trust clinical guideline

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Clinical Publication Category	**Guidance (Green) - Deviation permissible; Apply clinical judgement**

1. Scope

1.1 This clinical guideline covers the management of patients who present with incidental findings of undiagnosed asymptomatic atrial fibrillation or blood pressure measurements which may indicate high blood pressure.

2. Background and Definitions

2.1 Hypertension

2.1.1 Hypertension is a major risk factor for stroke (ischaemic and haemorrhagic), myocardial infarction, heart failure, chronic kidney disease, peripheral vascular disease, cognitive decline and premature death. High blood pressure is the single biggest risk factor for experiencing a stroke; 40% of ischaemic strokes could be prevented by the timely identification and treatment of hypertension.[1] Untreated hypertension is associated a progressive rise in blood pressure, often culminating in a treatment resistant state due to associated vascular and renal damage.

2.1.2 The prevalence of hypertension increases with age from 30% in people aged 45-54 years, to 70% in those aged 75 years or older.[2] Hypertension is a silent disease, which is often not recognised by patients as symptoms are frequently absent; few develop the consequences of their hypertension until a very late stage. The recognition and management of hypertension therefore remains suboptimal for a significant proportion of patients; within the UK it is estimated that only 20% of men and 30% of women receive appropriate treatment for their condition.[3]

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2.2 Atrial Fibrillation

2.2.1 Atrial fibrillation (AF) occurs when rapid disorganised electrical signals in the atria depolarise small islets of atrial myocardium, rather than the atrium as a whole. This causes the atria to contract in a rapid, irregular, and uncoordinated fashion (fibrillation). As a result, blood pools in the atria and is not pumped effectively into the ventricles. The function of the atria and ventricles is no longer coordinated and the atrial contribution to cardiac output is lost, leading to a 10-20% reduction in output.

2.2.2 Although fibrillation may occur at approximately 400 to 700 beats per minute in the atria, the rate limited AV-node only transmits a fraction of the impulses. Although the heart rate may be bradycardic or within normal range, rates of up to 180 beats per minute can occur. The incredibly high number of stimuli at the AV junction causes irregular conduction of the impulses, producing an irregularly irregular heart rate. Atrial fibrillation can lead to a wide range of complications including palpitations, syncope, angina, chronic heart failure, TIA, stroke and systemic arterial emboli.[4]

2.2.3 Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia in the UK. It is associated with a five-fold increase in the risk of stroke,[5] with approximately one quarter of all people experiencing a stroke presenting with the arrhythmia. The overall annual incidence of strokes attributable to AF increases from 1.5% at age 50-59 years to 23.5% at age 80-89 years.[6] Atrial fibrillation is currently both under-recognised and under-treated, as many patients remain asymptomatic. The causes of AF are detailed in Table 1.

2.2.4 Table 1 - Causes of Atrial Fibrillation

Cardiac causes	Non-Cardiac Causes
▲ ischaemic heart disease	▲ acute infections
▲ rheumatic heart disease	▲ (especially pneumonia)
▲ hypertension	▲ electrolyte depletion
▲ sick sinus syndrome	▲ lung carcinoma
▲ pre-excitation syndromes (e.g. Wolff-Parkinson-White)	▲ other intrathoracic pathology (e.g. pleural effusion)
▲ cardiomyopathy or heart	▲ pulmonary embolism

Cardiac causes	Non-Cardiac Causes
▲ muscle disease	▲ thyrotoxicosis
▲ pericardial disease	
▲ atrial septal defect	
▲ atrial myxoma	

2.2.5 AF is classified according to the pattern of episodes:[4]

- ▲ Paroxysmal AF - Episodes that last longer than 30 seconds but less than 7 days (often less than 48 hours), are self-terminating and recurrent;
- ▲ Persistent AF - Episodes lasting longer than 7 days (spontaneous termination of the arrhythmia is unlikely to occur after this time);
- ▲ Permanent AF - AF that fails to terminate using cardioversion, or is terminated but relapses within 24 hours, or longstanding AF (usually longer than 1 year) in which cardioversion has not been indicated or attempted (sometimes called accepted permanent AF).

