



WELLNESS WORKSHEET 87

Screening for Heart Disease Risk Factors

It is important to begin managing risk factors for heart disease as soon as they develop—whether or not you actually have symptoms. The following guidelines can help ensure that you are appropriately screened.

Cholesterol: Fasting lipoprotein profile (total cholesterol, LDL, HDL, and triglycerides)

Who should be tested: Everyone age 20 and older, at least once every 5 years.

Result	Rating	Your result/rating
<i>LDL cholesterol (mg/dl)</i>		
Less than 100	Optimal*	_____
100–129	Near optimal	
130–159	Borderline high	
160–189	High	
190 or more	Very high	
<i>Total cholesterol (mg/dl)</i>		
Less than 200	Desirable	_____
200–239	Borderline high	
240 or more	High	
<i>HDL cholesterol (mg/dl)</i>		
Less than 40	Low	_____
60 or more	High (desirable)	
<i>Triglycerides (mg/dl)</i>		
Less than 150	Normal	_____
150–199	Borderline high	
200–499	High	
500 or more	Very high	

* For people at very high risk, an LDL goal of less than 70mg/dl may be appropriate.

Actions:

To determine what actions to take based on your cholesterol results, first you need to count the number of the following five heart disease risk factors that apply to you:

- (1) cigarette smoking
- (2) hypertension (see next section)
- (3) low HDL cholesterol (< 40 mg/dl)
- (4) family history of heart disease
- (5) age (45 years or older for men, 55 years or older for women).

An HDL level of 60 mg/dl or higher counts as a negative risk factor and removes one risk factor from the total count.

Number of personal risk factors: _____

(over)

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If you have 0–1 risk factors: Lower risk

- If your LDL < 160, retest within 5 years
- If your LDL \geq 160, initiate TLC (see below) and retest in 3 months; drug therapy may be recommended, especially if LDL is 190 or above.

If you have 2 or more risk factors:

The next step is to determine your 10-year risk of having a heart attack. To do this, complete the assessment on the final page of this worksheet or visit the online version of the assessment at <http://hin.nhlbi.nih.gov/atp/iii/calculator.asp?utertype=pub>. Your score will be in the form of a percentage, the likelihood that you will have a heart attack within the next 10 years. Find the risk category below that corresponds to the number of risk factors you have and your 10-year risk of a heart attack.

Moderate risk (2 or more risk factors, 10-year risk < 10%):

- If your LDL is < 130, retest as suggested by physician.
- If your LDL is \geq 130, initiate TLC (see below) and retest in 3 months; drug therapy may be recommended, especially if LDL is \geq 160.

Moderately-high risk (2 or more risk factors, 10-year risk 10–20%):

- If your LDL is < 130, retest as suggested by physician; drug therapy may be recommended for some people with LDL of 100–129.
- If your LDL is \geq 130, initiate TLC (see below) and retest in 3 months; drug therapy may be recommended for anyone in this group with LDL \geq 130.

High-risk (Heart disease or a risk equivalent, 10-year risk > 20%):

Equivalent risk conditions include diabetes, peripheral vascular disease, abdominal aortic aneurysm, and carotid artery disease.

- If your LDL is < 100, initiate TLC (see below) and retest as suggested by physician.
- If your LDL is \geq 100, initiate TLC (see below) and drug therapy, and retest as suggested by physician.

For some people at very high risk, an LDL goal of less than 70 is recommended, and drug therapy may be recommended to reach this goal. People at very high risk may include those who have had a recent heart attack or who have heart disease combined with either diabetes, poorly controlled risk factors (such as continued smoking), or metabolic syndrome.

TLC = Therapeutic Lifestyle Changes, including weight management, physical activity, and a diet that meets the following criteria:

- 25–35% of total calories as fat
- 7% or less of total calories as saturated fat
- Up to 10% of total calories as polyunsaturated fat
- Up to 20% of total calories as monounsaturated fat
- 50–60% of total calories as carbohydrate
- About 15% of total calories as protein
- 20–30 grams per day of dietary fiber
- Less than 200 mg per day of cholesterol

For some people the addition of plant stanols/sterols (2 grams per day) and increased soluble (viscous) fiber (10–25 grams/day) may be recommended.

(over)

Blood Pressure

Who should be tested: Everyone, at least once every 2 years.

