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# Coronary Artery Disease

## I. Introduction

Coronary arteries supply blood flow to the muscle of the heart. Atherosclerosis results in vessel narrowing or even occlusion and myocardial ischemia. Risk factors for atherosclerosis include aging, hypertension, diabetes mellitus, smoking, high blood cholesterol, obesity, stress and lack of exercise.

## II. Symptoms

The chest discomfort is effort- related, located at retrosternal or precordial area, may radiate to left shoulder or jaw and lasts for 3-5 minutes. It may be associated with cold sweating, too.



Chest discomfort

To deliver intelligent and holistic medicine and to provide the best healthcare  
Compassion Quality Innovation Accountability

All information above has been reviewed by (Cardiovascular) specialists

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### III. Management

Stop activities and take a rest. You can take nitroglycerin tablet (NTG) sublingually once every five minutes, with up to maximal 3 times. Seek medical help immediately.

### IV. Examination and treatment

1. Electrocardiogram (EKG or ECG): could reveal ischemia in unstable angina pectoris or myocardial infarction.



Electrocardiogram

2. Treadmill exercise EKG test: take a quick walk on a treadmill machine, with increase in heart rate and myocardium oxygen demand, this may reveal ischemia related EKG changes.



Treadmill exercise EKG test

3. Holter EKG: record 24-hour of EKG, which may reveal ischemia or arrhythmia.

4. Nuclear medicine scan: after dipyridamole or exercise induced stress, use nuclear isotope perfusion scan to detect myocardial ischemia.
5. Cardiac catheterization: for confirming the diagnosis of coronary artery stenosis or occlusion, to proceed to percutaneous coronary intervention (PCI), balloon dilatation or stenting if needed.
6. Medicine: take medication regularly (aspirin, anti-hypertensive agent, cholesterol-lowering agent)

## V. Daily care

1. Maintain ideal body weight.

Body Mass Index(BMI)=Weight (kg) / height (M <sup>2</sup>)

Adult weight grading and standards	
Grading	Body Mass Index
Underweight	BMI < 18.5
Normal range	$18.5 \leq \text{BMI} < 24$
Overweight	$24 \leq \text{BMI} < 27$
Mildly obese	$27 \leq \text{BMI} < 30$
Moderately obese	$30 \leq \text{BMI} < 35$
Severe obesity	$\text{BMI} \geq 35$
Source: Food and Drug Administration Information. Obesity and Weight Control.	

2. Diet

Take low-fat, low-cholesterol foods, such as lean meat, chicken, and fish. Use vegetable oil instead of animal-fat oil.

Recommended cooking methods:

- (1) Soup can be stored in the refrigerator. Remove the oil on the upper layer to reduce the fatty content.

- (2) Use steamed stewed, roasted, or water-boiled method for preparing food. Avoid frying or fried food and eating low-salt diet to prevent hypertension.
  - (3) Eat more fruits and vegetables to avoid constipation.
  - (4) Eat low-calorie diet and avoid snacks.
3. Take medicine on time to control blood pressure below 130/80 mmHg. Maintaining fasting blood glucose below 80-130 mg/dl, after meal glucose below 140 mg/dl.



Keep blood pressure  
130/80 mmHg



Fasting blood glucose  
below 80-130 mg/dl

- 5. Quit smoking is a powerful preventive measure for CAD.
- 6. Avoid emotional stress and job strain.
- 7. Have nitroglycerin tablets in the pocket at any time.
- 8. Moderate exercise: avoid strenuous and competitive exercise; you can do walking, tai chi or jogging.



Walking



Tai chi



Jogging

- (1) Take your pulse rate before and after exercise.
- (2) If you have any discomfort after exercise, take a rest immediately.
- (3) Take physical exercise in warm weather; avoid doing it in the extremely cold or hot environment.
- (4) Avoid doing the Valsalva maneuver; avoid lifting heavy loads.



Avoid lifting heavy loads

## VI. Reference

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Let's take a test to confirm that you have a  
thorough understanding

1. The chest discomfort is effort- related, located at retrosternal or precordial area, may radiate to left shoulder or jaw and lasts for 3-5 minutes.  
☐YES   ☐NO   ☐Not sure
2. You can take nitroglycerin tablet (NTG) sublingually once every five minutes, with up to maximal 3 times. Seek medical help immediately.  
☐YES   ☐NO   ☐Not sure
3. Holter EKG is record 8hour of EKG, which may reveal ischemia or arrhythmia.  
☐YES   ☐NO   ☐Not sure
4. Avoid frying or fried food and eating low-salt diet to prevent hypertension.  
☐YES   ☐NO   ☐Not sure
5. If you have any discomfort after exercise, take a rest immediately.  
☐YES   ☐NO   ☐Not sure