

# 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	12	10		
70-74	14	11		
75+	15	12		
<b>HDL-C (mmol/L)</b>				
>1.6	-2	-2		
1.3-1.6	-1	-1		
1.2-1.29	0	0		
0.9-1.19	1	1		
<0.9	2	2		
<b>Total Cholesterol</b>				
<4.1	0	0		
4.1-5.19	1	1		
5.2-6.19	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>Smoker</b>	Yes	4	3	
	No	0	0	
<b>Diabetes</b>	Yes	statin-indicated condition		
	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 (%) <sup>*</sup>	
	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

### Step 3<sup>1</sup>

Using the total points from Step 1, determine heart age (in years).

Heart Age, y	Men	Women
<30	<0	<1
30	0	
31		1
32	1	
34	2	2
36	3	3
38	4	
39		4
40	5	
42	6	5
45	7	6
48	8	7
51	9	8
54	10	
55		9
57	11	
59		10
60	12	
64	13	11
68	14	12
72	15	
73		13
76	16	
79		14
>80	≥17	15+

\* 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>†</sup> Indicate Lipid and/or Apo B targets

Risk Level <sup>†</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) • Men ≥50 and women ≥60 with 1 risk factor: low HDL-C, impaired fasting glucose, high waist circumference, smoker, hypertension	• ≤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%	• statins generally not indicated	• statins generally not indicated	• statins generally not indicated
<b>Statin-indicated conditions**</b>	• Clinical atherosclerosis* • Abdominal aortic aneurysm • Diabetes mellitus Age ≥ 40 years 15-Year duration for age ≥ 30 years (DM1) Microvascular disease • Chronic kidney disease (age ≥ 50 years) eGFR <60 mL/min/1.73 m <sup>2</sup> or ACR > 3 mg/mmol		

<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.

<sup>†</sup> apoB: apolipoprotein B stat. CVD: cardiovascular disease, FRS: Framingham Risk Score, HDL-C: high-density lipoprotein cholesterol, LDL-C: low-density lipoprotein cholesterol.

\*\* Statins indicated as initial therapy

\*\* Consider LDL-C < 1.8 mmol/L for subjects with acute coronary syndrome (ACS) within past 3 months