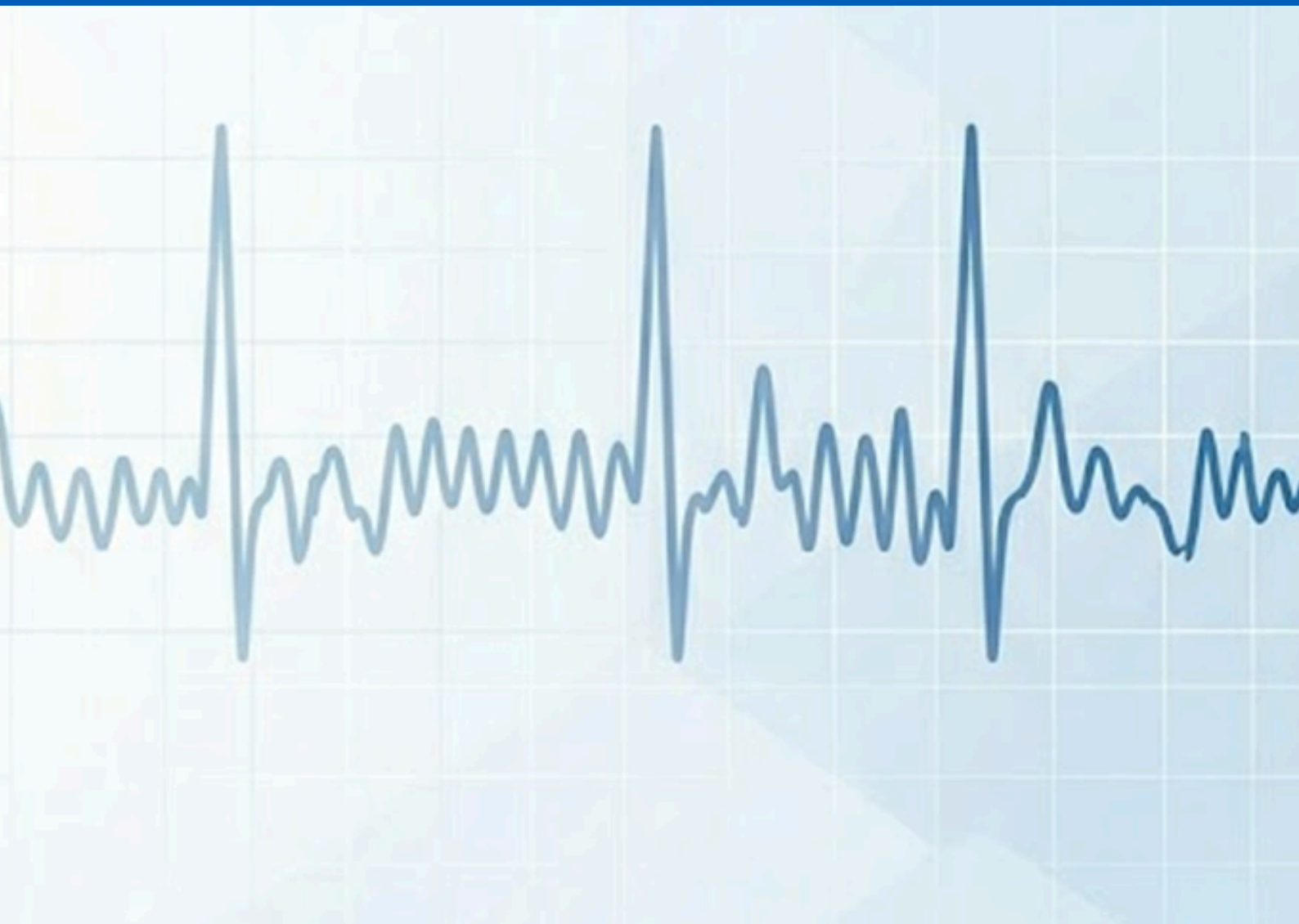
NHS England

GIRFT
GETTING IT RIGHT FIRST TIME

Management of Atrial Fibrillation (AF) at Preoperative Assessment

A guide for the management of known, newly diagnosed and uncontrolled Atrial Fibrillation

April 2026



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Summary

The Getting It Right First Time (GIRFT) programme has recognised through provider feedback, both via the preoperative assessment (POA) non-medical network and on-site reviews, that there is unwarranted variation and challenges in preoperative screening and diagnostic pathways.

This can delay elective surgery, especially if there is a short time interval between POA and the to-come-in (TCI) date. Specifically, unwarranted variation in preoperative screening and diagnostic pathways can result in postponements being made at POA, as well as on-the-day cancellations.

Furthermore, while NICE[1] guidance on preoperative testing is readily available, additional practical guidance is needed to standardise practice operationally across provider sites. Atrial fibrillation is one such area of unwarranted variation where it has been identified that additional guidance is required.

This guide forms part of a wider series developed by the GIRFT programme, designed to support providers in streamlining their preoperative screening and diagnostic pathways. The overarching aim is to enhance the perioperative pathway by ensuring diagnostic testing is appropriately targeted, in accordance with current guidance and evidence. By adopting these principles, providers can help prevent unnecessary postponements and avoidable on-the-day cancellations, thereby improving patient flow and overall surgical outcomes.

Who should read this guide?

This document is to inform POA teams (both medical and non-medical) concerned with the management of atrial fibrillation (AF).

