



SMOG AND YOUR HEALTH

The Issue

Smog can cause damage to your heart and lungs – even when you can't see or smell it in the air around you.

Background

When we hear the word smog, many of us picture the chemical "soup" that often appears as a brownish-yellow haze over cities. But smog isn't always visible. It's a mixture of air pollutants, including gases and particles that are too small to see. Smog often begins in big cities, but smog levels can be just as high or higher in rural and suburban areas.

We all need to protect our health against potential damage from smog.

Types and Sources of Air Pollution

The scientists who study smog are most concerned about the following types of air pollution:

Type: Particulate Matter – or PM.

This is the name given to microscopic particles that pollute the air. They vary in size and chemical make-up.

Sources: Industrial and vehicle emissions, road dust, agriculture, construction and wood burning.

Type: Ground-level Ozone.

This gas is the result of a chemical reaction when certain pollutants are combined in the presence of sunlight. Ground-level ozone shouldn't be confused with the

ozone layer in the sky, which protects us from ultraviolet radiation.

Sources: Ground-level ozone comes mostly from burning fossil fuels for transportation and industry. Ozone levels peak between noon and 6 p.m. during the summer months.

There is also concern about:

Type: Sulphur dioxide

Sources: Coal-fired power plants and non-iron ore smelters

Type: Carbon monoxide

Sources: Mostly from burning carbon fuels (e.g. motor vehicle exhaust)

Potential Health Effects

Since smog is a mixture of air pollutants, its impact on your health will depend on a number of things, including:

- The levels and types of pollutants in the air
- Your age and general state of health
- The influence of weather
- How long you are exposed
- Where you live

Smog can irritate your eyes, nose and throat. Or it can worsen existing heart and lung problems. In exceptional cases it may result in an early death.



The people most at risk are those who suffer from heart and lung problems. Many of these problems are more common in seniors, making them more likely to experience the negative effects of air pollution. Children can be more sensitive to the effects of air pollution because their respiratory systems are still developing and they tend to have an active lifestyle. Even healthy young adults breathe less well on days when the air is heavily polluted.

The health effects of ground-level ozone and particulate matter (PM) is also cause for concern. Some studies suggest that long-term regular exposure to PM can increase your risk of early death and perhaps lung cancer. Studies on ozone show that once it gets into your lungs, it can continue to cause damage even when you feel fine. This is why the federal government, including Health Canada, is working to reduce the risks to your health.

Minimize Your Risk

To reduce your exposure to smog and its potential health effects:

- Check the Air Quality index in your community, especially during "smog season" from April to September. Tailor your activities accordingly.
- Avoid or reduce strenuous outdoor activities when smog levels are high, especially during the afternoon when ground-level ozone reaches its peak. Choose indoor activities instead.
- Avoid or reduce exercising near areas of heavy traffic, especially during rush hour.

- If you have a heart or lung condition, talk to your health care professional about additional ways to protect your health when smog levels are high.

To help reduce the overall levels of smog in the air:

- When possible, use public transportation instead of your car. You could also walk or ride your bicycle, as long as smog levels are not too high.
- Look for alternatives to gas-powered machines and vehicles. Try a rowboat or sailboat instead of a motorboat or a push-type lawnmower instead of one that runs on gasoline.
- Consider fuel efficiency when you buy a vehicle. Keep all vehicles well maintained.
- Reduce energy use in your home. Learn more about alternative energy resources.
- Do not burn leaves, branches or other yard wastes.
- Consider joining a citizens' committee to advocate for cleaner air in your community.
- Spend time talking with your children about the importance of a sustainable lifestyle.

Health Canada's Role

Health Canada's research on the health effects of smog played a role in the development of Canada-Wide Standards for particulate matter and ground-level ozone. These standards are an important step in reducing the effects of smog on our health.

Health Canada will continue to study the effects of short and long-term exposure to smog-producing pollutants. These studies will lead to more standards and guidelines to help protect Canadians against the effects of smog.

Need More Info?

For further information contact:
Air Health Effects, Safe Environments Programme
275 Slater, PL3807B
Ottawa, Ontario, K1A 0K9
Tel: 613-957-1876

Or visit:

Health Canada's Air Quality Division at:
<http://www.hc-sc.gc.ca/air>

Health Canada's Climate Change and Health office at:
http://www.hc-sc.gc.ca/hecs-sesc/ccho/health_story_table.htm

It's Your Health - Dioxins and Furans
<http://www.hc-sc.gc.ca/english/iyh/environment/dioxins.html>

Environment Canada's Air Quality Web site at:
http://www.ec.gc.ca/air/introduction_e.cfm
Tel: 819-997-2800 or 1-800-668-6767

Additional It's Your Health articles can be found at:
www.healthcanada.ca/iyh
You can also call (613) 957-2991