

Chest pain duration can signal heart attack

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Patients with longer-lasting chest pain are more likely having a heart attack than those with pain of a shorter duration, according to a study by researchers at Henry Ford Hospital.

The study is published in the September issue of *Critical Pathways in Cardiology*.

Every year, eight to 10 million people in the U.S. go to emergency departments for [chest pain](#). But only 15–30 percent of them are having a [heart attack](#).

The characteristics of chest pain are important to diagnosing the cause. Researchers studied the relationship between the length of time that a patient experienced chest pain and a diagnosis of heart attack in [patients](#) evaluated in the [emergency department](#).

"Patients can experience varying strength, location, and duration of chest pain," says James McCord, M.D., a cardiologist at Henry Ford Hospital on the research team. "The variety of symptoms any one patient may experience during a heart attack is a challenge to the physician who is trying to distinguish between patients who are having a heart attack and those who are not."

"Although an electrocardiogram (ECG) and cardiac markers in the blood are important in the evaluation of patients with a possible heart attack, they are not 100 percent accurate."

Records of patients who were evaluated for possible heart attack in the emergency department at Henry Ford Hospital between January and May of 1999 were studied. Only patients for whom chest pain duration and 30-day follow-up data was available were selected.

Of 426 patients included in the study, 38 (less than 9 percent) had a final diagnosis of heart attack, with average chest pain duration of 120 minutes, compared with 40 minutes in patients without heart attack. In patients with chest pain lasting less than five minutes, there were no heart attacks and no deaths at 30 days.

"These findings suggest that patients with chest pain lasting less than five minutes may be evaluated as an out-patient in their doctor's office; while patients with chest pain greater than 5 minutes, without a clear cause, should seek prompt medical evaluation in an emergency department," says Dr. McCord.

Patients were interviewed during the study to determine medical history and demographics. Those with a diagnosis of heart attack were significantly older.

The researchers concluded that patients with heart attack have longer duration of chest pain than those not experiencing a heart attack; patients with chest pain of short duration, less than 5 minutes, are unlikely to have a heart attack and have a good prognosis at 30 days.

He added that, since this study was done at one hospital with a relatively small number of patients, further study is needed.

Provided by Henry Ford Health System

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