

## INSTRUCTIONS

Colour charts are provided to assess the risk of total coronary heart disease events (per 100 patients in 10 years). The colour charts are based on the Framingham study and more recent adaptations to include untreated blood pressure and blood pressure after treatment. The numbers in the charts are consistent with the National Cholesterol Education Point (NCEP) system used in the US and also used in Canada. The colour coding represents **zones of risk** with an increasing benefit to harm ratio according to increasing risk of coronary heart disease.

Benefit per 100 patients/5 years can be estimated as 10% of the value in the Framingham risk chart.

**Note:** This assumes a 20% risk reduction of CHD based on average outcomes for appropriately used blood pressure lowering medications and statin medications.

**GREEN ZONE**  
<10%

Evidence that the benefit of pharmacologic treatment exceeds harm is poor in the green zone. Lifestyle approaches would be more suitable.

**YELLOW ZONE**  
10 - 19%

Benefit does not clearly exceed harm due to adverse events, but there is increasing probability of net benefit with increasing risk of CHD.

**RED ZONE**  
≥20%

Benefit to harm ratio is best in this zone and pharmacologic treatment with blood pressure lowering medication and/or low dose statins is more appropriate in this risk zone.

**MALE**

55 yrs, non-smoker, systolic BP 150  
Framingham risk = 12%  
Benefit (absolute) = 1.2%/5 yrs.

**FEMALE**

55 yrs, non-smoker, systolic BP 150  
Framingham = 4%  
Benefit (absolute) = 0.4%/5 yrs.

For example ➡

**Absolute benefit of treatment should be derived from the risk charts using Untreated Blood Pressure.** Use the risk in the charts labelled Blood Pressure after Treatment for initial assessment only when a patient's blood pressure before treatment is unknown. Risk comparison between the untreated and treated blood pressure charts for the same patient may not be valid because the charts are derived from large statistical aggregates.

Adverse events are difficult to quantify and poorly reported in clinical trials with low to moderate risk populations.

**CAUTION:** The charts are based on a population-based approach assessed in a predominantly white, North American population. Individual risk may vary a great deal from the population mean for any particular cluster of risk factors. Risks may be different for non-Caucasian populations.

For complete Guideline information, visit [www.bcguidelines.ca](http://www.bcguidelines.ca)

# FRAMINGHAM Ten-Year Coronary Heart Disease Risk (%) UNTREATED BLOOD PRESSURE

**WOMEN: Non-Smoking**

BP (systolic)	TC/HDL*	AGE (years)						
		50-54	55-59	60-64	65-69	70-74	75-79	
120-129	4	1	2	2	4	5	6	
	5	2	2	3	5	6	8	
	6	2	3	4	6	8	11	
130-139	4	2	2	3	5	6	8	
	5	2	3	4	6	8	11	
	6	3	4	5	8	11	14	
140-159	4	2	3	4	6	8	11	
	5	3	4	5	8	11	14	
	6	4	5	6	11	14	17	
≥160	4	3	4	5	8	11	14	
	5	4	5	6	11	14	17	
	6	5	6	8	14	17	22	



LOW RISK  
MODERATE RISK  
HIGH RISK

**MEN: Non-Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		40-44	45-49	50-54	55-59	60-64	65-69	70-74
120-129	4	1	3	5	8	10	12	16
	5	3	5	8	10	12	16	16
	6	4	6	10	12	16	20	20
130-139	4	2	4	6	10	12	16	20
	5	4	6	10	12	16	20	20
	6	5	8	12	16	20	25	25
140-159	4	2	4	6	10	12	16	20
	5	4	6	10	12	16	20	20
	6	5	8	12	16	20	25	25
≥160	4	2	5	8	12	16	20	25
	5	5	8	12	16	20	25	25
	6	6	10	16	20	25	≥30	≥30



**WOMEN: Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		50-54	55-59	60-64	65-69	70-74	75-79	
120-129	4	5	5	5	6	6	8	
	5	6	6	6	8	8	11	
	6	8	8	8	11	11	14	
130-139	4	6	6	6	8	8	11	
	5	8	8	8	11	11	14	
	6	11	11	11	14	14	17	
140-159	4	8	8	8	11	11	14	
	5	11	11	11	14	14	17	
	6	14	14	14	17	17	22	
≥160	4	11	11	11	14	14	17	
	5	14	14	14	17	17	22	
	6	17	17	17	22	22	27	



