

# Frontiers of Arrhythmia Management Heart Rhythm Congress

Birmingham 5<sup>th</sup> October, 2010

## What is Behind the New ESC AF Guidelines

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London, United Kingdom



European Heart Journal  
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**ESC GUIDELINES**



# **Guidelines for the management of atrial fibrillation**

**The Task Force for the Management of Atrial Fibrillation of the European Society of Cardiology (ESC)**

**Developed with the special contribution of the European Heart Rhythm Association (EHRA)<sup>†</sup>**

**Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS)**

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The disclosure forms of the authors and reviewers are available on the ESC website [www.escardio.org/guidelines](http://www.escardio.org/guidelines)

# Task Force on the Management of AF

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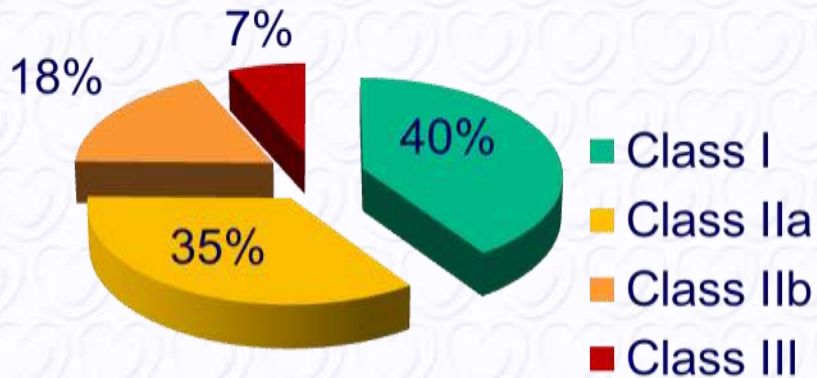
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## 6. References

