INTEGRITY | RESPECT | TEAMWORK | EXCELLENCE

NHS
Dorset County Hospital
NHS Foundation Trust

ATRIAL FIBRILLATION

Kay Elliott
Arrhythmia Nurse
Specialist

Atrial Fibrillation/Flutter

- What it is and why it's important
- Case identification
- Heart rate control
- Heart rhythm control
- AF-Related Stroke risk
- Onward referral/follow-up

Conditions associated with atrial fibrillation

- Ageing
- Hypertension
- Heart Failure
- Tachycardiomyopathy
- Valvular Heart Disease
- Cardiomyopathies
- Atrial septal defect
- Other congenital heart defects
- Coronary Heart Disease
- Thyroid dysfunction
- Obesity
- Diabetes
- COPD/Sleep Apnoea
- Chronic Renal Disease

SINUS RHYTHM VERSUS ATRIAL FIBRILATION

First diagnosed episode of atrial fibrillation

Paroxysmal
(usually ≤48 Hrs)

Persistent

Long Standing
(persistent > 1year)

Permanent
(accepted)

www.escardio.org/guidlines. European Heart Journal (2010) 31, 2369-2429

"Mrs Betty Sawyer"

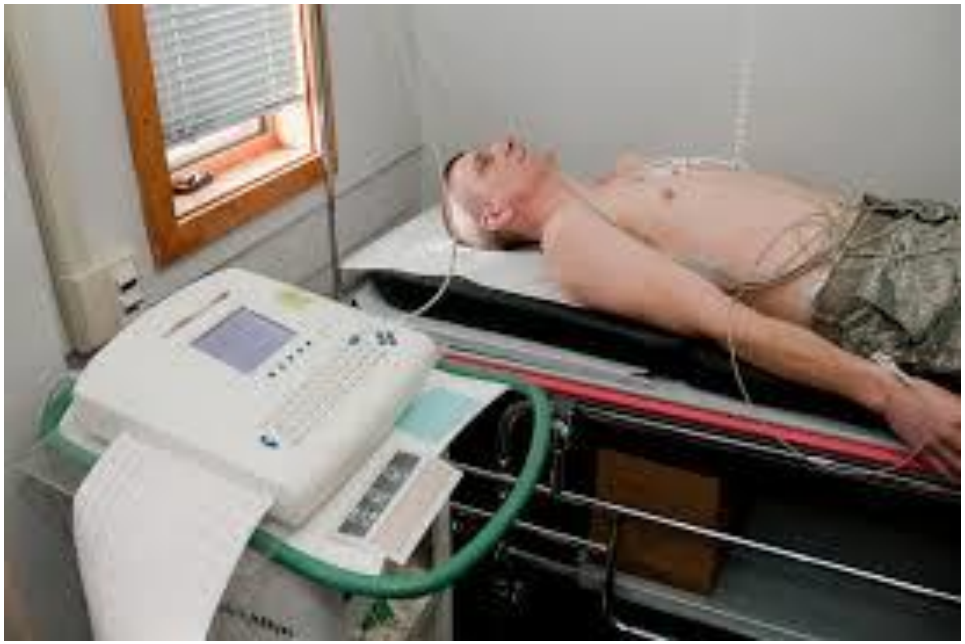
79 years old – admitted two days ago with a chest infection

Past Medical History:

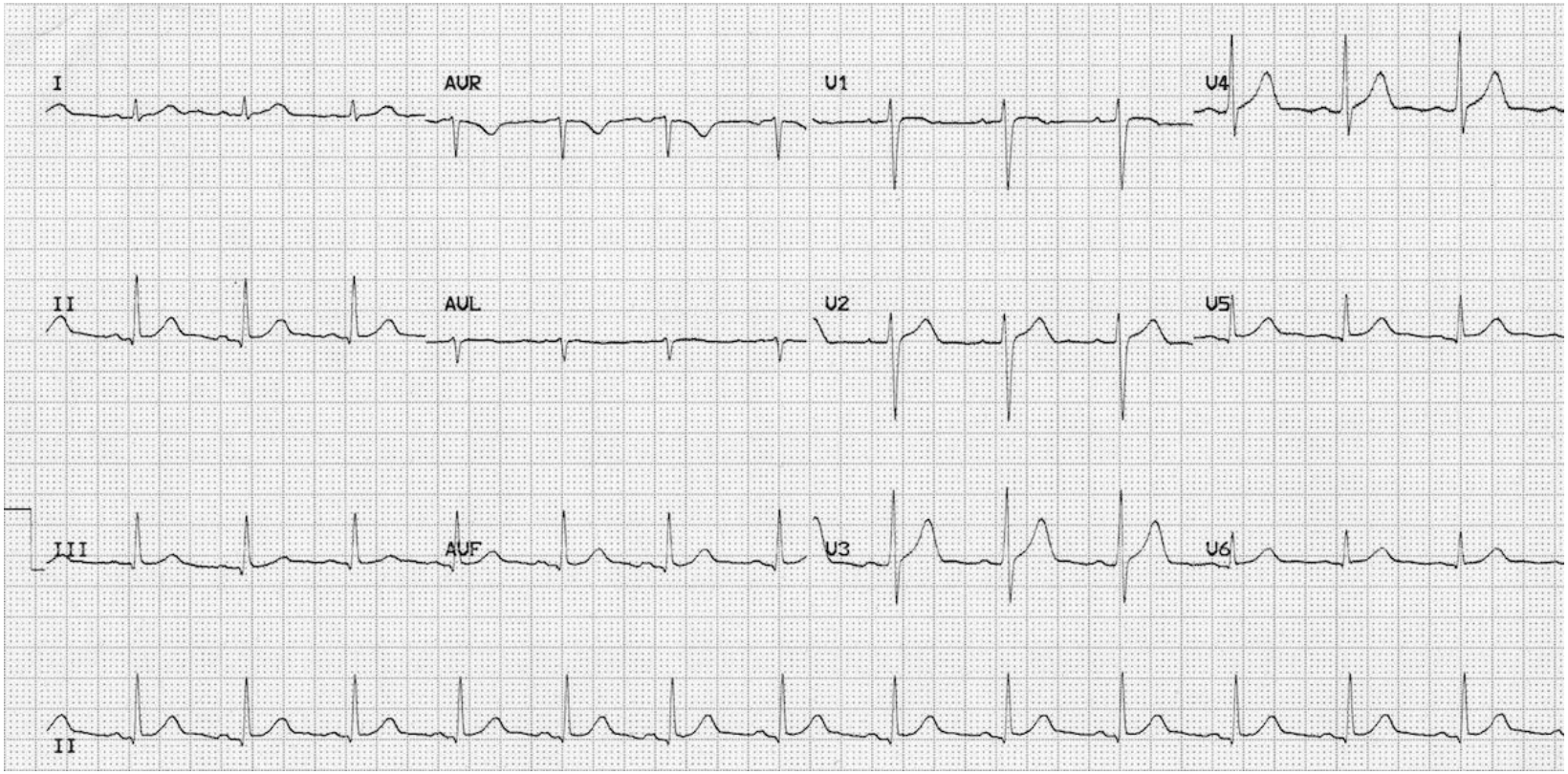
Hypertension and Diabetes

What would make you suspect Atrial Fibrillation?