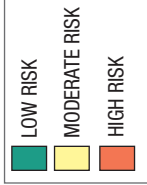
**MEN: Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		40-44	45-49	50-54	55-59	60-64	65-69	70-74
120-129	4	6	10	12	16	16	16	20
	5	12	16	20	20	20	20	20
	6	16	20	25	25	25	25	25
130-139	4	8	12	16	20	20	20	25
	5	16	20	25	25	25	25	25
	6	20	25	≥30	≥30	≥30	≥30	≥30
140-159	4	8	12	16	20	20	20	25
	5	16	20	25	25	25	25	25
	6	20	25	≥30	≥30	≥30	≥30	≥30
≥160	4	10	16	20	25	25	25	≥30
	5	20	25	≥30	≥30	≥30	≥30	≥30
	6	25	≥30	≥30	≥30	≥30	≥30	≥30



\*TC/HDL – total cholesterol to high-density lipoprotein ratio

# FRAMINGHAM Ten-Year Coronary Heart Disease Risk (%) BLOOD PRESSURE AFTER TREATMENT



**WOMEN: Non-Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		50-54	55-59	60-64	65-69	70-74	75-79	
120-129	4	2	3	4	6	8	11	
	5	3	4	5	8	11	14	
	6	4	5	6	11	14	17	
130-139	4	3	4	5	8	11	14	
	5	4	5	6	11	14	17	
	6	5	6	8	14	17	22	
140-159	4	4	5	6	11	14	17	
	5	5	6	8	14	17	22	
	6	6	8	11	17	22	27	
≥160	4	5	6	8	14	17	22	
	5	6	8	11	17	22	27	
	6	8	11	14	22	27	≥30	

**MEN: Non-Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		40-44	45-49	50-54	55-59	60-64	65-69	70-74
120-129	4	2	4	6	10	12	16	20
	5	4	6	10	12	16	20	20
	6	5	8	12	16	20	25	25
130-139	4	2	5	8	12	16	20	25
	5	5	8	12	16	20	25	25
	6	6	10	16	20	25	≥30	≥30
140-159	4	2	5	8	12	16	20	25
	5	5	8	12	16	20	25	25
	6	6	10	16	20	25	≥30	≥30
≥160	4	3	6	10	16	20	25	≥30
	5	6	10	16	20	25	≥30	≥30
	6	8	12	20	25	≥30	≥30	≥30

**WOMEN: Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		50-54	55-59	60-64	65-69	70-74	75-79	
120-129	4	8	8	8	11	11	14	
	5	11	11	11	14	14	17	
	6	14	14	14	17	17	22	
130-139	4	11	11	11	14	14	17	
	5	14	14	14	17	17	22	
	6	17	17	17	22	22	27	
140-159	4	14	14	14	17	17	22	
	5	17	17	17	22	22	27	
	6	22	22	22	27	27	≥30	
≥160	4	17	17	17	22	22	27	
	5	22	22	22	27	27	≥30	
	6	27	27	27	≥30	≥30	≥30	

**MEN: Smoking**

BP (systolic)	TC/HDL	AGE (years)						
		40-44	45-49	50-54	55-59	60-64	65-69	70-74
120-129	4	8	12	16	20	20	20	25
	5	16	20	25	25	25	25	25
	6	20	25	≥30	≥30	≥30	≥30	≥30
130-139	4	10	16	20	25	25	25	≥30
	5	20	25	≥30	≥30	≥30	≥30	≥30
	6	25	≥30	≥30	≥30	≥30	≥30	≥30
140-159	4	10	16	20	25	25	25	≥30
	5	20	25	≥30	≥30	≥30	≥30	≥30
	6	25	≥30	≥30	≥30	≥30	≥30	≥30
≥160	4	12	20	25	≥30	≥30	≥30	≥30
	5	25	≥30	≥30	≥30	≥30	≥30	≥30
	6	≥30	≥30	≥30	≥30	≥30	≥30	≥30

Absolute benefit of treatment should be derived from the risk charts using untreated blood pressure. Use the risk in the blood pressure after treatment charts for initial assessment only when a patient's blood pressure before treatment is unknown. Risk comparison between the untreated and treated blood pressure charts for the same patient may not be valid because the charts are derived from large statistical aggregates.