

# Prevention of Cardiovascular Disease

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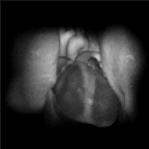
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## Cardiovascular Disease (CVD)

- Any disease that affects the heart or blood vessels
- Number one cause of death in U.S.
  - 61 million Americans have some form of CVD
- Leading cause of death in men between the ages of 35 and 44



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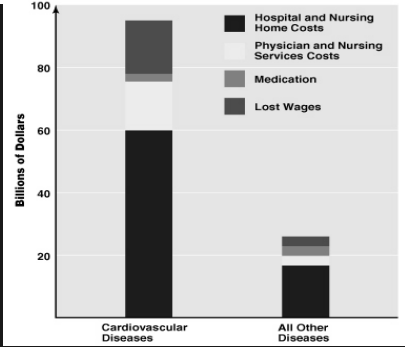
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## Annual economic costs of cardiovascular diseases and other diseases in the U.S.



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## Four Common Types of Cardiovascular Diseases

- Arteriosclerosis
  - Atherosclerosis- inflammatory response resulting in proliferation of tissue within the arterial wall which may result in obstruction of blood flow
- Coronary heart disease (CHD) – also called coronary artery disease
- Stroke – brain damage occurring when blood supply to the brain is reduced for too long
- Hypertension – abnormally high blood pressure

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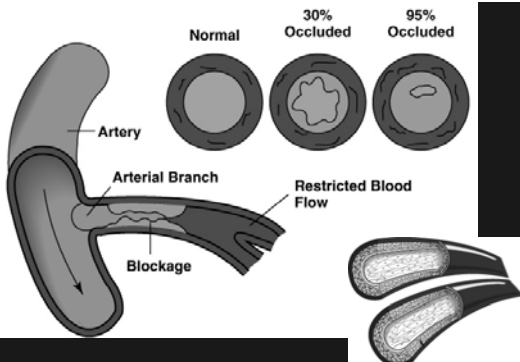
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## Stages of atherosclerosis.



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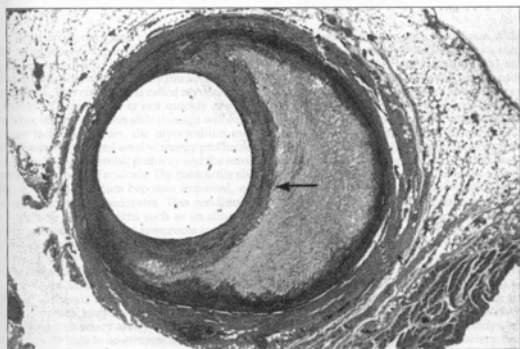


Figure 2.14 A cross section of a diseased coronary artery (eccentric lesion of the arterial wall).

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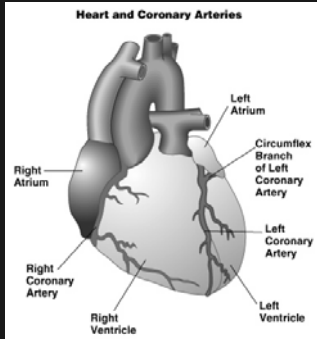
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## The coronary arteries carry blood to the working heart muscle.



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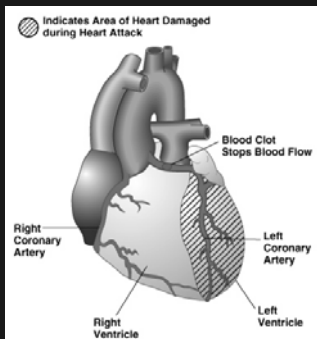
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## Example of a myocardial infarction.



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## Coronary Heart Disease

Basically, an imbalance between blood supply (too little) and demand placed on the heart

### Demand

- Heart rate
- Amount of blood returned to the heart
- Amount of force the heart has to pump against
- Force of contraction in the heart

### Supply

- Coronary Artery
- O<sub>2</sub> extraction
- Diastolic filling time

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## Risk factors for CHD

- Major risk factors
  - Cigarette smoking
  - Hypertension
  - High blood cholesterol levels
  - Physical inactivity
  - Family History
  - High blood glucose levels
  - Obesity

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## Risk factors for CHD

- Contributory risk factors
  - Gender
  - Age
  - Stress

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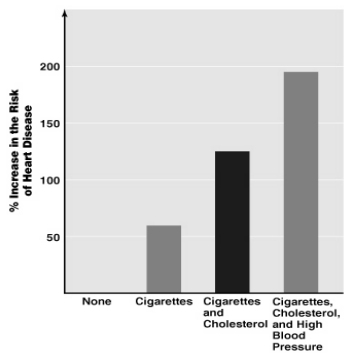
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Your risk of developing coronary heart disease increases as the number of risk factors increase.



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## Reduction of CHD Risk Factors

- Stop smoking
- Exercise and proper diet – see next slide
  - Reduction in CVD risk factors as well as mortality
- Weight loss
- Stress management

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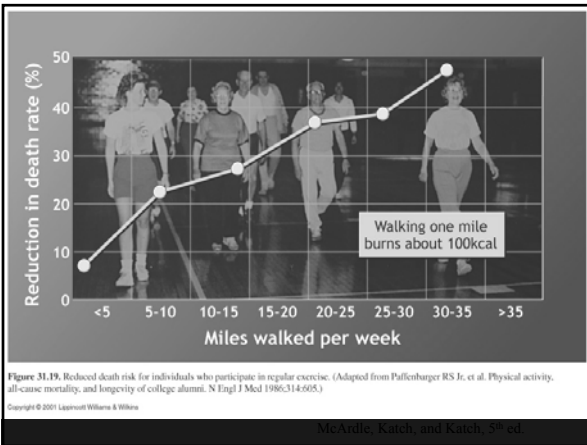
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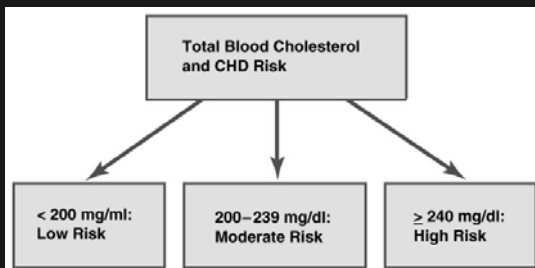
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## Total blood cholesterol levels and your risk of CHD.



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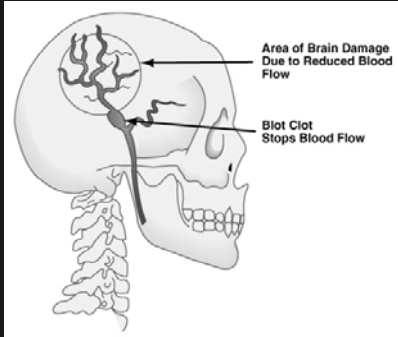
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### Illustration of brain damage due to a stroke.



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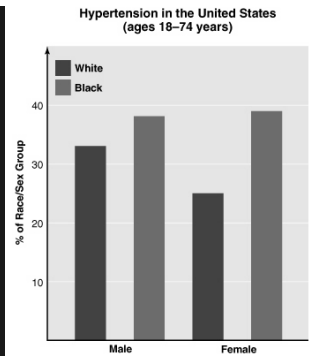
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### The percentage of people in the U.S. with hypertension.



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### Summary

- ❑ Cardiovascular disease is the number one cause of death in the U.S.
- ❑ Risk factors: major and contributory.
- ❑ Lifestyle may be modified to reduce risk associated with smoking, hypertension, high cholesterol, inactivity, stress.

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