Section III. Assessment of Overall Cardiovascular Risk in Hypertensive Patients

2015 **C**anadian **H**ypertension
Education **P**rogram
Recommendations

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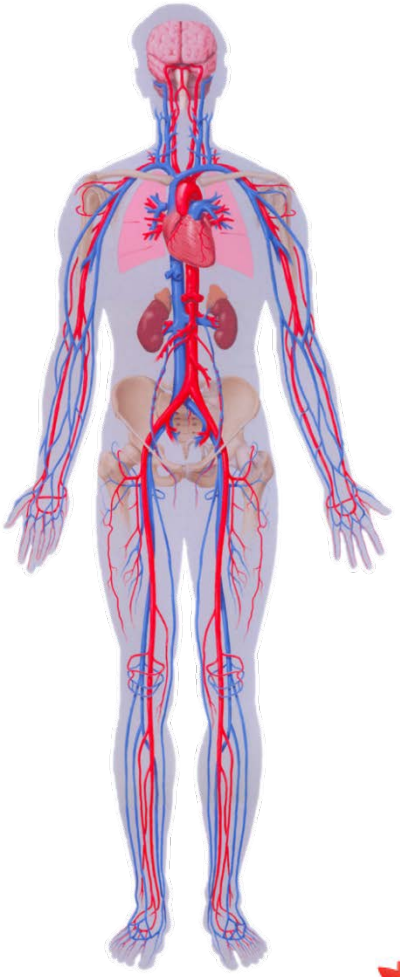
III. Assessment of the Overall Cardiovascular Risk

Search for target organ damage

- **Cerebrovascular disease**
  - transient ischemic attack
  - ischemic or hemorrhagic stroke
  - vascular dementia
- **Hypertensive retinopathy**
- **Left ventricular dysfunction**
- **Left ventricular hypertrophy**
- **Coronary artery disease**
  - myocardial infarction
  - angina pectoris
  - congestive heart failure
- **Chronic kidney disease**
  - hypertensive nephropathy (GFR < 60 ml/min/1.73 m2)
  - albuminuria
- **Peripheral artery disease**
  - intermittent claudication
  - ankle brachial index < 0.9



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- Search for exogenous potentially modifiable factors that can induce/aggravate hypertension
  - Prescription Drugs:
    - NSAIDs, including coxibs
    - Corticosteroids and anabolic steroids
    - Oral contraceptive and sex hormones
    - Vasoconstricting/sympathomimetic decongestants
    - Calcineurin inhibitors (cyclosporin, tacrolimus)
    - Erythropoietin and analogues
    - Antidepressants: Monoamine oxidase inhibitors (MAOIs), SNRIs, SSRIs
    - Midodrine
  - Other:
    - Licorice root
    - Stimulants including cocaine
    - Salt
    - Excessive alcohol use

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- Over 80% of hypertensive Canadians have other cardiovascular risks

- Assess and manage hypertensive patients for dyslipidemia, dysglycemia (e.g. impaired fasting glucose, diabetes) abdominal obesity, unhealthy eating and physical inactivity

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III. Assessment of the Overall Cardiovascular Risk

Treat Hypertension in the Context of Overall Cardiovascular Risk

1. Overall cardiovascular risk should be assessed. In hypertensive patients consider using calculations that include cerebrovascular events.
2. In the absence of Canadian data to determine the accuracy of risk calculations, avoid using absolute levels of risk to support treatment decisions at specific risk thresholds.
3. Discuss global risk using analogies that describe comparative risk such as “Cardiovascular Age”, “Vascular Age” or “Heart Age” to inform patients of their risk status and to improve the effectiveness of risk factor modification.

