

# Atrial Fibrillation

## A guide for South East London Primary Care

### Key messages:

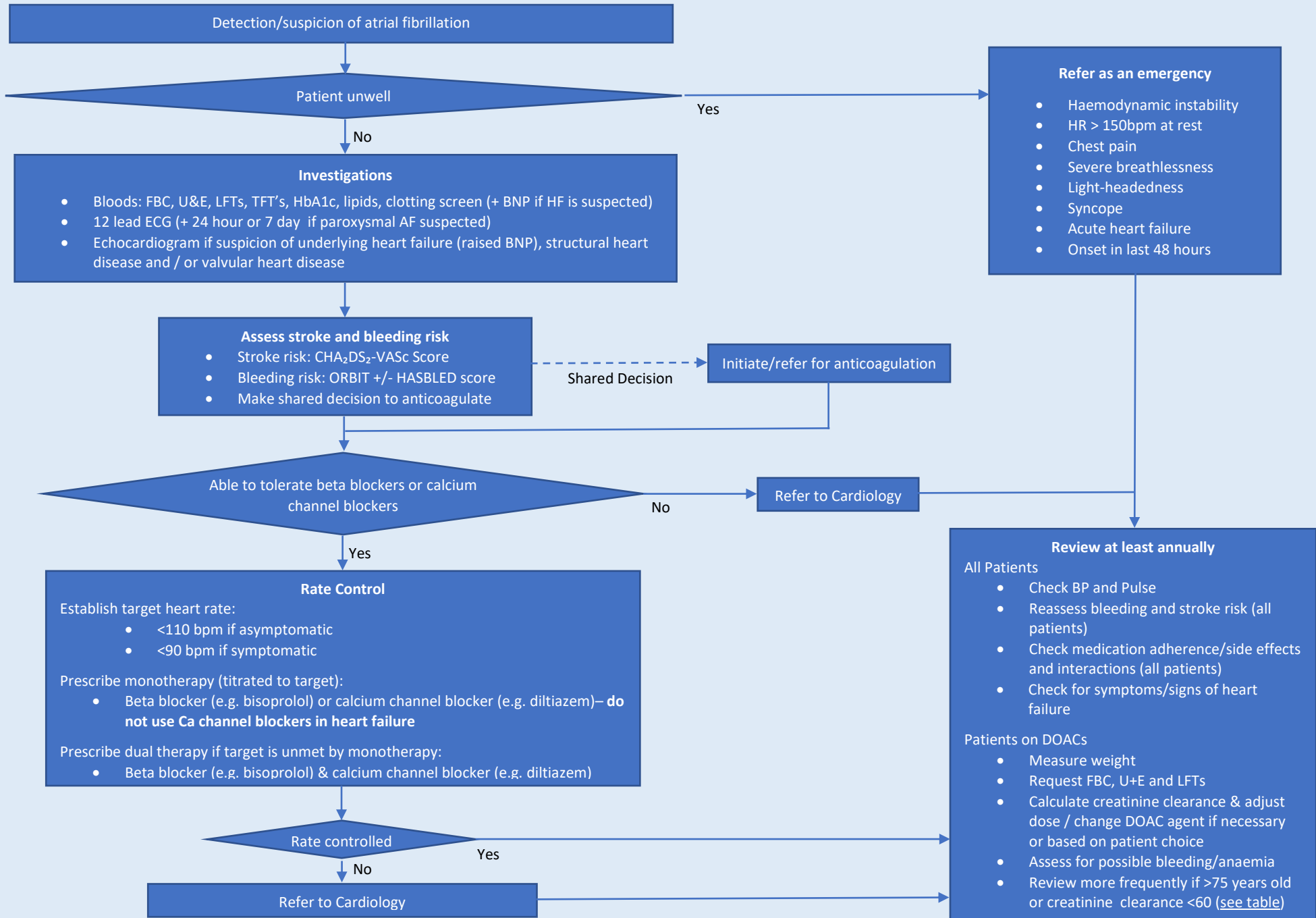
1. Routinely offer pulse rhythm checks to patients at high risk of atrial fibrillation (AF)
2. Use the CHA<sub>2</sub>DS<sub>2</sub>-VASc score to identify patients for anticoagulation- using shared decision making to protect them from stroke
3. Rate control pulse rate targets should be based on symptomatic status

