



National Prescribing Service Limited



Clinical audit enrolment form

Management of hypertension

This is the second last NPS clinical audit offered in the RACGP 2005–2007 triennium, the final audit will address prevention and treatment of osteoporosis.

To enrol

Fill out the form below then return to NPS. Enrolments must be received at NPS by **Friday 10 August 2007**.

Fax this form to: 02 9283 8938
OR Telephone: 02 8217 8700
OR Post to: PO Box 1147,
Strawberry Hills
NSW 2012

Your free audit pack will be forwarded by mail.

For more information

To see a sample audit form before enrolling, visit www.nps.org.au/healthpro

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Kathleen Mulligan { Email: info@nps.org.au

Submission date

Completed clinical audit forms must be submitted to NPS by **Friday 7 September 2007**. Unfortunately, late submissions cannot be accepted.

Clinical e-Audit

An electronic version of this clinical audit will be made available in October 2007 (for completion by April 2008).

Participant details:

Please use BLOCK LETTERS

Family name

Given name

Postal address

Town or Suburb

State or Territory Postcode

Phone no. () Prescriber no.

Fax no. () Provider no.

NPS consults widely with general practitioners in the development of quality assurance activities.

Yes, I am interested in participating in the development of NPS quality assurance activities.

NPS adheres to the National Privacy Principles contained in the Privacy Act 1988 (Cwth). All personal information collected by NPS will be used only for mailing of NPS materials relating to this audit and/or evaluation purposes.



NPS is an independent, non-profit organisation for Quality Use of Medicines, funded by the Australian Government Department of Health and Ageing.

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NPSF0432

Clinical audit: Management of hypertension

Improving clinical practice for better patient health

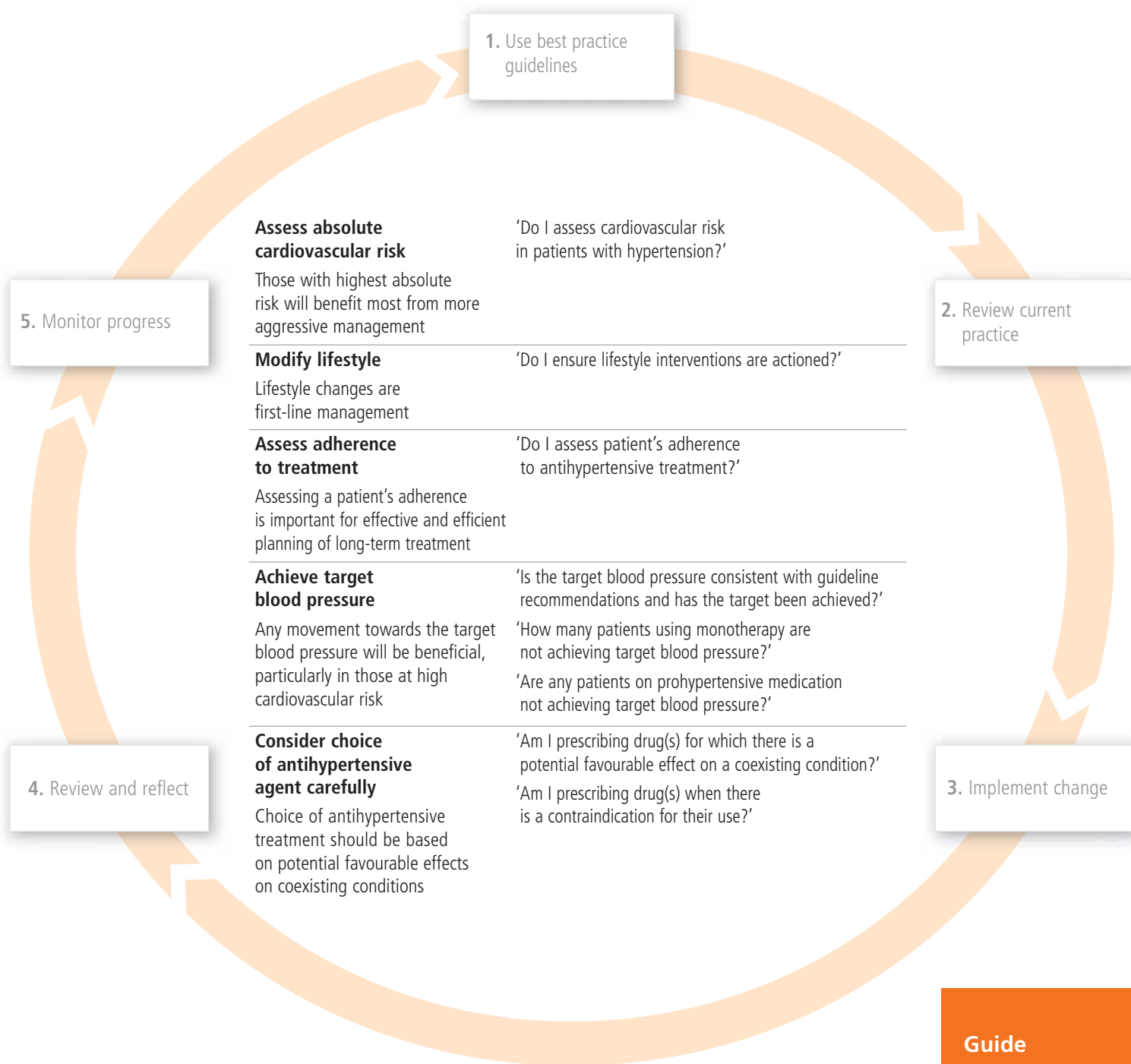
How are you managing your patients with hypertension?

