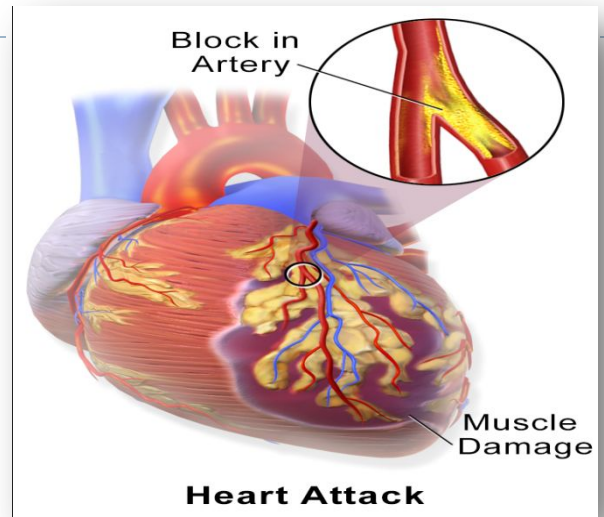Myocardial infarction

Myocardial infarction

Myocardial infarction (MI) or *acute myocardial infarction (AMI),* commonly known as a **heart attack,**occurs when blood flow stops to a part of the heart causing damage to the heart muscle.
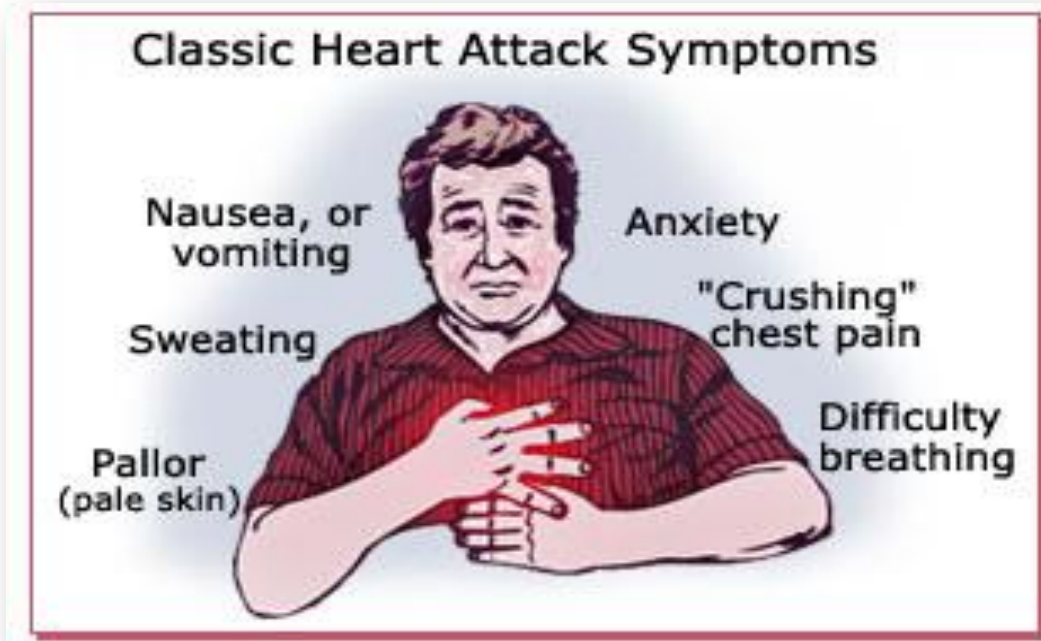

❖The heart requires its own constant supply of oxygen and nutrients, like any muscle in the body. Two large, branching coronary arteries deliver oxygenated blood to the heart muscle.

❖If one of these arteries or branches becomes blocked suddenly, a portion of the heart is starved of oxygen, a condition called "cardiac ischemia."If cardiac ischemia lasts too long, the starved heart tissue dies. This is a heart attack.

What Are the Symptoms of Myocardial Infarction?

The most common symptoms of a heart attack include:

 pressure or tightness in the chest

 pain in the chest, back, jaw, and other areas of the upper body that lasts more than a few minutes or that goes away and comes back

 shortness of breath

Classic Heart Attack Symptoms

Nausea, or vomiting

Anxiety

Sweating

"Crushing" chest pain

Pallor (pale skin)

Difficulty breathing

 sweating

 nausea

 vomiting

 anxiety

 a cough

 dizziness

 a fast heart rate

Who Is at Risk for Acute Myocardial Infarction?