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## Overview of AF Management in Primary Care



Why focus on atrial fibrillation?	Detection of AF
<ul style="list-style-type: none"> <li>The risk of stroke is 5-6 times higher in people with atrial fibrillation.</li> <li>AF is underdiagnosed (estimated 67,000 undetected cases in London<sup>3</sup>).</li> <li>Effective management with anticoagulation reduces the risk of stroke.</li> <li>Effective management / control of symptoms reduces the risk of tachycardia-induced cardiomyopathy and congestive heart failure.</li> </ul>	<ul style="list-style-type: none"> <li>Perform opportunistic pulse checks in people aged over 65<sup>1,3</sup> who have long-term conditions.</li> <li>Consider the diagnosis in patients with breathlessness, fatigue, palpitations, chest discomfort, syncope or dizziness, stroke or TIA.</li> <li>Detection devices may be used to screen for symptomless patients e.g. MyDiagnostick.</li> </ul>
Symptomatic vs Asymptomatic Patients	
<ul style="list-style-type: none"> <li>Asymptomatic patients can be safely investigated and managed within primary care.</li> <li>Symptomatic patients may be safely investigated and managed within primary care depending on the severity of their symptoms. Consider urgent referral to the Emergency Department or seeking advice via Consultant Connect Atrial Fibrillation Acute Medicine Line, if the patient is unwell e.g. haemodynamic instability, HR &gt; 150bpm at rest, or has severe AF-related symptoms (chest pain, severe breathlessness, light-headedness, syncope or acute heart failure).</li> </ul>	
Investigation and Consideration of Underlying Causes/Precipitating Factors	Modification of Risk Factors
<ul style="list-style-type: none"> <li>A 12 lead ECG should be performed in all patients with suspected AF.</li> <li>If paroxysmal AF is suspected but not confirmed on a standard ECG, refer for 24 hour – 7 day ECG depending on frequency of symptoms and availability (see Referrals section).</li> <li>Consider and investigate underlying respiratory and metabolic causes.</li> <li>In all patients check U&amp;Es, FBC, HbA1c, TFTs, LFTs, lipids, clotting screen.</li> </ul>	<ul style="list-style-type: none"> <li>Optimise weight (consider referral to weight management).</li> <li>Optimise blood pressure.</li> <li>Check for symptoms of sleep apnoea and refer as appropriate.</li> <li>Advise patient to minimise/avoid alcohol &amp; stimulant e.g. caffeine &amp; nicotine consumption.</li> <li>Review comorbidities e.g. heart failure.</li> </ul>
Education and Support	
<p>Educate patients about stroke awareness, measures to prevent stroke as well as the causes, management, effects and possible complications of AF. Offer psychological support if needed and provide education and practical advice on anticoagulation in accordance with <a href="#">NICE recommendations</a><sup>5</sup>.</p>	
Rhythm Control (secondary care)	Rate Control in Primary Care
<p>Rate control is appropriate for the majority of patients and can be initiated in primary care. Consider prompt referral to secondary care for consideration of <i>rhythm</i> control in the following situations:</p> <ul style="list-style-type: none"> <li>The patient is unable to tolerate rate controlling medication</li> <li>There is concern about associated cardiac disease e.g. LV dysfunction, valvular disease, bradycardia on 24 hr ECG</li> <li>The patient or doctor wish to discuss rhythm control options including DC cardioversion, ablation or drug therapy</li> </ul>	<p>Determine the target resting heart rate<sup>4</sup>, taking co-morbidities/frailty/adverse effects into consideration:</p> <ul style="list-style-type: none"> <li>&lt;110 bpm if asymptomatic</li> <li>&lt;90 bpm if symptomatic</li> </ul> <p>Prescribe monotherapy with either a standard beta-blocker (other than sotalol - see <a href="#">SEL JMF</a>) or rate limiting calcium channel blocker (diltiazem or verapamil) and titrate to target heart rate. <b>Avoid calcium channel blockers in patients with heart failure.</b><sup>2</sup> If rate remains uncontrolled, prescribe dual therapy with both of the</p>

- The patient has elevated CHA<sub>2</sub>DS<sub>2</sub>-VASc score but is not suitable for anticoagulation (e.g., high bleeding risk)

Discuss with Cardiology if required, using eRS Advice & Guidance or Consultant Connect.

