

# Barns Medical Practice Service Specification Primary Prevention

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## Introduction

The term Primary Prevention of Cardiovascular disease encompasses all interventions intended to reduce the risk of heart attack or stroke in people who are not known to have pre-existing C.V. disease.

Broadly speaking these interventions fit into 4 categories. It is not unusual for people with high cardiovascular risk and bad family histories to have several of these features known as the Metabolic Syndrome or Syndrome X

1. Control of Blood Pressure
2. Control of lipids (cholesterol)
3. Control of blood glucose
4. Lifestyle modification

Asymptomatic individuals should be considered at high risk if they have been assessed as having a >20% risk of a first cardiovascular event within 10 years. Currently we use ASSIGN scoring to identify this in Barns Medical Practice.

### 1. Lifestyle Modification:

All patients can benefit from programmes to encourage behavioural change. These include:

- a. Smoking cessation: all patients should be actively discouraged from smoking - repeated brief supportive advice, combined with nicotine replacement therapy when needed.
- b. Keep total dietary intake of fat to a maximum of 30% of total energy intake, with intake of saturated fats 10% or less of total fat intake and the intake of dietary cholesterol to less than 300 mg/day. Saturated fats should be replaced with an increased intake of monounsaturated fats.
- c. Consumption of fresh fruit and vegetables should be increased to at least five portions per day. A Mediterranean diet has been shown to reduce mortality. Regular intake of fish (twice a week) and at least one of those to be oily fish.
- d. Limit the intake of salt to less than 100 mmol/L per day (less than 5 g of salt per day).

- e. Alcohol consumption should be limited. Men and women are advised not to drink more than 14 units per week.
- f. Patients should be encouraged to exercise regularly:
  - i. Exercise training has been shown to slow the progression or partially reverse the severity of coronary atherosclerosis.
  - ii. Aerobic exercise can modify all the components of the metabolic syndrome with a decrease in blood pressure and triglycerides, increase in HDL, and an improvement of insulin sensitivity.
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  - iv. Physical activity of at least moderate intensity is recommended for the whole population and should be encouraged to minimise the amount of time spent sedentary over extended periods.

Weight control:

- v. Overweight patients should be encouraged to lose weight through a combination of diet and exercise.
- vi. Maintain an ideal body weight for adults (body mass index 20-25 kg/m<sup>2</sup>) and avoid central obesity (waist circumference in white Caucasians less than 102 cm (40 inches) in men and less than 88 cm (circa 34½ inches) in women); in Asians, the recommended targets are less than 90 cm (35 inches) in men and less than 80 cm (circa 31½ inches) in women.

2. Blood pressure management:

The optimal blood pressure target is less than 145 mm Hg systolic and less than 85 mm Hg diastolic.

In selected higher-risk people (eg, established atherosclerotic disease, diabetes, and chronic kidney disease) a lower blood pressure target of less than 130 mm Hg and less than 80 mm Hg may be more appropriate.

Individuals with clinical evidence of cardiovascular disease and sustained clinical systolic BP greater than 140mm Hg and /or diastolic BP greater than 90 mmHg should be offered BP lowering medication

3. Lipid management:

Diets low in saturated fats should be recommended to all for the reduction of cardiovascular disease. The optimal total cholesterol target is less than 4.0 mmol/L and low-density lipoprotein (LDL) cholesterol less than 2.0 mmol/L, or a 25% reduction in total cholesterol and a 30% reduction in LDL cholesterol, whichever gets the person to the lowest absolute value.

4. Blood glucose Management:

Patients with Impaired Fasting Glycaemia (a fasting blood glucose between 6.1 to 6.9 mmol/L and a blood glucose of less than 7.8 mmol/L after a two-hour oral Glucose Tolerance Test) and with Impaired Glucose Tolerance (a fasting blood glucose of less than 7 mmol/L and a blood glucose of 7.8 mmol/L or more but less than 11.1mmol/L after a two-hour oral Glucose Tolerance Test or an HbA1c less than 49 mmol/mol should be monitored annually for the development of diabetes but there is insufficient evidence to advise treatment other than with lifestyle modification.

## Diagnosis of High Risk and Hypertension

In considering diagnosis, there are 3 main diagnoses to be considered. Those of patients who would benefit from intervention to reduce their overall risk of CV disease, those with hypertension and those with impaired glucose metabolism. The latter is dealt with in another service specification. While patients may well have both of the first 2 diagnoses, they could have one or the other and so these are considered separately

Barns Medical Practice aim to offer patients between the ages of 45 and 75 screening of their Blood Pressure (BP) every 5 years and those above the age of 75 are offered screening annually. Screening may also be offered to those considered at higher risk such as patients with positive family history of CV disease (1<sup>st</sup> degree male relative under 55 or female under 65 affected) and they may be found opportunistically but patients are encouraged to discuss this with us if they have any concerns. It should be noted that patients can be at significant risk without having hypertension and if high risk is suspected, the process of assessing risk should be invoked.