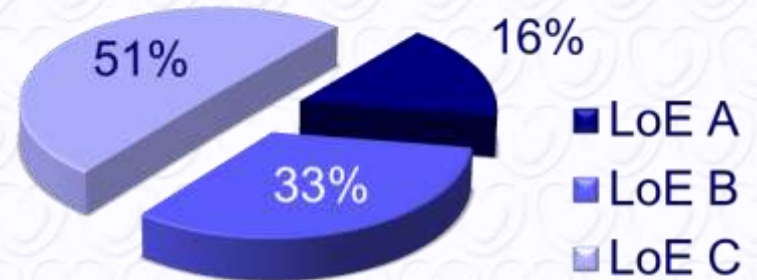
# Recommendations

## Total = 210

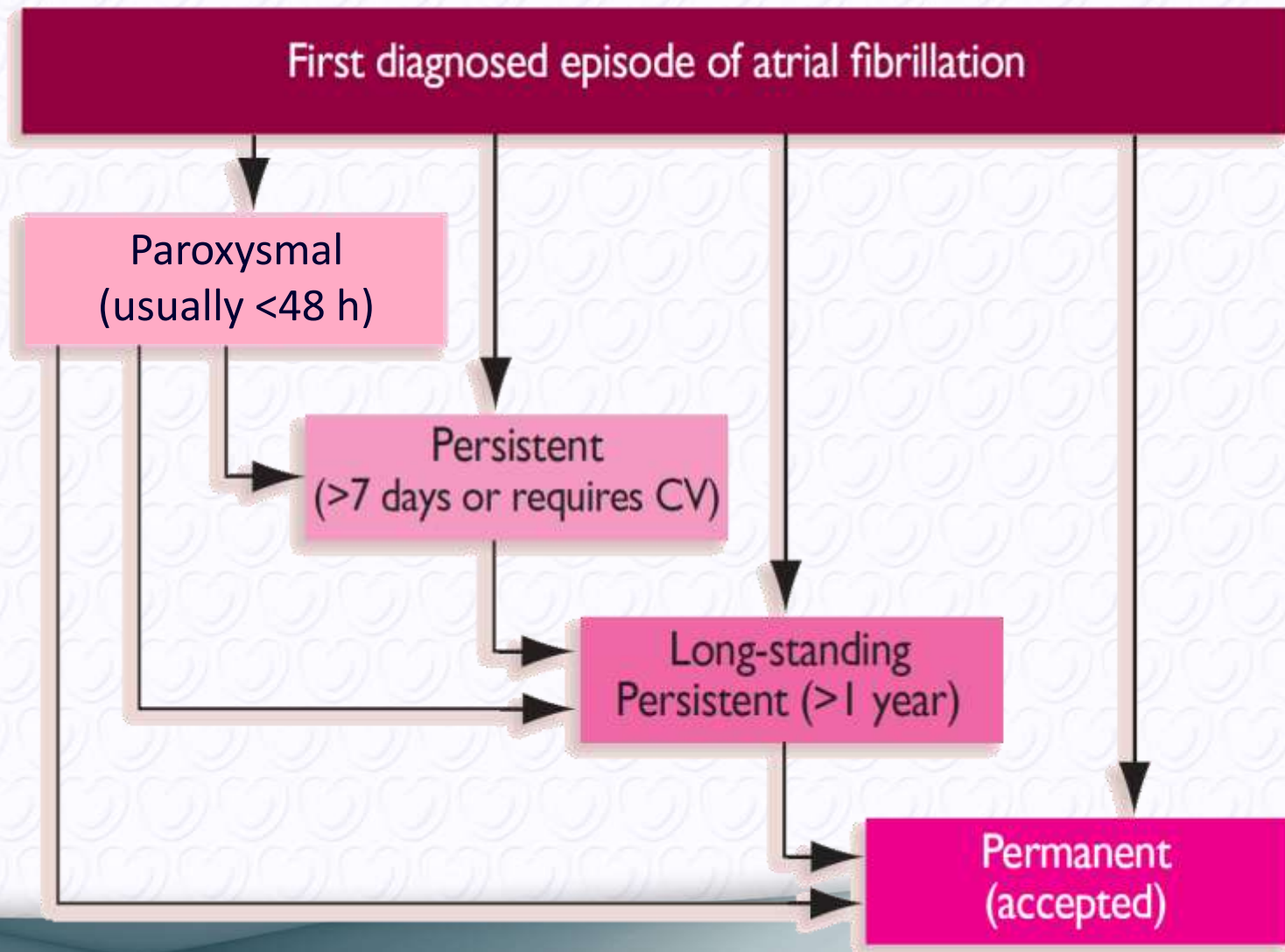
### Class of Recommendation



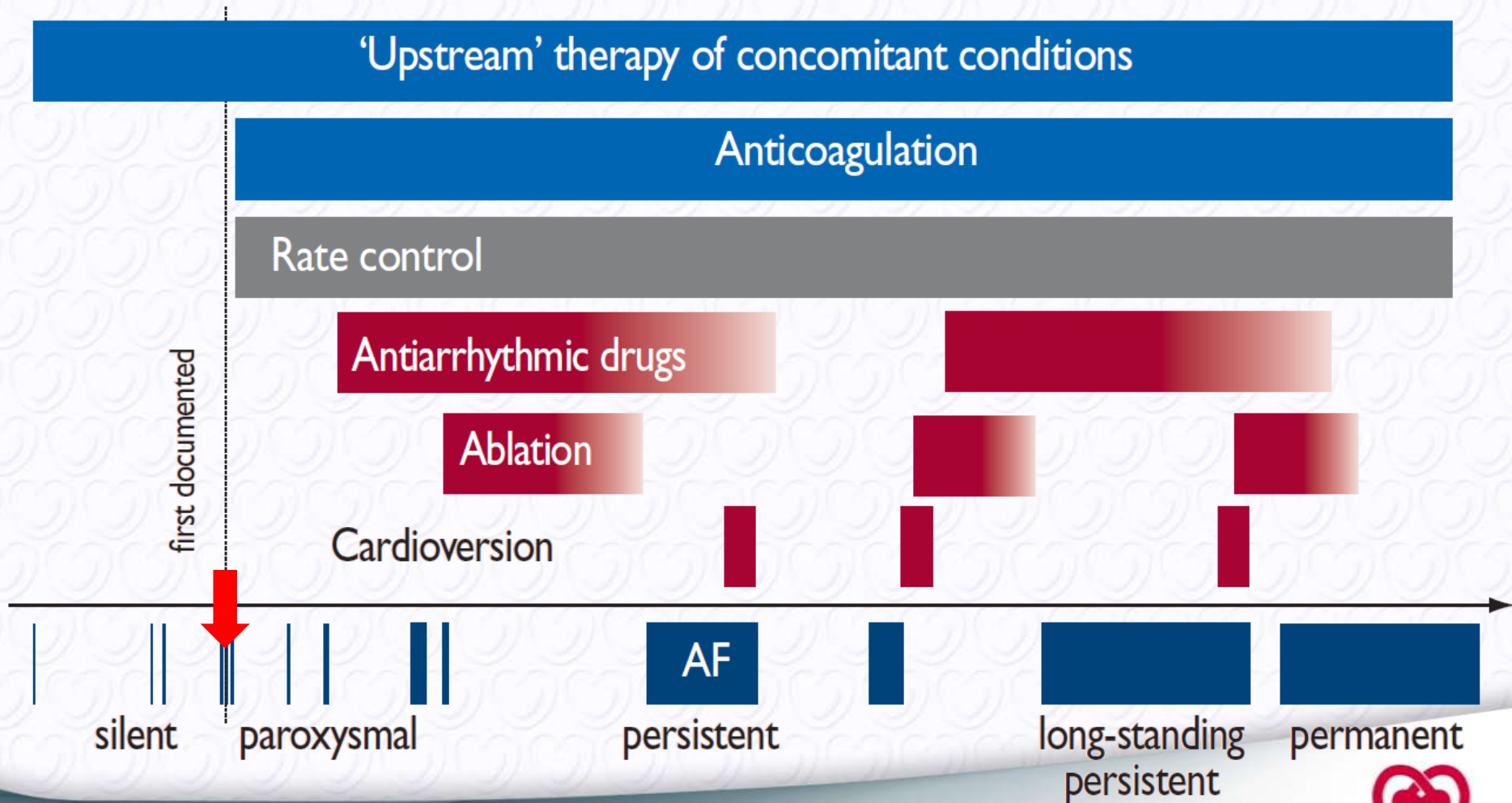
### Level of Evidence



# Classification of Atrial Fibrillation



# Time Course and Management of AF



# Symptom Scores

Classification of AF-related symptoms (EHRA score)	
<b>EHRA class</b>	<b>Explanation</b>
<b>EHRA I</b>	'No symptoms'
<b>EHRA II</b>	'Mild symptoms'; normal daily activity not affected
<b>EHRA III</b>	'Severe symptoms'; normal daily activity affected
<b>EHRA IV</b>	'Disabling symptoms'; normal daily activity discontinued

