2008 Canadian Hypertension Education Program Recommendations:
The Scientific Summary - An Annual Update

On behalf of the Canadian Hypertension Education Program

Acknowledgement: This manuscript was written by Dr. N. Campbell with the assistance of the CHEP Executive, Dr B Hemmelgarn and Dr. G. Tremblay.

A version of the hypertension recommendations designed for patient and public education has been developed to assist health care practitioners manage hypertension. The summary is available electronically at www.hypertension.ca and www.heartandstroke.ca. Bulk orders of 25 or more copies can be obtained by contacting hyperten@ucalgary.ca.

A website to promote proper home blood pressure measurement and monitoring and to promote self lifestyle management and monitoring has been developed at www.heartandstroke.ca/BP
2008 marks the ninth consecutive year that Canada has had updated recommendations for the management of hypertension. The Canadian Hypertension Education Program (CHEP) is a program of the Canadian Hypertension Society, Blood Pressure Canada, the Public Health Agency of Canada, the Heart and Stroke Foundation of Canada, the Canadian Council of Cardiovascular Nurses, the Canadian Pharmacy Association and the College of Family Physicians of Canada. There are several important recent events in the area of hypertension worthy of comment. A population blood pressure survey in Ontario presented at the Canadian Cardiovascular Congress in Oct 2007 has found markedly improved rates of awareness treatment and control of hypertension. The publication of the survey that suggests Ontario has the highest rate of treatment and control of hypertension in the world is awaited as are the results of a national blood pressure survey that is currently being conducted. 2007 also marked the approval for renin inhibitor use in Canada; the first new class of antihypertensive drugs in more than a decade. The CHEP will be awaiting the results of large outcome clinical trials on this new class of antihypertensive drugs to determine their role in therapy (1). Further in 2007 the development of a national strategy to prevent and control cardiovascular disease in Canada was initiated after first being announced in 2006 (2). It is hoped that the strategy will provide guidance and resources for optimum prevention and control of hypertension in the context of reducing cardiovascular disease.

There were few major hypertension clinical trials in 2007. One notable study, the ADVANCE trial, reported improved outcomes for patients with diabetes treated with a combination of an ACE inhibitor and diuretic in addition to usual therapy (3). The principal results of the trial confirmed the current CHEP recommendations for managing blood pressure in patients with diabetes and increased attention on the potential role of fixed dose combination therapy as a first-line treatment option. In 2007, CHEP focused on reexamining the role of combination therapy in initial antihypertensive therapy, the role of routine testing of microalbuminuria and working to ensure national recommendations for reduction of cardiovascular disease are consistent between guideline groups.

In 2008, the CHEP theme has focused on the need to encourage assessment of home blood pressure in all appropriate hypertensive adult Canadians. It is appreciated greater patient involvement in care has the potential to improve treatment and control (4). Measuring blood pressure at home is a better predictor of cardiovascular events than office based readings. Home measurement can also confirm the diagnosis of hypertension, improve blood pressure control, reduce the need for medications in some, screen for white coat and masked hypertension and improve medication adherence in non adherent patients(5;6). Home measurement is more effective as a component of a disease management plan than on its own. To optimize the role of home blood pressure assessment patients need to be trained to assess blood pressure properly and to use validated equipment. To support this theme, resources to assist health care professionals in providing advice on proper home measurement and to patients to assist them properly measuring their blood pressure at home are being developed. These will be made available at www.hypertension.ca. In addition an extensive website to assist in home measurement and lifestyle change for hypertensive patients is available at www.heartandstroke.ca/bp. Brief instructions for patients to properly measure blood pressure at home can be found in table 1.

This is a short scientific summary of the new CHEP recommendations and supporting research, important issues in hypertension management, and the opinions of the CHEP executive on what is required to improve hypertension management in Canada. The full CHEP recommendations are available at www.hypertension.ca and will be published in the May 2008 issue of the Canadian Journal of Cardiology. The target values for treating hypertension, recommended lifestyle and pharmacotherapy are provided in tables 2, 3 and 4 respectively.
New evidence has allowed CHEP to address new clinical questions in the management of hypertension for the 2008 recommendations.

What are the implications of the ADVANCE trial for my patients?

