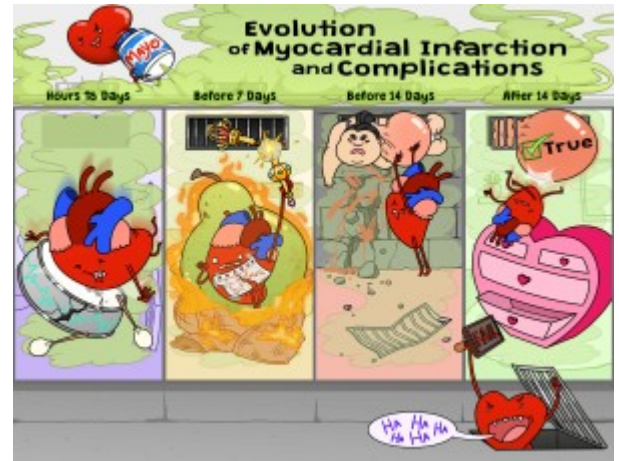


## Evolution of Myocardial Infarction and Complications

In the time following a myocardial infarction, gross changes in the heart may lead to various complications in the recovery period. The cardiac timeline is the description of what complications occur and when they occur following a myocardial infarction. Knowing the evolution of myocardial infarction and the cardiac timeline provides direction for the appropriate assessment and treatment of the possible complications that may arise.



PLAY PICMONIC

### Hours to Days

#### Arrhythmia

##### Broken Arrhythmia-drum

Injury to the myocardium occurs from ischemia and reperfusion in the first 24 hours after a myocardial infarction. During this time, a common complication is ventricular arrhythmia. Additionally, if an arrhythmia significantly disrupts the heart's normal pumping mechanism, cardiogenic shock, heart failure, and even sudden death may result.

### Before 7 Days

#### Fibrinous Pericarditis

##### Fibrous Pear-heart-on-fire

The pericardium is often injured from a myocardial infarction resulting in inflammation and the release of fibrin. Fibrinous pericarditis usually occurs after the first 24 hours but before 3 days from the infarction. It can present with chest pain and a friction rub on auscultation.

#### Papillary Muscle Rupture

##### Paper Muscle Rupture

Macrophages at the site of injured myocardium contribute to the possibility of a papillary muscle rupture. Normally the papillary muscles help keep the tricuspid and mitral valves closed during systole. Injury of the papillary muscle leads to valvular regurgitation. The time frame may vary with rupture of the papillary muscle but mostly occurs before 7 days from a myocardial infarction. A systolic murmur will be appreciated.

#### Interventricular Septum Rupture

##### In-vent Scepter Rupture

Macrophages at the site of injured myocardium contribute to the possibility of an interventricular septum rupture, which describes the wall of tissue that separates the two ventricles. These patients often present critically ill in cardiogenic shock. The time frame may vary with an interventricular septum rupture but most occur before 7 days from a myocardial infarction.

### Before 14 Days

## **Ventricular Pseudoaneurysm**

### [Vent Sumo-aneurysm](#)

A ventricular pseudoaneurysm occurs as the result of a free wall rupture. Pericardial adhesions create a pseudoaneurysm by containing a free wall rupture. The pseudoaneurysm is prone to further rupture. A ventricular free wall rupture generally occurs before 7 days and the pseudoaneurysm arises in the days following with most occurring before 14 days.

## **Ventricular Free Wall Rupture**

### [Vent Free Wall Rupture](#)

The ventricular free wall is prone to rupture in the days following a myocardial infarction. The rupture may be contained by a pseudoaneurysm. The process of ventricular free wall rupture and pseudoaneurysm formation mostly occurs before 14 days from a myocardial infarction.

## **After 14 Days**

## **True Ventricular Aneurysm**

### [True Vent Aneurysm](#)

A possible complication of a transmural myocardial infarction is the formation of a true aneurysm, which describes an aneurysm that consists of the walls of the heart. This characteristically occurs 2 weeks after the infarction and can be a site of thrombus formation.

## **Dressler Syndrome**

### [Heart Dresser](#)

Dressler syndrome refers to a pericarditis that develops secondary to an autoimmune response against antigens present on the damaged or healing myocardium. This causes a fibrinous pericarditis which can present 2 weeks or later after a myocardial infarction.

## **Other**

## **Left Ventricular Failure**

### [Laughing-left Vent Fail-sign](#)

Left ventricular failure can occur secondary to many of the complications of a myocardial infarction and therefore must be considered throughout the entire infarction recovery period.