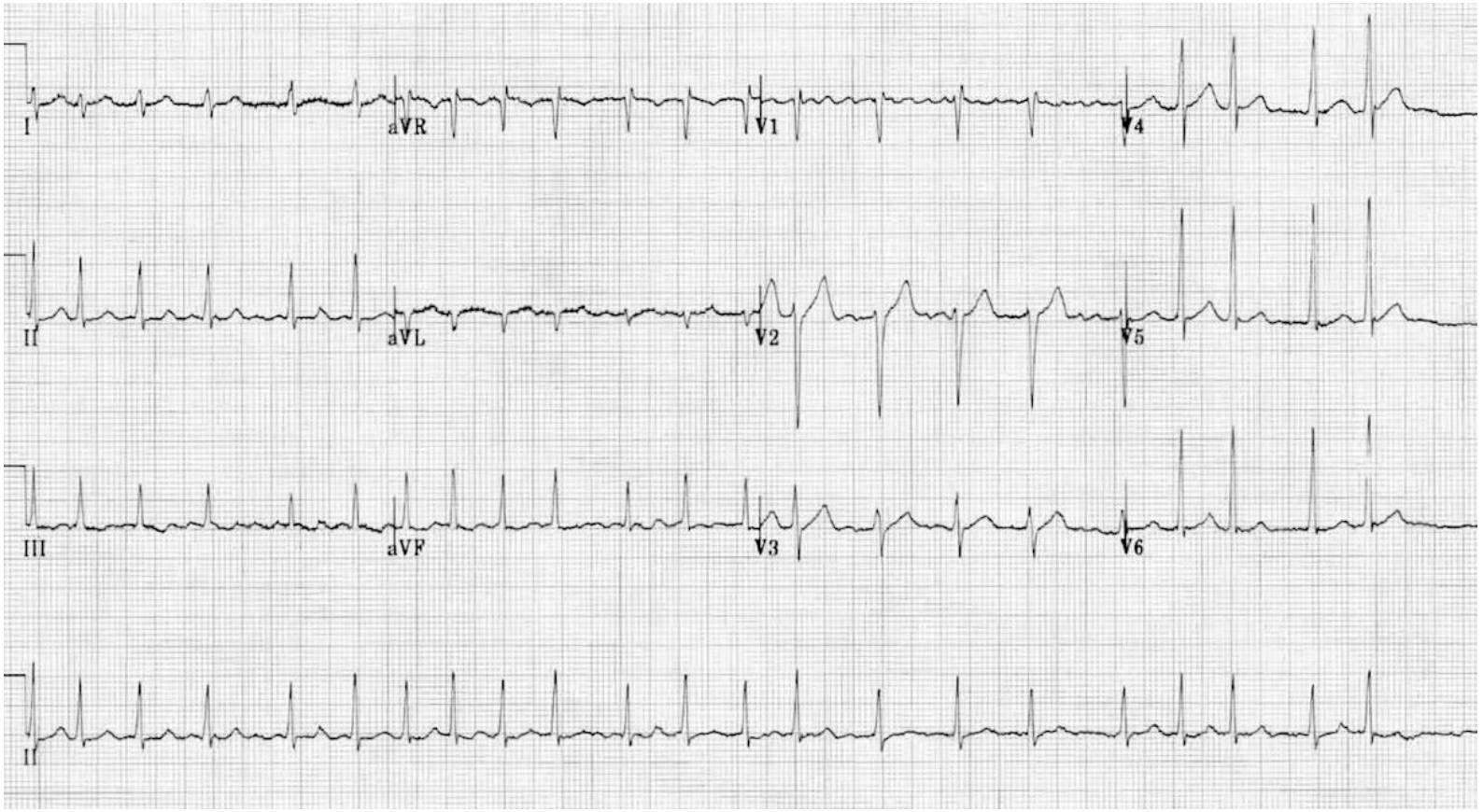
Confirming Atrial Fibrillation



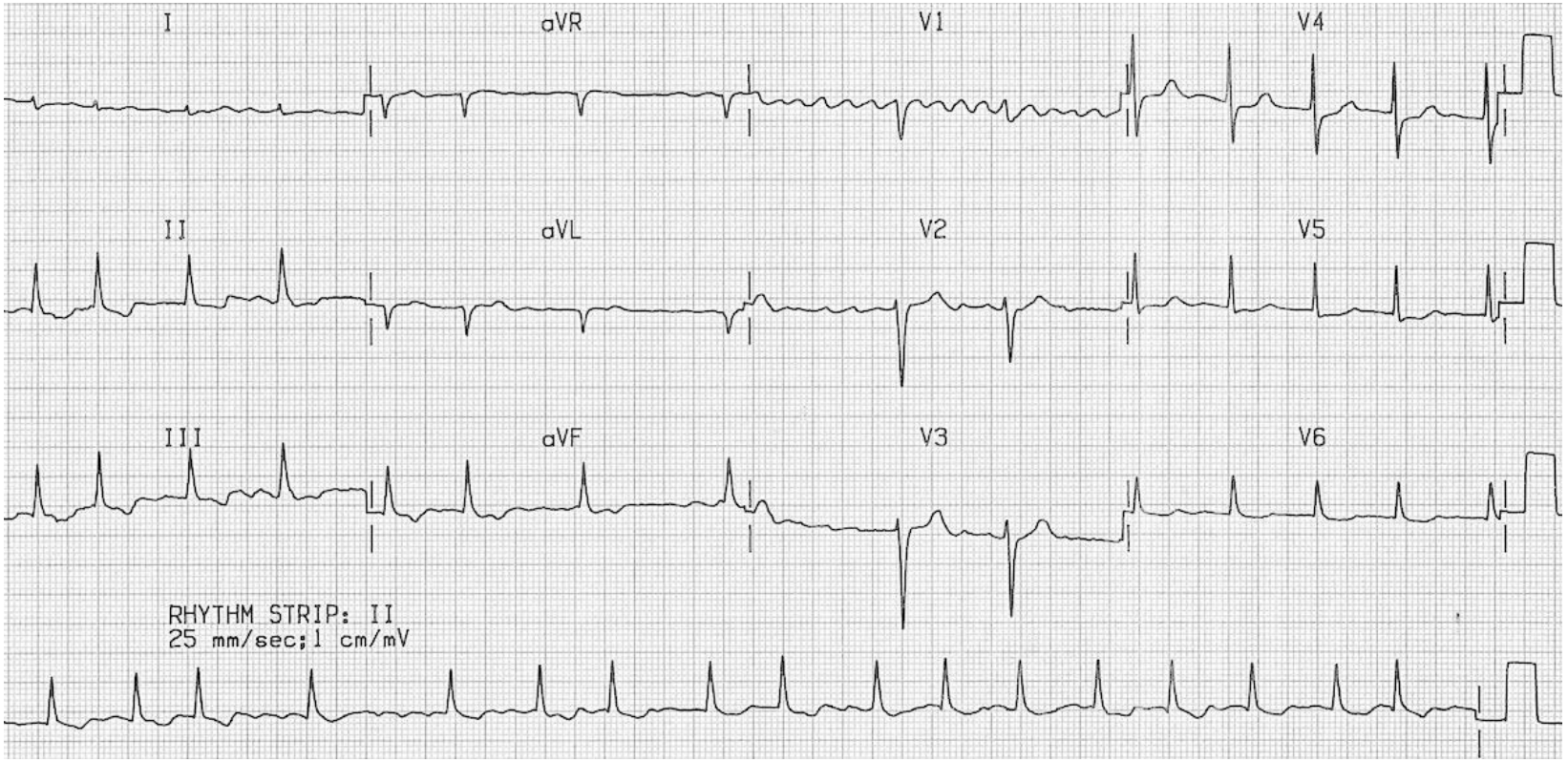
Sinus Rhythm



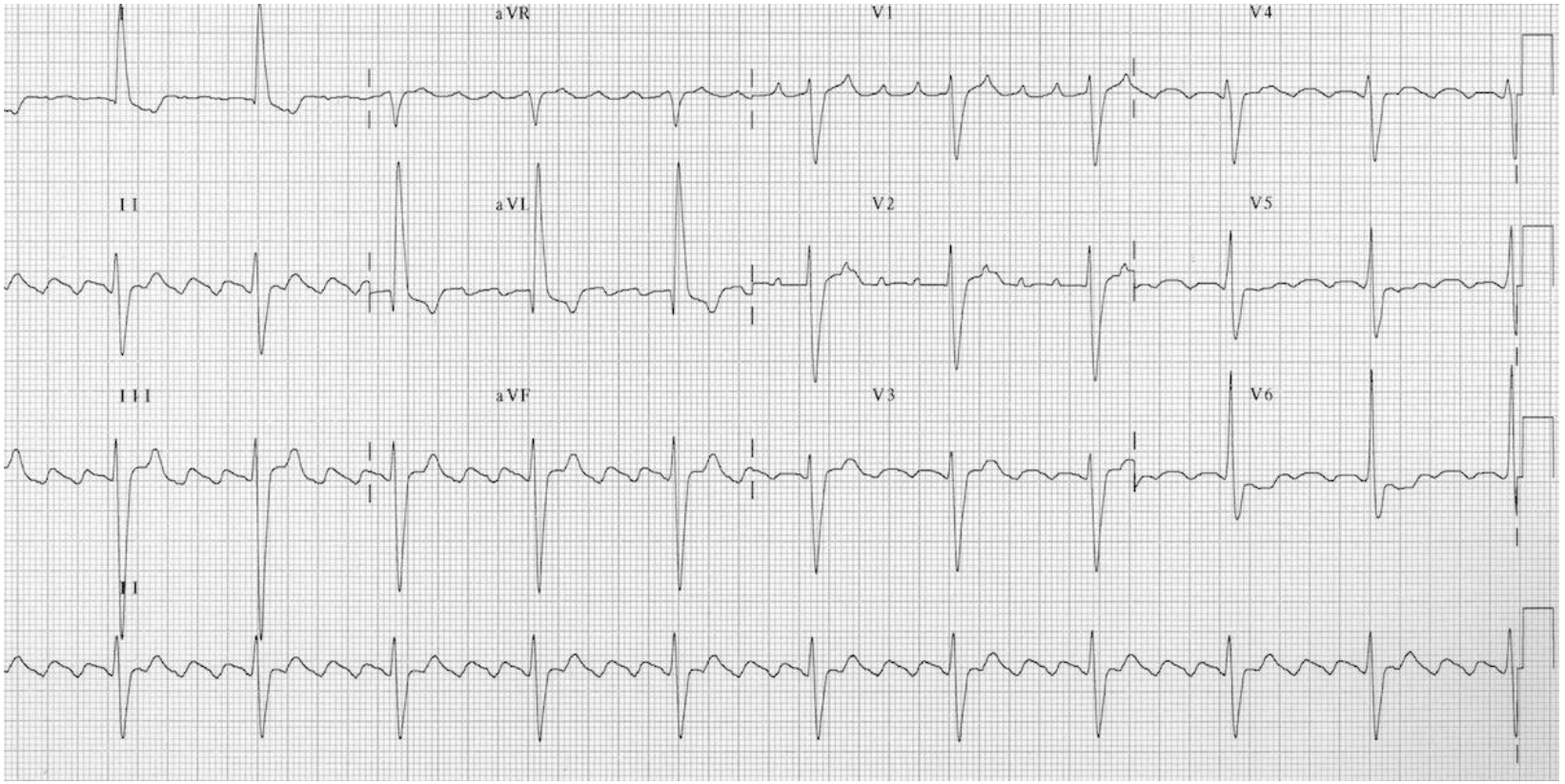
Atrial Fibrillation



Atrial Fibrillation



Atrial Flutter



What ne pen now?

What needs to happen now?

- Assessment of symptoms
- Physical assessment and escalation
- Request further Tests (bloods, echo, 24 hour Holter)
- Patient education and support
- Assessment of stroke risk
- Discussion of treatment options (Rate and/or Rhythm control)
- Personalised package of care developed and documented

Rate or Rhythm Control?

Aim of heart rate control in atrial fibrillation/flutter	Aim of rhythm control in atrial fibrillation/flutter
Minimise symptoms	Restore or reduce paroxysms
Prevent tachycardia associated cardiomyopathy	Tools for rhythm control: •Cardioversion •Anti-arrhythmic medication •Ablation •Surgery