There are a number of CV risk scoring tools but currently BMP uses the ASSIGN score which considers the following factors:

- age (being older)
- sex (being a man)
- where you live (higher risk in poor neighbourhoods)
- family history (relatives who have or had coronary disease or stroke)
- diabetes mellitus (person has sugar diabetes)
- cigarette smoking
- the blood pressure reading
- the blood total cholesterol reading – mainly 'bad cholesterol'
- the blood HDL-cholesterol

The ASSIGN score estimates the percentage risk of developing CV disease over the next 10 years. There has been recent (2014) controversy over the level of risk which requires intervention but 20% is considered to be high risk.

## Management of New Raised Blood Pressure Readings

- If the clinic blood pressure is 140/90 mmHg or higher, after repeating 3 times including one after sitting for 5 minutes offer ambulatory blood pressure monitoring (ABPM) to confirm the diagnosis of hypertension.
- When using ABPM to confirm a diagnosis of hypertension, ensure that at least two measurements per hour are taken during the person's usual waking hours (for example, between 08:00 and 22:00).
- When using home blood pressure monitoring (HBPM) to confirm a diagnosis of hypertension, ensure that:  
For each blood pressure recording, two consecutive measurements are taken, at least 1 minute apart and with the person seated and blood pressure is recorded twice daily, ideally in the morning and evening and blood pressure recording continues for at least 4 days, ideally for 7 days.

Discard the measurements taken on the first day and use the average value of all the remaining measurements to confirm a diagnosis of hypertension. ((NICE,2011)

Only if a person is unable to tolerate ABPM is home blood pressure monitoring (HBPM) a suitable alternative to confirm the diagnosis of hypertension. If the person has severe hypertension, consider starting antihypertensive drug treatment immediately, without waiting for the results of ABPM or HBPM.

## ***CLINICAL PROCEDURES INCLUDING APPOINTMENTS ONCE NEED TO CALCULAR RISK IS DETERMINED***

### *STEP 1*

A 20 minute appointment with Health Care Assistant (HCA) or nurse if unavailable.

- If BP is elevated 140/90 or above; Ambulatory BP Monitor fitted and instructed on its use
- Fasting Glucose, Lipids, U&Es, LFTs
- Urinalysis
- Smoking Status
- Arrange a clinician message slot for results ideally messaging the person who asked for test unless unavailable.

### *STEP 2*

The GP or nurse practitioner will assess the result of ABPM

- **Stage 1 hypertension** Clinic blood pressure is 140/90 mmHg or higher **and** subsequent ambulatory blood pressure monitoring (ABPM) daytime average or home blood pressure monitoring (HBPM) average blood pressure is 135/85 mmHg or higher.
- **Stage 2 hypertension** Clinic blood pressure is 160/100 mmHg or higher **and** subsequent ABPM daytime average or HBPM average blood pressure is 150/95 mmHg or higher.
- **Severe hypertension** Clinic systolic blood pressure is 180 mmHg or higher **or** clinic diastolic blood pressure is 110 mmHg or higher.
- **Code Essential hypertension #G20 with priority 1 and create problem.**
- Arrange follow up with nurse prescriber
- If result negative (S)he will inform administrative staff to telephone patient, and give instruction on suitable follow up. If hypertension is not diagnosed but there is evidence of target organ damage such as left ventricular hypertrophy, albuminuria or proteinuria, consider carrying out investigations for alternative causes of the target organ damage. If hypertension is not diagnosed, measure the person's clinic blood pressure at least every 5 years subsequently, and consider measuring it more frequently if the person's clinic blood pressure is close to 140/90 mmHg.

### STEP 3

The nurse prescriber will be given a 20 minute appointment to complete

- Perform 12 lead ECG
- Record ASSIGN Score
- Lifestyle Advice -Advice re. Lifestyle modifications including smoking cessation, diet and exercise advice. Record and discuss alcohol consumption, caffeine and sodium intake. See appropriate specifications.
- Exercise Screen using SCOT-PASQ
- Initiate the Prescription
- Offer antihypertensive drug treatment to people aged less than 80 years with stage 1 hypertension who have one or more of the following:
  - target organ damage
  - established cardiovascular disease
  - renal disease
  - diabetes
  - A10-year cardiovascular risk equivalent to 20% or greater using ASSIGN score.
- Offer antihypertensive drug treatment to people of any age with stage 2 hypertension.

- For people aged less than 40 years with stage 1 hypertension and no evidence of target organ damage, cardiovascular disease, renal disease or diabetes, consider seeking specialist evaluation of secondary causes of hypertension and a more detailed assessment of potential target organ damage. This is because 10-year cardiovascular risk assessments can underestimate the lifetime risk of cardiovascular events in these people. (NICE,2011)

## Treatment of Hypertension

### *Step 1 treatment*

Offer people aged less than 55 years step 1 antihypertensive treatment with an angiotensin-converting enzyme (ACE) inhibitor e.g. Ramipril. If an ACE inhibitor is not tolerated (for example, because of cough), offer a low-cost angiotensin-II receptor blocker (ARB) e.g. Candesartan. Do not combine an ACE inhibitor with an ARB to treat hypertension.

