

# Recommendations of the 2004 Canadian Hypertension Education Program: A Brief Overview

*Canadian Hypertension Education Program*



This overview of the 2004 Canadian hypertension recommendations, developed by the Canadian Hypertension Education Program, is being submitted to a broad range of journals, including *CJHP*. The aim is to disseminate the recommendations to as many Canadian health care professionals as possible, to help ensure that patients receive consistent, up-to-date information and optimum care. Pharmacists are closely involved in providing hypertension therapy and have participated in the development of these recommendations, with 2 pharmacists serving on the Implementation Task Force (Carol Repchinsky and Bill Semchuck). The recommendations are updated yearly, and a new summary should be available early in 2005. The members of the Canadian Hypertension Education Program are listed at the end of this article.

## INTRODUCTION

As a response to the challenge of controlling hypertension and hypertension-related cardiovascular disease, the Canadian Hypertension Education Program (CHEP) has produced annually updated evidence-based recommendations for hypertension management and has provided tools to assist health care professionals in adopting and implementing these recommendations. This article is a brief overview of the 2004 recommendations for hypertension management. The full text of the recommendations, as well as summaries and a slide kit for medical education, is available through the Web site of the Canadian Hypertension Society (<http://www.CHS.md>).

## WHAT'S NEW FOR 2004?

Over 90% of the Canadians who are aware that they have hypertension also have other cardiovascular risk factors. Therefore, a holistic approach to the care of the

hypertensive patient is required. Reducing blood pressure by 10/5 mm Hg reduces the relative risk of major cardiovascular complications by 21% to 30%, but a comprehensive pharmacological approach is estimated to reduce cardiovascular risk by up to 80%. Therefore, in 2004, the key new messages for the comprehensive drug therapy of hypertensive patients include the following.

**Table 1. Impact of Lifestyle Therapies on Blood Pressure in Hypertensive Adults**

Intervention	Targeted Level	Change in Systolic / Diastolic Blood Pressure (mm Hg)
Sodium reduction	100 mmol/day	-5.8 / -2.5
Weight loss	4.5 kg	-7.2 / -5.9
Alcohol reduction	2.7 drinks/day	-4.6 / -2.3
Exercise	3 times/week	-10.3 / -7.5
Dietary patterns	DASH diet	-11.4 / -5.5



**Table 2. Abridged Recommendations for Antihypertensive Therapy\***

Condition	Initial Therapy	Additional Therapy	Comments
Uncomplicated hypertension	Thiazide-like diuretics, $\beta$ -blockers, ACE inhibitors, ARBs, or long-acting dihydropyridine calcium-channel blockers	Combinations of first-line drugs	$\alpha$ -Blockers are not recommended as initial therapy. $\beta$ -Blockers are not recommended as initial therapy in those >60 years of age. Avoid hypokalemia by using potassium-sparing diuretics. ACE inhibitors are not recommended for blacks.
Isolated systolic hypertension	Thiazide-like diuretics, ARBs, or long-acting dihydropyridine calcium-channel blockers	Combinations of first-line drugs	Avoid hypokalemia by using potassium-sparing diuretics.
Diabetes mellitus	Thiazide-like diuretics, ACE inhibitors, or ARBs	Addition of one or more of cardioselective $\beta$ -blockers, long-acting calcium-channel blockers, or an ARB/ACE inhibitor combination	If the serum creatinine level is >150 $\mu\text{mol/L}$ , a loop diuretic should be used as a replacement for low-dose thiazide-like diuretics if volume control is required. With nephropathy, thiazide-like diuretics are a second-line recommendation. <sup>†</sup>

ACE = angiotensin-converting enzyme; ARB = angiotensin II receptor blocker.

\*Individualization of recommendations for specific patient profiles can be found in the full recommendations, summaries, and slides (<http://www.CHS.md>). Short-acting calcium-channel blockers are not recommended for the treatment of hypertension.