What is the guide's aim?

The guide aims to provide a pragmatic approach to the management of AF during POA and has been co-authored with the GIRFT clinical leads for cardiology and other stakeholders to ensure alignment with existing guidance. It aids decision-making for POA services for treatment and escalation in addition to the use of appropriately targeted testing. It provides guidance for three groups of patients or scenarios in which AF may present:

- patients with known and controlled AF;
- patients with known and uncontrolled AF;
- patients with newly diagnosed AF (controlled or uncontrolled).

[1] Overview | Routine preoperative tests for elective surgery | Guidance | NICE

Introduction

Overview

Atrial fibrillation (AF) is the most common sustained cardiac arrythmia, with an estimated prevalence in adults of 2-4%[2]. The presence of AF increases with age. An irregular heart rate, which may be abnormally fast or slow, is likely to lead to reduced ventricular filling and cardiac output. The most common causes of AF are:

- ischaemic heart disease
- hypertension
- valvular heart disease
- heart failure
- hyperthyroidism
- obstructive sleep apnoea
- obesity.

Other causes include acute infection, electrolyte disorders, chronic obstructive airways disease, pulmonary embolism, excessive alcohol and congenital heart disease.

Patients presenting for surgery with either pre-existing or newly diagnosed AF are at increased risk of complications and adverse outcomes, particularly related to thromboembolism leading to stroke, heart failure and even death. It is important to assess the level of risk before planned elective surgery and offer advice and/or treatment based on the current national and international guidance, including from the GIRFT programme's cardiology workstream[3][4] and the European Society of Cardiology[5].

Patients may present with atrial fibrillation (AF) in three main ways during preoperative assessment. It is also important to understand the various subtypes of AF for clinical history purposes, as these can influence management. The practical response to AF at preoperative assessment is then largely determined by whether the AF is previously known and how well it is controlled. The following subsections explore these considerations and their implications in greater detail.

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[2] Prevalence | Background information | Atrial fibrillation | CKS | NICE

[3] Atrial Fibrillation Pathway April 2025 FINAL - Getting It Right First Time - Futures

[4] Palpitation Pathway 060525.drawio (1).drawio.pdf

[5] 2024 ESC Guidelines for the management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS): Developed by the task force for the management of atrial fibrillation of the European Society of Cardiology (ESC), with the special contribution of the European Heart Rhythm Association (EHRA) of the ESC. Endorsed by the European Stroke Organisation (ESO) | Oxford Academic

Ways in which AF may present at preoperative assessment

When patients attend POA, there are multiple scenarios where you may confirm or suspect AF:

Presentation	Description
Known AF	Patients may tell you that they have AF or you may have seen a previous diagnosis in their health record. If AF is not present on your examination, there may be previous evidence of paroxysmal AF from a previous medical history and treatment will usually have been decided on between patient and GP
Suggested undiagnosed AF	Clinical history might suggest symptomatic AF (erratic or fast heart rate alongside other clinical symptoms) but with no confirmation on testing
Confirmed newly diagnosed AF	Confirmed AF from diagnostic testing (electrocardiogram - ECG)

Clinical subtypes of AF

Once AF has been confirmed or suspected, there are three main types relevant to POA. Preoperative evaluation and assessment at POA are essential to identify the correct patient pathway for review and treatment for all these types, and the most important messages from our guidance are not affected by which subtype a patient has. However, understanding the types is important to identify the patient's status and clinical history.

In particular, the different types of atrial fibrillation – permanent, persistent and paroxysmal – do not present uniformly during investigations, and this affects perioperative decision-making, as described below.

Patients with paroxysmal AF move in and out of the arrhythmia rapidly, meaning an ECG taken at assessment may not capture it, even when the patient's symptom history strongly suggests AF. Ambulatory monitoring or wearable device monitoring may be used in this scenario. In contrast, persistent and permanent AF will be visible on ECG at the time of assessment.

These AF types therefore highlight the need for high quality clinical history taking and reinforces that symptomology may be the only indicator of AF in certain cases (see table below).

Type of AF	Description
Paroxysmal AF	Episodes that come and go spontaneously and are self-limiting. Not always present on clinical testing and may be defined by patient symptoms.
Persistent AF	Described by an episode that lasts for longer than seven days (or less when treated).
Permanent AF	When present continuously and where there is a no further planned treatment to restore the rhythm back to sinus rhythm.

Main AF scenarios at preoperative assessment

There are three main scenarios for AF at POA. Each requires different responses so the guidance in this document is arranged around them separately. This typology ensures that clinical advice is both relevant and practical for the distinct risks and needs associated with each group.

Structuring the guidance in this way enables prompt progression for patients who are stable and well-managed, while ensuring that those with uncontrolled or newly detected atrial fibrillation receive the necessary review and optimisation before proceeding. It also ensures avoidance of further diagnostic tests that will not inform risk but will potentially delay a patient pathway.

Known and controlled atrial fibrillation

Patients with known and controlled atrial fibrillation (controlled defined as <110bpm within the context of perioperative care) have a clearly established diagnosis and documented rate control. For these individuals, if they are clinically well, surgery should generally proceed without delay. The focus for this group is confirming stability and ensuring anticoagulation is managed in line with local policy, rather than initiating new investigations.

