Effects of Common Air Pollutants

RESPIRATORY EFFECTS

Symptoms:

- Cough
- Phlegm
- Chest tightness
- Wheezing
- Shortness of breath

Increased sickness and premature death from:

- Asthma
- Bronchitis (acute or chronic)
- Emphysema
- Pneumonia

Development of new disease

- Chronic bronchitis
- Premature aging of the lungs

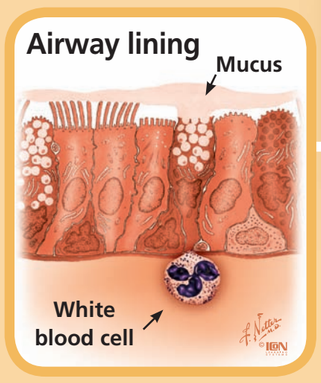
How Pollutants Cause Symptoms

Effects on Lung Function

- Narrowing of airways (bronchoconstriction)
- Decreased air flow

Airway Inflammation

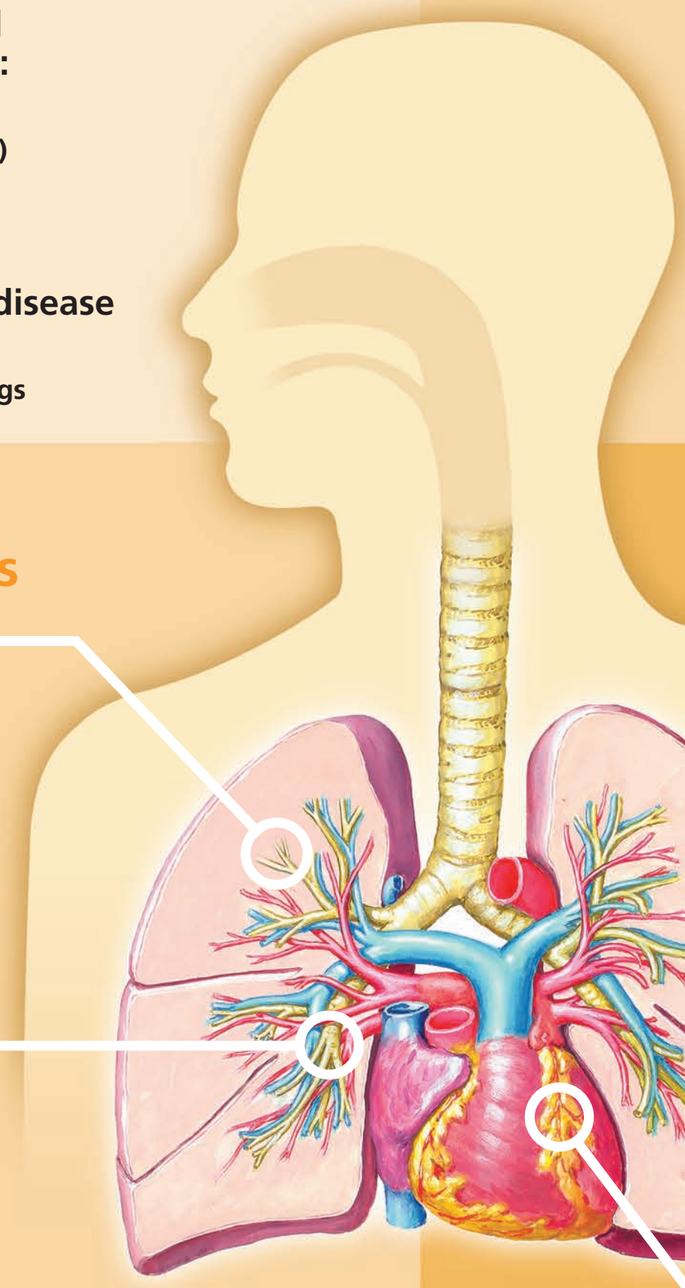
- Influx of white blood cells
- Abnormal mucus production
- Fluid accumulation and swelling (edema)
- Death and shedding of cells that line airways