3. Guidance

3.1 Screening for Potential Hypertension

3.1.1 As all patients will have at least one and often multiple blood pressure measurement taken during their examination, screening effectively occurs during routine assessment.

3.1.2 Although clinicians frequently take blood pressure measurements as part of normal clinical practice, the technique used may not follow NICE[7] and European Hypertension Society guidelines.[8] In order to obtain accurate readings, clinicians must follow the guidance detailed within the SOP Measuring Blood Pressure.

3.1.3 Hypertension is defined as either a systolic reading over 140 mm Hg or diastolic over 90 mm Hg. In diabetic patients a lower definition of 130/80 mmHg is used.[7] Apply the following practice:

- ▲ If the first blood pressure reading exceeds 140/90mmHg (or 130/80 for diabetics), a second reading should be obtained. Wait for at least five minutes before repeating the test and try to encourage the patient to relax;
- ▲ If the second reading remains above 140/90mmHg (or 130/80mmHg for diabetics), then the referral guidelines in Table 2 should be followed;
- ▲ If the second measurement is substantially different from the first, take a third measurement. If the lower of the last two measurements is above 140/80mmHg (or 130/90mmHg for diabetics) follow the referral guideline in Table 2.

3.1.4 Table 2 - Blood Pressure Referral Guidelines:

Blood pressure reading	Symptoms	Management
> 140/90 mm Hg > 130/80 mm Hg if diabetic	Incidental finding with no adverse symptoms.	▲ Patient does not require acute hospital attendance ▲ Complete GP referral letter or follow local GP notification procedure e.g. SPoA to book a GP appointment during the next 7 days.
> 180/110 mmHg	Incidental finding and no adverse symptoms (asymptomatic)	▲ Patient must be considered for the immediate commencement of antihypertensive medicines. ▲ Contact patient's GP (in-hours) or OOH GP to discuss findings to agree a care plan, which should include review by their GP during the same or next working day. ▲ If unable to contact a Doctor consider same day hospital admission. Where available contact hospital medical assessment line to agree the most appropriate pathway for the admission.
> 180/110 mmHg	Red Flags: ▲ Headache ▲ Palpitations ▲ Pallor ▲ Diaphoresis ▲ If able to perform ophthalmoscopy: ▲ Papilloedema ▲ Retinal haemorrhage	▲ Patient requires conveyance to hospital. ▲ Where available contact hospital medical assessment line to agree most appropriate pathway for the admission. ▲ Convey to Emergency Department if no suitable alternative acute hospital destination can be agreed.

3.1.5 If Conveyance to hospital is required for other reasons, ensure that hypertension is documented on PCR and included in the clinical handover to the Emergency Department clinician.

3.1.6 Patients should not be informed that they have hypertension, but advised that the reading indicates that they need to have a follow up blood pressure assessment with their GP.

