Outdoor Air Quality
For children who have been treated for cancer

Poor air quality can be especially bad for children who were treated with certain types of chemotherapy. Some chemotherapy drugs can have damaging effects on the lungs. Protecting your child from poor air quality and air pollution can help them have better long-term health and quality of life.

Too much time in polluted air:
- Damages lungs and weakens the immune system
- Reduces lung function and worsens symptoms, like coughing and difficulty breathing, in children with asthma, cystic fibrosis, pneumonia, and bronchitis
- Increases risk of death from lung infections, even years after cancer treatment ends

Take action. Help your child avoid air pollution.
Pay attention to your child’s symptoms when outdoors. Look for coughing, wheezing, and watery eyes. Know when to bring your child indoors. Help them play inside when air quality is at unhealthy levels.

Be aware of the Air Quality Index (AQI), a number that shows how clean or unhealthy the air is every day. You can find the AQI online at AirNow.gov. It’s also reported in local news.

When AQI is:

<table>
<thead>
<tr>
<th>AQI Range</th>
<th>A child who has been treated for cancer should:</th>
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</thead>
<tbody>
<tr>
<td>1–50</td>
<td><strong>GOOD</strong> Enjoy usual outdoor activities</td>
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<tr>
<td>51–100</td>
<td><strong>MODERATE</strong> Limit time outdoors</td>
</tr>
<tr>
<td>101–150</td>
<td><strong>UNHEALTHY</strong> for sensitive groups Play and exercise indoors</td>
</tr>
<tr>
<td>151–200</td>
<td><strong>UNHEALTHY</strong> for all Stay inside for school recess or workouts</td>
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<tr>
<td>201–300</td>
<td><strong>VERY UNHEALTHY</strong> for all Plan outdoor activities in the morning, when air quality is usually better</td>
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Traffic pollution is harmful even when AQI is good
Whenever possible, avoid outdoor air in places with a lot of traffic
Particulate matter in your child’s lungs

Particulate matter, also known as particle pollution, is a mixture of extremely small solid particles and liquid droplets in the air. It is sometimes reported as PM 2.5 or PM 10.

**PM 2.5** particles are extremely tiny. They can get deep into your child’s lungs and cause inflammation and asthma. They are linked to lung infections and can make conditions worse for your child.

**PM 10** particles are a bit bigger. They include things like dust and pollen. Your child’s nose and airways can filter some of these before they reach your lungs and heart.

Inflammation in your child’s lungs narrows their airways and makes breathing difficult.

A recent Utah study looked at the impact of PM 2.5 particles among childhood cancer survivors. It found them at a much higher risk than other children for needing to go to the hospital for breathing problems and lung infections.

Utah has a lot of air pollution that is linked to breathing and lung problems. Winter inversions in Utah expose people to 6 times the amount of pollution considered unsafe by national health standards.

What causes poor outdoor air quality?

- Smoke stacks
- Wood burning — inside or outside
- Cars and trucks
- Blowing dust
- Particulate matter is tiny particles in the air like dust, dirt, soot, and smoke. In northern Utah, particulate matter is more common in winter months.
- Ground-level ozone is an odorless and colorless gas. It forms when polluted air comes in contact with heat and sunlight. It’s more common in summer and late afternoon.

Parents and caregivers

Ask your child’s doctor to add air quality to your child’s Survivorship Care Plan. Let teachers and coaches know that your child needs to play and exercise inside when air quality is unhealthy (above an AQI of 101).

For more information go to: IntermountainHealthcare.org/clean-air