Government of JERSEY

Health and Community Services

Rapid Access Arrhythmia Clinic Guideline

March 2021

DOCUMENT PROFILE

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Document Purpose	Guideline
Short Title	Rapid Access Arrhythmia Clinic Guideline
Author	Sister Angela Hall
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Linked Policies	
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Contact Details	Sister Angela Hall, Arrhythmia Nurse, Cardiology

CONTENTS LIST:

Summary of changes made September 2016

2.2 Follow-up, may be provided by Cardiology doctors, GP or the Arrhythmia Nurse Specialist. Onward referrals may also be appropriate e.g. to Heart Failure Nurse Specialist.
2.4 The ESC Guidelines on the management of atrial fibrillation have been added (also in the reference list).
4.1 Additional review box added for this guideline.
P9 Clinic appointments are flexible and therefore not set to a specific time / day.

Summary of changes made March 2021

1.1 Minor amendments regarding increasing numbers through the service.
1.2/3 Notes on how the service grows and changes with nurses experience.
2.1 Administration / nurses AL amendments.
2.2 Service adjustments as role expands and experience grows.
2.3 Follow up adjustments.

1. INTRODUCTION

1.1 Rationale

Care for arrhythmias is both complex and diverse which presents many challenges. Amongst these challenges are ways to establish more rapid access to heart rhythm care. The biggest group of arrhythmia patients are those with atrial fibrillation (AF) with an estimated prevalence of 1-2% in England and this is growing by 5% per annum with the ageing population. Approximately 1 in 20 aged over 65 years will have AF and this rises further to 1 in 10 at the age of 80 (atrialfibrillation.org, 2013).

But some figures suggest we have a 26% lifetime risk of developing AF (Lloyd-Jones et al, 2004). More patients are surviving heart failure and coronary heart disease resulting in more patients with AF. These numbers are expected to double over the next 50 years. AF is a self-perpetuating condition meaning that the longer the patient has the condition, the more difficult it will be to restore and maintain a normal rhythm.

If left untreated AF is a significant risk factor for stroke, significant mortality, morbidity and reducing quality of life in the UK. Access to treatment can often involve long waits and stroke prevention strategies can remain suboptimal (Healey et al, 2012). 12,500 strokes per year are attributable to AF (NCC-CC, 2006) and the average cost per stroke due to AF is £11,900 in the first year compared to a year of warfarin treatment equalling £383. NICE and NHS Improvement Programme for Stroke Prevention estimated that 46% of patients who should be on warfarin are not receiving it (NHS Improvement, 2009).

National Service Framework for Arrhythmias (2010) suggest markers for good practice:

- People with arrhythmias receive timely support and information based on an assessment of their needs
- People presenting with arrhythmias (emergency or elective) receive timely assessment by an appropriate clinician to ensure accurate diagnosis, treatment and follow up

UK figures suggest approximately 575,000 AF related admissions per annum and 94,000 AF caused admissions per annum, consuming 1% of the NHS annual budget (Millar et al, 2005).

Local figures are imprecise but observations in practice and local audit suggest an increasing number of arrhythmia patients presenting to hospital for both inpatient and outpatient assessment. This doesn't include primary care referrals or links from other sources, e.g. within the cardiac team between specialism's (heart failure patients who develop AF for example). Further, referrals from all sources continue to increase and these are clearly represented in audit data annually, from 2015.

1.2 Scope

The guideline is to benefit patients by accessing the right service at the right time for review and follow up. It is also to benefit the organisation by encouraging timely discharge with the support of specialist input.

Patients can be referred from primary and secondary care directly or indirectly. Patients may be referred to Cardiology and the Clinical Lead will determine if the patient is suitable for the Arrhythmia Service or whether the Cardiology doctors would be more appropriate. A referral form is attached in Appendix 3 but it is not essential to use this form. Referrals via fax, letter, email or phone call are accepted.

The clinic is run in the cardiology out-patients clinic alongside the cardiac doctors and therefore joint decision making is encouraged to facilitate effective patient management. With increasing knowledge, skills and experience, nurse-led clinics can run independently and therefore it is not essential that they are held alongside the doctors. The Arrhythmia Nurse(s) know how to contact medical support should this be needed.

The clinic is run weekly on a Tuesday, Wednesdays and Thursday with a mixture of morning and afternoon sessions. Appointments are 30 minutes duration.

