

# FRAMINGHAM RISK SCORE (FRS)

## Estimation of 10-year Cardiovascular Disease (CVD) Risk

Date: \_\_\_\_\_

Patient's Name: \_\_\_\_\_

**Step 1<sup>1</sup>**  
 In the "points" column enter the appropriate value according to the patient's age, HDL-C, total cholesterol, systolic blood pressure, and if they smoke or have diabetes. Calculate the total points.

Risk Factor	Risk Points		Points	
	Men	Women		
<b>Age</b>				
30-34	0	0		
35-39	2	2		
40-44	5	4		
45-49	7	5		
50-54	8	7		
55-59	10	8		
60-64	11	9		
65-69	13	10		
70-74	14	11		
75+	15	12		
<b>HDL-C (mmol/L)</b>				
>1.6	-2	-2		
1.3-1.6	-1	-1		
1.2-1.3	0	0		
0.9-1.2	1	1		
<0.9	2	2		
<b>Total Cholesterol</b>				
<4.1	0	0		
4.1-5.2	1	1		
5.2-6.2	2	3		
6.2-7.2	3	4		
>7.2	4	5		
<b>Systolic Blood Pressure (mmHg)</b>	Not Treated	Treated	Not Treated	Treated
<120	-2	0	-3	-1
120-129	0	2	0	2
130-139	1	3	1	3
140-149	2	4	2	5
150-159	2	4	4	6
160+	3	5	5	7
<b>Diabetes</b>	Yes	3	4	
	No	0	0	
<b>Smoker</b>	Yes	4	3	
	No	0	0	
<b>Total Points</b>				

**Step 2<sup>1</sup>**  
 Using the total points from Step 1, determine the 10-year CVD risk\* (%).

Total Points	10-Year CVD Risk (%)*	
	Men	Women
-3 or less	<1	<1
-2	1.1	<1
-1	1.4	1.0
0	1.6	1.2
1	1.9	1.5
2	2.3	1.7
3	2.8	2.0
4	3.3	2.4
5	3.9	2.8
6	4.7	3.3
7	5.6	3.9
8	6.7	4.5
9	7.9	5.3
10	9.4	6.3
11	11.2	7.3
12	13.3	8.6
13	15.6	10.0
14	18.4	11.7
15	21.6	13.7
16	25.3	15.9
17	29.4	18.5
18	>30	21.5
19	>30	24.8
20	>30	27.5
21+	>30	>30

\* Double cardiovascular disease risk percentage for individuals between the ages of 30 and 59 without diabetes if the presence of a positive history of premature cardiovascular disease is present in a first-degree relative before 55 years of age for men and before 65 years of age for women. This is known as the modified Framingham Risk Score.<sup>3</sup>

**Step 4<sup>2,3</sup>**  
 Using 10-year CVD risk from Step 2, determine if patient is Low, Moderate or High risk.<sup>1</sup>  
 Indicate Lipid and/or Apo B targets

Risk Level <sup>1</sup>	Initiate Treatment If:	Primary Target (LDL-C)	Alternate Target
<b>High</b> FRS ≥20%	• Consider treatment in all (Strong, High)	• ≤2 mmol/L or ≥50% decrease in LDL-C (Strong, Moderate)	• Apo B ≤0.8 g/L or • Non-HDL-C ≤2.6 mmol/L (Strong, High)
<b>Intermediate</b> FRS 10-19%	• LDL-C ≥3.5 mmol/L (Strong, Moderate) • For LDL-C <3.5 mmol/L consider if: • Apo B ≥1.2 g/L • OR Non-HDL-C ≥4.3 mmol/L (Strong, Moderate)	• ≤2 mmol/L or ≥50% decrease in LDL-C (Strong, Moderate)	• Apo B ≤0.8 g/L or • Non-HDL-C ≤2.6 mmol/L (Strong, Moderate)
<b>Low</b> FRS <10%	• LDL-C ≥5.0 mmol/L • Familial hypercholesterolemia (Strong, Moderate)	• ≥50% decrease in LDL-C (Strong, Moderate)	N/A

Lipid targets LDL-C: \_\_\_\_\_ or Apo B: \_\_\_\_\_

<sup>1</sup> Consider moving some patients with metabolic syndrome up a risk level based on their 'load' of metabolic risk factors or the 'severity' of their metabolic syndrome.

<sup>2</sup> Atherosclerosis in any vascular bed, including carotid arteries.

apoB: apolipoprotein B stat; CAD: coronary artery disease; FRS: Framingham Risk Score; HDL-C: high-density lipoprotein cholesterol; hs-CRP: high-sensitivity C-reactive protein; PVD: peripheral vascular disease; RRS: Reynolds Risk Score; TC: total cholesterol.

<sup>1</sup> Adapted from: D'Agostino RB et al. (i). General cardiovascular risk profile for use in primary care. The Framingham Heart Study. Circ 2008;117:743-53.

<sup>2</sup> Adapted from: Genest J et al. (i). 2009 Canadian Cardiovascular Society/Canadian guidelines for the diagnosis and treatment of dyslipidemia and prevention of cardiovascular disease in the adult. Can J Cardiol. 2009;25(10):567-579.

<sup>3</sup> Adapted from: Anderson T et al. (i). 2012 Update of the Canadian Cardiovascular Society guidelines for the diagnosis and treatment of dyslipidemia for the prevention of cardiovascular disease in the adult. Can J Cardiol. 2013;29(2):151-167.