

Circulation

JOURNAL OF THE AMERICAN HEART ASSOCIATION



Heart Attack and Stroke Prevention in Women

Richard C. Becker

Circulation 2005;112:e273-e275

DOI: 10.1161/CIRCULATIONAHA.105.551341

Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 72514

Copyright © 2005 American Heart Association. All rights reserved. Print ISSN: 0009-7322. Online ISSN: 1524-4539

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://circ.ahajournals.org/cgi/content/full/112/17/e273>

Subscriptions: Information about subscribing to *Circulation* is online at
<http://circ.ahajournals.org/subscriptions/>

Permissions: Permissions & Rights Desk, Lippincott Williams & Wilkins, a division of Wolters Kluwer Health, 351 West Camden Street, Baltimore, MD 21202-2436. Phone: 410-528-4050. Fax: 410-528-8550. E-mail:
journalpermissions@lww.com

Reprints: Information about reprints can be found online at
<http://www.lww.com/reprints>



Heart Attack and Stroke Prevention in Women

Richard C. Becker, MD



Each year, more than one million Americans experience a heart attack, and nearly half of them are fatal. Stroke is the leading cause of disability and the third leading cause of death for women and men.¹⁻³

Heart Attack and Stroke in Women

Many people continue to believe that heart attacks represent a problem targeting solely older men, yet heart disease is the number one killer of both women and men in the United States. The difference is that among men, the risk for heart attack increases steadily after 45 years of age. In women, the risk increases after 50 years of age. However, younger women and men can also have heart attacks, and the current epidemic of obesity and inactivity among our nation's youth will likely shift the risk toward occurrence at younger ages over the next one to two decades.

Each year, nearly 700 000 Americans experience either their first or second stroke, and more than 20% of them are fatal. More women than

men have strokes, and they are more likely to die as a result. The problem is particularly serious in black Americans.⁴⁻⁸

Who Is at Risk?

Being familiar with factors that increase the risk for either a heart attack or stroke is the first step toward prevention. If you have one or more of these factors, please contact your healthcare provider to discuss the available means to reduce the risk.

What Are the Signs and Symptoms?

In most instances, a heart attack or stroke is caused by a small blood clot lodged within a blood vessel leading to either the heart or brain (see the Figure). The lack of blood (and oxygen) causes injury, which increases steadily over time; therefore, prompt recognition and medical treatment are of utmost importance.

The signs and symptoms of heart attack and stroke are listed in the boxes. It is important to remember that they can differ from one person to another and may "wax and wane" with time. If you are not sure, it is better to seek medical advice than to wait.

WARNING SIGNS FOR STROKE

- Sudden weakness or numbness of face or limb on one side.
- Sudden, severe headache.
- Difficulty talking or understanding speech.
- Unexplained dizziness.
- Sudden dimness/loss of vision, often in one eye.

WARNING SIGNS FOR HEART ATTACK

- Chest discomfort: uncomfortable pressure, squeezing or fullness.
- Discomfort in other areas of the upper body: one or both arms or in the back, neck, jaw, or stomach.
- Shortness of breath, either with chest discomfort or alone.
- Other signs, including nausea, lightheadedness, or breaking out in a cold sweat.

The information contained in this *Circulation* Cardiology Patient Page is not a substitute for medical advice or treatment, and the American Heart Association recommends consultation with your doctor or healthcare professional.

From the Cardiovascular Thrombosis Center, Division of Cardiovascular Medicine, Duke University Medical Center, Durham, NC.