This clinical audit will assist you to review cardiovascular risk, identify and optimise blood pressure control, review choice of antihypertensive agents and assess adherence in patients over 16 years of age, using an antihypertensive agent(s).

NPS has applied for clinical audit points in the 2005–07 triennium of the RACGP QA&CPD Program, total points for steps 1–5: 30 (Category 1), and the ACRRM PDP, 27 clinical audit points (including 20 mandatory points). Points are awarded only to participants who complete the review phase.

This audit is recognised for the Quality Prescribing Initiative of the Practice Incentives Program (May 2007 to April 2008).

Best practice in the management of hypertension

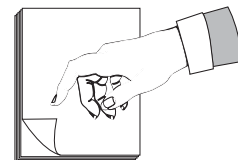


Notes for clinical audit form

Additional information to assist you to review your management.

Identify 20 patients prospectively as they present or retrospectively from a search of your medical records.

Patients should be aware that your practice participates in quality assurance activities; display the poster *Quality assurance in this practice and your privacy* and make available the patient information leaflet *Your health records and NPS clinical audits*.



Complete one double-sided audit form for each patient.

The general principles of managing hypertension

- Assess and treat absolute cardiovascular risk and modify risk factors
- Pursue blood pressure targets
- Tailor therapy according to coexisting conditions

Cardiovascular risk

Clinical indicator: Assessed for absolute cardiovascular risk

Assessing absolute cardiovascular risk allows management to be tailored to the risk level, with more aggressive treatment for those at highest risk. Cardiovascular disease is multifactorial and any attempt to predict risk relies on the assessment of a range of risk factors. Attention must be given to all modifiable risk factors (e.g. cigarette smoking, obesity, excessive alcohol intake, sedentary lifestyle, dyslipidaemia, hypertension, diabetes).

Long-term interventions involving a number of risk factors (including lifestyle, hypertension, dyslipidaemia, hyperglycaemia and microalbuminuria) can significantly reduce the risk of macrovascular and microvascular disease.¹

Blood pressure is a major determinant of an individual's absolute cardiovascular risk but should not be considered in isolation. When measuring blood pressure, always assess other risks factors and calculate the person's absolute risk of a cardiovascular event.¹⁻³

For patients who have not yet had a cardiovascular event, use a cardiovascular risk calculator such as the New Zealand Cardiovascular Risk Calculator (see insert). Patients who have previously had an event are at high risk of a future event and all risk factors should be treated aggressively and concomitantly.

Elderly people should be treated for hypertension as they have a greater absolute cardiovascular risk than younger patients and get at least the same relative benefit.¹ UK guidance suggests that patients over 80 years of age should be offered the same treatment as patients over 55 years taking into account coexisting conditions and the existing burden of drug use.³

Lifestyle interventions

Clinical indicator: Lifestyle interventions actioned

Tailor lifestyle advice to the individual. Regular reinforcement and follow up are essential for ensuring lifestyle change.^{1,4} Monitoring and support for adherence to this advice is an important step in the ongoing management of hypertension.