1.3 Practicalities (how the clinic will run)

The Rapid Access Arrhythmia Clinic (RAAC) will be nurse led, receiving referrals from primary care, via or from the Cardiologist, the Emergency Department and in patient services. The attached pathway demonstrates the referral process (Appendix 1). The service will be supported by the Consultant Cardiologist, Cardiology Associate Specialist or Clinical Fellow, who will be working in the neighbouring clinic room or contactable if not during the same clinic sessions.

Patient notes will be obtained. Patients may be telephoned and an appropriate appointment time arranged; alternatively patients will be booked in to the clinic and this will be communicated via letter. This will then be entered onto Trak and a letter sent to confirm. This will also be entered into the Arrhythmia Nurse diary.

When the patient arrives this will be confirmed on Trak. Any appointment rescheduling will be arranged, utilising the most effective means and reducing wasted clinic times. DNA status will be entered accordingly.

A clinic room will be available with access to a telephone and computer. A couch / chair must be available for clinical examination and investigations to be carried out.

ECG’s will be performed by the Arrhythmia Nurse and referrals made to the Clinical Investigations Department (CID) for Echocardiograms and additional monitoring e.g. 24 hour monitor. Blood tests can be taken in clinic or booked in through the Phlebotomy Service / GP.

Medications may be initiated by the Arrhythmia Nurse if suitably qualified or suggested within the outcome letter to the GP (all on discussion with a cardiac medical colleague where necessary).

Following the appointment, letters may be dictated, typed and saved on Trak within 48 hours from appointment. A copy will be placed into the patient notes and a copy for the Arrhythmia Nurse file (this may change when the electronic records system is running). Follow up will be identified at this stage.

Success will be influenced by:

- effective communication
- supportive team work
- theoretical preparation
- patient understanding and compliance
- audit and records of activity
- advertising the service with updates
- administrative support
- 'One stop' concept to achieving effective care
- dedicated arrhythmia nurse in full time post

2. GUIDELINE PURPOSE

This guideline sets out the aim and objectives of the RAAC, demonstrating typical patients and the referral to review process.

The increasing number of patients with arrhythmias has demonstrated the need for this service improvement. Due to rapidly increasing demand, the waiting list for a cardiology appointment in 2013 reached 10 months. This new clinic aims to see urgent patients referred within a week of the Arrhythmia Nurse receiving the referral (when possible and not affected by annual leave or other service pressures, although this will be limited as much as possible so not to impact on the rapid nature of the service).

Patient history is taken using the clinic proforma when needed (this is not essential but serves as an aid memoire) (Appendix 4), relevant investigations requested, bloods taken if needed and a management plan formulated. This is all on discussion with the Cardiology Medical Team.

With increasing pressure on hospital beds and an increasing number of patients being admitted with arrhythmias but specifically with AF, a move to encourage hospital discharge whilst facilitating efficient out-patient management with the appropriate therapy was needed.

2.1 Objectives

Establishing and maintaining a RAAC will aim to meet the following:

- Reduce the time of referral and management of arrhythmia patients
- See patients pre and post ablation / electrophysiological studies (performed in the UK)
- Safe initiation and optimisation of medications
- Reducing time to optimising treatments
- Provide direct patient support
- Support the care of arrhythmia patients in the community

The Process:

1. patients assessed by medics and / or Arrhythmia Nurse with initial treatment strategy (in ED / EAU / admission location). Primary care referrals will continue to come through the Cardiologist as well as directly to the Arrhythmia Nurse and patients identified for RAAC

2. referrals made to arrhythmia clinic

3. relevant investigations requested (Clinical Investigations Department), bloods

4. identify any treatable underlying cause e.g. thyroid dysfunction with AF

5. separate symptomatic from genuinely asymptomatic patients

6. distinguish paroxysmal AF from persistent and permanent AF patients

7. identify arrhythmia patients who should be anti-coagulated according to established evidence-based criteria

8. decide upon a strategy of rate versus rhythm control

9. organise nurse-led cardioversion if appropriate

10. review patients to assess medical compliance, side effects and secondary effects / compliance of treatment e.g. the presence of heart failure

11. assess arrhythmia patients for onward referral if drug therapies are ineffective (e.g. device therapy, catheter ablation or combination)

12. maintaining a link between primary and secondary care

13. avoid unnecessary admissions

14. meet objectives set out in the Cardiology 5 year Business Plan (2012, 2016)

2.2 Follow up

Each patient will be discussed with either the Consultant Cardiologist or Cardiology Associate Specialist but as experience grows, this may not be required for each patient and this determined by the Arrhythmia Nurse Specialist assessing the patient. A management plan will be devised and follow up organised. This would either be through referral back to the GP, further appointment(s) with the Cardiology doctors or with the Arrhythmia Nurse Specialist(s).