To people aged over 55 years and to black people of African or Caribbean family origin of any age, offer a calcium-channel blocker (CCB) e.g. amlodipine. If a CCB is not suitable, for example because of oedema or intolerance, or if there is evidence of heart failure or a high risk of heart failure, offer a thiazide-like diuretic.

If diuretic treatment is to be initiated or changed, offer a thiazide-like diuretic, indapamide 2.5 mg once daily in preference to a conventional thiazide diuretic such as bendroflumethiazide. For people who are already having treatment with bendroflumethiazide and whose blood pressure is stable and well controlled, continue treatment with the bendroflumethiazide.

Beta-blockers are not a preferred initial therapy for hypertension. However, beta-blockers may be considered in younger people, particularly:  
those with an intolerance or contraindication to ACE inhibitors and angiotensin II receptor antagonists or  
women of child-bearing potential or  
people with evidence of increased sympathetic drive.

If therapy is initiated with a beta-blocker and a second drug is required, add a calcium-channel blocker rather than a thiazide-like diuretic to reduce the person's risk of developing diabetes.

### *Step 2 treatment*

If blood pressure is not controlled by step 1 treatment, offer step 2 treatment with a CCB in combination with either an ACE inhibitor or an ARB. If a CCB is not suitable for step 2 treatment, for example because of oedema or intolerance, or if there is evidence of heart failure or a high risk of heart failure, offer a thiazide-like diuretic.

For black people of African or Caribbean family origin, consider an ARB in preference to an ACE inhibitor, in combination with a CCB.

### *Step 3 treatment*

Before considering step 3 treatments, review medication to ensure step 2 treatment is at optimal or best tolerated doses.

If treatment with three drugs is required, the combination of ACE inhibitor or angiotensin II receptor blocker, calcium-channel blocker and thiazide-like diuretic should be used.

### *Step 4 treatment*

Regard clinic blood pressure that remains higher than 140/90 mmHg after treatment with the optimal or best tolerated doses of an ACE inhibitor or an ARB plus a CCB plus a diuretic as resistant hypertension, and consider adding a fourth antihypertensive drug and/or seeking expert advice.

For treatment of resistant hypertension at step 4:

Consider further diuretic therapy with low-dose spironolactone (25 mg once daily)-if the blood potassium level is 4.5 mmol/l or lower. Use particular caution in people with a reduced estimated glomerular filtration rate because they have an increased risk of hyperkalaemia.

Consider higher-dose thiazide-like diuretic treatment if the blood potassium level is higher than 4.5 mmol/l.

When using further diuretic therapy for resistant hypertension at step 4, monitor blood sodium and potassium and renal function within 1 month and repeat as required thereafter.

If further diuretic therapy for resistant hypertension at step 4 is not tolerated, or is contraindicated or ineffective, consider an alpha- or beta-blocker.

If blood pressure remains uncontrolled with the optimal or maximum tolerated doses of four drugs, seek expert advice if it has not yet been obtained.

## **Treatment of Lipids**

As a rule, no matter what your cholesterol level is, lowering the level reduces your risk. This is why people at high risk of developing a cardiovascular disease are offered medication to lower their cholesterol level. All patients with an ASSIGN risk of over 20% should be offered simvastatin 40mg once daily. In those who are intolerant of this a lower dose (10-20mg) or an alternative statin can be offered.

## **Regular Review**

1. Patients will be invited to attend for annual review in the month of their birthday.

2. Computer search will be run monthly
3. These patients will receive 3 letters to attend for review.
4. Patients will be advised to attend between annual reviews at 6 months for BP checks once stabilised on medication.
5. Opportunistic BP monitoring will be ongoing in response to computer triggers at other consultations

## Assessment

Smoking status, refer to smoking cessation clinic if smoker  
Diet (weight, height, BMI), low fat diet  
Exercise  
Medications  
Alcohol consumption  
Discuss salt intake  
Offer lifestyle advice and record

## Vital signs

Blood pressure < 140/85 (See Appendix 1)  
Pulse

## Blood monitoring

U+Es, glucose, lipids, LFT if on statin.

## Urine testing

Protein

## Resources for Staff and or Patients

Practice specific information  
Internet information e.g. Patients.co.uk

## Staff involved and training required

Medical Practitioners  
Independent prescribing nurses and pharmacist  
Health Care Assistant: BP monitoring, blood sampling, 24 Hr BP procedure, ECG procedure, annual review procedure,



## **Advertising of service to patients**

Details of this service will be available on the practice website.  
Patients will be advised of the service at the point of diagnosis.