Lifelong lifestyle modifications are vital to control high blood pressure and its associated risks. Each lifestyle intervention has the potential to reduce blood pressure by the same amount as 1 standard dose of an antihypertensive drug in appropriately selected patients.⁵

A multidisciplinary approach involving healthcare professionals is the most effective.⁶

Encourage patients to:

- Be non-smokers (for information on quitting smoking call the Quitline 131 848).
- Reduce salt intake — aim for ≤ 2.3 g per day.
- Achieve and maintain a healthy body weight, by following a diet high in fresh fruit, vegetables and low in saturated fats.
- Limit alcohol intake — no more than two standard drinks per day (men), or one drink per day (women).
- Undertake regular physical activity aiming for 30 minutes of moderate intensity activity most days of the week.

See the Heart Foundation website for patient information on maintaining a healthy lifestyle (www.heartfoundation.com.au):

- Enjoy healthy eating
- Be smoke free
- Blood pressure.
- Be active every day
- Healthy weight management

Current blood pressure control

Clinical indicators

Target blood pressure consistent with guideline recommendations and achieving target

Prescribed monotherapy therapy and not achieving target blood pressure

Achieving recommended target blood pressure in patients with diabetes

Use of prohypertensive medication and not achieving target blood pressure

Any movement towards the target blood pressure and cardiovascular risk factor modification will be beneficial, particularly in those at high cardiovascular risk. Target blood pressure levels may not be achieved or tolerated in some patients especially the elderly.⁷ However target levels are particularly important in people with diabetes: tight control of blood pressure reduces the risk of microvascular and macrovascular diabetic complications.⁸

Encourage self-measurement of blood pressure to give the patient a better understanding of their blood pressure and help them be more involved in their management.

Target blood pressure levels

- **Below 140/90 mmHg^{1,9}**: ≥ 65 years
- **Below 130/85^{1,5,7,9} or 130/80 mmHg¹⁰⁻¹²**: < 65 years, or those with diabetes and/or with renal impairment, and/or proteinuria 0.25–1 g/day.
- **Below 125/75 mmHg^{1,9}**: proteinuria > 1 g/day (i.e. with or without diabetes).

Coexisting conditions and effective combinations of antihypertensive agents

Clinical indicators:

Use of at least one agent that has a favourable effect on a coexisting condition

— *Use of an angiotensin-converting enzyme (ACE) inhibitor or an angiotensin II-receptor antagonist (if an ACE inhibitor is not tolerated) in patients with heart failure*

— *Use of a beta blocker in stable heart failure*

— *Use of beta blocker in patients post myocardial infarct or with angina*

— *Use of an ACE inhibitor or an angiotensin II-receptor antagonist in patients with diabetes who have hypertension and macroalbuminuria or proteinuria*

Use of a drug where there is a contraindication for use

Use of a fixed-dose combination product as first-line therapy.

Hypertension may coexist with other medical conditions for which a particular antihypertensive agent may have a favourable effect. See insert, *Specific considerations for patients with coexisting conditions*.

Choice of agent(s) should take into account indications, contraindications, precautions, associated morbidity, overall cardiovascular risk and individual response.^{1,2,7}

Patients should ideally be started on one antihypertensive drug to assess response and tolerance. Many patients require two or more agents to achieve their target blood pressure.^{1-3,13,14}

Effective combinations have an additive or synergistic effect on blood pressure (see table 1). Where two or more agents are required, be aware that the fixed doses in combination products do not always allow the dose of the individual agent to be titrated.

Check the components and doses of the fixed-dose combination products and the implications for dose adjustment. Change to a fixed-dose combination product when patients are stabilised on similar doses of the single agents; a simpler drug regimen may help some patients adhere to medication.

Table 1: Combinations of antihypertensive drug classes

Some useful combinations	Potential benefits (and harms)
ACE inhibitor with calcium-channel blocker	Useful in diabetes or lipid abnormalities ¹
Beta blocker with dihydropyridine calcium-channel blocker*	Useful in coronary heart disease ¹
Beta blocker with ACE inhibitor	Useful in heart failure Useful post myocardial infarction
Low-dose thiazide [†] with beta blocker	Evidence of mortality and cardiovascular benefits BUT May impair glucose tolerance and increase glucose levels in diabetes ¹
Low-dose thiazide [†] with ACE inhibitor (or angiotensin II-receptor antagonist)	Useful in heart failure Useful in secondary stroke prevention ² Potassium retention caused by ACE inhibitor/angiotensin II-receptor antagonist is balanced by potassium-depleting effects of thiazide ⁵ BUT Adding an NSAID to combined ACE inhibitor, or angiotensin II-receptor antagonist, and diuretic therapy increases the risk of renal failure ('triple whammy') ¹⁵
Combinations to avoid or use with caution	
<ul style="list-style-type: none"> • Beta blocker with verapamil or diltiazem (risk of severe bradycardia) • ACE or angiotensin II-receptor antagonist with potassium-sparing diuretic (increases risk of hyperkalemia) • ACE inhibitor with angiotensin II-receptor antagonist (may adversely affect renal function)¹⁶ — reserve for use in diabetic nephropathy or diabetes with proteinuria on specialist advice 	