NICE provides monitoring and prescribing guidance for [digoxin](#)<sup>7</sup> and [amiodarone](#)<sup>8</sup>, either of which may be initiated in secondary care.

above agents, or refer to Cardiology. Digoxin may be a suitable third line agent for patients in whom the above are unsuitable due to comorbidities or patient preference (refer to Cardiology for initiation).

Examples: • Beta-blocker: Bisoprolol (starting dose - 2.5mg od)

- Diltiazem (starting dose 60mg bd/tds). Once an effective dose of calcium channel blocker is established, consider switching to a long-acting preparation.

NICE provides [prescribing guidance for diltiazem and verapamil](#)<sup>9</sup>.

### Anticoagulation

**Risk of stroke is 5-6 times greater in people with AF than in those with a normal heart rhythm. Paroxysmal AF confers a similar stroke risk to persistent AF.** Anticoagulation is therefore an important consideration in AF management but increases the risk of significant bleeding. **Do not withhold anticoagulation solely because of a person's age or risk of falls.**<sup>22(1.6.8)</sup> Measure body weight in all patients before initiating/referring for initiation of anticoagulation.

#### Calculation of Stroke Risk

Stroke risk should be calculated using the CHA<sub>2</sub>DS<sub>2</sub>-VASc score. Anticoagulation should be considered in female patients with a score of 2 or more and male patients with a score of 1 or more.

#### Calculation of Bleeding Risk

There are two methods for calculating the bleeding risk (HASBLED and ORBIT scores) and each has its own benefits and limitations. **NICE now recommends using the ORBIT score to quantify the bleeding risk.** Review and, where possible, aim to identify and modify bleeding risk factors listed within these assessment tools at diagnosis and reassess the stroke and bleeding risk if any of these factors change over time.

#### CHA<sub>2</sub>DS<sub>2</sub>-VASc score<sup>12</sup>

Risk Factor	Score	Total Score	Annual Stroke Risk
Congestive Heart Failure	1	0	0.2 %
Hypertension	1	1	0.6 %
Age ≥ 75 years	2	2	2.2 %
Age 65-74 years	1	3	3.2%
Diabetes Mellitus	1	4	4.8%
Stroke, TIA or Thromboembolism	2	5	7.2%
Vascular disease history (prior MI, peripheral artery disease, or aortic plaque)	1	6	9.7%
Female Sex	1	7	11.2%
		8	10.8%
		9	12.2%

#### ORBIT Score (Recommended by NICE)<sup>14</sup>

Risk Factor	Score	Total Score	Annual Bleeding Risk
Age ≥ 75 years	1	0-2	2.4% (low)
Reduced Hb (< 120 female or < 130 male)	2		
History of GI bleed	2	3	4.7 % (med)
Renal impairment (eGFR < 60)	1	4-7	8.1% (high)
Antiplatelet therapy	1		

#### HASBLED Score<sup>13</sup>

Risk Factor	Score	Total Score	Annual Bleeding Risk
Systolic BP >160mmHg	1	0	1.13 %
Liver disease (cirrhosis or bilirubin >2x normal with AST/ALT/ALP > 3x normal)	1		
Renal Disease (dialysis, transplant, Cr > 200 µmol/L)	2	1	1.02 %
Age > 65 years	1	2	1.88 %
Diabetes Mellitus	1	3	3.72%
Hx of Stroke/TIA	2		
Vascular Disease	1	4	8.70%
Female	1	5	12.5%
Alcohol use ≥ 8 units/week	1		
Medication usage predisposing to bleeding (aspirin, clopidogrel, NSAIDs)	1		

Digital versions of all of the scoring systems above are available within the AF Advisor EMIS data entry template

## Joint Decision Making<sup>2</sup>

The decision to anticoagulate should be made jointly between the clinician and patient and be informed by calculating stroke risk and bleeding risk in order to compare the risk/benefit. NICE provides a [decision aid](#) which can be useful to illustrate the risks to patients. Note however, that this aid is based on the HASBLED score as opposed to the ORBIT score which is now recommended by NICE for calculating the bleeding risk.