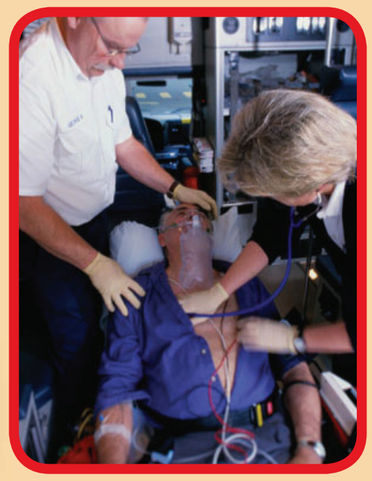
Increased Susceptibility to Respiratory Infection

Normal

Lung with respiratory infection



CARDIOVASCULAR EFFECTS



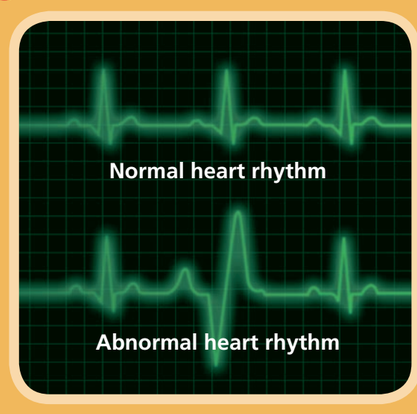
Symptoms:

- Chest tightness
- Chest pain (angina)
- Palpitations
- Shortness of breath
- Unusual fatigue

Increased sickness and premature death from:

- Coronary artery disease
- Abnormal heart rhythms
- Congestive heart failure
- Stroke

How Pollutants Cause Symptoms

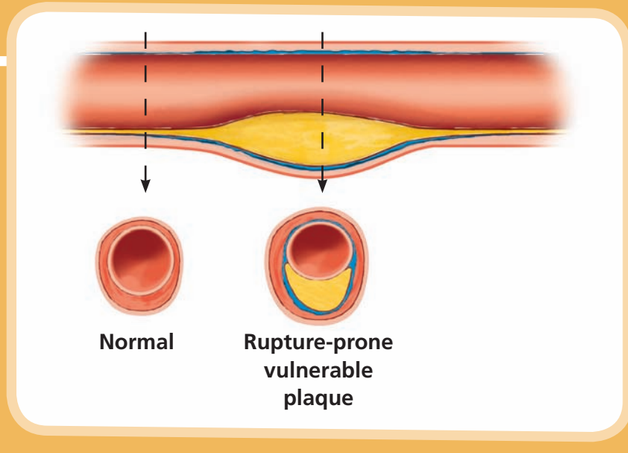


Effects on Cardiovascular Function

- Low oxygenation of red blood cells
- Abnormal heart rhythms
- Altered autonomic nervous system control of the heart

Vascular Inflammation

- Increased risk of blood clot formation
- Narrowing of vessels (vasoconstriction)
- Increased risk of atherosclerotic plaque rupture



Reduce your risk by using the Air Quality Index (AQI) to plan outdoor activities – www.airnow.gov

AQI Levels of Health Concern	AQI Values	What Action Should People Take?
Good	0-50	Enjoy Activities
Moderate	51-100	**People unusually sensitive to air pollution:** Plan strenuous outside activities when air quality is better
Unhealthy for Sensitive Groups	101-150	**Sensitive Groups:** Cut back or reschedule strenuous outside activities **Ozone:** People with lung disease, children and older adults and people who are active outdoors **Particle Pollution:** People with heart or lung disease (including diabetics), older adults and children **Carbon Monoxide:** People with heart disease and possibly infants and fetuses **Nitrogen Dioxide:** People with lung disease, children and older adults **Sulfur Dioxide:** Active children and adults with asthma
Unhealthy	151-200	**Everyone:** Cut back or reschedule strenuous outside activities **Sensitive groups:** Avoid strenuous outside activities
Very Unhealthy	201-300	**Everyone:** Significantly cut back on outside physical activities **Sensitive groups:** Avoid all outside physical activities

EPA United States Environmental Protection Agency
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