3.2 Screening for Atrial Fibrillation

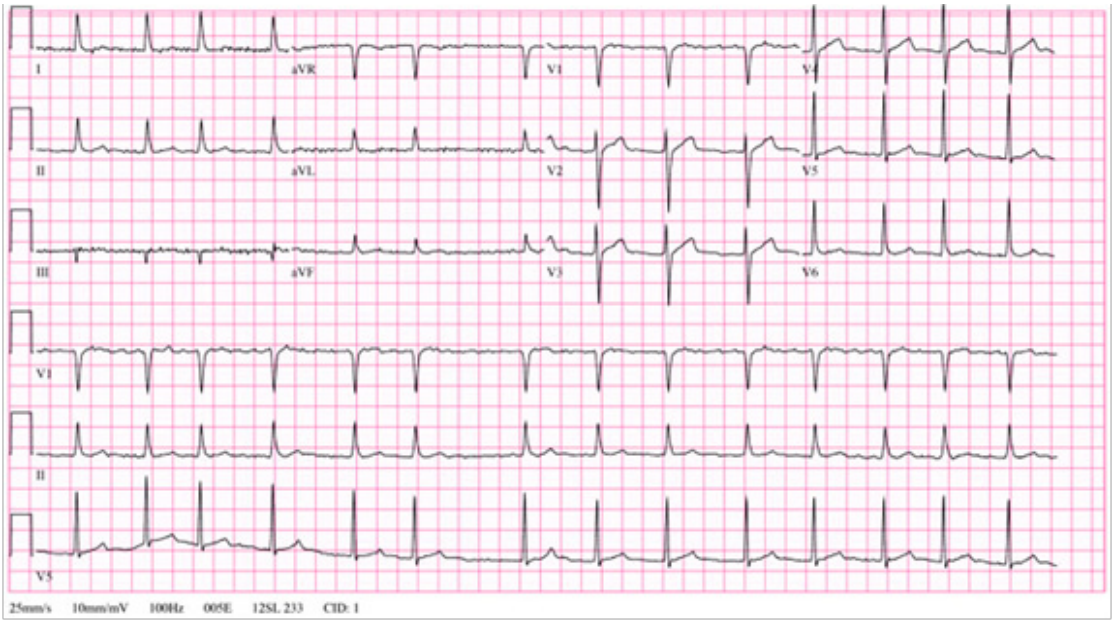
3.2.1 Atrial fibrillation will potentially be detected during the routine palpation of the pulse as part of the standard patient assessment. Evidence demonstrates that the presence of an irregular pulse is sensitive to the presence of AF.[4]

3.2.2 NICE guidance recommends that an ECG should be performed in all patients, whether symptomatic or not, in whom AF is suspected because of an irregular pulse.[4]

3.2.3 The following guidance may assist with the recognition of AF on the ECG, with an example detailed in Figure 1:

- If atrial fibrillation is present, the ECG will show no P-waves, a chaotic baseline, and irregularly irregular QRS complexes.
- The ventricular rate may be 160-180 beats per minute, causing adverse symptoms. A lower ventricular rate is frequently found in people who are asymptomatic.
- The ventricular complexes look normal unless there is a ventricular conduction defect.
- Subtle irregularities can be identified by placing a sheet of paper along the top of the ECG and marking the position of a number of R waves. If the ECG is irregularly irregular, the markers on the sheet of paper will not match others when moved along the ECG tracing.

3.2.4 Figure 1 - AF ECG Example



3.2.5 If the pulse is irregular and the ECG confirms AF, the guidance detailed in Table 3 should be used to support the decision making process.

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3.2.6 Table 3 - AF referral Options

Presentation	Action
Atrial fibrillation - asymptomatic	▲ Complete GP referral letter or follow local GP notification procedure e.g. SPoA, to book a GP appointment during the next working day. ▲ If able to print ECG, provide patient/ carer with copy to take to GP.
Atrial fibrillation - symptomatic with any of the following present:[45] ▲ Weakness ▲ Dizziness ▲ Fatigue No emergency red flags present.	▲ Consider discussing case with patients GP, where available. ▲ Consider conveyance, or arrange same day hospital admission.
Atrial fibrillation – symptomatic with any of the following emergency red flags present: ▲ Altered mental status ▲ Loss of consciousness ▲ Hypotension ▲ Chest pain ▲ ECG changes indicative of myocardial ischaemia or infarction ▲ Dyspnoea ▲ Hypoxia ▲ Palpitations	▲ Patient requires acute hospital assessment. ▲ Treat in accordance with presenting complaint e.g. STEMI care pathway

3.2.7 If Conveyance to hospital is required for other reasons, ensure that AF is documented on PCR and included in the clinical handover to the Emergency Department clinician.

4. Incident Closure

4.1 Patients not requiring conveyance to hospital must be provided with a copy of the PCR and the appropriate patient information leaflet.

5. Documentation

5.1 In line with Trust Policy, a Patient Clinical Record must be completed and annotated appropriately. Any deviation from this clinical guideline must be recorded, with any potential or actual adverse event reported through the incident reporting system.

5.2 When screening is delivered as part of either the Know your Blood Pressure or Health Check programs the appropriate specific form for the program should be used, with a PCR only required if conveyance to hospital is necessary.

6. References

1. World Health Organisation/International Society of Hypertension (2003) Statement on the management of hypertension. WHO/ISH.

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