The “Effects of a fixed combination of perindopril and indapamide on macrovascular and microvascular outcomes in patients with type 2 diabetes mellitus (the ADVANCE trial): a randomized controlled trial” (3) included 11,140 patients with type 2 diabetes and a history of, or one other risk factor for, cardiovascular disease. Patients were randomized to a fixed combination tablet consisting of perindopril and indapamide or matching placebo and followed for a mean of 4.3 years for the primary endpoints of macro or microvascular events jointly and separately (cardiovascular death, non-fatal myocardial infarction, non-fatal stroke, and new or worsening nephropathy or retinopathy). At the end of the study period blood pressure was reduced by an average of 5.6 mmHg systolic and 2.2 mmHg diastolic in the treatment compared with the placebo groups. Compared to placebo, patients assigned to the treatment group were less likely to experience a major macrovascular or microvascular event (Hazard Ratio [HR] 0.91; 95% CI 0.81 – 1.00). The reduction in each macrovascular and microvascular endpoint were similar but were not individually significant when considered separately. The risk of both cardiovascular death (HR 0.82; 95% CI 0.68 – 0.98) and total mortality (HR 0.86; 95% CI 0.75 – 0.98) was reduced for treatment compared to placebo groups.

The ADVANCE trial is one of the few studies to assess the impact of fixed combination therapy on hard endpoints including mortality. The trial was methodologically sound and included a large number of patients with almost complete follow-up. Whether the observed reduction in endpoints was due to the difference in blood pressure between the groups rather than the effect of the fixed combination tablet itself is not possible to determine. In addition, the ADVANCE trial used a factorial design and will also assess the effects on the same outcomes of an intensive glucose lowering regimen. At this time, it is unknown if there is an interaction between the BP treatment arms and the glycemic treatment arms – any such interaction may have implications for the future interpretation of the ADVANCE Trial results.

Should newly diagnosed hypertensive patients 20/10 mmHg or more above target blood pressure be initiated on a combination of two drugs?

For several years CHEP has discussed the evidence for initiating therapy with a combination of two or more antihypertensive drugs. Few large scale trials have initiated therapy with two or more drugs and most have excluded patients such as the frail elderly who might be at risk from excess hypotension. In 2007 the ADVANCE trial reported reduction in cardiovascular events when starting therapy with a fixed dose combination of a diuretic and ACEI inhibitor in patients with diabetes and blood pressures ranging from normotensive to hypertensive (3). This adds to the PROGRESS trial that examined a combination of a diuretic and ACE inhibitor in a patient population who had had a previous stroke or TIA and blood pressures ranging from normotensive to hypertensive (7). The ADVANCE and PROGRESS trials interventions were both shown to be safe as well as effective at preventing vascular events. Early Veterans Administration studies in hypertension also started patients on 3 or more antihypertensive drugs and were the initial trials that demonstrated benefits of lowering blood pressure (8;9). Further, a meta analysis of clinical trials has shown additive blood pressure lowering but no increase in side effects from two drug antihypertensive combinations (10). CHEP therefore recommends that a combination of two first line drugs may be considered as initial treatment of hypertension if systolic blood pressure is ≥20 mmHg above target or if diastolic blood pressure is ≥10 mmHg above target (Grade C). However, caution should be exercised in patients where a substantial fall in blood pressure is more likely or would be more poorly tolerated (e.g. elderly).
Should patients with hypertension be followed for the development of diabetes?
The risk factors for developing hypertension are similar to those for developing type 2 diabetes hence it should not be surprising that many people with hypertension develop diabetes and most persons with diabetes develop hypertension. There is a 0.2 to 1% per annum increase in risk of developing diabetes in persons with hypertension who are treated with a diuretic or beta blocker compared to other drugs (11-14). Although there is little doubt that glucose levels increase in hypertensive individuals over time, the small increase in blood glucose related to diuretic and beta blocker therapy that reclassifies a small number of persons as having diabetes has not resulted in CHEP changing recommendations for managing hypertension. The prognostic significance of drug-induced elevations in serum glucose are uncertain (15;16). In particular, it should be noted that blood glucose is a continuous variable and the development of diabetes is not a discrete event. Further, it is worth noting that very few antihypertensive trials rigorously screened all patients at baseline and systematically monitored glucoses during follow-up in all trial participants - thus, there is a substantial risk of ascertainment bias in the majority of antihypertensive trials in which the development of diabetes was a secondary or post-hoc outcome. Nevertheless in clinical trials 1-3 % of hypertensive patients develop diabetes per year demonstrating the need for periodic screening for diabetes in hypertensive patients. CHEP recommends screening hypertensives routinely with fasting plasma glucose testing and following the screening recommendations of the Canadian Diabetes Association (17). Additional risk factors for diabetes include impaired fasting or impaired glucose tolerance, high normal blood glucose, obesity (especially abdominal), dyslipidemia, sedentary lifestyle and poor dietary habits emphasizing the importance of monitoring glucose more often in persons with these characteristics but more importantly indicating the importance of lifestyle changes to lower blood pressure and prevent diabetes (17).