Known but uncontrolled atrial fibrillation

Uncontrolled AF is where the patient feels symptomatic and/or has a fast heart rate beyond acceptable levels for anaesthesia and surgery. These patients require a more considered approach because adequate rate control management before surgery and anaesthesia is desirable. These cases require escalation to a senior decision-maker to determine whether

further optimisation is needed before surgery. The intention is to ensure safe decision-making while avoiding unnecessary delays.

Newly diagnosed atrial fibrillation (controlled or uncontrolled).

Patients with newly diagnosed atrial fibrillation require additional assessment because the heart rate variability, underlying cardiac function, and other aspects of management need to be understood before proceeding to surgery.

Diagnosis

New AF is likely suspected from a well-taken clinical history from and examination of the patient and is diagnosed by ECG. Patients may or may not have symptoms of AF. If patients have symptoms, these may include:

- palpitations
- dizziness and syncope
- fainting
- chest pain
- breathlessness
- reduced function
- tiredness.

For asymptomatic patients, the 12 lead ECG may be the first observation that a patient has new AF. POA teams should have the basic skills or pathways for referral to identify abnormal arrhythmias such as AF on an ECG.

Alternative diagnoses and safety considerations

Patients who are clinically unwell should be treated urgently and escalated to emergency pathways of care. These include patients with:

- **Haemodynamic instability**
- **AF with rapid ventricular response (>150bpm)**
- **Signs/symptoms of a reversible cause (e.g. acute infection)**
- **Signs of Congestive Cardiac Failure**

Best practice management of AF at preoperative assessment

The following sections set out the key messages and principles for best practice in the management of atrial fibrillation (AF), tailored to each cohort of patients. Alongside these principles, diagrams are provided as decision tools, and illustrative scenarios exemplify how patients may present within each cohort during preoperative assessment. These scenarios offer practical insight into typical presentations of AF in the POA setting, demonstrating recommended management strategies in line with the guidance outlined above. Longer term management of AF after surgery will be likely be decided by primary care and potential referral to cardiology for expert advice.

Please note: patients can still arrive on the day of admission in new AF which can result in surgical cancellation. These patients will also need onward referral for management.

AF – known, rate controlled and patient clinically well

Surgery should not be delayed for clinically well patients with known, rate-controlled AF (including a history of AF).

Other important practices for this group:

- ✓ Document history of AF along with any current treatment or previous/planned interventions (e.g., previous ablation). Current treatment regimens may target rate control with use of a cardio selective beta-blocker, digoxin, diltiazem usually combined with treatment to prevent thromboembolism (e.g. direct acting anticoagulant - DOAC). Whether the patient requires anticoagulation will vary depending on individual patient risk factors and CHA_2DS_2-VA score (see appendix 1).
- ✓ Confirm AF (where possible) on subsequent ECG which can demonstrate rhythm and suggest adequate rate control.
- ✓ POA teams should refer to local guidelines for anticoagulation management when patients are prescribed anticoagulant therapy and need to stop before surgery.
- ✓ Patients for low/intermediate surgical procedures with known and controlled AF should proceed to surgery and be managed by the non-medical teams at POA (where there are no other clinical concerns).

Example clinical scenario

Patient X comes to the POA clinic with a previously confirmed diagnosis of AF and is listed for urgent urology surgery. On clinical assessment, an ECG shows that the patient has well controlled AF, a rate of 62 beats per minute (bpm) and is clinically well. **This is known and controlled AF.** A medication review shows they are on a beta blocker and anticoagulant. The patient will not require any additional review or diagnostics regarding the management of AF unless there are any other cardiology or patient concerns.

AF – known and uncontrolled (with or without symptoms)

Patients with known and uncontrolled AF should be escalated to a senior decision maker where further considerations relating to:

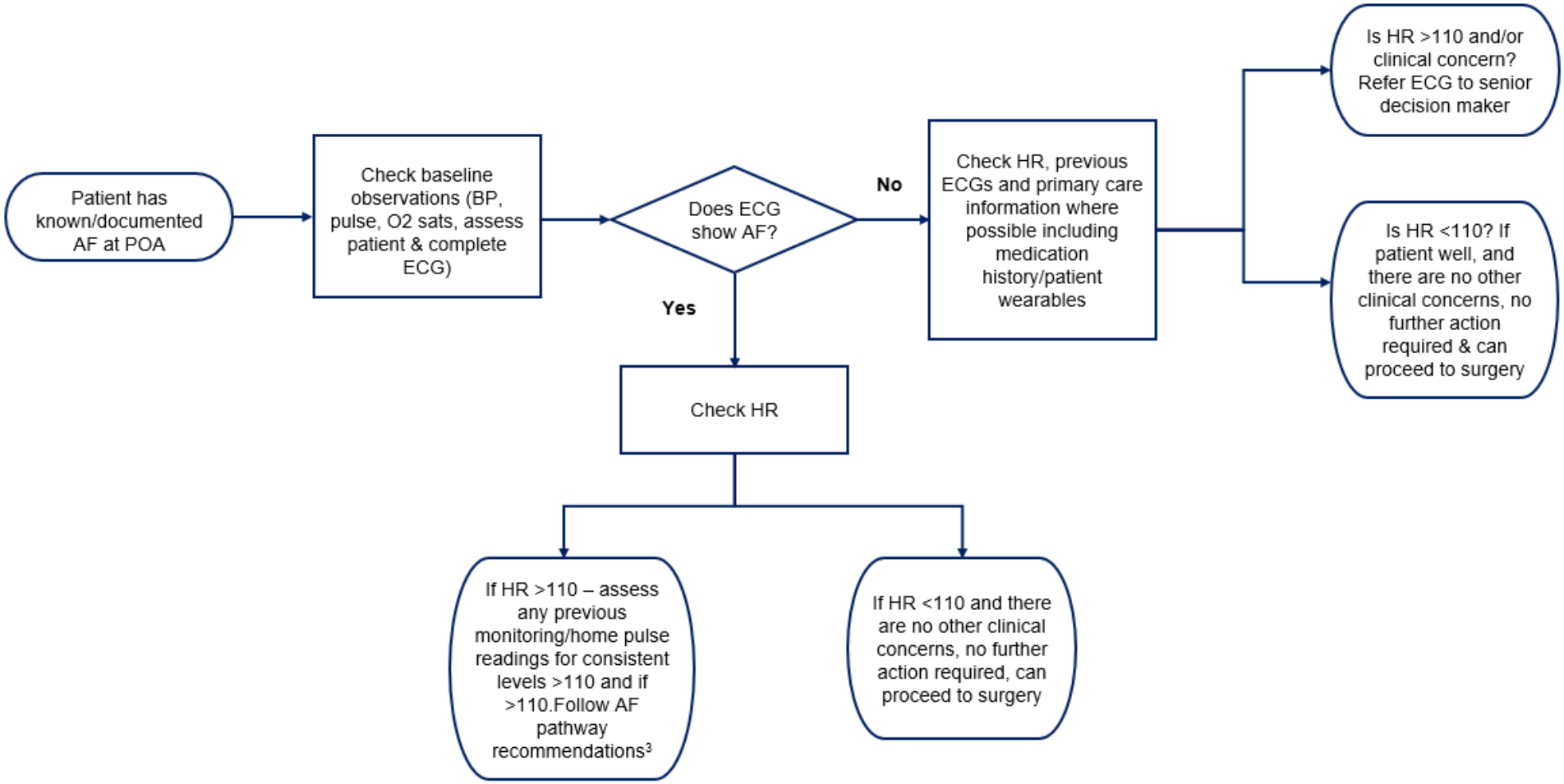
- ✓ **the urgency and risk of delaying surgery**
- ✓ **the optimal treatment time to reduce heart rate and manage symptoms**
- ✓ **and the accessibility for advice and referral for ongoing management.**

The process for escalation is provided in the decision tool below. It is important to check any previous monitoring (both via primary care and from patient to establish if the HR is consistently higher than 110bpm).

Example clinical scenario

Patient Y comes to the POA clinic for routine hernia repair with a previously documented history of AF and on regular medication. On assessment, they are clinically well. An ECG shows a HR of 115bpm. **This is known and uncontrolled AF.** It is important to check any previous monitoring (both via primary care and from patient to establish if the HR is consistently higher than 110bpm). The patient may require additional treatment and asking the patient about medication compliance is advised. The patient will require review by a senior decision maker before surgery to look at optimising the rate control.

Figure 1. Process map for management of patients with known AF at preoperative assessment



Please note that where the rate is <50bpm and the patient is not on a rate reducing medication, patients should be escalated to a senior decision maker.

AF – newly diagnosed at POA (controlled or uncontrolled)

Patients with newly diagnosed AF should be referred to a senior decision maker for review and further management using the AF pathway for management and treatment.

Patients with newly diagnosed AF should be reviewed in a timely way. Escalation to a senior decision maker should involve a risk-based discussion, particularly when patients require urgent surgery.

Other important practices for this group:

- ✓ A date for surgery should not be confirmed until rate control has been achieved and the patient has received the appropriate medical therapy. Making the diagnosis of AF requires the prompt delivery of anticoagulation when indicated. However, considerations need to be given to pre surgical bleeding risk, patient co-morbidity and timing of surgery to allow for appropriate cessation of anticoagulation in the preoperative period. These decisions need senior review and clear communication with the patient's surgical team.
- ✓ Local pathways should be developed to ensure that urgent review for assessment and subsequent treatments are established. This can include perioperative care teams.
- ✓ Where there is a suspicion of AF from clinical history, but where it has not been confirmed on testing, providers may choose to use ambulatory monitoring or suggest a wearable device to confirm AF (i.e. in paroxysmal AF).
- ✓ Keeping in touch with patients after newly diagnosed AF or those with inadequate rate control is a key part of the five core requirements of early screening, risk assessment and health optimisation[4]. Changes to medication and treatment need to be communicated to both POA and the theatre scheduling teams so patients are informed in a timely way.
- ✓ An echocardiogram may be initiated if the diagnosis may affect treatment choices, but this should only be done when rate control has been achieved (see guidance[6]).

Please note that NT-proBNP is often elevated in patients with AF.