- Back to the GP:
  - E.g. stable, lone atrial fibrillation with no risk factors or
  - complicating co-morbidities
  - Isolated or infrequent events e.g. one off SVT,
  - resolved and well
  - On established treatments

- For maintenance and ongoing management

- Specialist review:
  - E.g. other arrhythmias
  - high risk features
  - complicating co-morbidities
  - mixed heart failure
  - arrhythmia

- Arrhythmia Nurse:
  - E.g. ongoing management and assessment
  - Specialist

Note some patients for follow up may only require one further review and may then be discharged back to primary care but this may be a medical / joint decision. It may also be appropriate for referral to other disciplines e.g. Heart Failure Nurse Specialist, Psychotherapy, Cardiac Rehabilitation, or other disciplines.

2.3 New Onset Atrial Fibrillation

A New Onset Atrial Fibrillation Management algorithm has been produced to standardise the treatment and management of new onset atrial fibrillation (Appendix 2). This will be for patients with onset within 48 hours typically. The required screening is incorporated and the pathway mimics the European Society of Cardiology guidelines from 2010, 2012, 2016 and 2020.

3. CORPORATE PROCEDURE

The clinic has been a joint venture, with the Consultant Cardiologist being the Clinical Lead. Research into the most appropriate approach was undertaken, consulting trusts across the UK who have already facilitated this process.

Liaison with ED Consultants and Clinical Investigation staff has been crucial to the development. Meetings have taken place and amendments made to the management algorithm accordingly. Updates represent European and national guidance, local audit and changes required as service needs change.

4. DEVELOPMENT AND CONSULTATION PROCESS

4.1 Consultation Schedule

Name and Title of Individual	Date Consulted
Dr Andrew Mitchell	4.4.13, 24.4.13, 18.6.13, 1.10.13, 4.12.13,13.12.13
Dr Andrew Brett	23.4.13
Dr Rob Greig	23.4.13, 14.10.13
Andrew Norman, Manager, Clinical Investigations	23.4.13, 19.11.13
Clive Dunford, Senior Clinical Physiologist	23.4.13, 19.11.13
Jackie Tardivel, Head of Ambulatory Care	7.10.13, 25.11.13

Review September 2016

Dr Andrew Mitchell, Cardiologist	4.10.16
Governance meeting for ratification then send to hssnet for uploading	30.11.6

Review March 2021

Dr Andrew Mitchell, Cardiologist	16.3.21
Kellyanne Kinsella, Arrhythmia Nurse Specialist	16.3.21
Governance meeting for ratification then send to hssnet for uploading	23.3.21

5. REFERENCE DOCUMENTS

Lloyd-Jones, D et al (2004) Lifetime risk for developing atrial fibrillation: the Framingham Heart Study. *Circulation*, 110, p1042-6.

Healey, J et al (2012) *Global Variations in the 1-Year Rates of Death and Stroke in 15,340 Patients Presenting to the Emergency Department with Atrial Fibrillation in 47 Countries: The RE-LY AF Registry* cited in http://www.boehringer-ingelheim.com/news/news_releases/press_releases/2012/29_august_2012_dabigatranetexilate.html. Accessed on 27.12.20.

National Collaborating Centre for Chronic Conditions (NCC-CC) (2006) *Atrial fibrillation. National Clinical Guideline for Management in Primary and Secondary Care*. London: Royal College of Physicians.

Department of Health (2010) *National Service Framework for Coronary Heart Disease: Chapter 8, Arrhythmias and Sudden Cardiac Death*. London.

atrialfibrillation.org (2013) available at www.atrialfibrillation.org/patient-information/atrial-fibrillation.html. Accessed on 12.11.20.

Millar,P et al (2005) Are cost benefits of anticoagulation for stroke prevention in atrial fibrillation underestimated? *Stroke*, 36, p360-366.