High Blood Pressure

Smoking

Age

Obesity

Family History

Diabetes and High Blood Sugar Levels

High Cholesterol Levels

Other factors that can increase your risk for heart attack include:

- stress
- a lack of exercise
- the use of certain illegal drugs, including cocaine and amphetamines
- a history of preeclampsia, or high blood pressure during pregnancy

Diagnosis

- An electrocardiogram (EKG)
- A physical examination, with special attention to your heart and blood pressure
- Blood tests for serum cardiac markers.
- An echocardiogram — A painless test that uses sound waves to look at the heart muscle and heart valves.
- Radionuclide imaging — Scans that use special radioactive isotopes to detect areas of poor blood flow in the heart

Myocardial Infarction

ST Elevation
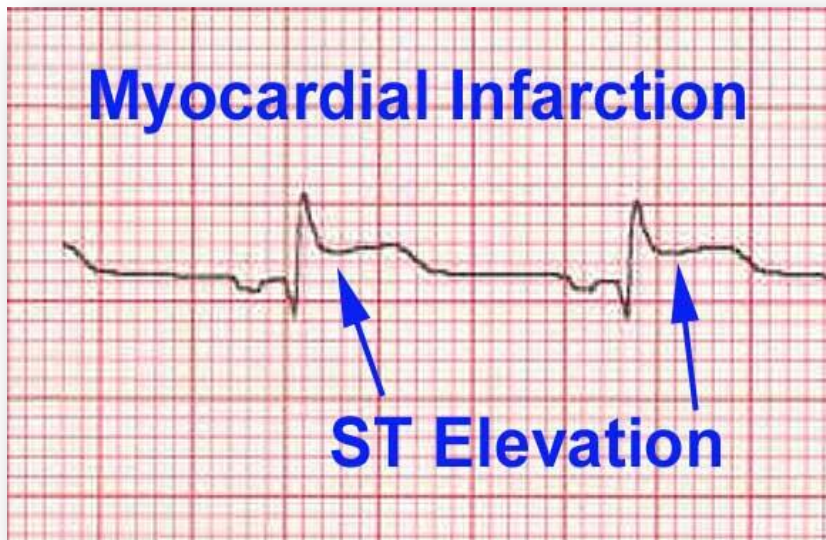
Prevention

- Exercising regularly
- Eating healthfully
- Maintaining a healthy weight
- Not using tobacco products
- Controlling your blood pressure
- Lowering your LDL cholesterol.
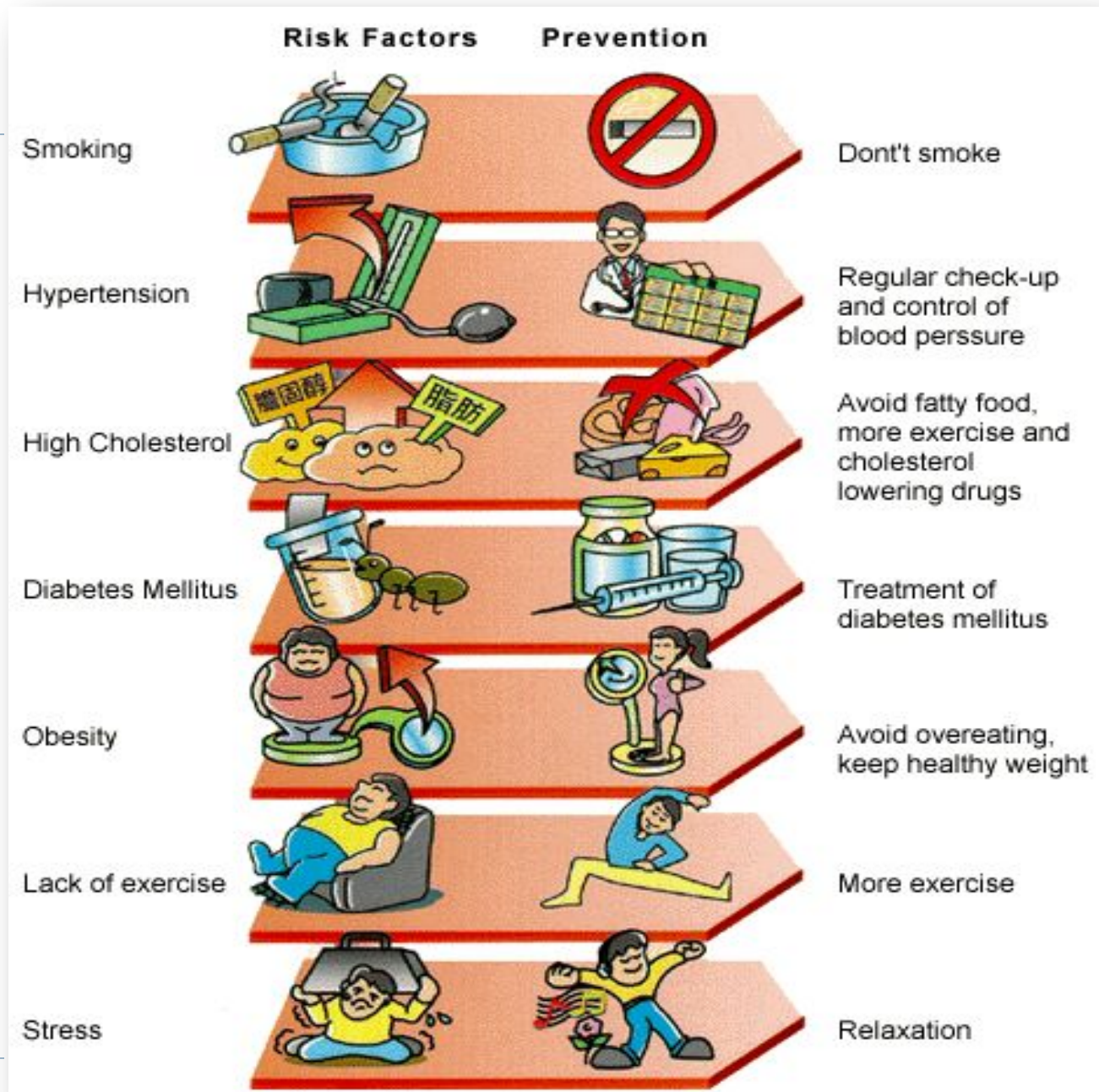
Nursing care planning

Nursing Assessment

☐Assess vitals, including pain, frequently in the early phase of treatment and recovery

☐Monitor cardiovascular function for dysrhythmias with an EKG (remember: the first EKG should be performed within 10 minutes of arrival).

☐Heart sounds should be assessed for the emergence of a new murmur

☐Once stable: Collect data from the patient about comorbidities, including hypertension, smoking, and family history or heart disease and MI's. Inquire about stress levels, such as work-related and personal stressors.

Nursing Diagnoses

- Impaired tissue profusion

- Activity intolerance

- Acute pain

- Anxiety

Nursing Interventions