<sup>†</sup>Nephropathy is defined as microalbuminuria or greater elevation in proteinuria or impaired glomerular filtration rate.

### Emphasize Global Vascular Protection

- Prescribe acetylsalicylic acid for hypertensive patients over 50 years of age, once blood pressure is controlled.
- Prescribe angiotensin-converting enzyme inhibitors for patients with established atherosclerotic disease.
- Prescribe statins for hypertensive patients with 3 or more cardiovascular risk factors (male sex, age over 55 years, diabetes, smoker, ratio of total cholesterol to high-density lipoprotein cholesterol 6 or more, microalbuminuria or proteinuria, left ventricular hypertrophy, peripheral vascular disease, past cerebrovascular or coronary artery event, family history of premature cardiovascular disease).

### Increase Recognition of the Need for Lifestyle Modification

Given the greater than 90% probability that an individual will become hypertensive during his or her lifetime and the evidence that single interventions to modify lifestyle can be as effective as a full dose of antihypertensive medication (Table 1), lifestyle modifications must be seen as critical for both normotensive and hypertensive adult Canadians. These various lifestyle interventions can be combined to further reduce blood pressure.

- Prescribe moderate dynamic physical activity (30–45 min, 3 to 5 times weekly).
- Prescribe weight loss for those who are overweight.

- Prescribe a reduction in alcohol consumption to less than 2 drinks daily and no more than 14 drinks weekly for males or no more than 9 drinks weekly for females, for those who drink more heavily.
- Prescribe the DASH diet (high in fresh fruits and vegetables, nuts, legumes, and low-fat dairy products, but low in saturated fat). More information about the DASH diet is available through the Web site of the US National Heart, Lung, and Blood Institute (<http://www.nhlbi.nih.gov/health/public/heart/hbp/dash/>).
- Prescribe a reduction in salt consumption for hypertensive and salt-sensitive normotensive patients (i.e., those over 45 years of age, Canadians of African descent, and those with impaired renal function or diabetes).

### WHAT'S OLD BUT STILL IMPORTANT IN 2004

- Assess blood pressure in all adult patients at every appropriate opportunity.
- Diagnosis of hypertension requires repeat measurements over 3 to 5 visits (or by the patient via self-monitoring or automatic ambulatory blood pressure monitoring), unless there is severe hypertension or a hypertensive urgency or emergency.
- Perform routine laboratory assessments as part of the hypertensive workup (blood analysis for electrolytes, creatinine, fasting glucose, complete blood count, lipid profile [total cholesterol, high-density lipoprotein cholesterol, low-density



**Table 3: Blood Pressure Treatment Targets**

Situation	Blood Pressure Target (mm Hg)
Without a compelling indication for more intense treatment	SBP < 140, DBP < 90
Isolated systolic hypertension	SBP < 140
Renal disease	SBP < 130, DBP < 80
Renal disease with proteinuria >1 g/24 h	SBP < 125, DBP < 75
Diabetes mellitus	SBP < 130, DBP < 80

SBP = systolic blood pressure, DBP = diastolic blood pressure.

**Table 4. Recommendations to Improve Adherence to Antihypertensive Therapy**

Multipronged approach:

- Assess adherence at each visit
- Educate patients and their families about their disease and treatment regimens
- Engage the family in lifestyle changes
- Simplify medication regimens to once-daily dosing
- Tailor pill-taking to fit patients' daily habits
- Encourage greater patient responsibility and autonomy in monitoring blood pressure and adjusting prescriptions

lipoprotein cholesterol, and triglycerides], urinalysis, and electrocardiography).

- Prescribe antihypertensive drugs proven to reduce cardiovascular complications (Table 2).
- Treat to target (Table 3). Pay particular attention to systolic therapeutic targets.
- Use antihypertensive therapy combinations to achieve blood pressure targets.
- Promote patient adherence with simple approaches that can detect, prevent, and improve cases of nonadherence (Table 4).

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