

# Effects of Common Air Pollutants

## RESPIRATORY EFFECTS



### Symptoms:

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

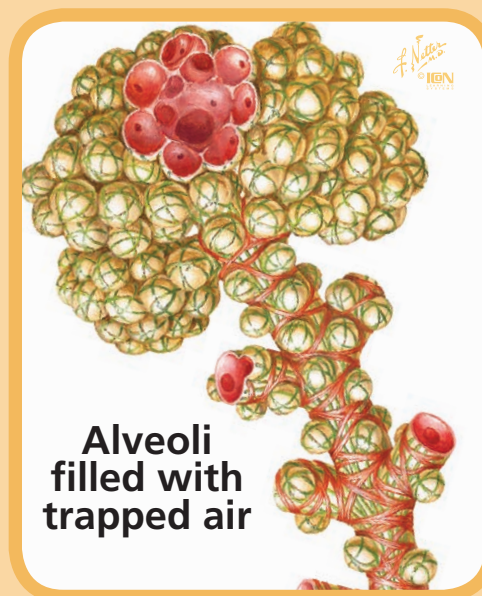
### Increased sickness and premature death from:

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

### Development of new disease

- Chronic bronchitis
- Premature aging of the lungs

## How Pollutants Cause Symptoms

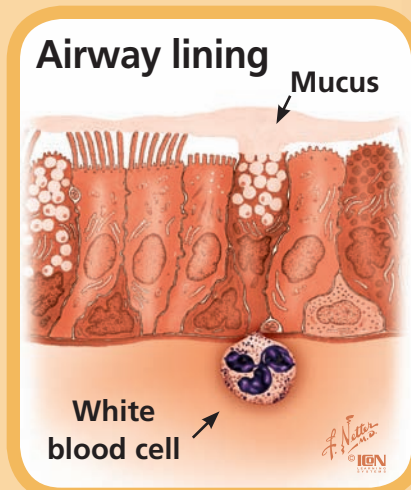


### Effects on Lung Function

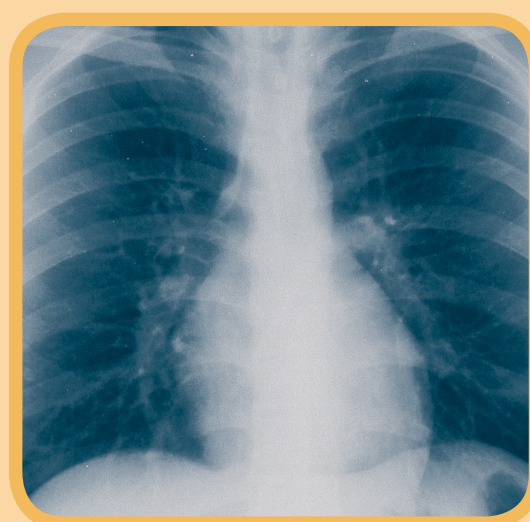
- Narrowing of airways (bronchoconstriction)
- Decreased air flow

### Airway Inflammation

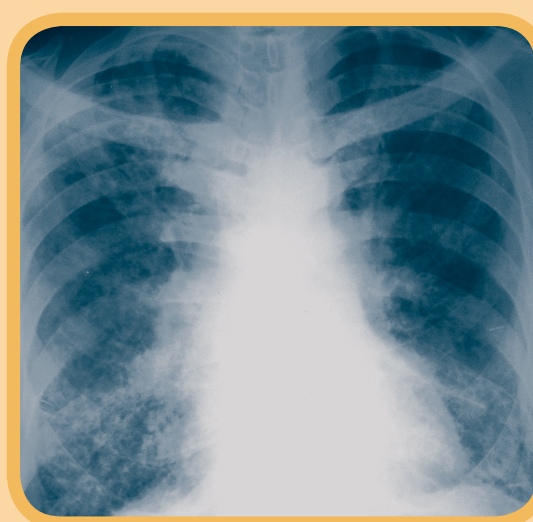
- Influx of white blood cells
- Abnormal mucus production
- Fluid accumulation and swelling (edema)
- Death and shedding of cells that line airways