* Dihydropyridine calcium-channel blockers are amlodipine, felodipine, lercanidipine, nifedipine.

† Includes thiazide-like diuretics.

Medications that may potentially increase blood pressure

Medication that may increase blood pressure

The following list is not exhaustive but includes the main drugs or drug classes most frequently encountered in the community setting.^{5,17}

bromocriptine (rare)	leflunomide
clonidine [‡]	moclobemide (rare)
clozapine (rare)	nicotine (infrequent)
corticosteroids	NSAIDs conventional/ COX-2 selective
cyclosporin	oral contraceptives
darbeoetin	sibutramine
epoetin	sympathomimetics/oral decongestants (rare)
hormone replacement therapy	tacrolimus
irreversible MAO inhibitors (phenelzine, tranylcypromine) [#]	reboxetine
	venlafaxine (dose related)

Complementary medicines that may increase blood pressure

Listed below are some of the more commonly encountered complementary medicines that have clinical reports of increasing blood pressure.¹⁸

American mistletoe	Hawaiian baby woodrose
angel's trumpet	jimson weed
butcher's broom	liquorice
caffeine-containing herbs (guarana, black tea, cola nut, green tea, maté)	maté
DHEA (dehydroepiandrosterone)	melatonin
ginger	peyote
ginseng, <i>Panax</i>	phenylalanine
ginseng, Siberian	sage
guarana	St John's wort
	yohimbine

For more information see www.nps.org.au/healthpro > Topics & Resources > Products > Health Professional Tools > Complementary medicines which may increase blood pressure

‡ Abrupt withdrawal may lead to rebound hypertension.

MAO inhibitors in combination with tyramine rich foods (e.g. matured or out-of-date cheese, fermented or matured meats, yeast and soy bean extracts, and others¹) can lead to hypertensive crisis.

Medication adherence: patients as active partners

Clinical Indicator:

Assessed for adherence to medication regimen

The importance of medication adherence in hypertension

Adherence is described 'as the extent to which a person's behaviour-taking medication, following a diet and/or executing lifestyle changes, corresponds with agreed recommendations from a health care provider'.⁶

To reduce barriers to adherence use a patient-centred approach that tailors combinations of strategies including:

- simplification of dosage regimens
- patient motivation
- involvement of other health professionals.^{19,20}

Reducing the number of daily doses appears to be effective in increasing adherence to blood pressure lowering medication (about 15% increase) and should be tried as a first-line strategy, although there is less evidence of an effect on blood pressure reduction.²⁰ Patient education alone appears to be largely unsuccessful.²⁰

It is also important to identify if patients: are having any side effects from their medications, know why they are taking their medications and know what the benefits of taking their medications are.

Consider using a self-reporting medication behaviour tool for assessing patient adherence

Assessing a patient's adherence is important for effective and efficient planning of long-term treatment and for ensuring that outcomes can be attributed to the recommended regimen.⁶

There is no 'gold standard' for measuring adherence in patients with hypertension and other chronic conditions. Use of screening tool questionnaires can identify non-adherent patients. For example, the Morisky instrument has been used to assess adherence in an Australian study of people with hypertension.²¹

The study found that patients who adhered to their medication regimen were less likely to experience major cardiovascular events or death. Those who answered 'yes' to the question 'Do you ever forget to take your medicines?' were more likely to experience a cardiovascular event or death.²¹

Morisky instrument²²

1. Do you ever forget to take your medicine?
2. Are you careless at times about taking your medicine?*
- *Alternative question: Are you irregular or inconsistent at times about taking your medicines?¹⁹
3. When you feel better do you sometimes stop taking your medicine?
4. Sometimes if you feel worse when you take your medicine, do you stop taking it?

