|  |
| --- |
| **Framingham Risk Score (FRS)****Estimation of 10-year Cardiovascular Disease (CVD) Risk** |

**Step 1**1

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

Patient’s Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*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 |  |
| **Age** |  |  |  |
| 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 |  |
| **HDL-C (mmoI/L)** |  |  |  |
| >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 |  |
| **Total Cholesterol** |  |  |  |
| <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 |  |
| **Systolic Blood Pressure (mmHg)** | 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 |  |
| **Smoker** | Yes | 4 | 3 |  |
| No | 0 | 0 |
| **Diabetes** | Yes | statin-indicated condition |
| No | 0 | 0 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Total Points** |  |  | 0 |

1 Adapted from: D’Agostino RB et al.(i). General cardiovascular risk profile for use in primary care. *The Framingham
 Heart Study*. Circa 2008; 117:743-53.

2 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.

3 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 Cardio.
 2013;29(2):151-167.
‡ 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.

 **Step 2**1

*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 | 18.51 |
| 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.3

**Step 3**1

*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+ |

**Step 4**2,3

*Using 10-year CVD risk from Step 2, determine if patient is Low, Moderate or High risk†*.*Indicate Lipid and/or Apo B targets.*

| **Risk Level**† | **Initiate Treatment If:** | **Primary Target (LDL-C)** | **Alternate Target** |
| --- | --- | --- | --- |
| **High**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)*
 |
| **Intermediate**FRS 10-19% | * LDL-C ≥3.5 mmol/L*(Strong, Moderate)*
* For LDL-C <3.5 mmol/Lconsider 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)*
 |
| **Low**FRS <10% | * Statins generally not indicated
 | * Statins generally not indicated
 | * Statins generally not indicated
 |
| Statin-indicatedconditions\*\* | * Clinical atherosclerosis\*
* Abdominal aortic aneurysm
* Diabetes mellitus Age ≥ 40 years15-year duration for age ≥30years (DM1) Microvascular disease
* Chronic kidney disease(age ≥ 50 years)
* eGFR <60 mL/min/1.73 m2 or ACR > 3 mg/mmol
 |  |  |
| Lipid targets LDL-C:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or Apo B:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |