# Effects of Common Air Pollutants

#### RESPIRATORY EFFECTS

#### CARDIOVASCULAR EFFECTS

**Symptoms:** 

Chest tightness

Palpitations

Stroke

Chest pain (angina)

Shortness of breath

Increased sickness and

premature death from:

Coronary artery disease

Abnormal heart rhythms

Congestive heart failure

Unusual fatigue



#### **Symptoms:**

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

#### Increased sickness and premature death from:

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

#### **Development of new disease**

- Chronic bronchitis

## Premature aging of the lungs





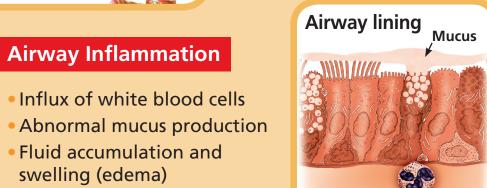


Death and shedding of

cells that line airways

#### **Effects on Lung Function**

- Narrowing of airways (bronchoconstriction)
- Decreased air flow





#### Effects on Cardiovascular Function

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

#### **Increased Susceptibility to Respiratory Infection**

blood cell



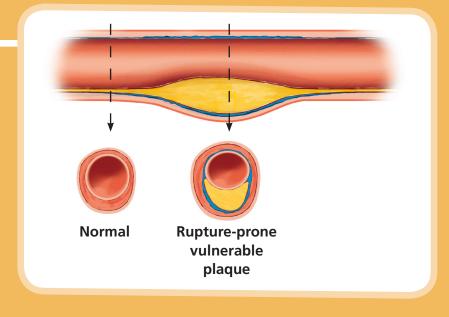
Normal



**Lung with** respiratory infection

#### **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  EVERYONE: Significantly cut back on outside physical activities  EVERYONE: Significantly cut back on outside physical activities  EVERYONE: Linited States Environmental Protection Agency  EPA-456/H-11-002