### Increased Susceptibility to Respiratory Infection

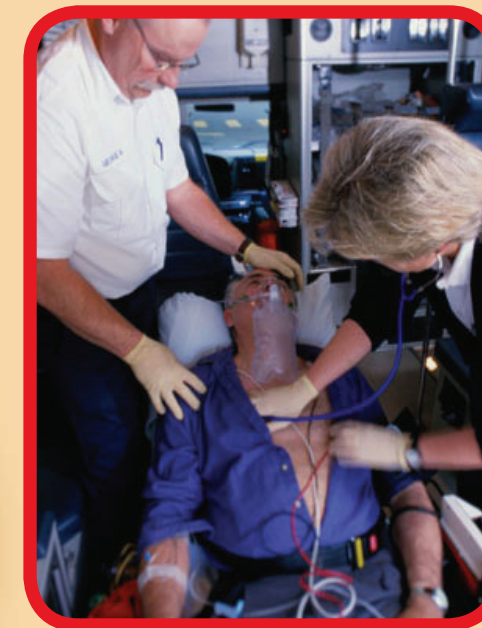


Normal



Lung with respiratory infection

## CARDIOVASCULAR EFFECTS



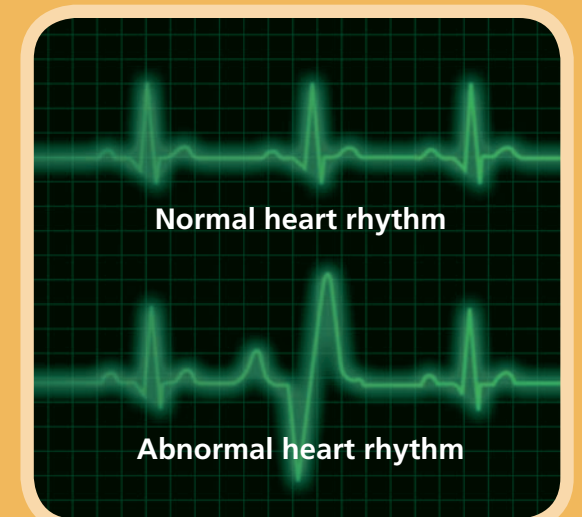
### Symptoms:

- 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

## How Pollutants May Cause Symptoms

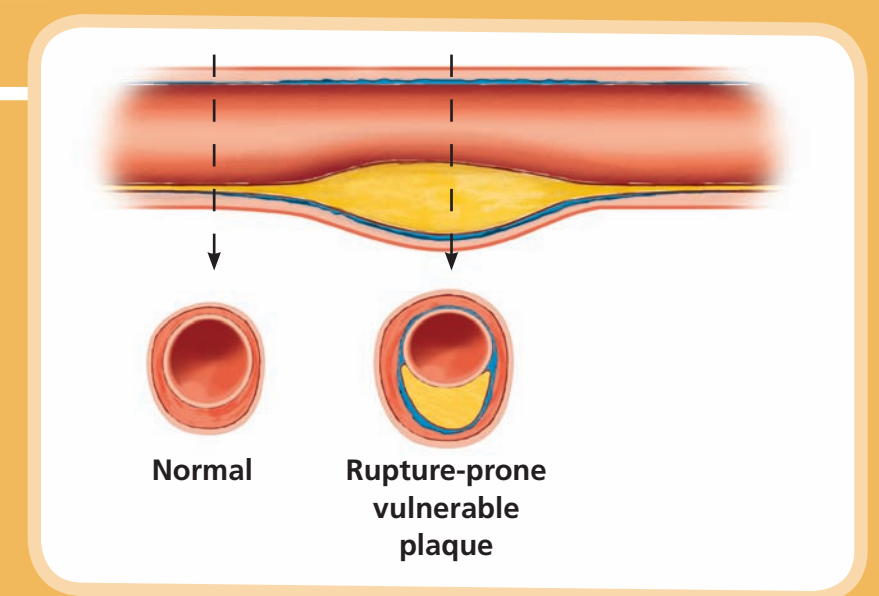


### Effects on Cardiovascular Function

- 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](http://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  
**Particle Pollution:** People with heart or lung disease (including diabetics), older adults, and children  
**Ozone:** Active children and adults and people with lung disease  
**Sulfur Dioxide:** Active children and adults with asthma  
**Carbon Monoxide:** People with heart disease and possibly fetuses and infants

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

