Take the time to protect yourself from the harmful rays of the sun. #skincancerawareness #prevention

# Enjoy yourself at the BBQ... but don't get grilled!



Avoid sunburns...cover up to prevent skin cancer.

This message focuses UV protection strategy of avoidance, like seeking shade and staying out of the sun during peak hours.



View the digital version of this tool, go to:  
[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)



This message does not have a video to accompany the poster and radio PSA.



## Hear the Radio PSA: BBQ

TRANSCRIPT: "It's Barbecue time! The grills are out and everybody is getting together with friends and family to enjoy good food and good times. Enjoy yourself, but make sure that your burgers and dogs are the only things that get grilled this season. Avoid sunburns and damage to your skin caused by the sun to prevent skin cancer. Use a shirt and a hat to protect yourself. And remember to use a sunscreen of SPF 15 or higher."

[Use this message](#)

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[Download the poster](#)



Shade. It can turn a picnic into a party. You'll have a great time and protect yourself and your friends from harmful UV rays. #skincancerawareness #prevention

## Wear cover up clothing to battle damaging UV rays that can cause skin cancer.



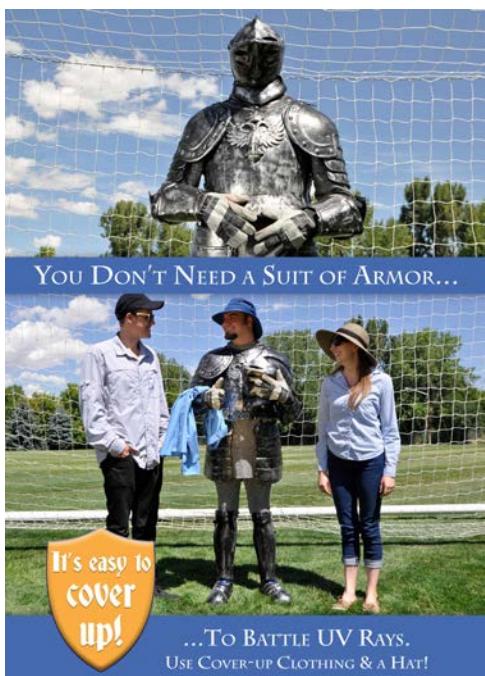
Don't forget your hat, sunscreen, and sunglasses.

This message focuses UV protection strategy of covering up with a hat, sunglasses and clothing.



View the digital version of this tool, go to:  
[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

Armor poster



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It's easy to cover up! Wear a shirt and don't forget your hat, sunscreen, and sunglasses. #skincancerawareness #prevention



### Watch the Video: Armor

Click the icon on the right to view the video associated with this message, or go to our website to view all of the videos. This message focuses on covering up with clothing, hats, and sunglasses to protect your skin.



### Hear the Radio PSA: Armor

TRANSCRIPT: "It doesn't take a full suit of armor to protect yourself from the harmful rays of the sun. You don't need to take such drastic measures – it really is simpler than that. Wear cover-up clothing like a long sleeve shirt to battle UV rays that can cause skin cancer. It's easy to cover up. And don't forget your hat, sunscreen, and sunglasses! "

# Wearing a hat can help reduce the risk of skin cancer.



**Protect yourself against skin damage and skin cancer.**

This message focuses UV protection strategy of covering up with a hat, sunglasses and clothing.



View the digital version of this tool, go to:  
[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

Hats poster



**Use this message**

**Download this page**

**Download the poster**



Wearing a hat can help reduce the risk of skin cancer.  
#skincancerawareness #prevention



## Watch the Video: Hats

Click the icon on the right to view the video associated with this message, or go to our website to view all of the videos. This message focuses on covering up with a hat to protect your skin.



## Hear the Radio PSA: Hats

TRANSCRIPT: "Did you know that most skin cancers show up on the face and head? Wearing a hat is a great way to protect your head, ears, and neck from the harmful rays of the sun. So no matter what your style – wide brimmed, baseball, visor, or safari – find the hat that's best for you to really enjoy your time outdoors."

