

## Stroke after Heart Attack

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The full report is titled “A Community-Based Study of Stroke Incidence after Myocardial Infarction.” It is in the 6 December 2005 issue of *Annals of Internal Medicine* (volume 143, pages 785-792). The authors are B.J. Witt, R.D. Brown Jr., S.J. Jacobsen, S.A. Weston, B.P. Yawn, and V.L. Roger.

### What is the problem and what is known about it so far?

Blockages in the blood vessels to the heart can limit blood flow. If low blood flow lasts long enough, a section of heart tissue dies, a condition known as myocardial infarction or “heart attack.” Disruption of blood flow to the brain can be the result of blocked arteries, blood clots, or bleeding into the brain. If lack of blood to the brain lasts long enough, a section of brain tissue dies, a condition known as a stroke. People who have heart attacks are also at risk for strokes. However, the size of this risk is uncertain. It is also not known whether the risk for stroke after a heart attack has decreased over the years as better treatments for heart attacks and preventive care have come into use.

### Why did the researchers do this particular study?

To determine whether the risk for stroke is higher in persons who have had a heart attack than in the general population. They also wanted to see whether the frequency of stroke after a heart attack has changed over time.

### Who was studied?

2160 patients who received care for a first heart attack at the Mayo Clinic between 1979 and 1998.

### How was the study done?

The researchers reviewed the medical records at the Mayo Clinic to see whether each patient had a stroke and/or died after the heart attack. They followed patients for an average of approximately 6 years.

### What did the researchers find?

Approximately 22.6 strokes occurred within 30 days of the heart attack for every 1000 patients followed for 1 month. This means that stroke was 2 to 3 times more common in the first 3 years after heart attack than would be expected in the general population. Patients who had a stroke were almost 3 times more likely to die than were those who did not have a stroke. Patients who were older, had a previous stroke, or had diabetes had a greater chance of having a stroke after a heart attack than did patients without these characteristics. The rates of stroke after a heart attack did not decrease during the study. Patients who had a stroke after heart attack were more likely to die than those who did not have a stroke.

### What were the limitations of the study?

These findings may not apply to different populations. Patients treated at the Mayo Clinic are mostly white and are not poor.

### What are the implications of the study?

People who have had a heart attack are at greater risk for a stroke than those in the general population, particularly in the first month after heart attack. This risk has not changed over the past 2 decades.

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