[6] Guide to Preoperative Testing: N-Terminal prohormone of brain natriuretic peptide (NT-proBNP) and echocardiography

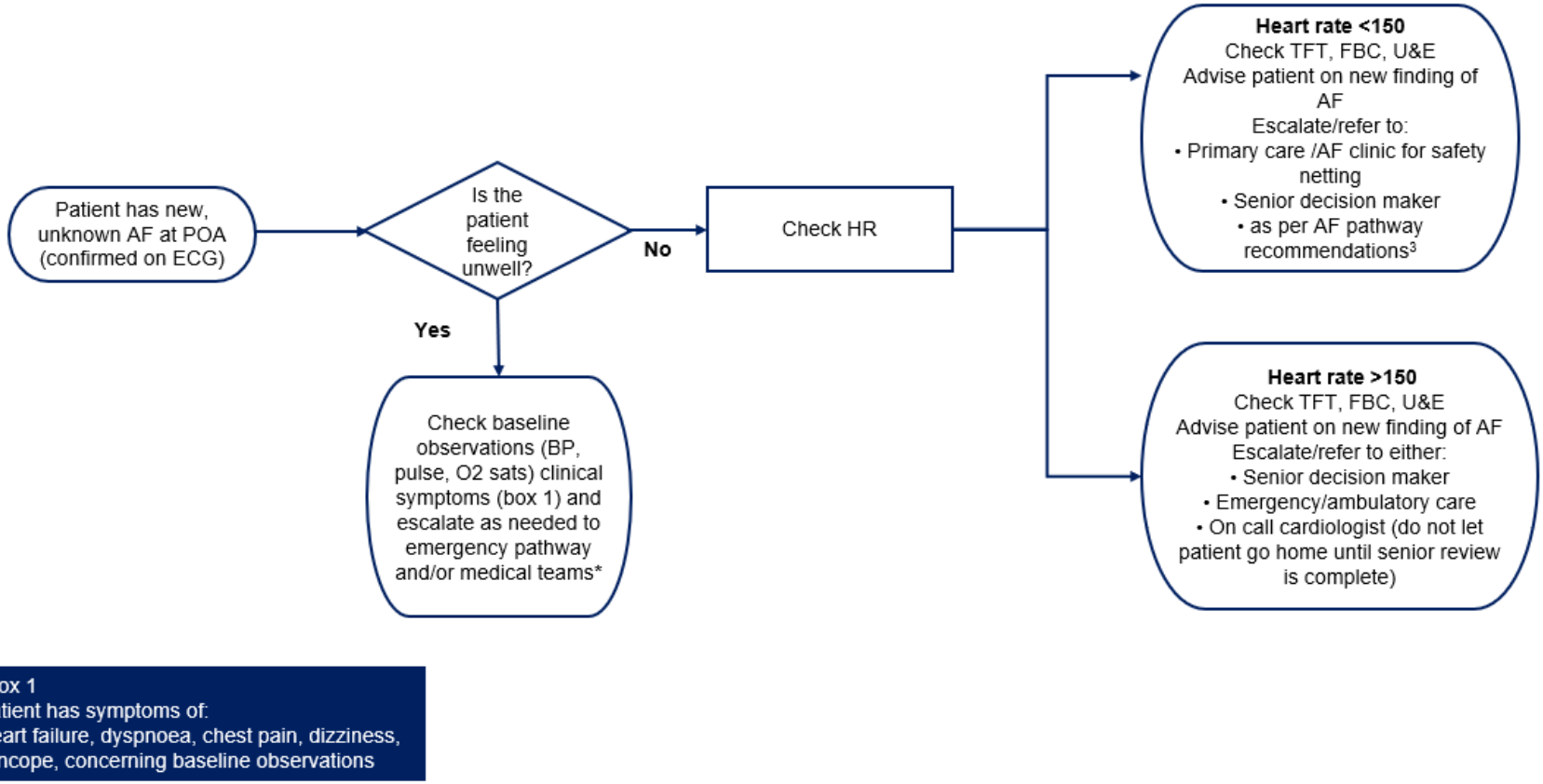
Example clinical scenarios

Patient Y comes to the POA clinic in preparation for routine arthroplasty surgery. An ECG shows a new finding of AF at a rate of 120bpm. The patient feels well in themselves, and all other baseline observations are stable**. This is new and uncontrolled AF.** There is nothing to suggest that this patient knows or has previously been treated for this in the past. Refer to the flowchart, carry out the additional preoperative blood testing and escalate/refer to a senior decision maker. A date for surgery should not be given until rate control has been achieved and the patient has received the appropriate medical therapy. An echocardiogram may be initiated if the diagnosis may affect treatment choices, but this should only be done when rate control has been achieved (see guidance)[5].

Patient Z comes to the POA clinic in preparation for urgent surgery and feels unwell with recent dizziness. An ECG shows a heart rate of 155bpm, and the patient has confirmed AF. There is no mention of this in previous records. **This is new and uncontrolled AF.** This patient requires urgent review by a senior decision maker at POA to decide on next steps for treatment and if emergency care is needed, assessing the risk of proceeding to surgery should be done after initial review (and subsequent treatment, if indicated).

Patient A comes to the POA clinic in preparation for urgent surgery on their throat. They give a history of an erratic heartbeat. The preoperative assessment clinician completes an ECG. The ECG shows AF and after review of the primary care records, there is no historical mention of AF. The HR rate is 70bpm and the patient is clinically well. **This is new and controlled AF.** The flow chart in **Figure 2** (below) should be referred to and additional preoperative blood testing should be carried out along with escalation/ to an appropriate decision maker for management of AF and subsequent treatment. As the rate is well controlled, the treatment plan before surgery should be discussed with a senior decision maker including a risk-based discussion on timing for surgery and assessment for anticoagulation requirements. If an echocardiogram is felt to be required to rule out any structural course as this may affect the decision for surgery, this should be ordered by the POA team.

