

# SMOG

## Under Control

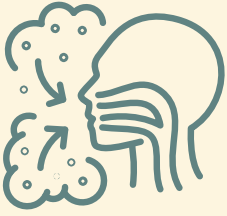


**How to protect your health  
when air quality is poor?**



**CLEAN AIR 3**

**Practical tips for seniors  
and their caregivers**



## This handbook

was created to provide accessible information about air pollution and practical tips on how to protect yourself from smog and live in a healthier environment.

### In this handbook, we answer questions such as:

- What is air pollution?
- What are the sources of smog?
- What are the health consequences of breathing polluted air?
- Who is most at risk?
- How can you protect yourself from smog?
- How can we solve the problem of air pollution?

# What is air pollution?



Imagine the air as a huge, invisible ocean that surrounds us. Air pollution occurs when harmful substances that threaten our health enter this “ocean”. They are so small that they are difficult to see with the naked eye.

Air pollution consists mainly of particulate matter (PM), that is, tiny particles of soot resulting from the combustion of coal and wood. They easily enter the bloodstream and then the most important organs of our body. They may also contain other dangerous substances, such as the **carcinogenic benzo(a)-pyrene**. Gaseous pollutants, such as **toxic nitrogen dioxide**, which is mainly produced by excessive car traffic, are also a problem.

Under specific atmospheric conditions, such as fog, windless weather, or low temperatures, these pollutants combine to form a phenomenon called smog. The name comes from a combination of the English words “smoke” and “fog” and refers to a mixture of harmful dust and gases floating in the air.



# Where does air pollution come from?

## What are the main sources?

Air pollution has several sources, most of which are related to our daily activities. Knowing what these are helps us understand how we can reduce them.



### Home heating

Old, high-emission coal and wood-burning stoves, boilers, and fireplaces are the largest source of air pollution, especially in winter. Burning waste in household furnaces is also a significant problem.

### Road transport

Cars, especially older ones with diesel engines, emit large amounts of nitrogen dioxide and particulate matter.



## Industry

Industrial plants and power stations can emit various chemicals into the air, but due to stricter standards and control systems, they are a smaller source of air pollution than domestic stoves. The problem arises when the control system fails, so it is important to monitor the activities of certain plants and report any irregularities to the relevant authorities.



## Agriculture

The use of fertilizers and intensive animal husbandry cause emissions of gases, including ammonia, which reacts with other pollutants in the atmosphere, contributing to the formation of fine dust.



# What are the consequences of breathing polluted air?

Breathing polluted air can lead to serious health issues, affecting the respiratory, cardiovascular, reproductive, and nervous systems. Possible effects include pneumonia, bronchitis, cancer, stroke, atherosclerosis, heart failure, arrhythmia, and hypertension.

Particulate matter from coal and wood combustion enters the bloodstream, potentially causing infertility, premature birth, neurodegenerative processes, and depression. **Pollution impacts both the body and mind, worsening well-being and quality of life.** Even low pollutant levels are linked to higher mortality and reduced life expectancy.



It is estimated that air pollution causes 8 million premature deaths worldwide each year.



## Why are older people more vulnerable?

As we age, natural changes occur in the body that can increase sensitivity to the effects of breathing polluted air.