Should urine micro albumin be routinely assessed in hypertensive patients?
In 2007 there was extensive discussion on the role of routine assessment of microalbuminuria and this was revisited in 2008 (18). There was no new evidence and CHEP determined that there is insufficient evidence to recommend for or against routine testing of microalbuminuria in patients with hypertension but without diabetes or renal disease. However, screening hypertensive people with diabetes for abnormal levels of urine albumin with spot urine ACR is recommended as the presence of diabetic nephropathy (micro or macro-albuminuria) changes the recommended first line pharmacotherapy.

How do I implement a diet containing less than 2300 mg (100 mmol)/day sodium?
In 2007 CHEP recommended a diet containing less than 2300 mg sodium per day both to prevent and treat hypertension (19). This is similar to the recommendation in Canada’s guide to healthy eating (www.he-sc.gc.ca/fn-an/food-guide-aliment/index_e.html). The challenge is that most sodium is hidden in food during processing making it extremely difficult even for well informed Canadians to eat a healthy quantity of sodium. Table 5 provides practical advice to patients to assist them in lowering their dietary sodium intake. A working group involving the food industry, health and scientific organizations, the public and federal government headed by Health Canada is currently working towards lowering the amount of sodium that is used in food processing.

Do commercial biases affect CHEP recommendations?
The CHEP executive continues to view the potential for bias as a serious threat to any health care recommendations process. CHEP recommendations are produced by a volunteer Task Force of over 50 hypertension specialists from across the country. Many aspects of the CHEP process were developed to specifically reduce the impact of bias on hypertension management recommendations (Table 6).

Additional Comments and New Directions
In the last 2 years there have been relatively few changes to the CHEP recommendations. Nevertheless every year results from new large clinical trials results are released that have the potential to change hypertension care. Hence an annual review of evidence is required to ensure Canadian Health Care providers have up to date recommendations on how to manage hypertension. Perhaps more importantly the health care system in Canada is changing as is our understanding of what is required to support optimum care of hypertension and other chronic conditions. CHEP strives to evaluate these changes and new evidence to determine how hypertension can be best managed today and in our evolving health care system. As much or more effort is placed on the dissemination and evaluation of the outcomes of CHEP recommendations as on creating them. The CHEP approach is supported by observational data showing significant increases in diagnosis and treatment of hypertension and reductions in cerebrovascular and cardiovascular disease (20-23).

An educated public is also essential to the prevention of hypertension and greater patient involvement in care can enhance blood pressure control. CHEP is aiding Blood Pressure Canada in developing a sustained evidence-based public education program (24). Resources for patient education on hypertension can be found in table 7. Community interventions can aid patients by providing resources and those that result in more systematic care can improve patient outcomes. A new initiative lead by Blood Pressure Canada and supported by the Public Health Agency of Canada is to develop a network of community-based programs across Canada to discuss and foster best practices. The aim is to facilitate the adoption of community programs to prevent and control hypertension across Canada. Efforts to prevent and control hypertension are also being integrated into some provincial stroke strategies, the Canadian Stroke Network and National and Provincial Heart and Stroke Foundation programs.
Table 1: Patient instructions to prepare for home blood pressure measurement

**Purchasing Equipment**

- Buy an approved machine marked by the logo 🧡
- Make sure the device has a cuff size that is correct for you. Ask for help if you are unsure.
- Read and follow the manufacturer’s directions
- Check the accuracy of the machine with a health care provider to make sure it is accurate

**To measure blood pressure**

- Follow the directions that come with the device.
- Only measure and record blood pressure if you have time to do it correctly.
- It is very important to rest and relax for 5 minutes in a quiet comfortable place with no distractions (e.g. TV or talking) before measuring your blood pressure.
- Wait for at least two hours after a big meal and at least half an hour after drinking coffee or smoking.
- Empty your bladder or bowels if it is uncomfortable before taking a reading.
- Put the cuff on a bare arm.
- Do not measure blood pressure when you are uncomfortable, cold, anxious, stressed or in pain.
- Sit in a chair that supports your back and beside a table that can support your arm. If required put a pillow or towel under your arm so that it rests at heart level (see Figure). Do not cross your legs.
- Measure blood pressure in the morning before medications and eating and in the evening before going to bed, bathing or taking medications.
- Take at least two readings and record them with the date and time.