Figure. 2 Process map for the management of patients with newly diagnosed AF at preoperative assessment



Please note that where the rate is <50bpm and the patient is not on a rate reducing medication, patients should be escalated to a senior decision maker.

Appendices

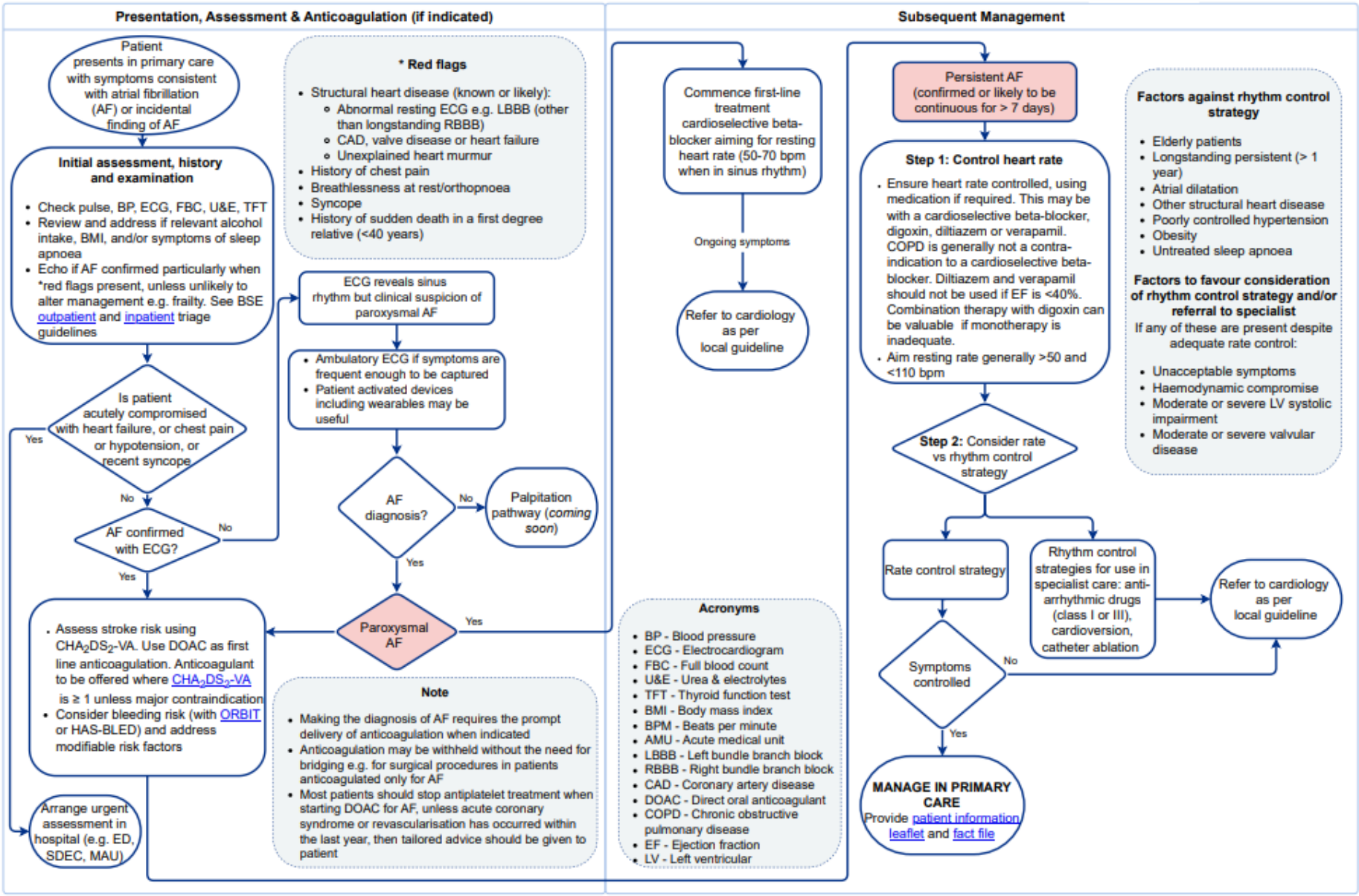
Appendix 1 CHA2DS2-VA score

CHA_2DS_2-VA component	Definition and comments	Points awarded
C Chronic heart failure	Symptoms and signs of heart failure (irrespective of LVEF, thus including HFpEF, HFmrEF, and HFrEF), or the presence of asymptomatic LVEF ≤40%.	1
H Hypertension	Resting blood pressure >140/90 mmHg on at least two occasions, or current antihypertensive treatment. The optimal BP target associated with lowest risk of major cardiovascular events is 120–129/70–79 mmHg (or keep as low as reasonably achievable).	1
A Age ≥75 years	Age is an independent determinant of ischaemic stroke risk. Age-related risk is a continuum, but for reasons of practicality, two points are given for age ≥75 years.	2
D Diabetes mellitus	Diabetes mellitus (type 1 or type 2), as defined by currently accepted criteria, or treatment with glucose-lowering therapy.	1
S Prior stroke, TIA, or arterial thromboembolism	Previous thromboembolism is associated with highly elevated risk of recurrence and therefore weighted 2 points.	2
V Vascular disease	Coronary artery disease, including prior myocardial infarction, angina, history of coronary revascularisation (surgical or percutaneous), significant CAD on angiography or cardiac imaging. OR Peripheral vascular disease, including intermittent claudication, previous revascularisation for PVD, percutaneous or surgical intervention on the abdominal aorta, and complex aortic plaque on imaging (defined as features of mobility, ulceration, pedunculation, or thickness ≥4 mm).	1
A Age 65–74 years	1 point is given for age between 65 and 74 years.	1