## The right match for sun safety.

**Wear cover-up clothing and a hat to protect yourself from the damaging rays of the sun, and don't forget the sunscreen.**

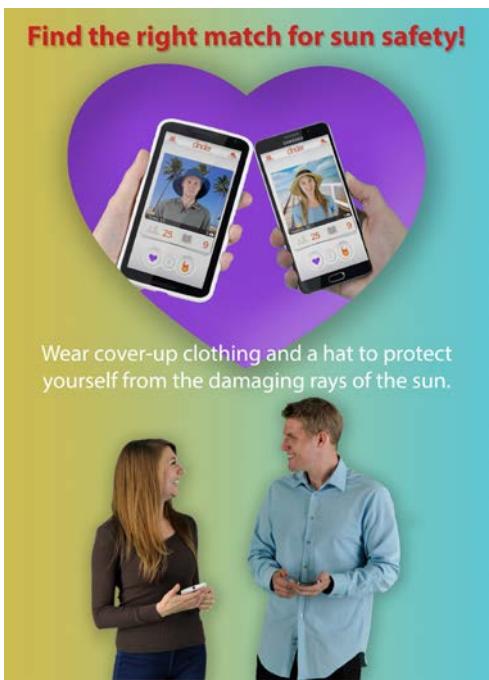


This message focuses on all of the UV protection strategies, covering up with a hat and shirt, avoidance by seeking shade, and protective measures, like sunscreen.



View the digital version of this tool, go to:  
[upennprc.org/skin-cancer-outdoor-exposure-tools/](http://upennprc.org/skin-cancer-outdoor-exposure-tools/)

Cinder poster



[Use this message](#)

[Download this page](#)

[Download the poster](#)



The right match for sun safety. Wear cover-up clothing and a hat to protect yourself from the damaging rays of the sun, and don't forget the sunscreen.  
#skincancerawareness #prevention



### Watch the Video: Cinder

Click the icon on the right to view the video associated with this message, or go to our website to view all of the videos. This message focuses on wearing sunscreen, covering up, and seeking shade to protect your skin.



### Hear the Radio PSA: Cinder

TRANSCRIPT: "Dating apps are pretty popular these days. If you are looking for someone who enjoys being outdoors, but likes to be sun-safe, there is a new app just for you - it's called Cinder. All you have to do is swipe left for sunburns, and swipe right for the hat, sunglasses and cover-up clothing that fits your style. Cinder – coming soon. It will help you find the right match for sun safety."

# Publications



- PDFs of these publications are available upon request.
- Find an updated list of all the publications from this project at [upennnprc.org](http://upennnprc.org).



Bleakley A, Jordan A, Strasser A, Lazovich D, Glanz K. Testing General Versus Specific Behavioral Focus in Messaging for the Promotion of Sun Protection Behaviors, *Annals of Behavioral Medicine* 2019 Oct 4.



Bleakley A, Lazovich D, Jordan A, Glanz K. Compensation Behaviors and Skin Cancer Prevention, *American Journal of Preventive Medicine*, 2018 Dec; 55(6):848-855



Calderón T, Bleakley A, Jordan A, Lazovich D, Glanz K. Correlates of sun protection behaviors in racially and ethnically diverse U.S. adults, *Prevention Medicine Reports*, 2019 Mar; 13:346-353



Bleakley A, Jordan A, Ellithorpe M, Lazovich D, Grossman S, Glanz K. A national survey of young women's beliefs about quitting indoor tanning: implications for health communication messages, *Translational Behavioral Medicine*, 2018 Nov; 8(6):898–906



Glanz K, Jordan A, Lazovich D, Bleakley A. Frequent Indoor Tanners' Beliefs About Indoor Tanning and Cessation, *American Journal of Health Promotion*, 2019 Feb; 33(2):293-299

# Resources

**Learn more about skin cancer prevention from the following organizations:**

Surgeon General's Call to Action to Prevent Skin Cancer  
5th Annual Skin Cancer Prevention Progress Report  
Melanoma Research Foundation  
Save Your Skin Foundation  
National Council on Skin Cancer Prevention  
Centers for Disease Control & Prevention (CDC) Skin Cancer  
American Association for Cancer Research  
American Cancer Society  
The Office on Women's Health  
National Institute of Health  
National Cancer Institute Division of Cancer Prevention

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