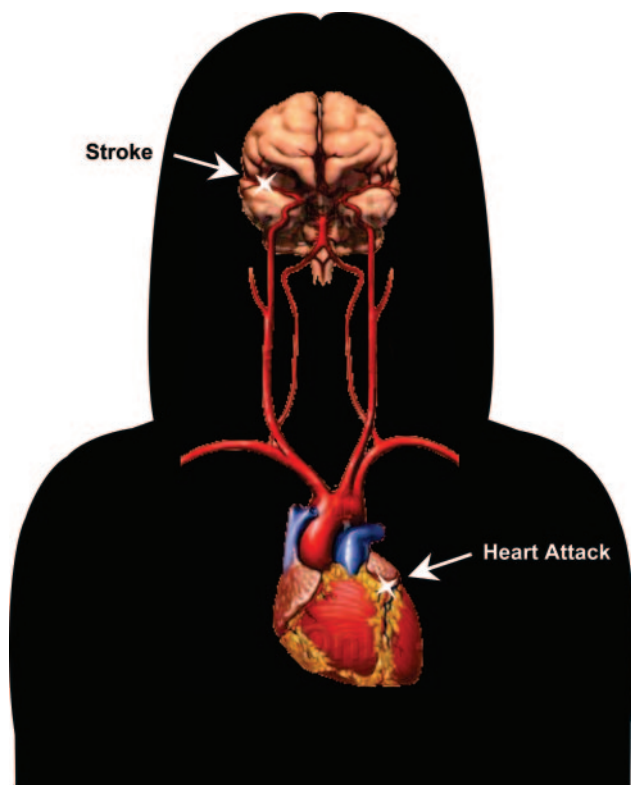
Correspondence to Dr Richard C. Becker, Cardiovascular Thrombosis Center, Division of Cardiovascular Medicine, Duke University Medical Center, Durham, NC.

(*Circulation*. 2005;112:e273-e275.)

© 2005 American Heart Association, Inc.

Circulation is available at <http://www.circulationaha.org>

DOI: 10.1161/CIRCULATIONAHA.105.551341



Blood clots forming in the blood vessels serving the heart cause heart attacks; those that develop in or travel to the blood vessels in the brain are responsible for strokes.

PREVENTION OF HEART ATTACK AND STROKE

- Stop smoking.
- Engage in physical activity.
- Use diet therapy.
- Maintain/reduce weight.
- Control blood pressure.
- Undergo cholesterol control/ statin therapy.
- Control blood sugar.
- Limit alcohol intake.
- Take aspirin as advised.*

*For women who have at least a 20% chance of a heart attack or stroke over the next 10 years.

How Aware Are You?

A recent American Heart Association–sponsored telephone survey of more than 1000 women who were over 25 years of age found that only 1 of every 3 women correctly identified the warning signs of stroke. Awareness of heart attack risk is low nationwide but was particularly low among Hispanic and black women.

There has been an overall improvement in the level of awareness among American women over the past decade. Both a clear need and a large margin for improvement exist, however, for national and community prevention programs to develop educational programs directed toward those at greatest risk.⁹

How Can I Reduce My Chances of Having a Heart Attack or Stroke?

Rather than consider heart and blood vessel disease as a “have-or-have-not” condition, the medical community now looks at a “continuum of risk” that requires intermittent appraisal by healthcare providers. Your physician can assess the chance of your having a heart attack or stroke according to risk prediction charts and can optimize strategies of preventive care.^{10,11} It is important for all women to recognize the important role that they themselves play in preventing heart attack and

RISK FACTORS FOR STROKE

- High blood pressure.
- Diabetes.
- High cholesterol.
- Age (risk doubles for each decade over 55 years of age).
- Family history of stroke.
- Smoking.
- Birth control pills.
- Atrial fibrillation.
- Heart failure.
- Excess alcohol.
- Prior stroke or heart attack.
- Black race.
- Gender (women are at greater risk than men).

RISK FACTORS FOR HEART ATTACK

- High blood pressure.
- Diabetes.
- Smoking.
- High cholesterol.
- Age.
- Hormone replacement therapy.
- Physical inactivity.
- Gender (men are at greater risk than women).

stroke by following a healthy lifestyle.¹²

Is Aspirin for Everyone?

In low doses, aspirin reduces “sticking” of blood platelets to one another, preventing blood clots. A study of nearly 40 000 initially healthy women 45 years of age or older¹³ found that aspirin (100 milligrams every other day) reduced the risk of a first stroke by nearly 25%, and in women over 65 years of age, it decreased the likelihood of both heart attack and stroke. On the flip side, aspirin increased by 40% the risk of bleeding within the stomach and intestines, a known side effect.

What is the take-home message for women? Low-dose aspirin reduces heart attack and stroke for women at high risk and for those over 65 years of age. The balance of benefit with the risk of bleeding must be weighed carefully for each individual and discussed with a healthcare professional.