☐ Impaired tissue profusion related to issue ischemia secondary to coronary artery occlusion as evidenced by patient report of chest pain, EKG readings, restlessness, and changes in level of consciousness

☐ Acute pain: Assess pain levels and administer medications as ordered. Instruct patient to do relaxation techniques, including deep and slow breathing, distraction behaviors, visualization, and guided imagery.

☐ Anxiety: Administer medications as ordered (or via protocol per policy), including supplemental oxygen. Enhancing oxygenation may relieve anxiety associated with hypoxia

☐ Activity intolerance: Assess tolerance levels for activity. Instruct patient to reserve energy as possible by spacing out activities

Possible Medication Regimen

- *ACE Inhibitor:* This prevents (or slows down the process of) ventricular remodeling and reduces the risk of future cardiac events
- *Beta-blockers:* Maintains blood pressure within optimal range. Common beta-blockers include atenolol (Tenormin), pindolol (Viskenand metoprolol (Lopressor)

↓

- *Aspirin:* A low daily dose reduces the risk of subsequent cardiac events
- *Nitroglycerin:* A vasodilator that's ordered as a sublingual tablet for the patient to use at home in the event of chest pain related to angina

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- *SSI:* Added to assist the patient in controlling stressors, such as ones that are work-related
- *Welbutrin or Chantix:* For smoking cessation, as smoking is a known risk factor for MI

Emportant Teaching Principles

Following a MI, it's important to educate patients on reducing preventable risks factors. This include smoking cessation, weight control, stress reduction, dietary changes, reducing LDL /low-density lipoprotein/, and lowering blood pressure.

The patient should understand the treatment regimen, such as how many times to take Nitroglycerin before calling 103.