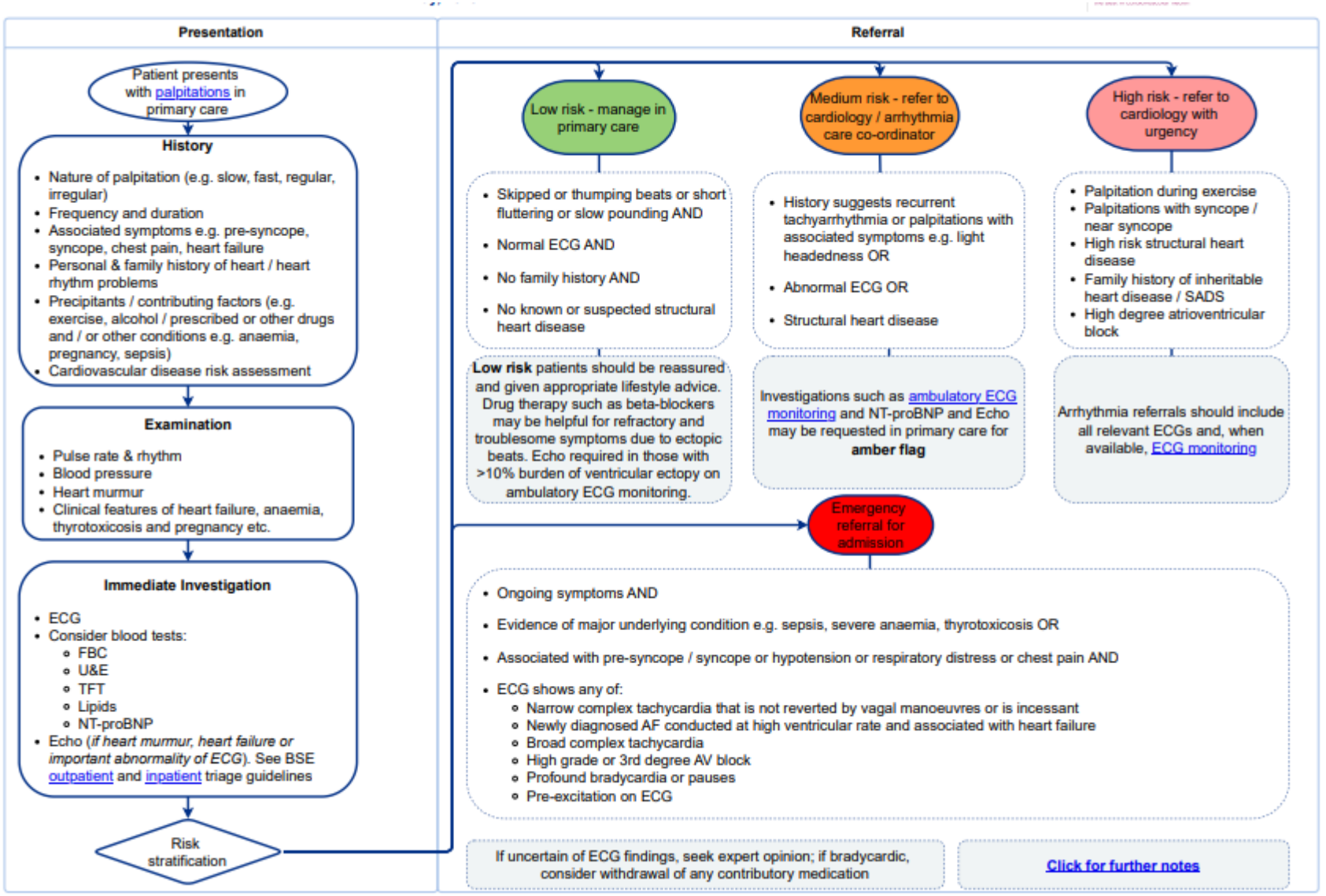
BP, blood pressure; CAD, coronary artery disease; CHA_2DS_2-VA, chronic heart failure, hypertension, age ≥75 years (2 points), diabetes mellitus, prior stroke/transient ischaemic attack/arterial thromboembolism (2 points), vascular disease, age 65–74 years; HFmrEF, heart failure with mildly reduced ejection fraction; HFpEF, heart failure with preserved ejection fraction; HFrEF, heart failure with reduced ejection fraction; LVEF, left ventricular ejection fraction; PVD, peripheral vascular disease.

Notes:
In addition to these factors, other markers that modify an individual's risk for stroke and thromboembolism should be considered, including cancer, chronic kidney disease, ethnicity (Black, Hispanic, Asian), biomarkers (troponin and BNP), and in specific groups, atrial enlargement, hyperlipidaemia, smoking, and obesity.

