



# Summertime Safety

## Keeping Kids Safe from Sun and Smog

**If you spend time with kids in the summer, you want to keep them safe while providing fun outdoor experiences. Did you know that overexposure to the sun and air pollution can pose serious health effects, especially to children? You can take several simple actions to protect kids—and yourself.**



### What's the Problem?

Ozone can be protective or harmful, depending on where it is found in the atmosphere. Ozone is a naturally occurring gas in the upper atmosphere (the stratosphere) that protects us from the sun's ultraviolet (UV) radiation. Several chemicals released over time, however, have reduced the amount of stratospheric ozone left to protect us. *Paying attention to the summer sun is more important than ever.*

Ozone at ground-level (the troposphere) is formed from pollutants emitted by cars, power plants, refineries, and other sources. Ground-level ozone is a primary component of a chemical soup known as "smog." Smog can be particularly high in the summer. *Your chances of being affected by ground-level ozone increase the longer you are active outdoors or the more strenuous the activity.*

### Health Effects

Overexposure to UV radiation can cause sunburns now, but can also lead to skin cancer, cataracts, and premature aging of the skin. Because kids spend so much time in the sun, and because even one or two blistering sunburns can double the risk of some skin cancers, protecting kids from the sun is especially important.

Kids and teenagers who are active outdoors—especially those with asthma or other respiratory problems—are particularly sensitive to ground-level ozone. Ozone can cause coughing, throat irritation, and pain when taking a deep breath. It can also reduce lung function, inflame the linings of the lungs, and even trigger asthma attacks the day after ozone levels are high. Repeated inflammation over time may permanently scar lung tissue.

**Ozone:**  
"Good up high, bad nearby."

Check your daily UV Index and Air Quality Index (below), and follow the simple steps on the back of this fact sheet to protect kids' health.

### UV Index

UV Index Number	Exposure Level
0 to 2	Minimal
3 to 4	Low
5 to 6	Moderate
7 to 9	High
10+	Very high

### Air Quality Index (AQI)\*

AQI Number	Health Concern	Color Code
0 to 50	Good	Green
51 to 100	Moderate	Yellow
101 to 150	Unhealthy for sensitive groups	Orange
151 to 200	Unhealthy	Red
201 to 300	Very unhealthy	Purple

\* Although ozone reports are primarily made for metropolitan areas, ozone can be carried by the wind to rural areas, where it can cause health problems.

## The UV Index

Developed in partnership with the National Weather Service, the UV Index provides a daily forecast of the expected risk of overexposure to the sun. The Index predicts UV intensity levels on a scale of 0 to 10+, where 0 indicates a minimal risk of overexposure, and 10+ means a very high risk.



### Actions You Can Take

- **When the UV Index is "high" or "very high": Limit outdoor activities between 10 am and 4 pm**, when the sun is most intense.
- **Seek shade.** When possible, conduct activities in a shaded area. Rotate players to allow breaks in the shade.
- **Apply sunscreen.** Twenty minutes before going outside, liberally apply a broad-spectrum sunscreen with a Sun Protection Factor (SPF) of at least 15. Reapply every two hours or after swimming or sweating.
- **Require hats and sunglasses.** Encourage kids to find a hat they like and wear it. Wide brim hats offer the most sun protection. Teach kids to wear sunglasses with 99 to 100 percent UV-A and UV-B protection.
- **Encourage t-shirts instead of tank tops.**



### >> To find the UV Index...

Visit EPA's UV Index Web Page  
[www.epa.gov/sunwise/uvindex.html](http://www.epa.gov/sunwise/uvindex.html)  
Search by zip code for your local UV Index. View a daily UV Index color-coded map of the United States or a daily Index map of 58 specific monitoring locations.

Check local newspapers or listen to local radio and TV weather forecasts.

## The Air Quality Index

The Air Quality Index (AQI) is a scale used by state and local air agencies to report how clean or polluted the air is. Ground-level ozone is one pollutant reported. An AQI of 100 or less (green or yellow) is considered satisfactory for most people. Air quality values above 100 (orange, red, and purple) are considered unhealthy, first for sensitive groups, but then for everyone as the AQI gets higher.



### Actions You Can Take

- **When the AQI reports unhealthy levels, limit physical exertion outdoors.** In many places, ozone peaks in mid-afternoon to early evening. Change the time of day of strenuous outdoor activity to avoid these hours, or reduce the intensity of the activity.
- **Pay attention to symptoms.** Know how to recognize symptoms of respiratory discomfort, such as coughing, wheezing, and breathing difficulty, and reduce exposure if these occur.
- **Rotate players in physically exerting games.** Rest players to reduce exertion.
- **Provide alternative activities.** Allow kids that have asthma or other respiratory problems to participate in activities that are less physical when pollution levels are high. If pollution levels are particularly high, move physical activities indoors where the air is filtered by an air conditioning system.
- **Be vigilant about asthma management.** People with asthma should have adequate medication on hand and follow their asthma management plans.

### >> To find the Air Quality Index...

Visit EPA's AIRNOW Web Page  
[www.epa.gov/airnow/](http://www.epa.gov/airnow/)  
Choose your state and local area for real-time animated maps, forecasts, and previous day's peak ozone level.

Check local newspapers or listen to local radio and TV weather forecasts.

Contact your state or local environmental or health department to ask if you can receive fax or e-mail alerts if the AQI forecast is for unhealthy air.