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"Mrs Betty Sawyer"

79 years old – admitted two days ago with a chest infection

Past Medical History:

Hypertension and Diabetes

Symptoms: a little more breathless walking out to the toilet but no dizziness or chest pain.

Observations and ECG:
Blood pressure: 128/76
Pulse: 88bpm
Oxygen saturations: 95% on air
Mild bilateral ankle oedema (long-standing)
ECG: Atrial fibrillation 108bpm

Rate Control

Beta-blocker

Diltiazem (if beta-blocker contraindicated)

Digoxin as an additional agent to optimise rate control, where required or as monotherapy only in predominantly sedentary patients

What affects might a beta-blocker or diltiazem have?

Digoxin Toxicity

Risk of Toxicity Increased with:

Medications: Calcium Channel Blockers, Quinidine, Amiodarone, Diuretics, Propafenone, Indomethacin)

Age

Electrolyte imbalance: Hyper/hypokalaemia, hypomagnesemia, hypercalcaemia and hypernatraemia

Metablolic problems: Hypothyroidism, hypoxaemia and alkalosis

What would make you suspect Digoxin Toxicity?

Symptoms of digoxin toxicity

- Vomiting
- Black stools
- Rash
- Blurred vision
- Visual disturbance/ “auras” (yellow-green halos around people/objects)
- Confusion, drowsiness, nightmares and agitation

NB – digoxin level blood test to be taken 6-8 hours after the last dose

"Mrs Betty Sawyer"

79 years old – admitted two days ago with a chest infection

Past Medical History:

Hypertension and Diabetes

No history of asthma or drug allergies/intolerance. Lives alone and usually active; enjoys walking and ballroom dancing

