



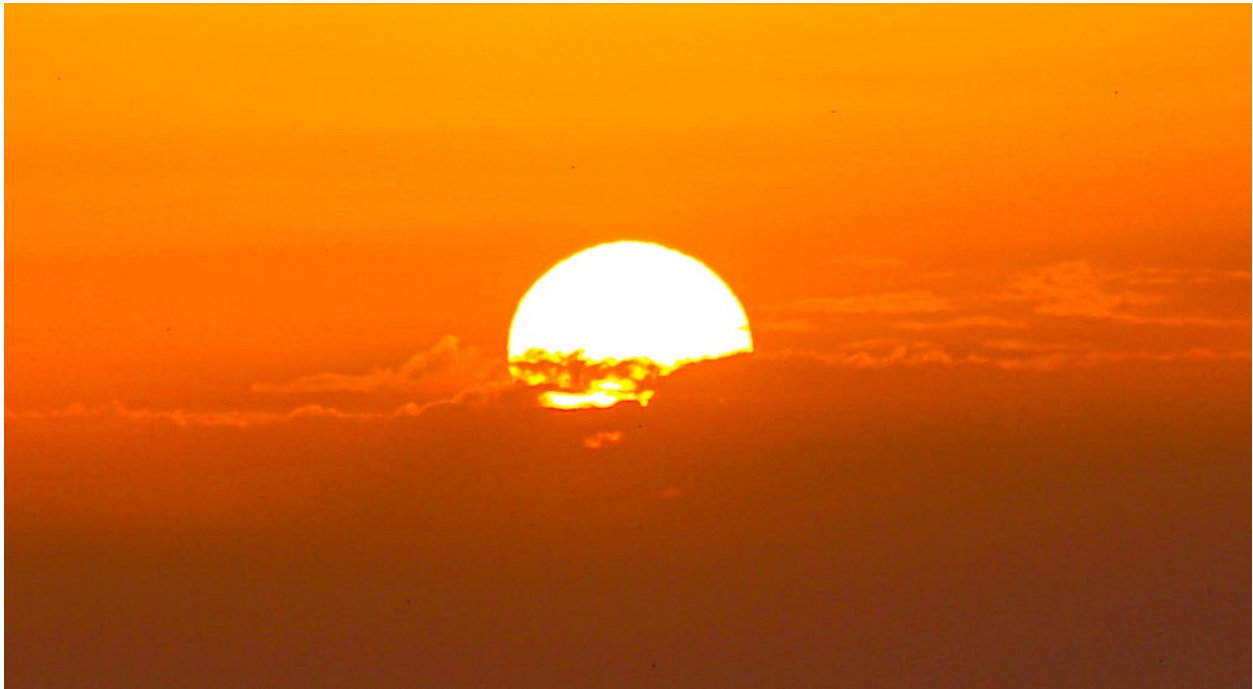
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A Breath of Fresh Air

Last year, many Canadians started their early summer mornings looking at a hazy, orange-tinged sky and a Sun that burned nearly red. Upon checking the news, they quickly discovered that the outdoor air quality index (AQI) was between 100-500, a hazardous range for human health [1]. The general public health recommendation was to stay home, turn off the air conditioner, and keep an air filter on all day and night (if you had one).



2023 is now known as a “record-breaking” year for Canadian wildfires [2]. On average, 2.5 million hectares of land are burned annually in the country, but last year, the number jumped to 16.5 million hectares, an area larger than the entire country of Greece. The fires spread across the country, but their





causes were common: high temperatures and long-lasting droughts. According to experts, this is the beginning of a new era, and if this is true, we can expect to see similar wildfire numbers in the following year. This article will cover the health consequences of poor air quality caused by wildfires, amongst other air pollutants, and some solutions to protect yourself.

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Poor Air Quality and Your Health

Polluted outdoor air frequently contaminates indoor air when windows, doors, and ventilation systems are open to the outside. This is unsurprisingly common in warmer months and why poor air quality poses a greater risk to our health around that time. At-risk populations, such as older people, people with chronic illnesses, pregnant women, outdoors workers, children and teens, are most likely to become ill when air pollutants populate the atmosphere, leading to a higher number of hospitalizations [3].

