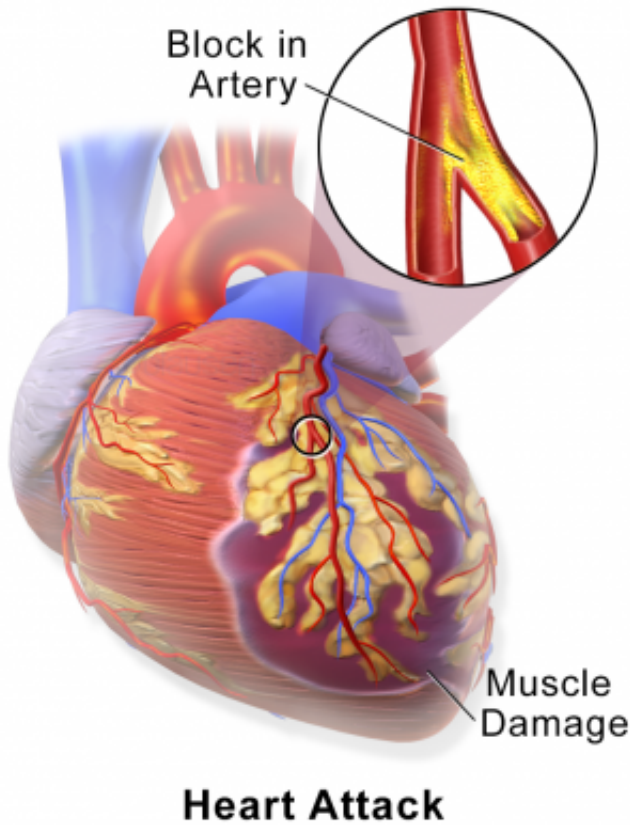


Poor air quality increases patients' risk of heart attack, new study finds

8 November 2015



Myocardial Infarction or Heart Attack. Credit: Blausen Medical Communications/Wikipedia/CC-A 3.0

People with heart disease face an increased risk of a serious heart attack during poor air quality days, according to a major new study presented today at the American Heart Association Scientific Session in Orlando.

The study of more than 16,000 patients by researchers at the Intermountain Medical Center Heart Institute in Salt Lake City examined patients who had suffered three types of heart attacks - STEMI, non-STEMI, and unstable angina - to identify which type of [heart attack](#) was more likely on days when the air was especially polluted.

For the study, researchers compared air quality measurements to the number of patients treated for heart attacks at Intermountain Healthcare hospitals in the urban areas in and around Salt Lake City between September 1993 and May 2014.

The Intermountain Medical Center Heart Institute research team identified a strong association between bad air quality days - those with a threshold above 25 micrograms of fine particulate matter per cubic meter of air - with a greater risk of STEMI, the most dangerous type of heart attack.

Findings of the study were reported at the 2015 American Heart Association Scientific Session in Orlando on Sunday, November 8, 2015.

"Our research indicated that during poor air quality days, namely those with high levels of PM2.5, patients with heart disease are at a higher risk of suffering from a STEMI heart attack," said Kent Meredith, MD, cardiologist and researcher at the Intermountain Medical Center Heart Institute.

A ST-segment elevation myocardial infarction, or STEMI, is a serious form of a heart attack in which a coronary artery is completely blocked and a large part of the heart muscle is unable to receive blood. If left untreated for too long, the lack of oxygen to the heart will damage the heart muscles and cause irreparable damage or death.

"By making this association, physicians can better counsel their heart patients to avoid exposure to poor air quality, and thus decrease their chances of suffering a [heart](#) attack on days that they are potentially at highest risk," said Dr. Meredith.

"The study suggests that during many yellow [air quality](#) days, and all red quality air days, people with known coronary artery disease may be safer if they limit their exposure to particulate matter in the air by exercising indoors, limiting their time outdoors, avoiding stressful activities, and

remaining compliant with medications," said Dr. Meredith.

"These activities can reduce inflammation in the arteries, and therefore make patients less sensitive to the [fine particulate matter](#) present on [poor air quality](#) days."

Provided by Intermountain Medical Center

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