

# Bacterial pneumonia far more dangerous to the heart than viral pneumonia, study finds

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In new study of nearly 5,000 patients, researchers found that patients diagnosed with bacterial pneumonia had a 60 percent greater risk of a heart attack, stroke, or death than patients who had been diagnosed with viral pneumonia. Credit: Intermountain Medical Center Heart Institute

Heart complications in patients diagnosed with bacterial pneumonia are

more serious than in patients diagnosed with viral pneumonia, according to new research from the Intermountain Heart Institute at Intermountain Medical Center in Salt Lake City.

In the study of nearly 5,000 [patients](#), researchers found that patients diagnosed with bacterial pneumonia had a 60 percent greater risk of a heart attack, stroke, or death than patients who had been diagnosed with viral pneumonia.

"We've always known pneumonia was a risk factor for a major adverse cardiac event, like a heart attack, within the first 90 days of being diagnosed," said J. Brent Muhlestein, MD, a cardiovascular researcher with the Intermountain Heart Institute at Intermountain Medical Center. "What we didn't know was which type of pneumonia was more dangerous. The results of this study provided a clear answer, which will allow physicians to better monitor patients and focus on reducing their risk of a major adverse cardiac event."

Results of the study will be presented during the American Heart Association Scientific Sessions in Chicago on Sunday, Nov. 11.

The Intermountain Heart Institute at Intermountain Medical Center is part of the Intermountain Healthcare system based in Salt Lake City.

The study evaluated 4,792 patients diagnosed with pneumonia who were hospitalized at one of Intermountain Healthcare's 23 hospitals between January 2007 and May 2014. Each patient was followed for 90 days and tracked for non-fatal heart attacks, stroke, heart failure, or death.

Nearly 80 percent of the patients were diagnosed with bacterial pneumonia, and 34 percent (1,270 patients) of them had a major cardiovascular event within 90 days. At the same time, 21 percent of the patients were diagnosed with viral pneumonia, and 26 percent (258

patients) had a major adverse event within the 90-day window.

"The likely underlying cause is that bacterial pneumonia causes greater inflammation of the arteries compared to [viral pneumonia](#)," said Dr. Muhlestein.

When arteries become inflamed, it destabilizes the layers of plaque that have built up over the years. The unstable plaque can then break loose from the artery wall and cause a blockage, which leads to a heart attack, stroke, or death.

"The practical result of our study is that caregivers should be aware of the greater cardiovascular risks associated with respiratory infections like pneumonia, and especially bacterial [pneumonia](#)," said Dr. Muhlestein. "If a patient has been diagnosed with [bacterial pneumonia](#), treat it aggressively and watch them closely for any signs of a [heart attack](#) or stroke. If the patient is taking medications specific to a [heart](#) condition, like high blood pressure or cholesterol, they should continue taking those prescribed medications."

People with known plaque buildup should be especially mindful of things they can do to prevent respiratory infections. Dr. Muhlestein recommends getting a flu shot, a pneumovax, practicing proper hand hygiene year-round (and especially during cold and flu season), and quitting smoking immediately.

Provided by Intermountain Medical Center

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