Scoring **Yes = 1** **No = 0** **Range 0–4**

Score = 0, adherent

low risk for poor medication taking behaviour

Score = 4, non-adherent

high risk for poor medication taking behaviour

Confidentiality and privacy

You must sign and date the *Submission cover sheet* to participate in this audit.

By participating you agree to aggregation of your de-identified patient data and use of your personal data. Individual results of your clinical audit are kept confidential by NPS.

What will happen to your patient data

- Your de-identified patient data forms are scanned and returned to you.
- Your individual results are provided to you only.
- Your data are aggregated with those of other participants and the de-identified aggregate results:
 - are provided to all participants
 - may be used in NPS evaluation and reports
 - are provided to the RACGP and ACRRM.

The RACGP has advised that program information may be shared with researchers and interested general practitioners for the purpose of continuing education coordination at the discretion of the QA&CPD Program.

What will happen to your personal details

Your personal details:

- are provided to the mail house for processing
- are provided to the RACGP QA&CPD Program and/or ACRRM Professional Development Program for point allocation (if applicable)
- are recorded for the purpose of the PIP and NPS evaluation
- can be obtained from NPS by request in writing.

Individual clinical audit results will not be available after potentially identifying data are removed from NPS records at the close of the clinical audit cycle.

Please note: You are responsible for advising NPS of any changes of address during the audit cycle.

Further information

Therapeutic enquiries

Kim Barry — (02) 8217 8700

Audit and QPI enquiries

Kathleen Mulligan — (02) 8217 8700

References

1. National Heart Foundation. Hypertension management guide for doctors. National Heart Foundation of Australia, 2004. http://www.heartfoundation.com.au/downloads/hypertension_management_guide_2004.pdf (accessed 15 January 2007).
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13. Institute for clinical systems improvement. Hypertension diagnosis and treatment. Institute for clinical systems improvement, 2006. http://www.icsi.org/guidelines_and_more/guidelines_order_sets_protocols/cardiovascular/hypertension_4/hypertension_diagnosis_and_treatment__11.html (accessed 23 January 2007).
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15. Adverse Drug Reactions Advisory Committee. Aust Adv Drug Reactions Bull 2006;25:18.
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17. Meyler's side effects of drugs: the international encyclopaedia of adverse drug reactions and interactions. 15 ed. Amsterdam: Elsevier, 2006.
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20. Schroeder K, Fahey T, Ebrahim S. Interventions for improving adherence to treatment in patients with high blood pressure in ambulatory setting. *Cochrane Database Syst Rev* 2004;CD004804.
21. Nelson MR, Reid CM, Ryan P, et al. Self-reported adherence with medication and cardiovascular disease outcomes in the second Australian national blood pressure study (ANBP2). *Med J Aust* 2006;185:487–9.
22. Morisky DE, Green LW, Levine DM. Concurrent and predictive validity of a self-reported measure of medication adherence. *Med Care* 1986;24:67–74.

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The information contained in this material is derived from a critical analysis of a wide range of authoritative evidence. Any treatment decisions based on this information should be made in the context of the clinical circumstances of each patient.



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NPSA0431

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Table 1: Specific considerations for patients with coexisting conditions