NHS Improvement Programme (2009) *Commissioning for Stroke Prevention in Primary Care. The role of atrial fibrillation*. NHS. Available at http://www.improvement.nhs.uk/stroke/NationalProjects/StrokePreventioninPrimaryCareAF/tabid/76/Default.aspx. Accessed on 24.12.13

Camm, A., Kirchhof, P., Lip, G., Schotton, U., Savelieva, I., et al (2010) Guidelines for the management of atrial fibrillation. *European Heart Journal*, 31, p2369-2429.

Camm, A., Lip, G., De Caterina, R., Savelieva, I. et al (2012) 2012 focused update on the ESC Guidelines for the management of atrial fibrillation. *European Heart Journal*, 33, p2719-2747.

Kirchhof, P., Benussi, S., Kotcha, D., Ahlsson, A. et al (2016) 2016 ESC Guidelines for the management of atria fibrillation developed in collaboration with EACTS. *European Heart Journal*. p1-90.

Hendricks, G., Potpara, T., Dagres N., Arbelo, E., et al. (2020) ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the EACTS. *European Heart Journal*, 42(5), 373-498.

7. IMPLEMENTATION PLAN

A summary of how the policy will be implemented – use of a table such as that below is often helpful.

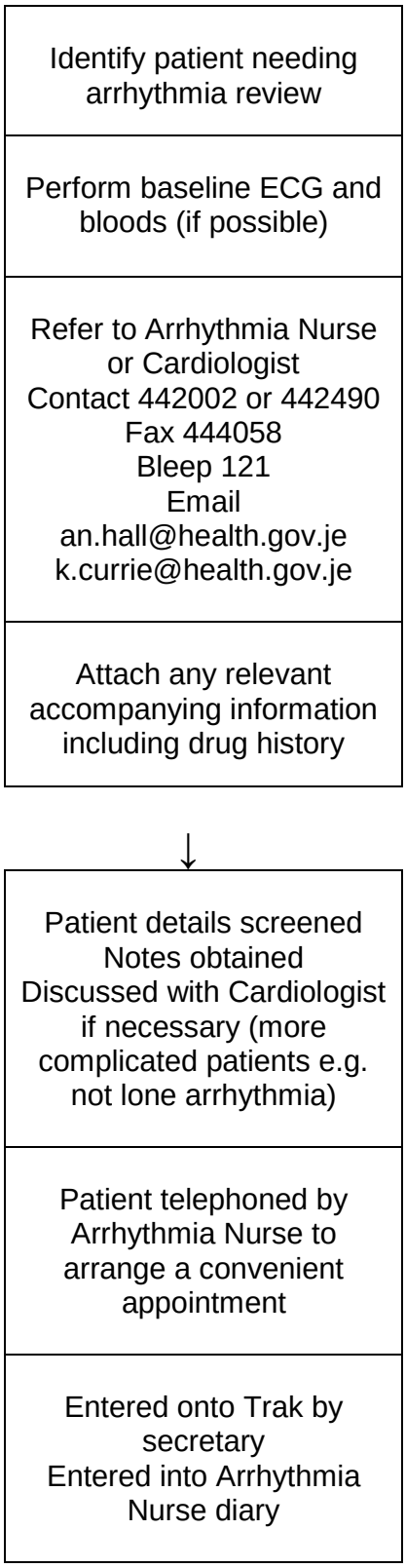
Action	**Responsible Officer**	**Timeframe**
Communication	Angela Moss	Ongoing
Educating primary care	Angela Moss and Dr Mitchell	Began October 2013, and letters sent to all GP surgeries. Ongoing education sessions Cleveland Clinic 2.12.13 Route du Fort 10.1.14
Educating in-hospital staff - ED staff - Cardiology team - Clinical Investigations	Angela Moss	ED Consultants consulted, 2 separate teaching sessions with ED staff October and November 2013
Meet with Ann Kelly	Angela Moss	November 2013
Uploading information to HSSnet	Ann Kelly	