## Initiation and Review of Anticoagulation

Anticoagulation can be initiated in primary care by suitably competent practitioners but there are also anticoagulation services to which patients can be referred (see Referrals).

- DOACs are the first line recommendation for non-valvular atrial fibrillation (NVAF) but patients for whom they are not suitable, may be prescribed warfarin<sup>6</sup>. **Aspirin and other antiplatelets should not be used for the prevention of stroke/TIA in AF.** See [IMOC DOAC guidance](#) for further information.
- The need to continue prescribing antiplatelets, NSAIDs or other drugs which increase bleeding risk, should be reviewed before referring for anticoagulation.
- Address other risk factors for bleeding, including uncontrolled hypertension, poor INR control, alcohol consumption and reversible causes of anaemia.
- Patients who are initiated on a 3DOAC within secondary care are provided with 4 weeks' supply of medication ([SEL JMF](#)). Follow-up/monitoring and repeat prescribing takes place in general practice.
- Patients taking DOACS should be reviewed at least annually but some may require more frequent monitoring (see [Reviews section](#))

## Reviews

All patients with AF should undergo an annual review which includes:

- Pulse check
- Calculation and comparison of CHA<sub>2</sub>DS<sub>2</sub>-VASc and HASBLED / ORBIT scores
- Assessment of drug adherence, side effects and co-prescribing of other medications
- Check for symptoms and signs of heart failure

Review of patients on a DOAC should also include:

- Weight measurement
- FBC, renal function, liver function
- Calculation of creatinine clearance
- Assessment for symptoms/signs of bleeding and anaemia
- Adjustment of DOAC dose/change of medication according to the table below
- Setting a date for the next DOAC monitoring review according to the table opposite

Eligibility	DOAC Monitoring Interval	Parameter
All patients on DOAC	Annually	FBC, renal & liver function, body weight (calculate CrCl)
CrCl 30-60 mL/min	6 monthly	Renal function
Patients over 75 years and/or frail	4 to 6 monthly	FBC, renal, liver function, weight
CrCl 15-30mL/min	3 monthly	Renal function
E.g. intercurrent illness that may impact on renal or hepatic function	Individually agreed	Renal, liver function +/- FBC

## Creatinine Clearance Calculation<sup>11</sup>

- Use blood results from within the last month and **actual** bodyweight (BW) from within the last year (or more recent if obvious significant weight loss/gain).
- The Creatinine clearance calculator in EMIS employs the Cockcroft-Gault (CG) equation to estimate creatinine clearance (CrCl), using **actual** bodyweight. It is suitable for monitoring patients already on a DOAC who weigh up to 120 kg. It should *not* be used for *initiating* a DOAC or in patients whose weight is ≥ 120kg or more.
- Use the [MD Calc Creatinine Clearance calculator](#) using **ideal** body weight for initiation of DOACs and/or monitoring patients whose weight is ≥ 120kg.

See IMOC "[Calculating Renal Function for DOACS Guidance](#)"