Coexisting conditions/ characteristics	Potentially favourable effects	Potentially unfavourable effects	
		Contraindications	Precautions
Angina	Beta blockers, calcium-channel blockers		Calcium-channel blockers (on initiation or withdrawal)
Asthma/COPD		Beta blockers (except cardioselective agents, e.g. atenolol, metoprolol)	Cardioselective beta blockers, e.g. atenolol, metoprolol (use cautiously in mild/moderate disease)
Benign prostatic hypertrophy	Alpha blockers		
Bilateral renal artery stenosis (or unilateral with 1 kidney)		ACE inhibitors, angiotensin II-receptor antagonists	
Bradycardia (severe), grade 2 or 3 atrioventricular block		Beta blockers, calcium-channel blockers	
Diabetes mellitus – without renal disease	ACE inhibitors, angiotensin II-receptor antagonists*, beta blockers, low-dose thiazides or thiazide-like diuretics		
– with microalbuminuria/proteinuria	ACE inhibitors, angiotensin II-receptor antagonists		
Elderly	Calcium-channel blockers, low-dose thiazides or thiazide-like diuretics		Beta blockers (generally less effective), calcium-channel blockers (start with a low dose), thiazides or thiazide-like diuretics (increased risk of electrolyte imbalance)
Gout			Thiazides or thiazide-like diuretics
Heart failure	ACE inhibitors, angiotensin II-receptor antagonists*, beta blockers (i.e. bisoprolol, carvedilol, metoprolol CR), low-dose thiazides or thiazide-like diuretics	Alpha blockers in heart failure due to mechanical obstruction e.g. aortic stenosis; beta blockers in uncontrolled heart failure	Calcium-channel blockers (especially verapamil, diltiazem)
Hyperkalaemia		ACE inhibitors, angiotensin II-receptor antagonists	
Isolated systolic hypertension	Calcium-channel blockers, low-dose thiazides or thiazide-like diuretics		
Myocardial infarction (post)	ACE inhibitors, beta blockers		
Non-diabetic nephropathy	ACE inhibitors		
Orthostatic hypotension			Alpha blockers (in volume depletion and the elderly), thiazides or thiazide-like diuretics (when symptomatic)
Peripheral vascular disease			Beta blockers
Pregnancy	Refer to <i>Australian Medicines Handbook</i> , approved product information and <i>Therapeutic Guidelines: Cardiovascular</i>		
Renal impairment	Refer to <i>Australian Medicines Handbook</i>		
Secondary stroke prevention	Low-dose thiazides or thiazide-like diuretics ± ACE inhibitors		
Tachyarrhythmias	Beta blockers		

* Consider using an angiotensin II-receptor antagonist when there is a documented ACE inhibitor intolerance.

For more detailed information about the above drugs, refer to *Australian Medicines Handbook* 2007 and the approved product information for the drug. Further information can be obtained from TAIS on 1300 138 677.

Developed from:

- Australian Medicines Handbook, 2007.
- Therapeutic Guidelines: Cardiovascular, Version 4. 2003.
- Hypertension management guide for doctors. National Heart Foundation of Australia, 2004.
- World Health Organization, International Society of Hypertension Writing Group. 2003 WHO International Society of Hypertension (ISH) statement on management of hypertension. *J Hypertens*

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Table 2: Antihypertensive drugs and fixed-dose combination products

Generic drug name	Product name		
ACE inhibitors			
captopril	Acenorm, Capoten, Captohexal, Topace		
enalapril	Alphapril, Amprace, Auspril, Enahexal, Enalabell, Renetic/M/20		
fosinopril	Fosipril, Monace, Monopril		
lisinopril	Fibsol, Liprace, Lisinobell, Lisodur, Prinivil, Zestril		
perindopril	Coversyl, Perindo		
quinapril	Accupril, Acquin, Asig, Filpril		
ramipril	Prilace, Ramace, Tritace		
trandolapril	Gopten, Odrik		
Alpha-blockers (selective)			
prazosin	Minipress, Pressin		
terazosin	Hytrin*		
Angiotensin II-receptor antagonists			
candesartan	Atacand		
eprosartan	Teveten		
irbesartan	Avapro, Karvea		
losartan	Cozaar†		
olmesartan	Olmotec		
telmisartan	Micardis		
Beta blockers			
atenolol	Anselol, Atehexal, Noten, Tenormin, Tensig		
bisoprolol	Bicor		
carvedilol	Dilatrend, Kredex		
labetalol	Presolol, Trandate		
metoprolol	Betaloc, Lopresor, Metohexal, Minax, Toprol–XL		
oxprenolol	Corbeton		
pindolol	Barbloc, Visken		
propranolol	Deralin, Inderal		
Centrally-acting antihypertensives			
clonidine	Catapres		
methyl dopa	Aldomet, Hydopa		
moxonidine	Physiotens		
Dihydropyridine calcium-channel blockers			
amlodipine	Norvasc		
felodipine	Felodur ER, Plendil ER		
lercanidipine	Zanidip		
nifedipine	Adalat/Oros, Addos XR, Adefin/XL, Nifehexal, Nyefax		
Non-dihydropyridine calcium-channel blockers			
diltiazem	Cardizem/CD, Coras, Diltahexal/CD, Dilzem/CD, Vasocardol/CD		
verapamil	Anpec/SR, Cordilox SR, Isoptin/SR, Veracaps SR		
Thiazide diuretics			
hydrochlorothiazide 25 mg	Dithiazide	Low-dose ≤ 25 mg (1/2–1 tab)	
Thiazide-like diuretics			
chlorthalidone 25 mg	Hygroton	≤ 25 mg (1/2–1 tab)	
indapamide 1.5 mg SR	Natrilix SR	1.5 mg (1 tab)	
indapamide 2.5 mg	Dapa-Tabs, Indahexal, Insig, Napamide, Natrilix	Not practical	
Thiazide and potassium-sparing diuretic combination products			
hydrochlorothiazide 25 mg/triamterene 50 mg	Hydrene 25/50	≤ 25 mg/50 mg (1/2–1 tab)	
hydrochlorothiazide 50 mg/amiloride 5 mg	Amizide, Moduretic	25 mg/2.5 mg (1/2 a tab)	
Vasodilators			
hydralazine	Alphapress		
minoxidil	Loniten		
Fixed-dose combination products			
ACE inhibitor plus non-dihydropyridine calcium-channel blocker			
Trandolapril/verapamil	Tarka		
Dihydropyridine calcium-channel blocker plus statin			
Amlodipine/atorvastatin	Caduet		
Very low-dose thiazide and thiazide-like plus ACE inhibitor			
hydrochlorothiazide/enalapril	Renitec Plus	hydrochlorothiazide/quinapril	Accuretic
hydrochlorothiazide/fosinopril	Monoplus	indapamide/perindopril	Coversyl Plus
Very low-dose thiazide plus angiotensin II-receptor antagonist			
hydrochlorothiazide/candesartan	Atacand Plus	hydrochlorothiazide/olmesartan	Olmotec plus
hydrochlorothiazide/eprosartan	Teveten Plus	hydrochlorothiazide/telmisartan	Micardis Plus
hydrochlorothiazide/irbesartan	Avapro HCT, Karvezide		

