

# Effects of Common Air Pollutants

## RESPIRATORY EFFECTS



### Symptoms:

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

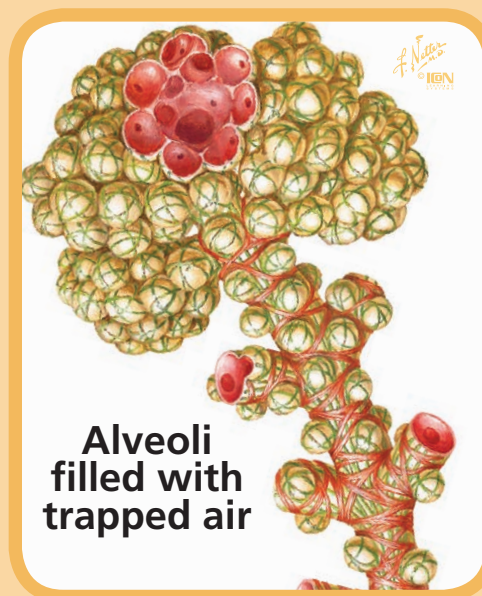
### Increased sickness and premature death from:

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

### Development of new disease

- Chronic bronchitis
- Premature aging of the lungs

## How Pollutants Cause Symptoms

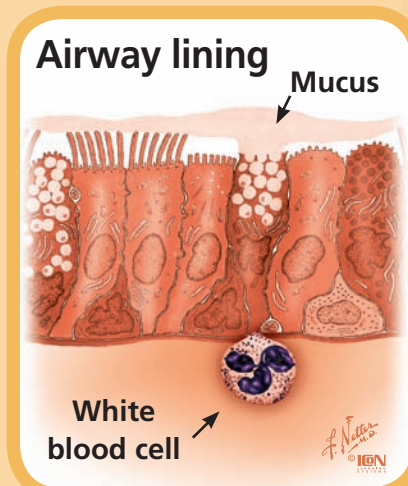


### Effects on Lung Function

- 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

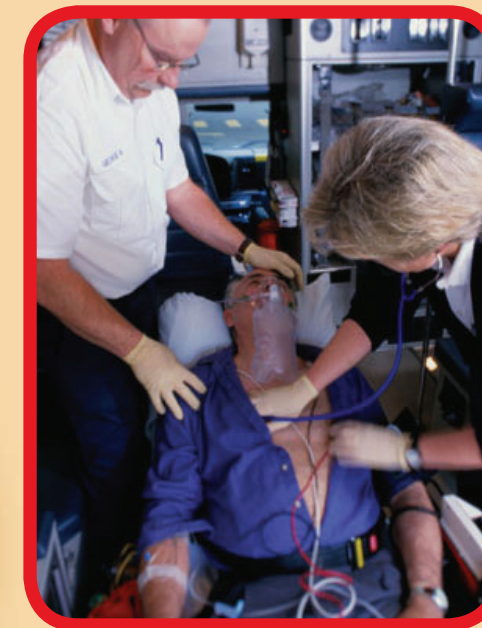


Normal



Lung with respiratory infection

## CARDIOVASCULAR EFFECTS



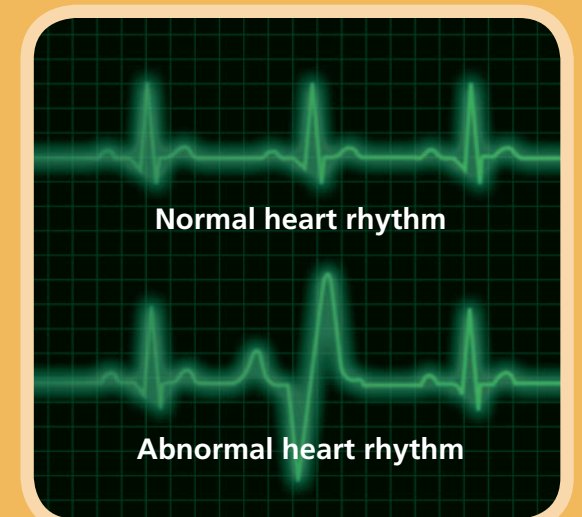
### Symptoms:

- 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

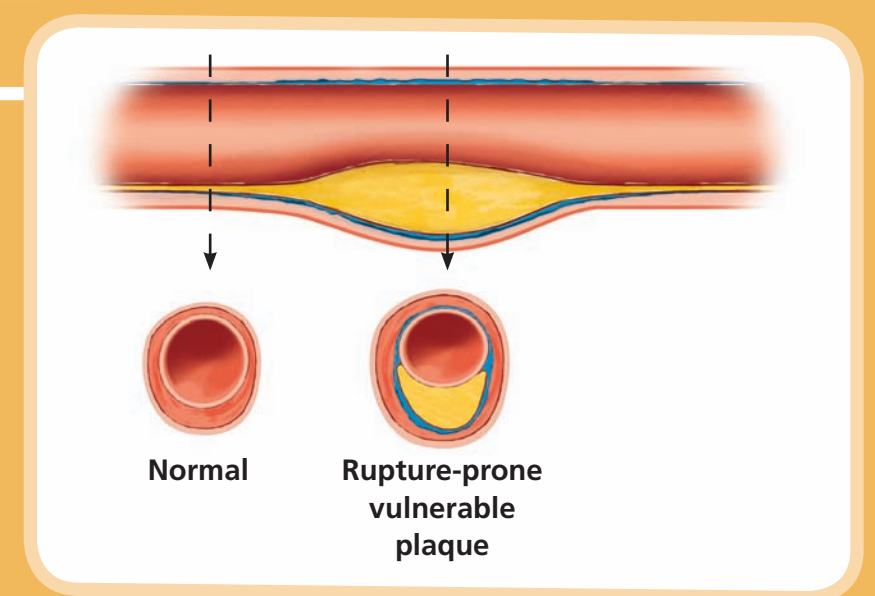


### Effects on Cardiovascular Function

- 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](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:<br>Plan strenuous outside activities when air quality is better   |
| Unhealthy for Sensitive Groups | 101-150    | <b>Sensitive Groups:</b> Cut back or reschedule strenuous outside activities<br><b>Ozone:</b> People with lung disease, children and older adults and people who are active outdoors<br><b>Particle Pollution:</b> People with heart or lung disease (including diabetics), older adults and children<br><b>Carbon Monoxide:</b> People with heart disease and possibly infants and fetuses<br><b>Nitrogen Dioxide:</b> People with lung disease, children and older adults<br><b>Sulfur Dioxide:</b> Active children and adults with asthma |
| Unhealthy                      | 151-200    | <b>Everyone:</b> Cut back or reschedule strenuous outside activities<br><b>Sensitive groups:</b> Avoid strenuous outside activities  |
| Very Unhealthy                 | 201-300    | <b>Everyone:</b> Significantly cut back on outside physical activities<br><b>Sensitive groups:</b> Avoid all outside physical activities   |