

認識冠狀動脈心臟病

Coronary Heart Disease

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■ What is coronary heart disease

■ Coronary heart disease is when blood supply to the
coronary artery of the heart is partially or completely
blocked.

■ Mainly due to atherosclerosis, which causes thickening
of the blood vessel wall, reduced blood flow and
decrease supply of oxygen and nutrients to the heart,
causing heart discomfort.

■ Distribution of coronary arteries

■ Left coronary artery: left anterior descending, left
circumflex

■ Right coronary artery

■ Risk factors

■ Uncontrollable risk factors

- ◆ Family history
- ◆ Age: >40 y/o
- ◆ Gender: male to female ratio 4:1
- ◆ Race: white male

■ controllable individual risk factors

- ◆ Smoking: Nicotine increases vasoconstriction and
oxygen consumption
- ◆ Hypertension: Persistent untreated hypertension
- ◆ Hyperlipidemia: elevation of blood cholesterol and
triglyceride causes accumulation of fat in blood
vessels, which result in vascular stenosis or
occlusion
- ◆ Diabetes: blood vessel cells become fragile, vessel
wall easily damaged, which increases the chance of
coronary heart disease

■ Contributing factors

- ◆ Obesity: increase cardiac burden; take note when
your weight exceeds 10% of the ideal body weight

Ideal body weight calculation

$$\text{【Height(Unit : meters)】}^2 \times 22 \pm 10\%$$

- ◆Lack of exercise: exercise can reduce weight, relax blood vessels, lower blood pressure, and reduce stress, all of which can decrease the incidence of coronary heart disease
- ◆Stress: Stress will increase the secretion of adrenaline, which increases blood pressure, heartbeat, and damages the arterial wall

If we can control individual risk factors and contributing factors, we can effectively prevent coronary heart disease

■ Clinical manifestations

■ Angina pectoris

Partial occlusion of the coronary blood flow to the heart results in transient myocardial ischemia, which causes transient, intermittent, substernal or precordial chest pain. The pain may radiate to the left shoulder or medial side of left arm and relieves with rest or medication. Physical exertion, emotional agitation and exposure to cold environment can promote angina

■ Myocardial infarction

Sudden occlusion of the coronary arteries cause abrupt disruption of blood supply and oxygen to cardiac muscles. This causes myocardial ischemia and hypoxia resulting in local or extensive necrosis.

Symptoms include:

- ◆Chest pain or pressure lasting for more than 30 minutes and not relieved with rest
- ◆Chest pain radiating to the left shoulder, neck, chin, or back
- ◆Symptoms not relieved with sublingual Nitroglycerin (NTG) tablets
- ◆Dizziness, cold sweats, fatigue
- ◆General weakness, difficulty breathing, or even shock

■ Treatment

■ Medication

Anticoagulants, Antiplatelets

Coronary vasodilators

Antihypertensive agent

Nitroglycerin tablets

- Percutaneous transluminal coronary angioplasty (PTCA). At one end of the cardiac catheter, an inflatable balloon is passed through the luminal stenosis, which dilates the lumen facilitating blood flow.



When necessary, vascular stents are deployed.



■ Coronary artery bypass surgery

Surgery is performed to harvest saphenous vein from patient's leg. The vein is connected from aorta to the lower part of the coronary artery and bypasses the obstruction, thus facilitating blood flow.

■ Notes on lifestyle

- Diet: please consult the dietitian
- Smoking and alcohol abuse are prohibited
- Maintain a regular lifestyle. Get 6-8 hours of sleep everyday. Avoid staying up late, and get adequate rest in the afternoon
- Stay relaxed, avoid anger, tension, or excitement.
- Conserve energy, such as use trolleys instead of carrying by hand. Avoid excessive physical exertion that increase intra-abdominal pressure such as pushing the sofa, lifting heavy objects, forced defecation, picking up children, opening bottle cap etc.
- Avoid hot water baths or standing for a long time to avoid vasodilation and possible dizziness which may result in accidents.

- Maintain an ideal body weight to reduce cardiac workload.
- Carry sublingual nitroglycerin tablets.

■ Exercise guidelines

- After an acute myocardial infarction, rest for 24-48 hours and if no complications thereafter, may gradually increase physical activity and exercise.
- Measure pulse rate before exercise. Appropriate pulse rate before exercise is 50-100 beats/min. If pulse rate during exercise is >120 beats/min, more than 20 beats/min of usual heart beat or less than 10 beats/min of usual heart beat before exercise, then the heart may not tolerate this activity.
- Don't exercise too much each time and increase exercise capacity slowly. Practice 5-10 minutes of warm-up routines before and after exercise.
- Ideal time for exercise is two hours after a meal.
- Avoid exercise that increases intra-abdominal pressure, such as weight lifting.

- When outdoors or exercising, one should always carry sublingual NTG tablets for immediate relief in case of angina.
- Discuss with physician about when to start sexual activity. Foreplay is necessary to help the heart to prepare for the increased amount of sexual activity.
- In case of any of the following conditions, immediately stop any physical activity. If adequate rest does not relieve symptoms you should seek medical attention: heart beat is more than 20 beats/min more than usual heartbeat, difficulty breathing, chest pain, pale, excessive sweating, profound fatigue.

■ Notes on taking nitroglycerin tablets

- Always carry NTG tablets with you, as it may save your life.
- Drug administration
If you have chest pain or discomfort, immediately take the tablet sublingually. If symptoms do not

improve after 3-5 minutes, take a second tablet. If symptoms do not improve after 5 minutes, take a third tablet. If symptoms still do not improve, then seek medical attention as soon as possible.

- If you feel lightheaded or dizzy after taking medication, breathe deeply or place your head between your knees.
- Avoid drinking or standing up suddenly
- If you have blurred vision, dry mouth, skin rash, persistent or severe headache, seek medical attention.
- Avoid exposure of medication to direct sunlight. Indicate date of opening. Renew medication if opened for more than 3 months. Sublingual administration will result in irritation; if not the medication has lost effectiveness.

Should you have any inquiries related to coronary heart disease, please contact our staff anytime.

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We will be more than happy to assist you.
Sincerely, Cathay General Hospital.

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