**Figure**

![Blood Pressure Measurement Image](image)
### Table 2 Target Values for Blood Pressure*

<table>
<thead>
<tr>
<th>Setting</th>
<th>Target (SBP/DBP mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Home:</strong></td>
<td></td>
</tr>
<tr>
<td>Home blood pressure and daytime ABPM*</td>
<td>&lt;135/85</td>
</tr>
<tr>
<td><strong>Office:</strong></td>
<td></td>
</tr>
<tr>
<td>Diastolic ± systolic hypertension</td>
<td>&lt;140/90</td>
</tr>
<tr>
<td>Isolated systolic hypertension</td>
<td>&lt;140</td>
</tr>
<tr>
<td>Diabetes</td>
<td>&lt;130/80</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>&lt;130/80</td>
</tr>
</tbody>
</table>

* The target value readings taken by home measurement and ABPM in those with diabetes or chronic kidney disease have not been established.

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Table 3: Lifestyle therapy to reduce the possibility of becoming hypertensive and to reduce blood pressure and to reduce the risk of blood pressure-related cardiovascular complications in hypertensive patients

1. Healthy diet: high in fresh fruits, vegetables, low fat dairy products, dietary and soluble fibre whole grains and protein from plant sources, low in saturated fat, cholesterol and salt in accordance with Canada's Guide to Healthy Eating
2. Regular physical activity: accumulation of 30-60 minutes of moderate intensity dynamic exercise 4-7 days per week in addition to routine activities of daily living
3. Low risk alcohol consumption (\( \leq 2 \) standard drinks/day and less than 14/week for men and less than 9/week for women)
4. Attaining and maintaining ideal body weight (BMI 18.5-24.9 kg/m\(^2\))
5. A waist circumference
   - \(< 102 \) cm for men
   - \(< 88 \) cm for women
6. Reduction in sodium intake to less than 2300 mg/day
7. A smoke free environment

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Table 4: Considerations in the Individualization of Antihypertensive Therapy