Simply counting risk factors may underestimate risk

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III. Assessment of the Overall Cardiovascular Risk

Examples of key cardiovascular risk factors for atherosclerosis

Prior history of clinically overt atherosclerotic disease *indicates a very high risk for a recurrent atherosclerotic event (e.g. Peripheral arterial disease, previous stroke or transient ischemic attack)*

Non-Modifiable

- Age ≥55 years
- Male
- Family history of premature cardiovascular disease (age <55 in men and <65 in women)

Modifiable

- Sedentary lifestyle
- Poor dietary habits
- Abdominal obesity
- Dysglycemia
- Smoking
- Dyslipidemia
- Stress
- Nonadherence

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Methods of Risk Assessment

- Clinical impression
- Risk factor counting
- Risk calculation or equation tools

- Framingham hard coronary heart disease (CHD) http://www.framinghamheartstudy.org/risk/hrdcoronary.html
- SCORE Canada – Systematic Cerebrovascular and Coronary Risk Evaluation www.score-canada.ca
- Cardiovascular Age™ www.myhealthcheckup.com
- Others: see notes

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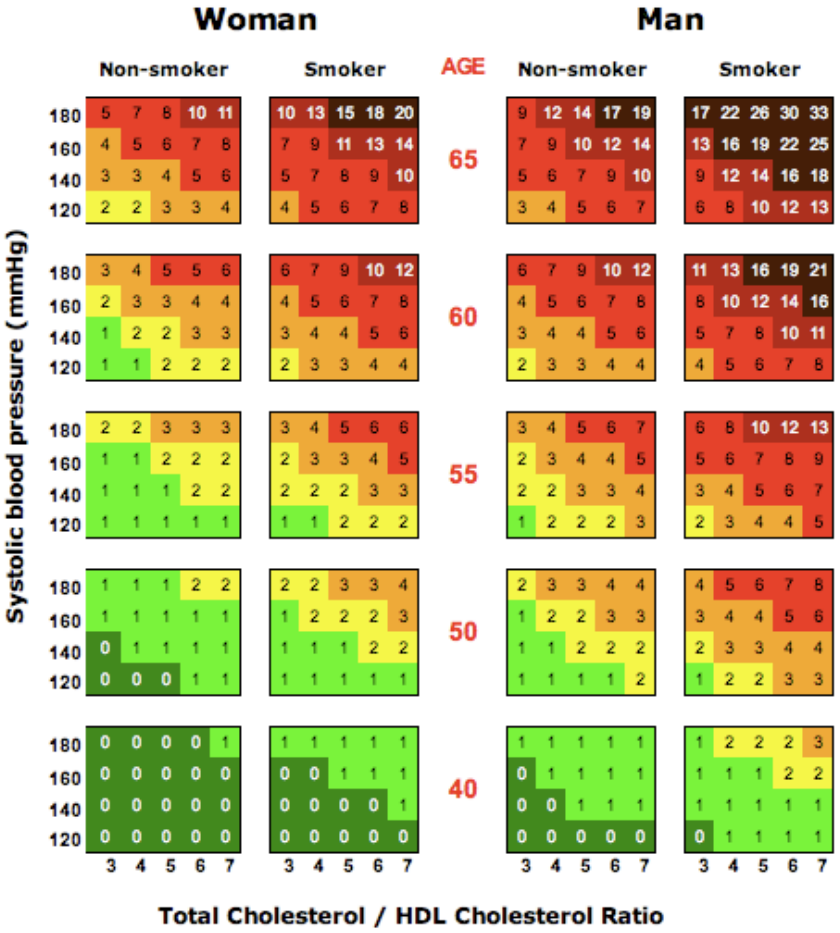
SCORE 10-Year Fatal Cardiovascular Risk Evaluation in Canada



SCORE Canada : Systematic Cerebrovascular and cOronary Risk Evaluation

Find the cell nearest to the person's risk factors values :