8. APPENDICES

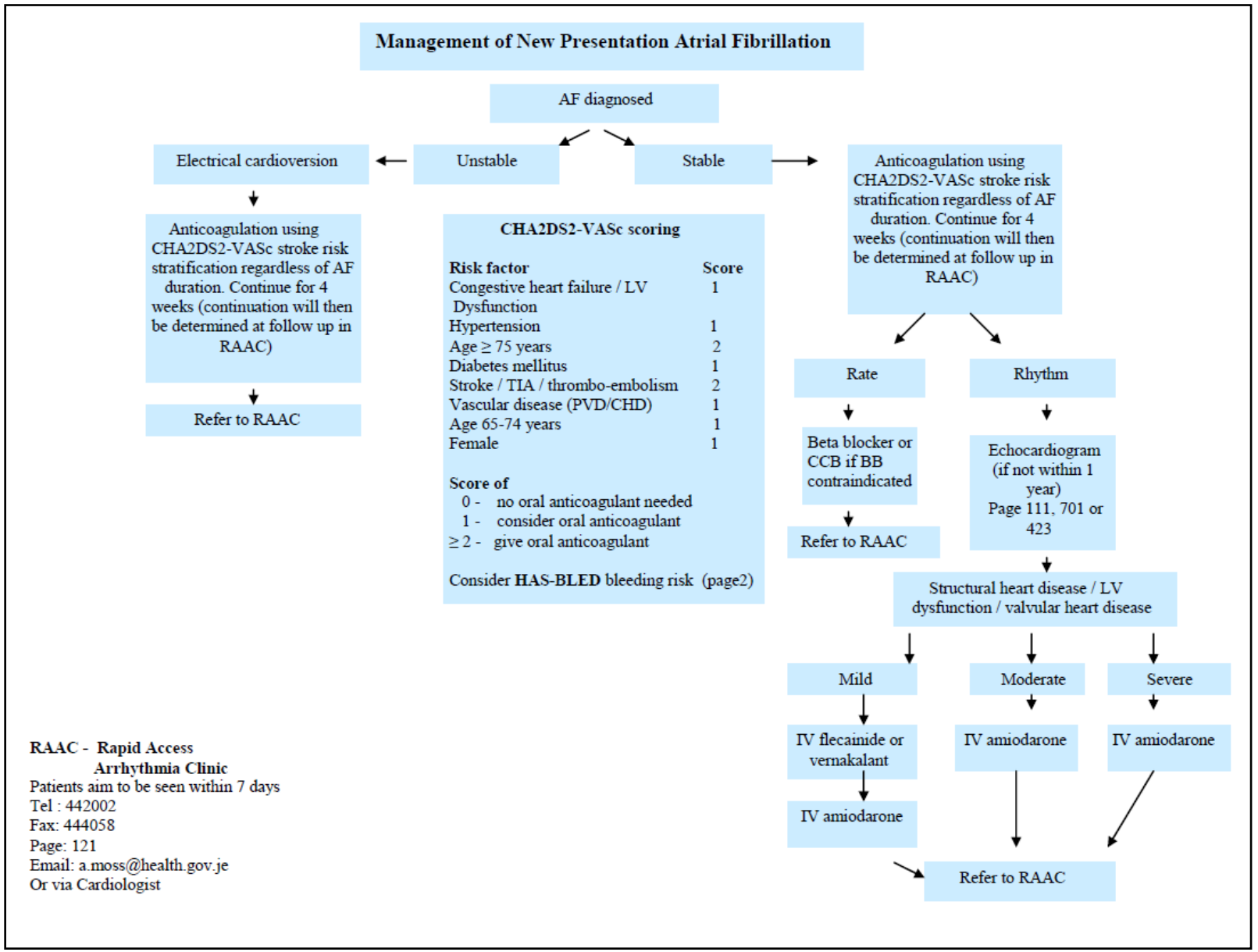
1. RAAC Referral Process
2. New Onset Atrial Fibrillation Management Algorithm
3. Referral Form
4. Rapid Access Proforma
5. Atrial Fibrillation Pathway

Appendix 1

RAAC Referral Process



Appendix 2. Management of new Presentation Atrial Fibrillation



HAS-BLED bleeding score risk

H	Hypertension	1
A	Abnormal renal and liver function (1 point each)	1 or 2
S	Stroke	1
B	Bleeding	1
L	Labile INR's	1
E	Elderly (e.g. age >65 years)	1
D	Drug or alcohol use (1 point each)	1 or 2

A score ≥3 indicates high risk and caution and regular review of the patient following initiation of antithrombotic therapy

Drug information

IV amiodarone

300mg in 100ml 5% glucose over 20-60 minutes
900mg in 500ml 5% glucose over 23 hours

Should infuse via central line

IV flecainide **Echo first**

Not to be given if abnormal LV function or significant valvular heart disease

2mg/kg over 10-30 minutes, max 150mg then infusion at 1.5mg/kg/hr for up to 24 hours in 0.9% saline or 5% glucose

IV vernakalant **Echo first**

Not to be given in moderate / severe heart failure, aortic stenosis, ACS (<30 days), hypotension (<100mmHg) or QT interval prolongation (uncorrected QT >400ms). Caution in mild heart failure.