*Only available on the Repatriation Pharmaceutical Benefits Scheme, April 2007.

† Not available on the Pharmaceutical Benefits Scheme April 2007.

Prepared: May 2007

NPS is an independent, non-profit organisation for Quality Use of Medicines, funded by the Australian Government Department of Health and Ageing.

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Clinical audit: Management of hypertension 2007

Your patient code: (Do not use name/s)

(Create a code to help you identify your patients for the review phase)

Use a **black biro** to mark a **cross (X)** in the box beside your response. If you make a mistake, use white correction fluid.



NPS office use only

Patient details and cardiovascular risk

1. **Age:** 16–54 years 55–64 years 65–79 years ≥ 80 years **Gender:** male female

Aboriginal, Torres Strait Islander, Maori, Pacific Islander origin: yes no not known

Diabetes: yes no not known

Strong family history of cardiovascular disease: yes no not known

First degree relative: male with CVD at < 55 years, female < 65 years

Smoking status: smoker non-smoker not known

Regular daily smoker or ceased within last 12 months

Body mass index (kg/m²): < 18.5 (underweight) 18.5–24.9 (normal weight) 25–29.9 (overweight) ≥ 30 (obese) not known

Most recent sitting BP: (within last 12 months) / mmHg

Total cholesterol/HDL cholesterol ratio: .

Mark risk factors (if any):

symptomatic CVD diagnosed left ventricular hypertrophy

genetic lipid disorders diabetes and evidence of renal disease

none ▶ Calculate absolute 5 year cardiovascular risk using NZ risk calculator to % not calculated

Absolute 5 year cardiovascular risk is > 20%, go to question 2

Review and record details in medical records.

Lifestyle interventions

2. **What ongoing lifestyle advice has been given to the patient?** (mark all applicable)

cease smoking reduce salt intake none

healthy eating reduce weight not known

moderate alcohol intake regular physical activity other _____

List ongoing lifestyle advice that needs to be actioned:

Current blood pressure control

3. **Current status of hypertension control is:**

currently being stabilised (i.e. within 3 months of starting a new antihypertensive, target BP not yet achieved)

maintenance (i.e. target BP achieved)

unstable (i.e. within 3 months treatment, target BP not achieved, hypertension difficult to manage)

4. **Target BP for this patient is:**

< 140/90 mmHg < 130/85 mmHg < 130/80 mmHg < 125/75 mmHg

other / mmHg

5. **Has the patient achieved their target BP?**

yes

no ▶ Reason(s) target BP is not being achieved (mark all applicable)

intake of prohypertensive drugs insufficient drug therapy

measurement artefacts currently being stabilised

poor adherence underlying secondary hypertension

therapeutic failure other _____

▶ Has the patient's BP improved in the last 6 months?

yes no not known

Recommended target BP

- < 140/90 mmHg: ≥ 65 years
- < 130/85 mmHg or < 130/80 mmHg: < 65 years or with diabetes and/or renal impairment and/or proteinuria 0.25–1 g/day
- < 125/75 mmHg: proteinuria > 1 g/day

Any movement towards the target blood pressure will be beneficial, particularly in those at high cardiovascular risk.