<table>
<thead>
<tr>
<th>Hypertension Without Other Compelling Indications</th>
<th>Second-line therapy</th>
<th>Notes and/or Cautions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diastolic +/- Systolic Hypertension</strong></td>
<td><strong>TARGET &lt; 140/90 mmHg</strong></td>
<td>Combinations of first-line drugs</td>
</tr>
<tr>
<td>Thiazide diuretics, beta blockers, ACE-inhibitors, ARBs, or long-acting calcium channel blockers (consider ASA and statins in selected patients). Consider initiating therapy with a combination of two first line drugs if the blood pressure is ≥20 mmHg systolic or ≥10 mmHg diastolic above target.</td>
<td></td>
<td>Beta-blockers are not recommended as initial therapy in those over 60 years of age. Hypokalemia should be avoided by using potassium-sparing agents in those who are prescribed diuretics as monotherapy. ACE inhibitors are not recommended in blacks. ACE inhibitors and ARBs are teratogenic and marked caution is required if prescribing to women of child bearing potential.</td>
</tr>
<tr>
<td>Isolated systolic hypertension without other compelling indications</td>
<td>Thiazide diuretics, ARBs or long-acting dihydropyridine calcium channel blockers.</td>
<td>Combinations of first-line drugs</td>
</tr>
<tr>
<td><strong>Diabetes Mellitus</strong></td>
<td><strong>TARGET &lt; 130/80 mmHg</strong></td>
<td>Addition of thiazide diuretics, cardioselective beta-blockers, long-acting calcium channel blockers or use an ARB/ACEI combination</td>
</tr>
<tr>
<td>Diabetes mellitus with nephropathy</td>
<td>ACE inhibitors or ARBs</td>
<td>If the serum creatinine level is &gt;150 μmol/L, a loop diuretic should be used as a replacement for low-dose thiazide diuretics if volume control is required.</td>
</tr>
<tr>
<td>Diabetes mellitus without nephropathy</td>
<td>ACE inhibitors, ARBs, dihydropyridine CCBs or thiazide diuretics</td>
<td>Combination of first-line drugs or if first line agents are not tolerated addition of cardioselective beta-blockers and/or long-acting non dihydropyridine calcium channel blockers</td>
</tr>
<tr>
<td><strong>Cardiovascular and Cerebrovascular Disease</strong></td>
<td><strong>TARGET &lt; 140/90 mmHg</strong></td>
<td>Long-acting calcium channel blockers</td>
</tr>
<tr>
<td>Angina</td>
<td>Beta-blockers and ACE inhibitors except in low risk patients</td>
<td>Avoid short-acting nifedipine</td>
</tr>
<tr>
<td>Prior myocardial infarction</td>
<td>Beta-blockers and ACE inhibitors (ARBs if ACEI-intolerant)</td>
<td>Long-acting calcium channel blockers</td>
</tr>
<tr>
<td>Heart failure</td>
<td>ACE inhibitors (ARBs if ACEI-intolerant) and beta-blockers</td>
<td>ARBs or hydralazine/isosorbide dinitrate (thiazide or loop diuretics, as additive therapy)</td>
</tr>
<tr>
<td>Left ventricular hypertrophy</td>
<td>ACE inhibitors, ARBs, dihydropyridine calcium channel blockers, diuretics, (beta-blockers for patients under 55 years)</td>
<td>Avoid hydralazine and minoxidil</td>
</tr>
<tr>
<td>Past cerebrovascular accident or TIA</td>
<td>ACE inhibitor/diuretic combinations</td>
<td>This does not apply to acute stroke. Blood pressure reduction reduces recurrent cerebrovascular events in patients with stable past cerebrovascular disease. Blood pressure lowering should be considered in those with normal blood pressure who have had a stroke</td>
</tr>
<tr>
<td><strong>Non Diabetic Chronic Kidney Disease</strong></td>
<td><strong>TARGET &lt; 130/80 mmHg</strong></td>
<td>Combinations of additional agents</td>
</tr>
<tr>
<td>Non diabetic chronic kidney disease with proteinuria</td>
<td>ACE inhibitors (ARBs if ACEI-intolerant) diuretics as additive therapy</td>
<td>Avoid ACE inhibitors or ARB if bilateral renal artery stenosis or unilateral disease with solitary kidney. Patients placed on an ACE inhibitor or an ARB should have their serum creatinine and potassium carefully monitored.</td>
</tr>
<tr>
<td>Renovascular disease</td>
<td>Similar to diastolic +/- systolic hypertension without compelling indications for other medications</td>
<td>Avoid ACE inhibitors or ARB if bilateral renal artery stenosis or unilateral disease with solitary kidney.</td>
</tr>
<tr>
<td><strong>Other Conditions</strong></td>
<td><strong>TARGET &lt; 140/90 mmHg</strong></td>
<td>Does not affect initial treatment recommendations</td>
</tr>
<tr>
<td>Peripheral arterial disease</td>
<td>Does not affect initial treatment recommendations</td>
<td>Avoid beta-blockers with severe disease</td>
</tr>
<tr>
<td>Dyslipidemia</td>
<td>Does not affect initial treatment recommendations</td>
<td></td>
</tr>
<tr>
<td>Global vascular protection</td>
<td>Statin therapy for patients with 3 or more cardiovascular risk factors or with atherosclerotic disease</td>
<td>Low dose ASA in patients with controlled blood pressure</td>
</tr>
</tbody>
</table>

- It is recommended that normotensive adults with established cardiovascular disease be treated with an ACE inhibitor. Normotensive adults who have had a stroke or TIA should be treated with an ACE inhibitor and a diuretic. ACE angiotensin converting enzyme; TIA transient ischemic attack; ARB angiotensin receptor blocker
- With permission of the Canadian Hypertension Education Program
Table 5: Advice For Patients To Assist Them To Reduce Dietary Sodium

DO
• Buy and eat more fresh foods especially fruit and vegetables
• Buy and eat processed foods with low salt labels or brands with the lowest percentage of sodium on the food label
• Wash canned foods or other salty foods in water before eating or cooking
• Use unsalted spices if desired
• Eat less food at restaurants and ask for less salt to be added in your food orders
• Use less sauces on your food
• Eat foods with less than 100 mg of sodium per serving