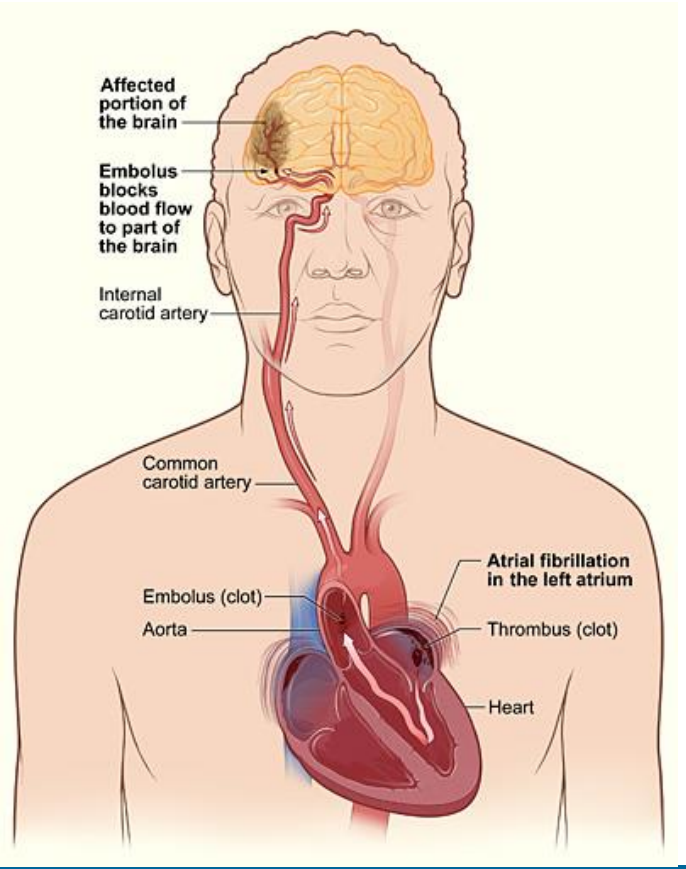
Reviewed by medical registrar and commenced on bisoprolol 2.5mg daily

Stroke risk with atrial fibrillation/flutter

Calculate stroke risk sore in those with:

- symptomatic, asymptomatic, paroxysmal, persistent or permanent atrial fibrillation
- atrial Flutter
- a continuing risk of arrhythmia recurrence after cardioversion back to sinus rhythm

Do not offer Aspirin monotherapy solely for stroke prevention to people with atrial fibrillation



Mrs Sawyer's Stroke Risk: CHA_2DS_2-VASc Score

C	**Congestive heart failure?**	**1**
H	Hypertension	1
A	Age >75 yrs	2
D	Diabetes	1
S	Stroke ,TIA or thromboembolism	2
V	Vascular disease	1
A	Age 65-74	1
Sc	Sex category (female)	1

So even without the echo result we know her score is at least 5 and therefore she is at significant stroke risk

1 point for female gender alone would NOT be an indication for anticoagulation

Stroke risk
CHA_2DS_2-VASc Score

Ensure that anticoagulation is discussed and offered to individuals with:

- a score of ≥2

- considered for all those with a score of 1 (except if they are aged <65 yrs and the point is due to female gender alone)

(NICE, CG180)

Stroke risk - CHA2DS2-VASc Score

A score of 0 (or 1 for females) no anticoagulation (bleeding risk with anticoagulation is deemed to be higher than their stroke risk)

Individuals with AF and underlying cardiac issues such as valvular heart disease or cardiomyopathies may require long term anticoagulation irrespective of their CHA_2DS_2-VASc score

Those being prepared for cardioversion or AF ablation will also be anticoagulated prior to and after the intervention

(NICE, CG180)

Bleeding Risk
HASBLED Score

H	Hypertension	1
A	Abnormal renal and liver function*	1 or 2
S	Stroke	1
B	Bleeding	1
L	Labile INRs	1
E	Elderly >65years	**1**
D	Drugs eg aspirin, **NSAID**, alcohol*	1 or 2

*1 point each.

A Score ≥=3 indicates high risk

Therefore, caution required with either anti-platelet or oral anticoagulant therapy

(NICE, CG180)

Bleeding Risk
HASBLED Score

- A score of ≥3 indicates that caution and regular review are appropriate

- The score per se should not be used to exclude patients from anti-coagulation

- Need to address the correctable risk factors for bleeding

(NICE, CG180)

Mrs Sawyer

High stroke risk and low bleeding risk

Check for contraindications

Risk versus benefit

Mrs Sawyer's preference including which anticoagulant she would prefer

Dabigatran, Rivaroxaban, Apixaban & Edoxaban

- This group of drugs may be abbreviated as NOAC's (Non vitamin K Oral Anti-Coagulants) **Or** DOAC's (Direct Oral Anti-Coagulants)
- At least as effective as Warfarin
- Have a lower risk of intracranial haemorrhage
- Higher risk of GI bleeding (Dabigatran, Rivaroxaban & Edoxaban)
- Rapid onset/short half-life
- Renal function issues
- Do not need to monitor INR
- **Do need** to monitor (renal/liver function/dose, concordance, fbc/bleeding)