## DOAC Dose Monitoring and Adjustment

	Apixaban	Dabigatran	Edoxaban	Rivaroxaban
<b>Standard Dose</b>	5mg BD	150mg BD	60mg OD	20mg OD with food
<b>Reduced Dose</b>	2.5mg BD	110mg BD	30mg OD	15mg OD with food
<b>Criteria for dose reduction in atrial fibrillation</b>	2 or more of: <ul style="list-style-type: none"> <li>• Age ≥80</li> <li>• Body weight ≤60kg</li> <li>• Cr ≥133µmol/L</li> <li>• CrCl 15-29ml/min</li> <li>• “Bleed risk”</li> </ul>	1 or more of: <ul style="list-style-type: none"> <li>• Age ≥80</li> <li>• On verapamil</li> </ul> Consider reducing dose if: <ul style="list-style-type: none"> <li>• Reflux/gastritis</li> <li>• Age 75-80</li> <li>• CrCl 30-50ml/min</li> <li>• “Bleed risk”</li> </ul>	1 or more of: <ul style="list-style-type: none"> <li>• CrCl 15-50ml/min</li> <li>• Body weight ≤60kg</li> </ul> On ciclosporin, dronedarone, erythromycin, ketoconazole	CrCl 15-49ml/min
<b>Contraindicated / Not recommended</b>	CrCl <15ml/min	CrCl <30ml/min	CrCl <15ml/min Caution if CrCl >95ml/min	CrCl <15ml/min

### Digital Resources

EMIS Web contains a number of digital resources relating to atrial fibrillation. These include the Ardens AF template and the AF Advisor template and alerts.

- It is recommended that the *AF Advisor Template* is used to calculate stroke and bleeding risks because the calculators are included in the template.
- The *Ardens AF Template* does not include the calculators but is more detailed in other respects so it should be used to code the diagnosis and record detail of risk factors e.g. alcohol consumption, and to record annual reviews.

### Patient Resources

- Stroke Association leaflet: [Atrial Fibrillation What You Need to Know](#)
- Stroke Association leaflet: [Atrial Fibrillation Reducing Your Risk of Stroke](#)
- Stroke Association leaflet: [Atrial Fibrillation \(AF\) and Stroke](#)
- British Heart Foundation leaflet: [I'm in Control of My Atrial Fibrillation \(AF\)](#)

### South East London Prescribing Resources and Guidance for DOACs

South East London guidance and resources are available to support healthcare professionals in prescribing DOACs for non-valvular atrial fibrillation. These can be accessed at the SEL IMOC website under [cardiovascular guidance](#) or the [SEL Joint Medicines Formulary](#) and include:

- DOAC patient referral pathway for NVAF
- DOACs - initiation and monitoring guidance for NVAF
- DOACs - Frequently asked questions
- DOACs - Calculating renal function

## Referrals

Diagnostic and referral pathways differ between South East London boroughs. Select the appropriate borough for diagnostics availability and referral pathways. Check local guidelines and consider using Consultant Connect or other advice opportunities before making a referral.

**Bexley**

**Bromley**

**Greenwich**

**Lambeth**

**Lewisham**

**Southwark**



## Referrals by Borough

### Bexley

Anticoagulation	DXS / DOAC Referral Form – September 2023 Final
Cardiology	<p><b>Cardiology services are available at University Hospital Lewisham, Guys and St Thomas', Darent Valley and Queen Mary's Hospitals.</b></p> <p>For standard, face to face outpatient appointments, complete the relevant form (where available) and attach to eRS booking. For advice and guidance do not complete a form – send relevant clinical information to one of the eRS services listed below and select the “Advice and Guidance” option. For urgent cardiology advice call Consultant Connect or the on-call Cardiology Team at GSST (020 7188 8177 and bleep 0100) or LGT (switchboard 020 8836 6000 and ask for the on-call Cardiology Team)</p> <p><b>Guys &amp; St Thomas' NHS Trust</b> DXS / Bexley Cardiac Service Referral Form. Select 'Consultant Cardiology appointment' under the 'Consultant' section on P. 3</p>
Standard ECG	<p><b>Community Service provided by PML:</b> DXS / Bexley Cardiac Service Referral Form</p> <p><b>Hospital Service provided by Lewisham and Greenwich Trust:</b> DXS / ECG Request – General Practitioner. Provide the patient with the form and advise them to book an appointment at QEW or UHL</p>
24 Hour ECG	DXS / Bexley Cardiac Service Referral Form
7 Day ECG	DXS / Bexley Cardiac Service Referral Form
Echocardiogram	DXS / LGT ECG Referral form
Alcohol Service	<p><b>Pier Road Project</b> GP Referral – DXS / Pier Road Project Referral Form Self-Referral - <a href="https://prpbexley.org.uk/">https://prpbexley.org.uk/</a></p> <p><b>Beat My Addictions Workshop with Chris Hill</b> (self-referral) <a href="https://careservices.bexley.gov.uk/Services/1430/Beat-My-Addictions-W">https://careservices.bexley.gov.uk/Services/1430/Beat-My-Addictions-W</a></p>

