

Hypertension: Lowering Barbara's BP



Luc Poirier, BPharm, MSc

Barbara's BP

- Barbara, 52, has been treated for hypertension and Type 2 diabetes.
- The blood pressure (BP) values measured at her last visit averaged at 142/86 mmHg.
- Barbara mentions that her BP values are lower when she measures them at home or at the pharmacy.
- Her last urine test showed a significant presence of proteinuria.



How would you treat Barbara?
Read on for the answer.

Hypertension affects more than 20% of the Canadian population and constitutes one of the main cardiovascular risk factors. In treating persons suffering from hypertension, clinicians have the difficult task of making an adequate diagnosis and selecting a treatment that offers maximum protection of target organs while reaching therapeutic targets.

How many visits does it take to diagnose hypertension?

The Can...

Copyright ©
Not for Sale or Commercial Distribution
Unauthorised use prohibited. Authorised users can download, display, view and print a single copy for personal use.

	Initiation SBP/DBP mmHg	Target SBP/DBP mmHg
Diastolic ± systolic hypertension	≥ 140/90	< 140/90
Isolated systolic hypertension	SBP = or > 160	< 140
Diabetes	≥ 130/80	< 130/80
Renal disease	≥ 130/80	< 130/80
Proteinuria > 1 g/day	≥ 125/75	< 125/75

SBP: Systolic blood pressure
DBP: Diastolic blood pressure

Source: 2005 Canadian Hypertension Education Program Recommendations

... mmHg (grade 3 ...), diabetes, renal disease or target organ damage can be diagnosed as soon as their second visit. Other patients should be diagnosed after a maximum of five visits according to the doctor's opinion. This new CHEP recommendation is based on studies showing the benefits of early treatment of hypertension for patients presenting an increased cardiovascular risk.

What blood pressure should I aim for?

For patients without complications, concomitant pathologies or target organ damage, BP should be lowered to reach the 140/90 mmHg range. However, for Barbara, the coexistence of Type 2