Age

Sex

Smoking Status

Systolic Blood Pressure

Total-Chol. / HDL-C. Ratio

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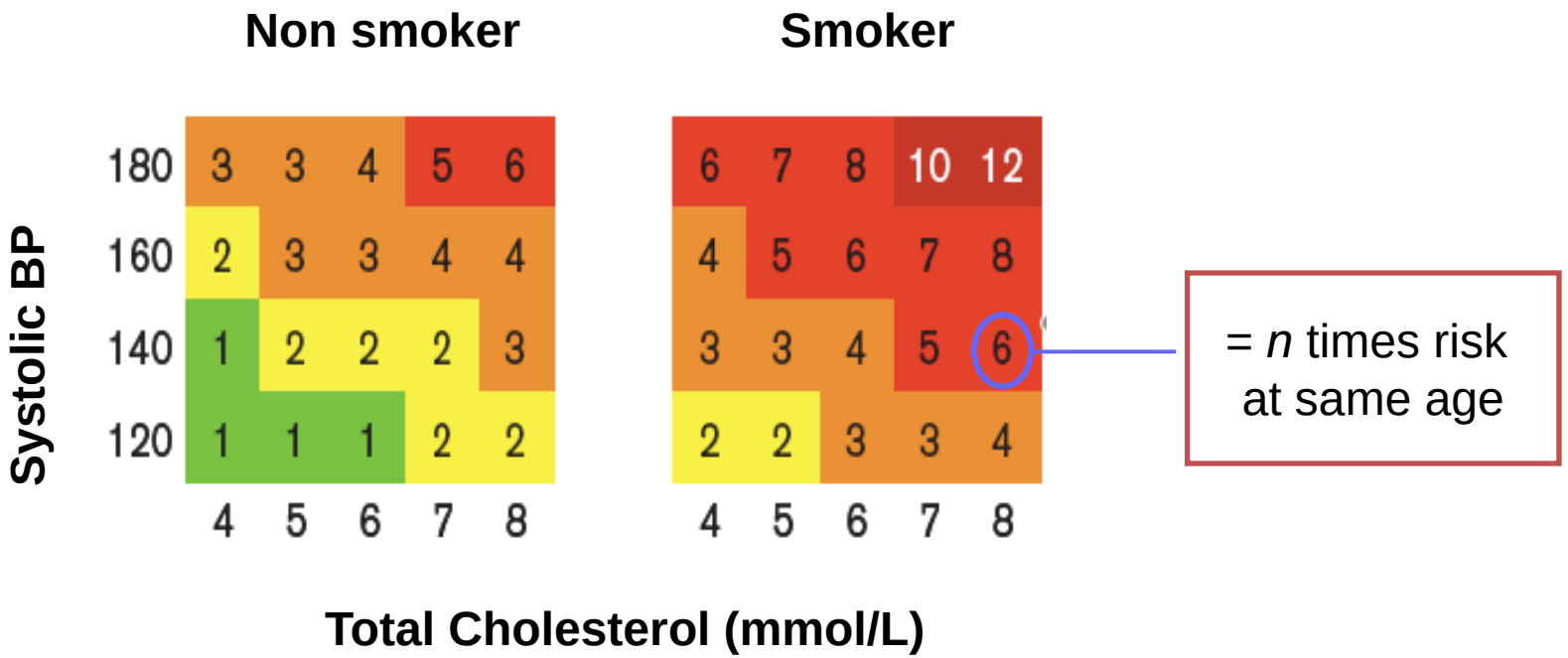
SCORE Canada: Relative Risk Evaluation (for use in those less than 40 years old)



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Factors to Take Into Account When Using SCORE Canada to Estimate Risk of Fatal CVD

- Approaching next age category
- Pre-clinical evidence of atherosclerosis (imaging test)
- Strong family history of premature CVD: multiply risk by 1.7 in men and 2.0 in women
- Obesity: BMI > 30 kg/m^2; Waist circumference > 102 cm (men) and > 88 cm (women)
- Sedentary lifestyle
- Diabetes: multiply risk by 3 for men and by 5 for women
- Raised serum triglyceride level
- Raised level of c-reactive protein, fibrinogen, homocysteine, apolipoprotein B or lp(a)

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