Not for patients with Valvular AF or those with prosthetic heart valves

Warfarin with poor INR control

- 2 INR values higher than 5 or 1 INR value higher than 8 within the past 6 months
- 2 INR values less than 1.5 within the past 6 months
- Time in treatment range less than 65%

Atrial fibrillation: the management of atrial fibrillation NICE clinical guideline 180

Address factors that may contribute to poor INR control:

- cognitive function
- adherence to prescribed therapy
- illness
- interacting drug therapy
- lifestyle factors including diet and alcohol consumption

Mrs Sawyer

She was keen to avoid Warfarin (did not want to go to regular INR clinics)

She wanted a once a day tablet and her kidney function was satisfactory so she could have either Rivaroxaban or Edoxaban.

"Mrs Betty Sawyer"

Reviewed at GP surgery 3 weeks later. Now feeling better and back to walking on a daily basis. Not troubled by breathlessness but still gaining strength after her chest infection. Managing well on her new medication; GP checked that she was taking rivaroxaban with her main meal (absorption issue). Her blood pressure was 120/70 and her pulse rate 70bpm (ECG shows atrial fibrillation 80bpm.

She has been booked for a further review with blood tests in 2 months time. GP planning to check with cardiology as to whether an echocardiogram scan has been booked.

Bleeding advice with anticoagulation

Please seek medical advice immediately if you have a significant blow to the head or have been involved in an accident, or if you have any of the following:

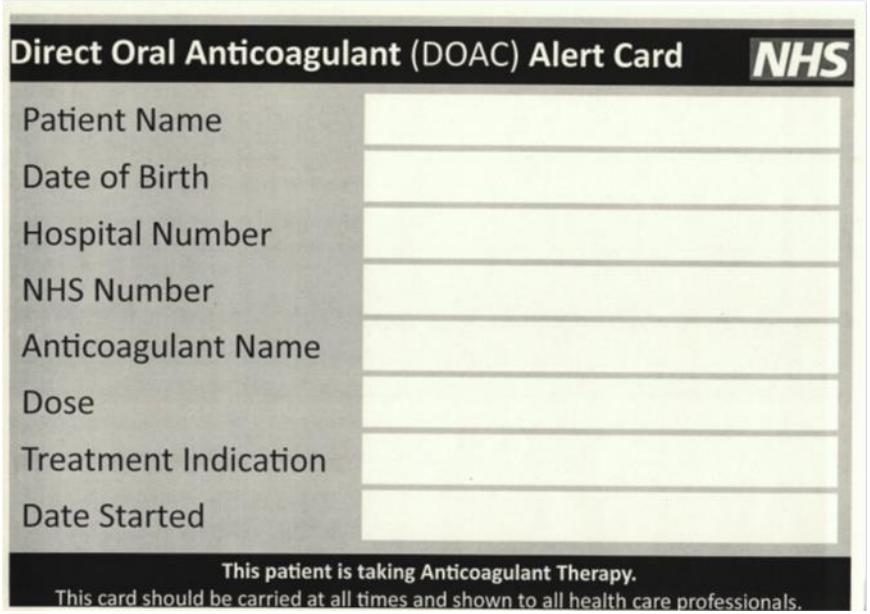
- (prolonged nosebleeds (over ten minutes)
- unusual headaches
- blood in your urine, stools or vomit
- black stools
- unexplained or severe bruising

- If you cut yourself, apply pressure as you normally would. It may take longer for the wound to stop bleeding. If the bleeding does not stop within 10 minutes, go to your local emergency department (A&E).

- Seek prompt medical advice if you are develop indigestion symptoms.