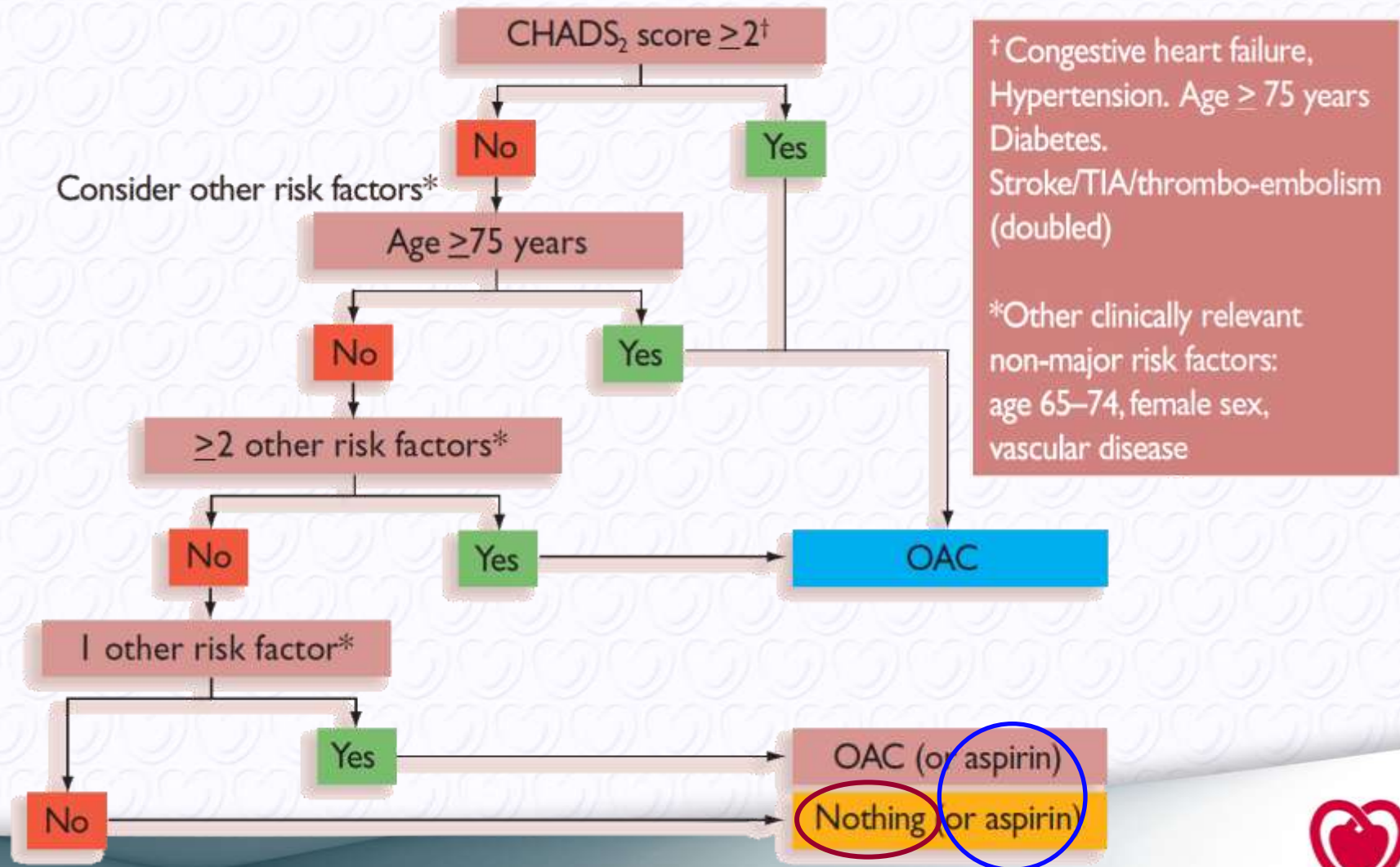
# Critical Questions on Follow-up

- Has the risk profile changed (e.g. new diabetes or hypertension), especially with regard to the indication for anticoagulation?
- Has the need for anticoagulation passed, e.g. postcardioversion in a patient with low thrombo-embolic risk?
- Have the patient's symptoms improved on therapy; if not, should other therapy be considered?
- Are there signs of proarrhythmia or risk of proarrhythmia; if so, should the dose of an antiarrhythmic drug be reduced or a change made to another therapy?
- Has paroxysmal AF progressed to a persistent /permanent form, in spite of antiarrhythmic drugs; in such a case, should another therapy be considered?

# CHA<sub>2</sub>DS<sub>2</sub>-VASc

Risk factor	Score
Congestive heart failure/LV dysfunction	1
Hypertension	1
Age $\geq 75$	2
Diabetes mellitus	1
Stroke/TIA/thrombo-embolism	2
Vascular disease <sup>a</sup>	1
Age 65–74	1
Sex category (i.e. female sex)	1
<b>Maximum score</b>	<b>9</b>