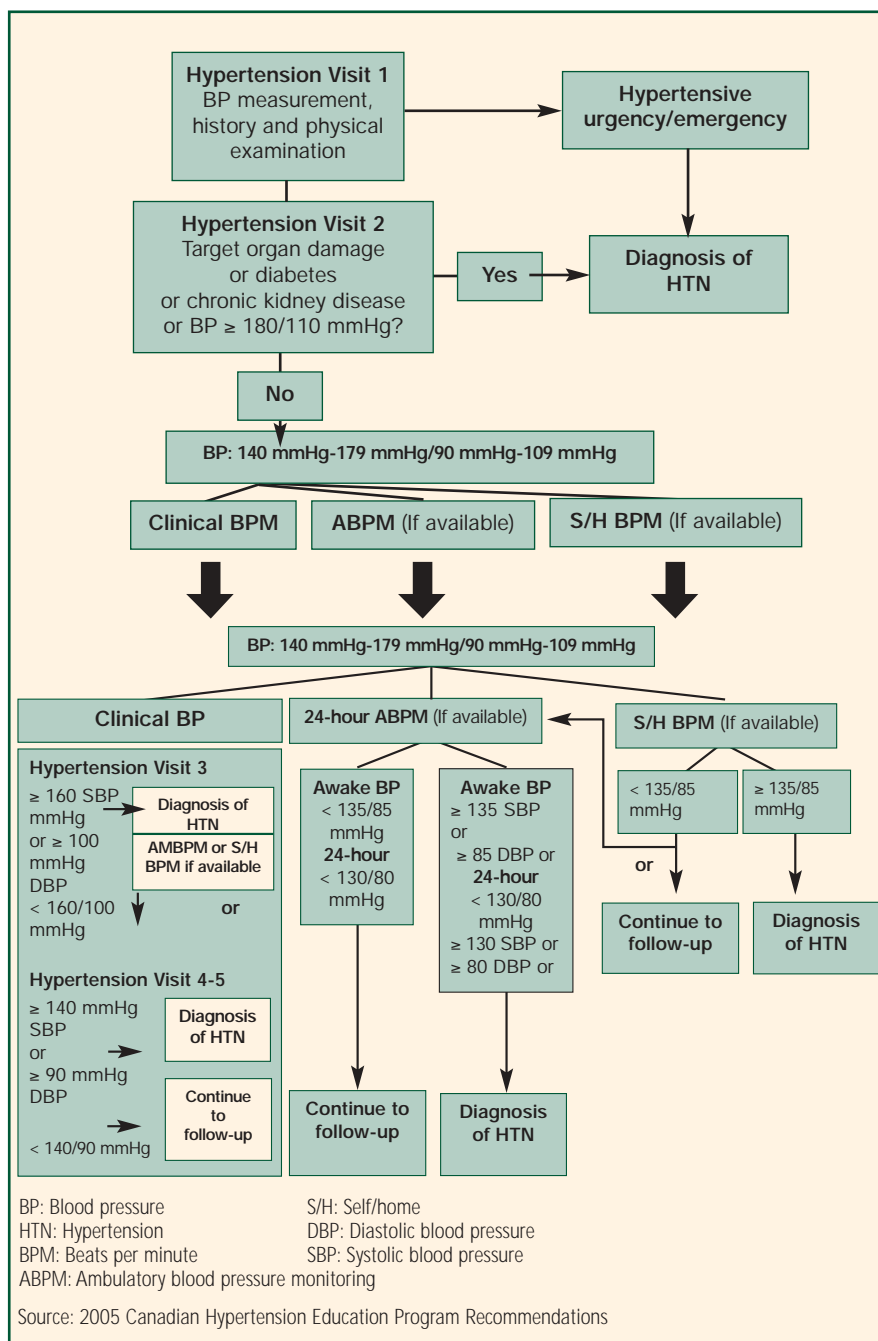


Figure 1. Diagnostic algorithm for high blood pressure.

Mr. Poirier is a Clinical Professor, Pharmacy Faculty, Université Laval, and a Clinical Researcher, Hypertension Unit and Pharmacy Department, Centre Hospitalier de l'Université Laval, CHUQ, Sainte-Foy, Québec.

diabetes and hypertension calls for a BP below 130/80 mmHg. Table 1 identifies the thresholds at which to begin antihypertensive treatments, as well as the targets to reach according to the patient condition.

Can I ask Barbara to measure her blood pressure at home?

If you suspect that the BP measurements obtained in the office are not a good reflection of your patient's BP, self-measurement and ambulatory monitoring of BP qualifies as a recommended method of evaluation.

Regarding self/home BP measurement, the CHEP recommends that patients take two BP measurements daily (one should be done before taking an antihypertensive drug) for a period of seven consecutive days. These readings should reach an average of 135/85 mmHg or lower to be considered equivalent to the average pressure of 140/90 mmHg measured in the office.

Which antihypertensive agents should I administer?

Diuretics, beta-blockers, calcium channel blockers, angiotensin-converting enzyme (ACE) inhibitors

and angiotensin II receptor blockers (ARBs) are among the first-line drugs for treating systolodiastolic hypertension. Beta-blockers and ACE inhibitors have not shown clear benefits in terms of morbidity/mortality for patients with isolated systolic hypertension and can, thus, not be recommended as first-line drugs.

In Barbara's case, the presence of diabetes and proteinuria

requires the administration of ACE inhibitors or ARBs in order to provide a maximum protection against target organ damage.

It is clear that the great majority of patients will require combination drug therapy to achieve the therapeutic target.

Which combination drug therapies should be applied?

As a hypertensive diabetic, Barbara will probably require a combination of at least three or four antihypertensive agents. An efficient drug combination should include agents that palliate the activation of compensatory mechanisms (*e.g.*, ACE/ARB with a thiazide diuretic). Proteinuria is recognized as an important predictive factor of cardiovascular diseases and should receive particular attention in treating Barbara.

Finally, the coexistence of hypertension and diabetes with nephropathy calls for strict control of BP that targets 130/80 mmHg.

How can I ensure Barbara is complying with the prescribed treatment?

Anti-hypertensive treatments are increasingly prescribed with a combination of different drugs, maximizing the possibility of reaching the therapeutic target and decreasing the undesirable effects often associated with elevated doses. However, an increase in the number of drugs is likely to decrease patient compliance. A therapeutic regime can be simplified by prescribing drugs on a once-daily basis and drug combinations in fixed doses. Moreover, it is also important that health professionals make concerted efforts to provide patient training and information services so the patient can better understand their anti-hypertensive treatment.

cme

CHEP Recommendations...

Canadian guidelines for the diagnosis, followup and treatment of hypertension are reviewed and updated on an annual basis. The Canadian Hypertension Education Program (CHEP) recently published its 2005 Recommendations, which include the following new key messages:

- Faster ways of diagnosing hypertension now exist and should be applied, in particular for patients with an increased cardiovascular risk. Practitioners can utilize any of the three validated technologies (office, ambulatory and self/home measurements) to diagnose hypertension.
- Complications in the general population of patients with hypertension depend more on the extent of blood pressure lowering achieved than on the choice of any specific first-line drug class.

Some other messages of the Recommendations are, though well-known, well worth repeating:

- Self-management plans should be based on the patient's overall cardiovascular risk and not only on the severity of their hypertension. Although antihypertensive agents have their place in the great majority of treatment plans that combat high BP, lifestyle modifications, such as weight loss and exercise, remain the cornerstones of a successful antihypertensive therapy. A combination of treatments (*e.g.*, drug therapy and lifestyle modifications) is generally indispensable for reaching the targeted BP values.
- Finally, given the asymptomatic nature of hypertension, patients should make special efforts to follow their treatment plans.

Hypertension: Key points...

- Expedite the diagnosis of hypertension
- Evaluate the overall risk for the patient
- Aim for the targeted blood pressure
- Advocate lifestyle modifications
- Prescribe drug combinations
- Promote patient compliance