It must be emphasized that women with a prior heart attack or stroke are known to benefit from daily aspirin.

Are All the Answers About Aspirin in?

The wide-scale availability, low cost, and proven benefits of aspirin make it a topic of great interest and importance in public health. Women at low risk for a heart attack or stroke do not benefit from regular aspirin use. Similarly, it has been established that women at high risk benefit considerably. The questions that remain unanswered are as follows:

- What is the role of aspirin among women at intermediate risk (10% to 20% risk over a 10-year period) for a stroke or heart attack?
- What is the safest and most effective dose of aspirin?

- Does the optimal dose of aspirin differ from one person to another?
- Do the protective effects of aspirin differ between women and men? If so, how can the difference be explained and translated to health care?
- Can a simple blood test like C-reactive protein identify healthy people who are likely to benefit from aspirin?

Answers to these questions require additional research.

What Should I Do if I Experience Signs or Symptoms of a Heart Attack or Stroke?

Time is of the essence. Treatments to restore the flow of blood (and oxygen) to the brain and heart are available but are most beneficial when used in the first several hours. Call 9-1-1. By calling 9-1-1 and taking an ambulance to the hospital where heart attack and stroke care is available, you substantially increase your chances of recovery. Remember, you should never drive yourself to the hospital unless there is absolutely no other choice.

Knowing how to prevent a heart attack or stroke, and being prepared to act immediately if you experience the signs or symptoms of either one, could save your life.

References

1. Joint Commission on Accreditation of Health Care Organizations. Information about the Joint Commission and quality health care for the general public. Available at: <http://www.jcaho.com/general+public/index.htm>. Accessed October, 2005.
2. American Stroke Association. Available at: <http://www.strokeassociation.org/presenter.jhtml?identifier=1200037>. Accessed October, 2005.
3. American Diabetes Association. Available at: <http://www.diabetes.org/home.jsp>. Accessed October, 2005.
4. American Heart Association. The heart profilers. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=3000416>. Accessed October, 2005.
5. US Department of Health and Human Services. Treating tobacco use and dependence. Available at: http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf. Accessed June 2000.
6. National Heart, Lung, and Blood Institute. Clinical guidelines on the identification, evaluation, and treatment of overweight and obesity in adults. Available at: http://www.nhlbi.nih.gov/guidelines/obesity/ob_home.htm. Accessed August, 2005.
7. National Heart, Lung, and Blood Institute. National Cholesterol Education Program: third report of the NCEP Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). Available at: <http://circ.ahajournals.org/cgi/reprint/106/25/3143.pdf>. NIH publication No. 02-5215. Accessed September 2002.
8. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr, Jones DW, Materson BJ, Oparil S, Wright JT Jr, Roccella EJ, for the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, National Heart, Lung, and Blood Institute, National High Blood Pressure Education Program Coordinating Committee. Seventh Report on the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *Hypertension*. 2003;42:1206–1252.
9. Grundy SM, Howard B, Smith S, Eckel R, Redberg R, Bonow RO. Prevention Conference VI: diabetes and cardiovascular disease executive summary: conference proceeding for healthcare professionals from a special writing group of the American Heart Association. *Circulation*. 2002;105:2231–2239.
10. National Heart, Lung, and Blood Institute. Directory of heart disease prevention and treatment information for patients and the public. Available at: <http://www.nhlbi.nih.gov/health/public/heart/index.htm>. Accessed September, 2005.
11. National Heart, Lung, and Blood Institute. National Cholesterol Education Program: risk assessment tool for estimating your 10-year risk of having a heart attack. Available at: <http://hin.nhlbi.nih.gov/atpiii/calculator.asp>. Accessed July, 2005.
12. National Heart, Lung, and Blood Institute. National Cholesterol Education Program: live healthier, live longer: information on the ATP III Update. Available at: <http://www.nhlbi.nih.gov/chd/index.htm>. Accessed July, 2005.
13. Ridker PM, Cook NR, Lee IM, Gordon D, Gaziano JM, Manson JE, Hennekens CH, Buring JE. A randomized trial of low-dose aspirin in the primary prevention of cardiovascular disease in women. *N Engl J Med*. 2005;352:1293–1304.