Appendix 2 GIRFT atrial fibrillation pathway in Primary Care[3]



Appendix 3 GIRFT palpitation pathway [4]



Notes

Further considerations:
Palpitation is a symptom, not a diagnosis

- When diagnosis is clear, patient should be placed on the relevant pathway e.g. AF pathway
- Atrial flutter should have same approach to anticoagulation as AF and be referred for consideration of ablation
- Remember to provide patient information and support including lifestyle advice

Refer to: Assessing fitness to drive – a guide for medical professionals (publishing.service.gov.uk)

And consider whether there are any particular occupational or other activities to be restricted if there is a risk of danger/incapacity.

The following provide some useful patient information and support tools:

- Arrhythmia Alliance: www.heartrhythmalliance.org.uk
- Atrial Fibrillation Association: www.atrialfibrillation.org.uk
- Primary Care Cardiovascular Society: www.pccsuk.org
- Sudden Adult Death Trust: www.sadsuk.org
- NICE CKS Palpitations: cks.nice.org.uk

- Ambulatory ECG monitoring can be very useful to record the ECG during symptoms.
- The intended duration of monitoring should be chosen according to the typical frequency.
- Monitoring can also occasionally be useful to reveal important intermittent asymptomatic arrhythmias or conduction system abnormalities.
- Patient activated devices with ECG recording capability such as Kardia mobile (Alivecor.com) or wearables such as Apple (generation 4 or above) & most Samsung Galaxy watches can be very useful for recording infrequent symptoms.
- ILR implantation is very rarely required just for the documentation of palpitations.

- **ECG** - Electrocardiogram
- **FBC** - Full blood count
- **U&E** - Urea and electrolytes
- **TFT** - Thyroid function test
- **NT-proBNP** - N-terminal pro-B-type natriuretic peptide
- **ECHO** - Echocardiogram
- **AF** - Atrial fibrillation
- **SADS** - Sudden arrhythmic death syndrome
- **VT** - Ventricular tachycardia
- **AV** - Atrioventricular
- **ILR** - Implantable loop recorder

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Contributors

Elizabeth Shillito	Senior nurse, Royal Papworth Hospital; NHSE GIRFT cardiac associate
Mark Sopher	GIRFT joint clinical lead for cardiology
Emma McCone	Guidance co-author; GIRFT national POA lead
Matthew Barker	GIRFT content development lead, NHS England
Chris Snowden	GIRFT joint clinical lead for APOM; consultant anaesthetist at Newcastle upon Tyne Hospitals NHS Foundation Trust (Freeman Hospital); Royal College of Anaesthetists' clinical lead (joint) for perioperative medicine
Mike Swart	GIRFT joint clinical lead for APOM; consultant anaesthetist and critical care medicine at Torbay and South Devon NHS Foundation Trust; Royal College of Anaesthetists' clinical lead (joint) for perioperative medicine
James Day	Consultant anaesthetist and POA lead, Oxford University Hospitals NHS Foundation Trust
Phillip Rutherford	Arrythmia nurse specialist, Newcastle Hospitals NHS Foundation Trust

About GIRFT and the GIRFT Academy

Getting It Right First Time (GIRFT) is a clinically-led national programme designed to identify and minimise unwarranted variation in treatment and care delivered. It undertakes clinically-led reviews of specialties, combining wide-ranging data analysis with the input and professional knowledge of senior clinicians to examine how things are currently being done and how they could be improved.

The programme has the backing of the Royal Colleges and professional associations and has a significant and growing presence on the Model Health System portal, with its data-rich approach providing the evidence for hospitals to benchmark against expected standards of service and efficiency.

The GIRFT model has now been applied in more than 50 different areas of clinical practice. It consists of five key strands:

1. Data gathering – a broad data gathering and analysis exercise, generating a detailed picture of current national practice and outcomes.
2. Peer reviews – direct clinical engagement via visits or virtual meetings between clinical leads and trust teams; an opportunity to examine trust behaviour in the context of the national picture, enabling teams to understand where they are performing well and what they can do better.
3. National report and Academy resources – production of national reports that draw on data analysis and discussions with provider teams to identify opportunities for improvement, locally, regionally and nationally, alongside - clinical resources such as best practice pathways and guides.
4. Support to deliver – the implementation phase where the GIRFT team supports trusts, commissioners and integrated care systems to deliver the improvements recommended.
5. Research and development – GIRFT fellowships support resident doctors, nurses and allied health professionals to develop their research and clinical improvement skills, delivering research projects and GIRFT identified improvements in their host provider, system or region.

For the latest version of this document, please see www.gettingitrightfirsttime.co.uk or Getting It Right First Time - FutureNHS Collaboration Platform

GIRFT and a greener NHS

Climate change is one of the greatest health threats and opportunities of the 21st century. The NHS is acting now to mitigate and adapt to this threat in order to protect the health of current and future generations. Doing so will not only protect the environment but will also bring many health, social and financial benefits. As the largest employer in the UK, contributing 4.6% of national emissions, the NHS is both part of the challenge and the solution.

Through its endeavour to improve the quality of care within the NHS by reducing unwarranted variation, GIRFT can play an important role in reducing the carbon emissions associated with care delivery. Through the GIRFT model, there is the opportunity to identify changes that will help reduce the NHS carbon footprint and therefore improve patient care now and in the future.

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