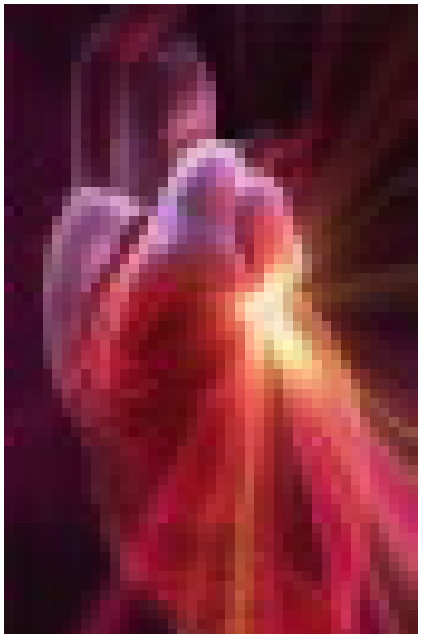
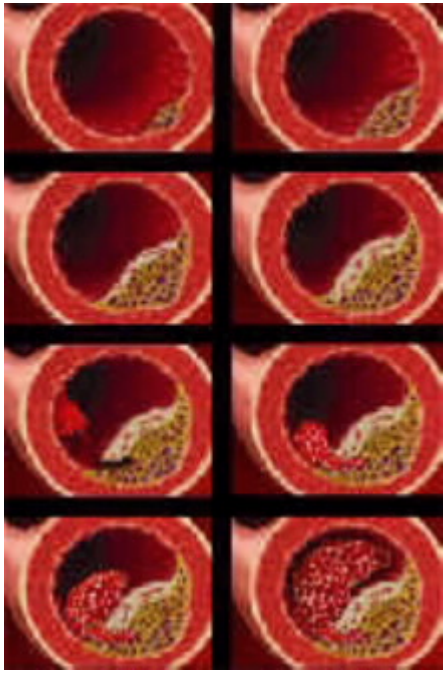
Cardiovascular Diseases



Coronary Heart Diseases (CHD)

- Results from ***imbalance*** between the supplied oxygen and nutrients by the coronaries and the heart muscle needs.
- Atherosclerosis is the major underlying pathology in coronary heart disease.
- Atherosclerosis could result in obstruction of the blood flow in the coronary arteries and cause ***myocardial ischemia/infarction.***



Case definition by PHC physician

- **Angina pectoris** or acute chest pain
- **Classical/exertion angina** occurs during physical activity and provoked by excitement, anger, cold and heavy meals. The attack is transient and disappears on rest.
- **Non-classical angina** occurs either during sleep (nocturnal angina due to coronary spasm) or at rest without provoking factors.
- Heart failure, arrhythmias and sudden death are the major complications.

Risk Factors

Personal	Lifestyle	Disease Conditions
1. **Age** 2. **Sex** 3. **Genetic** 4. **Psychological and social factors**	5. **Diet** 6. **Physical Activity** 7. **Cigarette smoking** 8. **Alcohol consumption**	9. **Dyslipidemia** 10. **Hypertension** 11. **Diabetes** 12. **Obesity** 13. **Others**
Action: **Heath education directed to special at risk groups**	***Action:*** **Health education for behavioral changes**	***Action:*** **Prevention and control of specific conditions**

At-Risk Approach and Screening tests for CHD

- People with metabolic syndrome are at increased risk of CHD.
- Metabolic Syndrome is characterized by a group of **metabolic risk factors** in one person.
- At least three factors should be present in the same person to diagnose the metabolic syndrome.

The metabolic risk factors include:

- Abdominal obesity
- Atherogenic dyslipidemia
- Elevated blood pressure
- Insulin resistance or glucose intolerance
- Prothrombotic state ***(e.g. high fibrinogen or plasminogen activator inhibitor -1 in the blood***
- Proinflammatory state ***(e.g. elevated C-reactive protein in the blood)***

Screening tests for CHD

Screening tests	Cut-off points to identify the atrisk groups
Waist circumference	102 cm for men 88 cm for women
Triglycerides	150mg/dl
HDL	< 40 mg/dl for men < 50 mg/dl for women
Blood pressure	130/85 mm Hg
Fasting glucose	100 mg/dl

Prevention of CHD:
[A] Primary Prevention

- Health Education to increase awareness about the risk factors, and modification of the life style
- Proper nutrition e.g. increase consumption of fresh vegetables and fruits and reduce animal fat intake
- Antismoking behavior

[B] Secondary Prevention:

- **Early detection** of the diseases through periodic examination and screening tests for the at-risk groups
- **Proper management** of the disease conditions

[C] Tertiary Prevention:

- Medical rehabilitation
- Social rehabilitation
- Psychological rehabilitation
- Vocational rehabilitation

Public Health Programs for Prevention and Control of CHD

- Nutrition Education Program
- Antismoking program
- Physical activity encouragement programs
- Mental health promotion programs
- Health appraisal, management of disease conditions

Health Education

Objective	*Contents of Health Education Message*
(1) Reduce the major risk factors for CHD: First line management	
Stop smoking	**guide lines for counseling to quit smoking**
Reduce LDL Cholesterol	**Compliance to use therapy for clinical management of the metabolic risk factors**
Reduce Blood pressure	
Reduce hyperglycemia	
(2) Management of long and short -term risks: Improving Li festyle	
Weight loss to achieve a desirable weight (BMI less than 25kg/m ^{2}	**Diet control and physical exercise**
Increase physical activity	**Moderate intensity exercise (walking) for at least 30 minutes 3 -4 days per week**
Healthy eating habit	**Reduce th e intake of saturated fat, trans fat and cholesterol (animal red meat , brain, kidney, liver and fatty milk) should be avoided Increase the intake of vegetables and fruits and other dietary fibers**