Adherence

6. **Has the importance of adherence with long-term drug use been explained?** yes no not known

7. **Adherence with antihypertensive treatment assessed by:** (mark all applicable)

not assessed issue of repeat prescriptions regular BP monitoring self-monitoring of BP

validated adherence scale open questioning other _____

Specifically have you ever asked: (mark all applicable)

Do you ever forget to take your medicine? Are you careless (irregular, inconsistent) at times about taking your medicine?

When you feel better do you sometimes stop taking your medicine? Sometimes if you feel worse when you take your medicine, do you stop taking it?

Please turn over to complete Q8

Coexisting conditions

8. Other relevant coexisting conditions:

none

Cardiovascular

- angina
 bradycardia, 2 or 3 degree AV block
 heart failure
 isolated systolic hypertension
 myocardial infarction (previous)
 orthostatic hypotension
 peripheral vascular disease
 previous stroke
 left ventricular hypertrophy
 tachyarrhythmias

Diabetes

type 1 type 2

Renal

- bilateral renal artery stenosis (or unilateral with 1 kidney)
 proteinuria > 1 g/day
 proteinuria 0.25–1 g/day
 microalbuminuria 30–299 mg/day
 renal impairment

Respiratory

asthma COPD

Other

- ACE inhibitor intolerance
 benign prostatic hypertrophy
 gout
 hyperkalaemia
 pregnancy
 other _____

i Choice of drug(s) should take into account indications, contraindications, precautions, associated morbidity, overall cardiovascular risk and individual response.

Current medications prescribed and medication history

9. Antihypertensives prescribed

(see insert, Table 2)

alpha blocker

angiotensin-converting enzyme (ACE) inhibitor

angiotensin II-receptor antagonist

beta blocker

dihydropyridine calcium-channel blocker

non-dihydropyridine calcium-channel blocker

thiazide and thiazide-like diuretics (low dose)

thiazide (high dose)

Fixed dose combination products

calcium-channel blocker + ACE inhibitor

calcium-channel blocker + statin

thiazide + ACE inhibitor

thiazide + angiotensin II-receptor antagonist

other _____

Currently using

Previously used and ceased

10. Reason(s) for changing previous antihypertensive(s)?

- allergy or adverse drug reaction
 adherence
 coexisting condition
 therapeutic failure
 not known
 other _____

11. Are there coexisting conditions for which there are potentially favorable effects for prescribing an agent(s) from a particular antihypertensive drug class? (see insert, Table 1)

yes ▼ no not known

Are these agent(s) included in the current regimen?

yes no ▼ partially ▼

Reason(s) for not prescribing

- adverse effect over looked unaware
 contraindicated trialled but not appropriate not known
 continuing another doctor's therapy other _____

Consider reviewing and documenting coexisting conditions.

Consider reviewing regimen based on coexisting conditions.

12. Are there contraindications for prescribing this patient an agent(s) from a particular antihypertensive drug class? (see insert, Table 1)

yes ▼ no not known

Are these agent(s) included in the current regimen?

yes ▼ no partially

Reason(s) for prescribing

- continuing another doctor's therapy over looked unaware
 other overriding indication not known other _____

Consider reviewing the patient's medication regimen and possible contraindications to a particular drug class.

13. Is the patient using prohypertensive drug(s)? (see Guide page 4)

yes ▼ no not known

prescribed over-the-counter complementary

14. If the patient has been prescribed a fixed-dose combination product, was it the first antihypertensive therapy prescribed?

yes no not known

15. If the patient has been prescribed a fixed-dose combination what was the main reason(s) for prescribing the combination product?

- BP not controlled on monotherapy patient request effective combination where 2 drugs required not applicable
 patient adherence cost to the patient not known other _____

Planned actions

16. What action(s) will you take for this patient as a result of this audit?

- none alter target BP alter dose of antihypertensive drugs
 assess/re-assess cardiovascular risk continue current management cease prohypertensive drug(s)
 review patient adherence cease an antihypertensive drug(s) specialist referral
 alter management of risk factors add another antihypertensive drug(s) other _____