

## Concept Map Template

Primary Diagnosis: Myocardial Infarction

1. Describe the pathophysiology of the primary diagnosis in your own words. What are the patient's risk factors for this diagnosis?

### Pathophysiology of Primary Diagnosis

A myocardial infarction occurs when there is a sudden blockage of blood flow to part of the heart muscle. The blockage is often due to atherosclerosis. When atherosclerosis occurs, the vessels become damaged due to plaque accumulation on the vessel's walls. The plaque can occlude the vessel and also form a thrombus. The reduced blood flow to the affected part of the heart becomes deprived of oxygen, which leads to ischemia if the blood flow is not restored. This can make the damage irreversible, resulting in necrosis of the myocardial tissue. There are non-modifiable risk factors and modifiable risk factors.

#### Causes

**Non-modifiable** include age, gender (men have a higher risk, although women have an increased risk after menopause), and a family history of heart disease. **Modifiable** risks include hypertension, high cholesterol, smoking, obesity, a sedentary lifestyle, diabetes, excessive alcohol consumption, illicit drug use, chronic stress, and sleep apnea.

#### Risk Factors (genetic/ethnic/physical)

**Genetic** factors include a family history of heart disease, hyperlipidemia, and blood clotting disorders. Males also have a higher risk compared to premenopausal females.

**Ethnic** African American males predominantly have a higher incidence due to a more prevalent risk for hypertension.

**Physical** factors include high blood pressure, high cholesterol, diabetes, obesity, smoking, sedentary lifestyle, unhealthy diet, excessive alcohol consumption, chronic stress, and sleep apnea.

2. What are the patient's signs and symptoms for this diagnosis? How does the diagnosis impact other body systems and what are the possible complications?

#### Signs and Symptoms – Common presentation

Common signs and symptoms include chest pain or discomfort, shortness of breath, nausea and vomiting, sweating, dizziness, fatigue, and palpitations.

How does the diagnosis impact each body system? Complications?

**Cardiovascular:** When the heart's ability to pump properly is compromised, symptoms such as low blood pressure, arrhythmias, or heart failure can occur.

**Respiratory:** Decreased cardiac output can lead to pulmonary edema.

**Renal:** reduced blood flow to the kidneys can impair kidney function leading to an acute kidney injury.

**Nervous:** insufficient oxygen to the brain can result in confusion, altered mental status, or