Yellow Book and Warfarin Alert Card

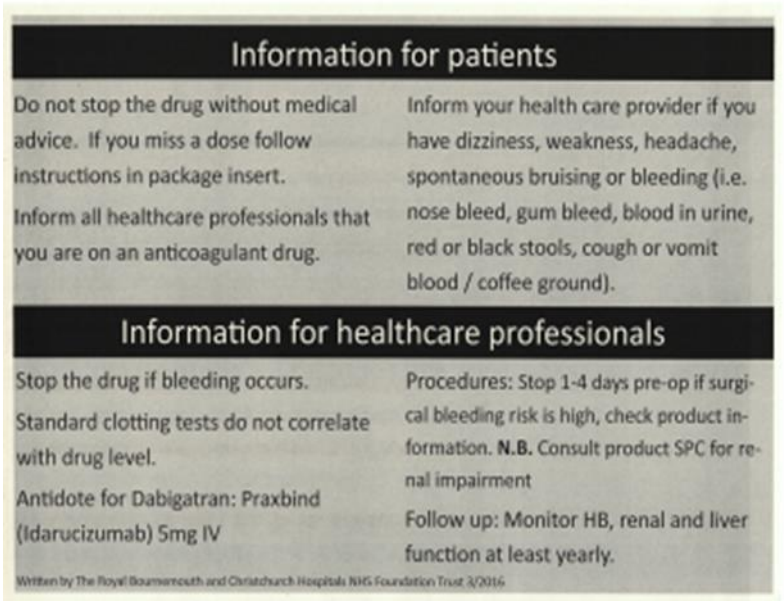
DOAC Alert Card (Also Yellow!)



Direct Oral Anticoagulant (DOAC) **Alert Card** NHS

Patient Name	
Date of Birth	
Hospital Number	
NHS Number	
Anticoagulant Name	
Dose	
Treatment Indication	
Date Started	

This patient is taking Anticoagulant Therapy.
This card should be carried at all times and shown to all health care professionals.



Information for patients

Do not stop the drug without medical advice. If you miss a dose follow instructions in package insert.

Inform all healthcare professionals that you are on an anticoagulant drug.

Inform your health care provider if you have dizziness, weakness, headache, spontaneous bruising or bleeding (i.e. nose bleed, gum bleed, blood in urine, red or black stools, cough or vomit blood / coffee ground).

Information for healthcare professionals

Stop the drug if bleeding occurs.

Standard clotting tests do not correlate with drug level.

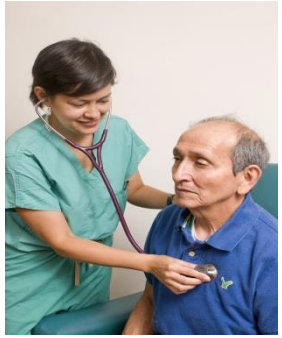
Antidote for Dabigatran: Praxbind (Idarucizumab) 5mg IV

Procedures: Stop 1-4 days pre-op if surgical bleeding risk is high, check product information. **N.B.** Consult product SPC for renal impairment

Follow up: Monitor HB, renal and liver function at least yearly.

Written by The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust 3/2016

Case Study



Mr David Matthews 70 years old

- Admitted with fast atrial fibrillation (140bpm)
- Has been feeling short of breath on inclines and falling to sleep easily for the last 3-4 weeks. Ankles swollen over the last week and sleeping on three (rather than two pillows)
- Past Medical History – Hypertension
- Gave up smoking 20 years ago. Retired. Lives with his wife. Social drinker. Usually enjoys golf but limited by symptoms now.

Arrhythmia Nurse-Led AF Clinic
Ext 4920 (Bleep 498)

From Primary Care:

New onset persistent atrial fibrillation/flutter, confirmed with 12 lead ECG

From Secondary Care:

New onset persistent atrial fibrillation/flutter, confirmed with 12 lead ECG and suitable for DCC

Exclusion criteria to RAAF Clinic

- Known/long standing AF
- Patients with Paroxysmal AF
- Not suitable for rhythm control strategy; rate controlled and symptom free

References

- Camm AJ, Kirchhof P, Lip GY et al (2010) Guidelines for the management of atrial fibrillation. The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology. Eur Heart J 31(19): 2369–429. doi:

- Camm AJ, Lip GY, De Caterina R et al (2012) 2012 focused update of the ESC Guidelines for the management of atrial fibrillation: an update of the 2010 ESC Guidelines for the management of atrial fibrillation. Developed with the special contribution of the European Heart Rhythm Association. Eur Heart J 33(21): 2719–47. doi: 10.1093/eurheartj/ehs253.

- National Institute for Health and Care Excellence (NICE), National Clinical Guideline Centre (2014) Atrial Fibrillation: the management of atrial fibrillation. Clinical guideline 180. Methods, evidence and recommendations. June 2014. Commissioned by the National Institute for Health and Care Excellence (full version and key recommendations).

- Google images – free to use/share – non-commercial

Lunch Break