

## Cardiac Enzyme Evaluation: Creatine Kinase CK-MB

Creatine kinase CK-MB is a cardiac enzyme that helps quantify myocardial damage. Elevations indicate myocardial injury or infarction. The onset of enzyme elevation is 4-8 hours, the peak is 12-24 hours, and the return to baseline is 48-72 hours.



PLAY PICMONIC

### Measures

#### Skeletal or Cardiac Muscle Injury

[Skeleton-muscle-man and Heart Muscle Injured](#)

Creatine kinase enzymes occur in three isoenzymes found in various organs and tissues. Creatine kinase CK-MM are specific to skeletal muscle while creatine kinase CK-BB are specific to the brain and nervous tissue. Creatine kinase CK-MB is a cardiac enzyme used to measure skeletal muscle injury of the heart. Elevations of CK-MB indicate myocardial injury or infarction. The cardiac-specific isoenzyme is released during myocardial tissue injury and help quantify myocardial damage.

### Time Ranges

#### Onset: 4-8 Hours

[On-switch with \(4\) Fork and \(8\) Ball](#)

Serum levels of creatine kinase CK-MB begin to elevate 4-8 hours after the onset of chest pain.

#### Peak: 12-24 Hours

[Peak of mountain with \(12\) Dozen and Open \(24\) Hour sign](#)

Elevations of creatine kinase CK-MB levels peak after 12-24 hours after the onset of symptoms. Patients with a large myocardial infarction may experience a delay in peak levels since it takes a longer time to account for the myocardial damage.

#### Return to Normal: 2-3 Days

[Return to Ground with \(2\) Tutu and \(3\) Tree Day-calendar](#)

Creatine kinase CK-MB levels return to baseline within 48-72 hours after the initial myocardial injury. Large myocardial infarctions may cause a delay in a return to baseline. Patients who are quickly and successfully treated for a myocardial infarction will have their creatine kinase CK-MB levels return to baseline more quickly.