

Your Risk of a Heart Attack in the Next 10 Years

Using a system called Framingham risk scoring, you can estimate your risk of experiencing a coronary heart disease (CHD) event—a heart attack, unstable angina, the need for angioplasty or bypass surgery, or CHD-related death—over the next 10 years.

To use the scoring system, first review how many of the following traditional CHD risk factors you have:

- cigarette smoking;
- high blood pressure (140/90 mm Hg or higher) or use of blood pressure-lowering medication;
- high-density lipoprotein (HDL) cholesterol level less than 40 mg/dL;
- family history of early heart disease (heart disease in father or brother before age 55; heart disease in mother or sister before age 65); and
- being age 45 or older if you're a man or age 55 or older if you're a woman.

Standard recommendations state that if you have two or more of these risk factors, you can use the scoring system printed below. The Johns Hopkins Ciccarone Preventive Cardiology Center takes a more aggressive

approach, however, and recommends that you use the scoring system if you have even one of these risk factors. Those without any traditional CHD risk factors are considered at low risk and need not use the Framingham risk scoring system.

To estimate your 10-year risk of a CHD event, just add up the points you receive for each of the five factors in section I. Then use the sum to find your 10-year risk by gender in section II. The number in the right-hand column in section II indicates the likelihood that you will experience a CHD event in the next 10 years.

To get the most accurate estimate, your total cholesterol and HDL cholesterol levels should be the average of two or more readings. A person is considered a smoker if he or she has smoked at all in the previous month. Blood pressure also should be the average of at least two readings. In each blood pressure category, extra points are added for taking blood pressure-lowering medication because high blood pressure—even when reduced by medication—is still associated with some additional risk.

According to guidelines published

by the National Cholesterol Education Program (NCEP), people are candidates for cholesterol-lowering drug therapy if they are:

- at high risk (have cardiovascular disease, diabetes, or a greater than 20% risk of a CHD event in the next 10 years) and have a low-density lipoprotein (LDL) cholesterol level of 100 mg/dL or more. (Drug therapy may also be considered when LDL cholesterol is less than 100 mg/dL.);
- at moderately high risk (two or more risk factors or a 10% to 20% risk of a CHD event in the next 10 years) and have a LDL cholesterol level of 130 mg/dL or higher. (Drug therapy may also be considered when LDL cholesterol is between 100 and 129 mg/dL.);
- at moderate risk (two or more risk factors and less than a 10% risk of a CHD event in the next 10 years) and have a LDL cholesterol level of 160 mg/dL or higher; or
- at low risk (one or no risk factors) and have a LDL cholesterol level of 190 mg/dL or higher. (Drug therapy may also be considered when LDL cholesterol is between 160 and 189 mg/dL.)

Section I: Determine the points you should receive for each of the following five risk factors associated with CHD.

1.

Age	Men	Women
20–34	-9	-7
35–39	-4	-3
40–44	0	0
45–49	3	3
50–54	6	6
55–59	8	8
60–64	10	10
65–69	11	12
70–74	12	14
75–79	13	16

2.

Total Cholesterol (mg/dL)	Age 20–39		Age 40–49		Age 50–59		Age 60–69		Age 70–79	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
<160	0	0	0	0	0	0	0	0	0	0
160–199	4	4	3	3	2	2	1	1	0	1
200–239	7	8	5	6	3	4	1	2	0	1
240–279	9	11	6	8	4	5	2	3	1	2
≥280	11	13	8	10	5	7	3	4	1	2

3.

Smoking Status	Age 20–39		Age 40–49		Age 50–59		Age 60–69		Age 70–79	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Nonsmoker	0	0	0	0	0	0	0	0	0	0
Smoker	8	9	5	7	3	4	1	2	1	1

Section I. (continued)

4.

HDL Cholesterol (mg/dL)	Men	Women
≥60	-1	-1
50-59	0	0
40-49	1	1
<40	2	2

5.

Systolic Blood Pressure (mm Hg)*	If Untreated		If Treated	
	Men	Women	Men	Women
<120	0	0	0	0
120-129	0	1	1	3
130-139	1	2	2	4
140-159	1	3	2	5
≥160	2	4	3	6

Section II: Add up points from section I. Then use the appropriate table below to determine your 10-year risk of a CHD event.

Men

Point Total	10-Year Risk (%)
<0	<1
0	1
1	1
2	1
3	1
4	1
5	2
6	2
7	3
8	4
9	5
10	6
11	8
12	10
13	12
14	16
15	20
16	25
≥17	≥30

Women

Point Total	10-Year Risk (%)
<9	<1
9	1
10	1
11	1
12	1
13	2
14	2
15	3
16	4
17	5
18	6
19	8
20	11
21	14
22	17
23	22
24	27
≥25	≥30

* The upper number in a blood pressure reading.

Source: Adapted from *Journal of the American Medical Association*, May 16, 2001, p. 2497.

A more precise way to calculate CHD risk is with the "10-Year Heart Attack Risk Calculator," available on-line under "Health Assessment Tools" at www.nhlbi.nih.gov/health/index.htm.