### **More delicate respiratory system:**

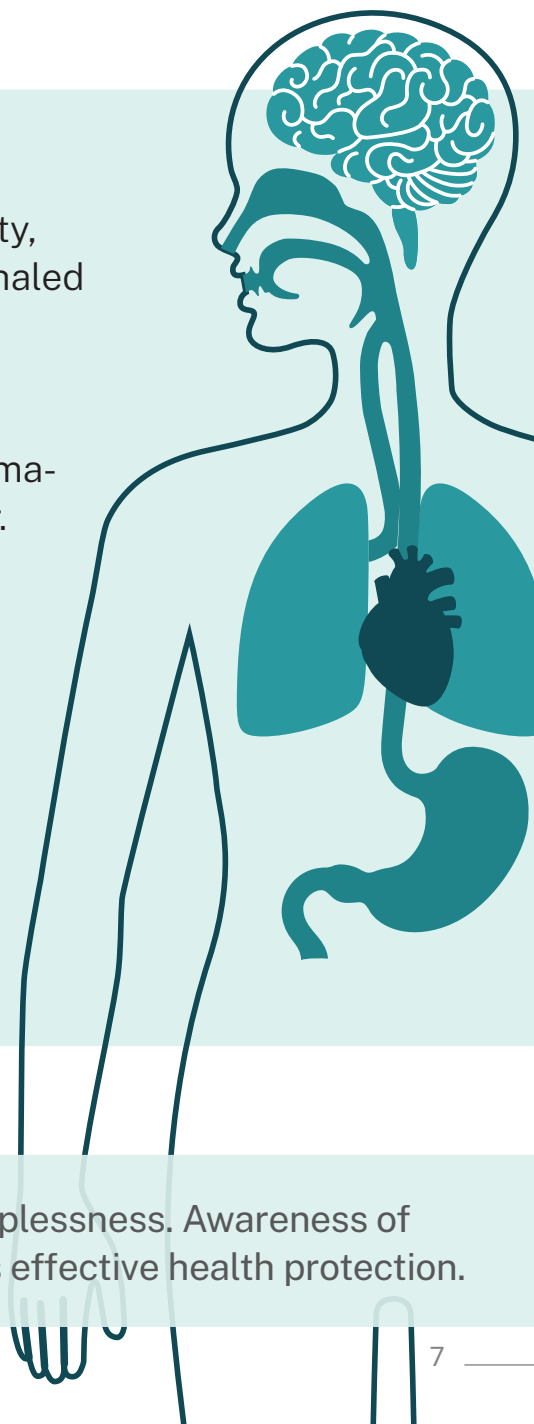
Over time, the lungs can lose elasticity, making it more difficult to remove inhaled pollutants.

**Strain on the heart and circulatory system:** Pollutants can cause inflammation, forcing the heart to work harder.

**Comorbidities:** Polluted air can exacerbate the symptoms of asthma, COPD, diabetes, and heart disease.

**Weaker immune response:** Natural defenses may respond less effectively to inflammation and infections caused or exacerbated by pollution.

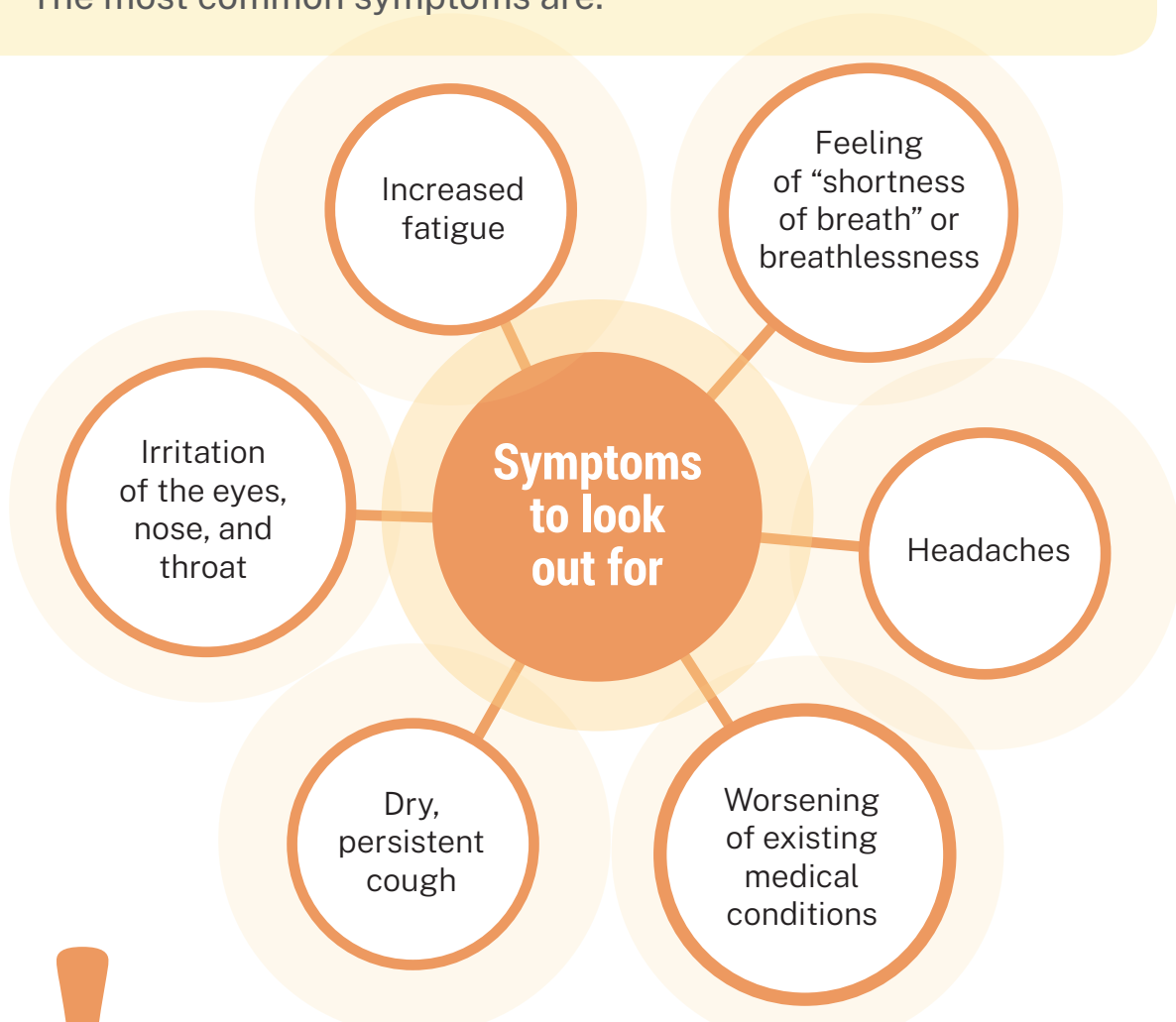
Greater sensitivity does not mean helplessness. Awareness of these factors is the first step towards effective health protection.