### Bromley

Anticoagulation	Referrals Optimisation Protocol / Haematology / Referrals / Anticoagulation
Cardiology	Referrals Optimisation Protocol / Cardiology / Referrals / General Cardiology
Standard ECG	Referrals Optimisation Protocol / Cardiology / Diagnostics / 12 Lead ECG
24 Hour ECG	Referrals Optimisation Protocol / Cardiology / Diagnostics / 24 Hour ECG
7 Day ECG	Direct access is unavailable; refer to Cardiology: Referrals Optimisation Protocol / Cardiology / Referrals / General Cardiology
Echocardiogram	Direct access is unavailable; refer to Cardiology (must have raised BNP): Referrals Optimisation Protocol / Cardiology / Referrals / General Cardiology
Alcohol Service	Referrals Optimisation Protocol / Mental Health / Addiction & Dependency / Bromley Drug and Alcohol Service Referral Form

### Greenwich

Anticoagulation	<b>DOAC initiation:</b> Provided in-house at all Greenwich GP practices. <b>Warfarin monitoring:</b> DXS / RMBS Referral Form (Anticoagulation Clinic at QEH)
Cardiology	DXS / RMBS Referral Form
Standard ECG	DXS / ECG Request GP
24 Hour ECG	DXS / Cardiac Diagnostics Referral Form
7 Day ECG	No direct access, refer via cardiology - DXS / RMBS
Echocardiogram	DXS / Cardiac Diagnostics Referral Form
Alcohol Service	DXS or self-referral via <a href="https://www.viaorg.uk/services/greenwich/">https://www.viaorg.uk/services/greenwich/</a>

### Lambeth

Anticoagulation	DXS / NHS SEL CCG / GSTT and KCH / Haematology / Referral 'GSTT KCH Anticoagulation referral form' (covers GSTT, KCH, PRUH and SGH)
Cardiology	eRS referral to General Cardiology, or A&G discussion with Cardiology via Consultant Connect
Standard ECG	DXS / Community Cardiology via Xyla Diagnostics SEL Clinical Referral Form
24 Hour ECG	DXS / Community Cardiology via Xyla Diagnostics SEL Clinical Referral Form
7 Day ECG	DXS / Community Cardiology via Xyla Diagnostics SEL Clinical Referral Form
Echocardiogram	DXS / GSTT KCH Open Access Echocardiography Referral Form
Alcohol Service	DXS / Addictions Service Referral Form or self-referral to Lambeth Drug and Alcohol Service: <a href="https://www.lambeth-drug-alcohol.co.uk">https://www.lambeth-drug-alcohol.co.uk</a>

### Lewisham

Anticoagulation	Generic form for anticoagulation clinic UHL
Cardiology	Lewisham and Greenwich Cardiology Referral Form
Standard ECG	LGT ECG referral form
24 Hour ECG	LGT Cardiology Diagnostics Test Request Form
7 Day ECG	Unavailable
Echocardiogram	LGT Cardiology Diagnostics Test Request Form
Alcohol Service	Lewisham Substance Misuse Service Referral Form CGL

## Southwark

Anticoagulation	DXS / Cardiology / Anticoagulation Referral Form
Cardiology	DXS / Cardiology / Select appropriate referral form
Standard ECG	DXS / Cardiology / GSTT ECG Referral Form or KCH ECG
24 Hour ECG	DXS / Cardiology / GSTT 24hr ECG or 8 Day Cardiac Monitor or KSC 24hr ECG or 8 Day Cardiac Monitor
7 Day ECG	DXS / Cardiology / GSTT 24hr ECG or 8 Day Cardiac Monitor or KSC 24hr ECG or 8 Day Cardiac Monitor
Echocardiogram	DXS / Cardiology / GSTT Echo Referral Form or GSTT KCH Open Access Echocardiography Referral Form 2023
Alcohol Service	<a href="https://www.changegrowlive.org/drug-alcohol-service-southwark/info#referral">https://www.changegrowlive.org/drug-alcohol-service-southwark/info#referral</a>