Systolic (mm Hg)		Diastolic (mm Hg)	Rating	Your result/rating
below 120	and	below 80	Normal	_____
120–139	or	80–89	Prehypertension	
140–159	or	90–99	Stage 1 hypertension	
160 and above	or	100 and above	Stage 2 hypertension	

Actions:

- If your rating is normal, maintain a healthy lifestyle and retest in 2 years.
- If your rating is prehypertension, follow your physician’s advice about lifestyle changes and retesting.
- If your rating is hypertension, follow your physician’s advice about lifestyle changes, medication, and retesting. Stage 2 hypertension will likely require a two-drug combination to control.

Fasting Blood Sugar

Who should be tested: Everyone who has any of the following risk factors for diabetes should be tested at least every 3 years: age 45 or older, obesity, blood pressure over 139/89, HDL below 35, physical inactivity, ethnicity (Blacks, Latinos, American Indians, Asians, Pacific Islanders), triglycerides over 249, family history of diabetes, gestational diabetes, previous abnormal blood sugar test, or polycystic ovary syndrome.

Result	Rating	Your result/rating
Below 110 mg/dl	Normal	_____
110–125 mg/dl	Pre-diabetes	
126 mg/dl or higher	Diabetes	

Action: If your result indicates that you have pre-diabetes or diabetes, follow your physician’s recommendations for lifestyle changes, medication, and future testing.

C-Reactive Protein (CRP)

Who should be tested: Everyone classified as at intermediate 10-year risk of having a heart attack. Take the 10-year risk test; if your risk is between 10% and 20%, your CRP level should be tested.

Result	Rating	Your result/rating
<1.0 mg/l	Low	_____
1.0–3.0 mg/l	Average	
>3.0 mg/l	High	

Action: If you have an elevated CRP level, follow your physician’s advice for lifestyle changes and, if necessary, medication.

Metabolic Syndrome/Insulin Resistance Syndrome

Check if any of the following risk factors apply to you:

- ___ Abdominal obesity (waist circumference greater than 40 inches in men and 35 inches in women)
- ___ High blood pressure (130/85 or higher)
- ___ High triglycerides (150 mg/dl or higher)
- ___ Low HDL cholesterol (below 40 mg/dl in men and 50 mg/dl in women)
- ___ Insulin resistance (fasting glucose of 110 mg/dl or higher)

Number of metabolic syndrome risk factors: _____

You are classified as having metabolic syndrome if you have three or more of the risk factors associated with the condition. If you have metabolic syndrome, discuss lifestyle changes and other treatment options with your physician.

(over)

Determining 10-Year Risk for a Heart Attack

Use this score to help determine your goals for LDL cholesterol and the need for CRP testing.

Women

1 Age			
Years	Points	Years	Points
20–34	–7	55–59	8
35–39	–3	60–64	10
40–44	0	65–69	12
45–49	3	70–74	14
50–54	6	75–79	16

2 Total Cholesterol

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

3 Smoking

	Points				
	Age	Age	Age	Age	Age
	20–39	40–49	50–59	60–69	70–79
Nonsmoker	0	0	0	0	0
Smoker	9	7	4	2	1

4 HDL

(mg/dl)	Points	5 Systolic Blood Pressure		
		(mm Hg)	If Untreated	If Treated
≥60	–1	<120	0	0
50–59	0	120–129	1	3
40–49	1	130–139	2	4
<40	2	140–159	3	5
		≥160	4	6

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

Men

1 Age			
Years	Points	Years	Points
20–34	–9	55–59	8
35–39	–4	60–64	10
40–44	0	65–69	11
45–49	3	70–74	12
50–54	6	75–79	13

2 Total Cholesterol

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

3 Smoking

	Points				
	Age	Age	Age	Age	Age
	20–39	40–49	50–59	60–69	70–79
Nonsmoker	0	0	0	0	0
Smoker	8	5	3	1	1

4 HDL

(mg/dl)	Points	5 Systolic Blood Pressure		
		(mm Hg)	If Untreated	If Treated
≥60	–1	<120	0	0
50–59	0	120–129	0	1
40–49	1	130–139	1	2
<40	2	140–159	1	2
		≥160	2	3

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

Your 10-year risk: _____