DON’T
• Buy or eat heavily salted foods (e.g. pickled foods, salted crackers or chips, processed meats, etc).
• Add salt in cooking or at the table
• Eat foods with more than 400 mg of sodium per serving

With permission of Blood Pressure Canada
Table 6: CHEP reduces the impact of bias by the following methods

1) A history of requiring a high level of evidence with patient relevant outcomes for pharmacotherapy recommendations
2) A centralized systematic literature review by a Cochrane group librarian
3) Multiple clinical experts in subgroups to represent different perspectives
4) A Central Review Committee (CRC) that is ‘free of commercial conflicts of interest’ to oversee the evaluation of evidence, development of recommendations and to present the evidence/recommendations
5) A consensus conference chaired by the CRC and with the evidence primarily presented by the CRC
6) Overt written disclosure of potential conflicts of interest at the time of the consensus conference when the recommendations are discussed
7) Voting on recommendations with the removal of recommendations voted against by 30% or more of members
8) Annual hypertension management themes, key messages and major implementation tools are developed through a consensus of the full CHEP executive. Other internal implementation tools require the consensus of two members of the executive.

With permission of the Canadian Hypertension Education Program
Table 7: Internet Resources for Patient Information*

<table>
<thead>
<tr>
<th>Resource</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 Public Hypertension</td>
<td>• General information on prevention and treatment of hypertension</td>
<td><a href="http://www.hypertension.ca">www.hypertension.ca</a></td>
</tr>
<tr>
<td>Recommendations</td>
<td></td>
<td><a href="http://www.heartandstroke.ca">www.heartandstroke.ca</a></td>
</tr>
<tr>
<td>On-line, personalized blood</td>
<td>• Create a personalized action plan for healthy living</td>
<td><a href="http://www.heartandstroke.ca/bp">www.heartandstroke.ca/bp</a></td>
</tr>
<tr>
<td>pressure plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DASH diet</td>
<td>• The DASH diet and healthy eating to improve blood pressure control</td>
<td><a href="http://www.nhlbi.nih.gov/hbp/prevent/h_eating/h_eating.htm">www.nhlbi.nih.gov/hbp/prevent/h_eating/h_eating.htm</a></td>
</tr>
<tr>
<td>Canada’s Food Guide</td>
<td>• Canada’s official guide to healthy eating and lifestyle choices.</td>
<td><a href="http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html">www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html</a></td>
</tr>
<tr>
<td></td>
<td>Personalize your own food guide!</td>
<td><a href="http://www.dietitians.ca">www.dietitians.ca</a></td>
</tr>
<tr>
<td>Dietitians of Canada</td>
<td>• Tips for eating well and living well</td>
<td></td>
</tr>
<tr>
<td>On-line health and fitness</td>
<td>• Learn about your risk factors using different tools to calculate your</td>
<td><a href="http://www.healthtoolsonline.com/health-fit.html">www.healthtoolsonline.com/health-fit.html</a></td>
</tr>
<tr>
<td>calculators</td>
<td>personal factors</td>
<td></td>
</tr>
<tr>
<td>Diabetes &amp; Heart Disease &amp; Stroke</td>
<td>• Information on hypertension for people with diabetes</td>
<td><a href="http://www.diabetes.ca">www.diabetes.ca</a></td>
</tr>
<tr>
<td></td>
<td>• Controlling your blood pressure can reduce your chance of developing heart disease or having a stroke</td>
<td><a href="http://www.heartandstroke.ca">www.heartandstroke.ca</a></td>
</tr>
</tbody>
</table>

*Many of the resources can be downloaded and printed or hard copies ordered for patients who do not use the internet. With permission of Blood Pressure Canada.
Reference List


(3) Patel A, ADVANCE Collaborative Group. Effects of a fixed combination of perindopril and indapamide on macrovascular and microvascular outcomes in patients with type 2 diabetes mellitus (the ADVANCE trial): a randomised controlled trial. Lancet. 2007; [In press].


(8) Veterans Administration Cooperative Study Group on Antihypertensive Agents. Effects of treatment on morbidity in hypertension. Results in patients with diastolic blood pressures averaging 115 through 129 mm Hg. JAMA. 1967;202:1028-34.

(9) Veterans Administration Cooperative Study Group on Antihypertensive Agents. Effects of treatment on morbidity in hypertension II. Results in patients with diastolic blood pressure averaging 90 through 114 mm Hg. JAMA. 1970;213:1143-52.