# How to protect yourself from air pollution?

## Listen to your body and your surroundings

Your body often signals when the air quality is poor. The most common symptoms are:

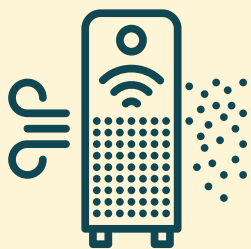


Note: If symptoms are severe, persist for several days, or cause concern, contact your doctor or facility staff.

## Make your home a safe haven

If the standards are exceeded, we must take appropriate action and adapt our activities to the current air quality conditions. Although we often assume that we are fully protected from pollution at home, indoor air can also contain harmful substances.

### What can we do to protect ourselves inside our home?



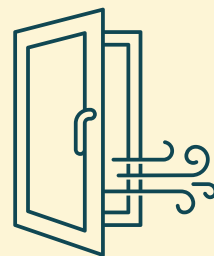
#### Air purifier

When properly selected and placed in the room where you spend most of your time, it can significantly improve air quality.

#### Proper ventilation

Open windows when the air quality outside is safe and you do not smell any unpleasant odors.

Avoid ventilating in the evening when many people are lighting their stoves.



#### Limit the use of your fireplace

Unless necessary, do not use your fireplace, as it is an additional source of pollution both outside and inside your home.

## Use outdoor spaces appropriately

Being outdoors and engaging in activities such as walking is beneficial to our health, as long as the air is not polluted. To ensure that this activity is safe for your health, follow these guidelines:

- Check the current and forecast air quality
- If air pollution levels are high (air quality index shows orange or red), you should only go outside if necessary. Avoid recreational walks.
- On days with high pollution, limit outdoor physical activity -intense exercise, running, or cycling are not recommended.
- On days with high pollution levels, use an anti-smog mask.
- Choose green routes: parks, gardens, and side streets away from traffic usually have cleaner air.

## Where to check air quality?

Just like the weather forecast, it is also a good idea to check the current air quality regularly.

**This information can be found:**

- on the websites of environmental protection inspectorates,
- in mobile applications,
- in local news and weather services.

# The role of caregivers in protecting seniors from air pollution

**Your  
role is crucial**  
-you combine  
knowledge with  
everyday practice  
to ensure a safer  
environment.

Caregivers for older adults play a key role in protecting the health of their charges. Their task is not only to provide daily care, but also to educate, inform, and promote good practices that help reduce exposure to air pollution.

## How to help in practice?

### Inform and reassure

Explain the guidelines in the handbook to seniors in a simple and positive way. Answer questions and reinforce their sense of agency.

### Monitor air quality

Check pollution levels regularly and plan activities accordingly: organize walks on “green” days and suggest indoor activities on “red” days.

### Manage the environment in the facility

Make sure rooms are ventilated at appropriate times of the day and that filters in ventilation systems and air purifiers are regularly maintained.

### Observe carefully

Pay attention to respiratory symptoms (such as coughing or shortness of breath), especially on days with high air pollution levels, and report them to medical staff or a doctor.

### Support engagement

Engage older adults in simple activities such as checking air quality together every day, preparing information boards showing its current status, and discussing the problem of smog.



Caring for the air we breathe does not require a revolution – small daily habits are enough. Caring for the air means caring for yourself and others. Together, through simple everyday actions, we can create a healthier environment and breathe better – day after day.



CLEAN AIR 3



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