Brain Health

Studies on various types of poor air conditions (smog, traffic-related pollution, combustion, etc.) show plausible causal links between air pollutants and a decline in cognitive health, changes in human behaviour, and worsening of pre-existing neurological and psychological conditions like dementia, motor disorders, and more [4]. Exposure to consistent high-levels of air pollution is the biggest culprit, especially for populations with dementia [5]. Many studies, including reviews, also caution that age plays a significant factor in vulnerability to neurotoxicity. For instance, one review revealed that younger populations, i.e., children and teenagers, are more likely to experience adverse effects as their brains are still developing [6].



Heart Health

Traveling down the anatomical map, we arrive at the heart, a long-known victim of poor air conditions. The repertoire of data on the links between air pollution and cardiovascular problems is nearly endless. According to the World Health Organization, in 2020, household air pollution alone caused 3.2 million deaths globally [7]. Ischemic heart disease, strokes, respiratory infections, chronic obstructive pulmonary disease, and lung cancer were the conditions that most commonly led to fatalities. Combining outdoor air and indoor air pollution, the global number of deaths climbs to an average of 7 million annually [8]. Although large, this number excludes people who develop acute or chronic illness due to poor air conditions, which strongly implies that the total number of affected individuals is much higher.

Pancreas Health

Air pollutants often exert their effects on the human body by causing inflammation, which can be concerning or even lethal for those with Type 2 diabetes, an illness related to the pancreas. One literature review revealed that exposure to ambient particulate matter repeatedly associated with increased insulin resistance, impaired glucose metabolism, and type 2 diabetes mellitus [9]. Furthermore, a cohort study also found a link between fine particulate matter pollution and pancreatic cancer [10].

Undiscussed Health Effects

The above conditions have benefited from the most research attention; however, this does not mean that air pollution cannot be causing other health problems. As research continues to expand, we will learn more about how air pollution affects the rest of our body, like our gut, immune system, reproductive system, and more.

What About Tomorrow?

It is unlikely that we will all suddenly develop health effects due to air pollutants, but it is also not entirely out of the realm of possibilities, especially on a planet that is losing immense portions of its greenery each passing year. Different people will experience different symptoms, and for some, long-term effects may cause them to face a significant loss in quality of life. It would be an understatement to say that this is not how we envisioned our future.



The good news is that outdoor and indoor air quality can be controlled. Below are a few tips to protect yourself and your environment:

- ✓ **Indoors:** Installing an air purifier/filtration unit can help rid indoor air of various types of pollutants and irritants, including allergens [11].
- ✓ **Indoors:** Avoid using products that contain volatile organic compounds (VOCs). More on this in our [newsletter](#).
- ✓ **Outdoors:** Supporting public transportation services, ride-sharing, and car-free commute days, which helps lower the number of pollutants in the air.
- ✓ **Outdoors:** Limiting outside adventures when the air quality index is hazardous, or wearing a properly-fitted N95 respirator mask if you must step out [12].
- ✓ **For your health:** Taking care of yourself by eating well and exercising regularly, which can help your body become more resilient to illness.
- ✓ **Outdoors and indoors:** Supporting government policies and projects that promise to work to improve outdoor air quality.
- ✓ **Outdoors:** Caring for native plants and trees, which can help filter certain air pollutants, but also help your air stay cool in summer.
- ✓ **Outdoors and indoors:** Limit burning fires indoors and outdoors, which can add pollutants to your air.
- ✓ **Outdoors:** Use less energy, which will help lower the burning of fossil fuels (if your energy is derived from it).
- ✓ **Outdoors:** If you must drive by car, avoid doing anything that will lead to unnecessary burning of fuel. If you are shopping for a new car, choose a low-emissions car.

Eco-friendly living is the best way to ensure a better environment for yourself and your loved ones. Please visit www.ecolivingguide.ca to learn more.





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