## Abbreviations

AF - Atrial Fibrillation	DXS - Referral repository	PAF - paroxysmal atrial fibrillation
BNP - brain natriuretic peptides (heart failure blood test)	LV function - left ventricular function	ROP - Referrals Optimisation Protocol (referral tool used in Bromley)
BP - blood pressure	ECG - Electrocardiogram	SEL JMF - SEL Joint Medicines Formulary
bpm - beats per minute	HbA1c - Haemoglobin A1c % (diabetes test)	TFTs - thyroid function blood tests
CKD - Chronic Kidney Disease	HF - Heart Failure	TIA - Transient Ischaemic Attack
COPD - Chronic Obstruction Pulmonary Disease	INR - international normalised ratio (warfarin monitoring)	U&E - Urea and Electrolytes (kidney function blood tests)
CVD - cardiovascular disease	LFTs - liver function blood tests	
DOAC - direct oral anticoagulant	PAD - Peripheral Arterial Disease	

## References

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2. NICE. *Atrial fibrillation: diagnosis and management*. (2021) update to latest guidance: <https://www.nice.org.uk/guidance/ng196/chapter/Recommendations>
3. London Strategic Clinical Network. *Atrial Fibrillation (AF) Toolkit: Detect, Protect, Perfect* (2017)
4. South London Cardiac and Stroke Network Atrial Fibrillation Pathway for Primary Care: <https://slcn.nhs.uk/wp-content/uploads/2022/05/sl-af-primary-care-052021.pdf>
5. NICE, Venous thromboembolic diseases: diagnosis, management and thrombophilia testing (1.5): <https://www.nice.org.uk/guidance/ng158/chapter/Recommendations#information-and-support-for-people-having-anticoagulation-treatment>
6. South East London IMOC guidance: [www.selondonics.org/selimoc-cvd](http://www.selondonics.org/selimoc-cvd) - DOAC FAQs and patient pathways for NVAf
7. NICE CKS, Atrial Fibrillation: Digoxin <https://cks.nice.org.uk/topics/atrial-fibrillation/prescribing-information/digoxin/>
8. NICE CKS, Atrial Fibrillation: Amiodarone - not initiated in primary care: <https://cks.nice.org.uk/topics/atrial-fibrillation/prescribing-information/amiodarone-not-initiated-in-primary-care/>
9. NICE CKS, Atrial Fibrillation: Diltiazem and verapamil. <https://cks.nice.org.uk/topics/atrial-fibrillation/prescribing-information/diltiazem-verapamil/>
10. South East London IMOC DOAC initiation and monitoring checklist: [www.selondonics.org/selimoc-cvd](http://www.selondonics.org/selimoc-cvd)
11. SEL IMOC - Calculating Renal Function (Creatinine Clearance) When Monitoring Direct Oral Anticoagulants (DOACs) For Safe and Effective Dosing Of Patients: [www.selondonics.org/selimoc-cvd](http://www.selondonics.org/selimoc-cvd)
12. Lip GY, Frison L, Halperin JL, Lane DA. Identifying patients at high risk for stroke despite anticoagulation: a comparison of contemporary stroke risk stratification schemes in an anticoagulated atrial fibrillation cohort. *Stroke*. 2010 Dec;41(12):2731-8. doi: 10.1161/STROKEAHA.110.590257.
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CESEL guides are co-developed by SEL primary care clinicians and experts and undergo a formal approval process including SEL Integrated Medicines Optimisation Committee (IMOC) for the medicines content and the CESEL Steering Group, with representation from SEL ICB, PCNs, and borough-based Medicines Management Teams (MMT). CESEL would like to thank all colleagues who participated and provided feedback during the guide development and consultation process. Please contact the team if you have any queries in relation to this guide - [clinicaleffectiveness@selondonics.nhs.uk](mailto:clinicaleffectiveness@selondonics.nhs.uk)



Making the right thing to do, the easy thing to do.