Only is AF onset <48 hours

3mg/kg in 0.9% saline or 5% glucose over 10 minutes (to = 4mg/ml concentration after dilution)
If AF persists after 15 minutes, give a second infusion of 2mg/kg over 10 minutes

Oral anticoagulation

Vitamin K antagonist - warfarin

Novel agents
- dabigatran
- rivaroxaban
- apixaban

Novel anticoagulants licensed for non- valvular AF

Oral medications for rate control

CCB - calcium channel blocker e.g. diltiazem

BB - beta blocker e.g. bisoprolol

Appendix 3

RAAPC Referral Form

Fax to: 01534 444058 **Email to:** an.hall@health.gov.je / k.currie@health.gov.je
Deliver to Cardiac Nurse Office, 2nd floor

Referring information

Date of referral

Date referral received

Referred by

Referred from (department)

Patient information

Name

Address

DOB

Telephone

Current status

Inpatient □ Outpatient □

Allergies

Reason for referral

Presenting complaint

Current symptoms

Duration of symptoms

□ Palpitations
□ Dyspnoea
□ Syncope
□ Dizziness
□ Chest pain
□ Orthopnoea
□ Fatigue
□ Asymptomatic / coincidental

History

□ MI
□ Congestive Heart Failure
□ LVEF <30%
□ Structural heart disease
□ Syncope
□ Other

With referral please attach the following

□ ECG / relevant rhythm strips
□ Medication list
□ other relevant investigations (indicate which)

Appendix 4

Rapid Access Arrhythmia Clinic Proforma Date

Date of referral Referred from Date referral received Clinic appointment date

Summary of reason for referral

Patient details	**GP details**
	Allergies
Current Medications	**Previous Medications (and effects)**

Current symptoms

Fatigue	Yes / No	mild / moderate / severe
Dyspnoea	Yes / No	mild / moderate / severe
Palpitations	Yes / No	mild / moderate / severe
Dizziness	Yes / No	mild / moderate / severe
Syncope	Yes / No	mild / moderate / severe

Other symptoms. Comment.

ECG □ **Rhythm is** **History of patients arrhythmia**	**If AF- Permanent / Persistent / Paroxysmal** Determined by **Previous arrhythmia intervention**
Observations BP Pulse RR O2 saturations Height Weight BMI	**Echo** request □ Yes □ No Echo date Findings
Uncontrolled causes □ smoking □ alcohol □ other (medical / lifestyle)	**Additional investigations** Requested Performed
Blood results and dates	**CHA2DS2-VASc** score **HAS-BLED** score
Plan on discussion with Cardiologist	**Discussed and agreed with patient** **Sign and date** **Arrhythmia Nurse Specialist**

Appendix 5

Atrial Fibrillation Pathway

AF THINK ANTICOAGULATION

1. Perform ECG	**Diagnosis Confirmed**: - complete notes - patient education
2. Anti-thrombotic drugs WARFARIN DOAC	**Immediate commencement** Calculate CHA^2DS^2-VASc score and HAS-BLED
3. Rate Control	Should be **initiated immediately** if heart rate >110bpm (beta blockers, diltiazem, digoxin if sedentary)
4. Order blood tests (if not done at baseline)	FBC, U+E, LFT, TFT
5. Referral to Rapid Access Arrhythmia Clinic (442002, fax 444058, k.currie@health.gov.je or an.hall@health.gov.je	Appointments booked in and letters sent by cardiac nurse / admin

CHA^2DS^2-VASc	
CHF / LV dysfunction	1
Hypertension	1
Age >75 years	2
Diabetes	1
Stroke / TIA / thrombo-embolism	2
Vascular disease (PVD / CHD)	1
Age 65 – 74 years	1
Female	1

HAS-BLED	
Hypertension	1
Abnormal renal function	1
Abnormal liver function	1
Stroke	1
Bleeding	1
Labile INR's	1
Elderly (age >65 years)	1
Drugs	1
Alcohol	1