# CHA<sub>2</sub>DS<sub>2</sub>-VASc Thromboembolic Risk Score



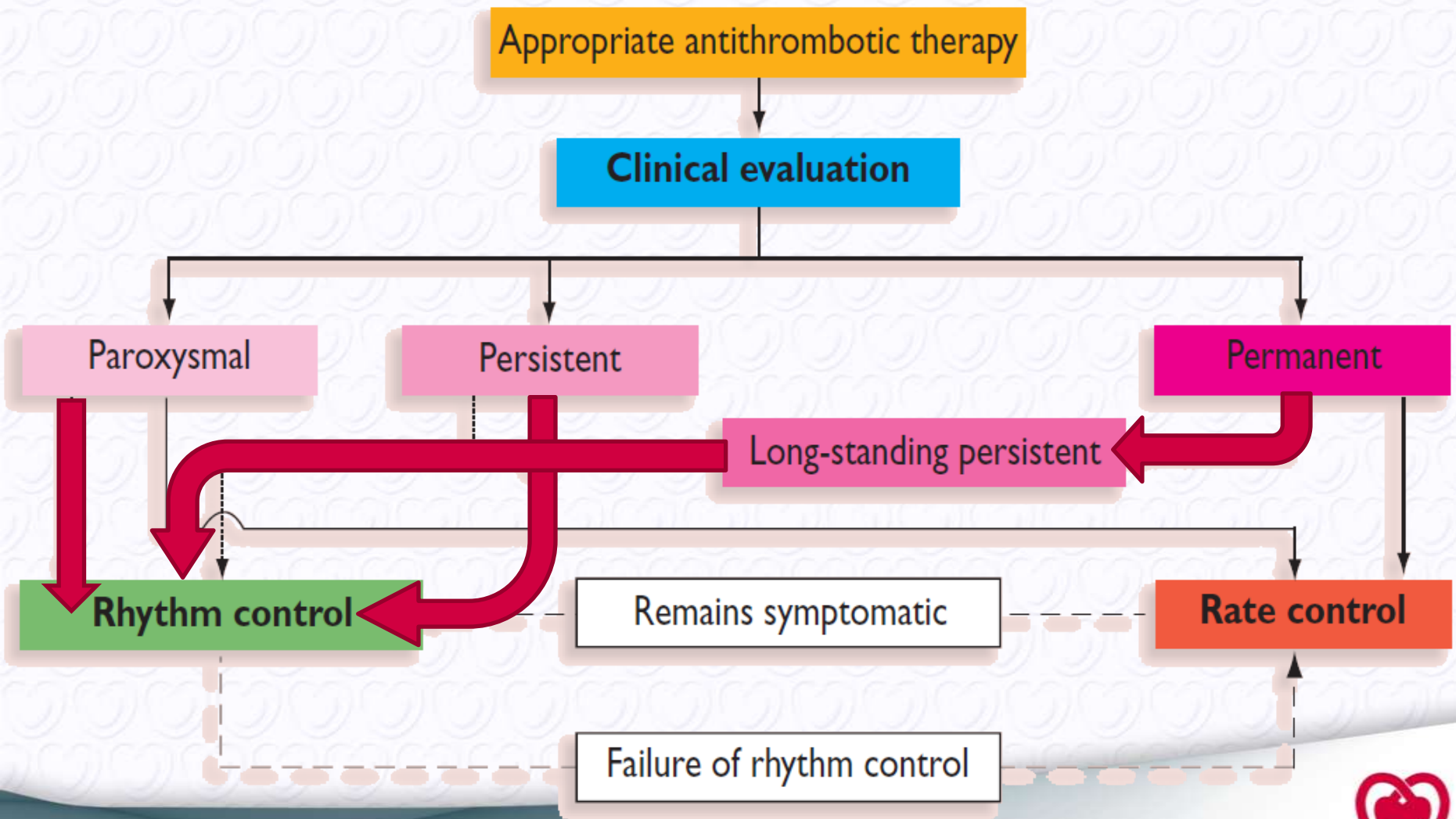
# Selected OAC Recommendations

Recommendations	Class <sup>a</sup>	Level <sup>b</sup>
Antithrombotic therapy to prevent thrombo-embolism is recommended for all patients with AF, except in those at low risk (lone AF, aged <65 years, or with contraindications).	I	A
It is recommended that the selection of the antithrombotic therapy should be based upon the absolute risks of stroke/thrombo-embolism and bleeding, and the relative risk and benefit for a given patient.	I	A
The CHADS <sub>2</sub> [cardiac failure, hypertension, age, diabetes, stroke (doubled)] score is recommended as a simple initial (easily remembered) means of assessing stroke risk in non-valvular AF.	I	A
<ul style="list-style-type: none"> <li>For the patients with a CHADS<sub>2</sub> score of <math>\geq 2</math>, chronic OAC therapy with a VKA is recommended in a dose-adjusted regimen to achieve an INR range of 2.0–3.0 (target 2.5), unless contraindicated.</li> </ul>		A
For a more detailed or comprehensive stroke risk assessment in AF (e.g. with CHADS <sub>2</sub> scores 0–1), a risk factor-based approach is recommended, considering 'major' and 'clinically relevant non-major' stroke risk factors <sup>a</sup> .	I	A
In patients with no risk factors who are at low risk (essentially patients aged <65 years with lone AF, with none of the risk factors), no antithrombotic therapy should be considered, rather than aspirin.	IIa	B
Combination therapy with aspirin 75–100 mg plus clopidogrel 75 mg daily, should be considered for stroke prevention in patients for whom there is patient refusal to take OAC therapy or a clear contraindication to OAC therapy (e.g. inability to cope or continue with anticoagulation monitoring), where there is a low risk of bleeding.	IIa	B

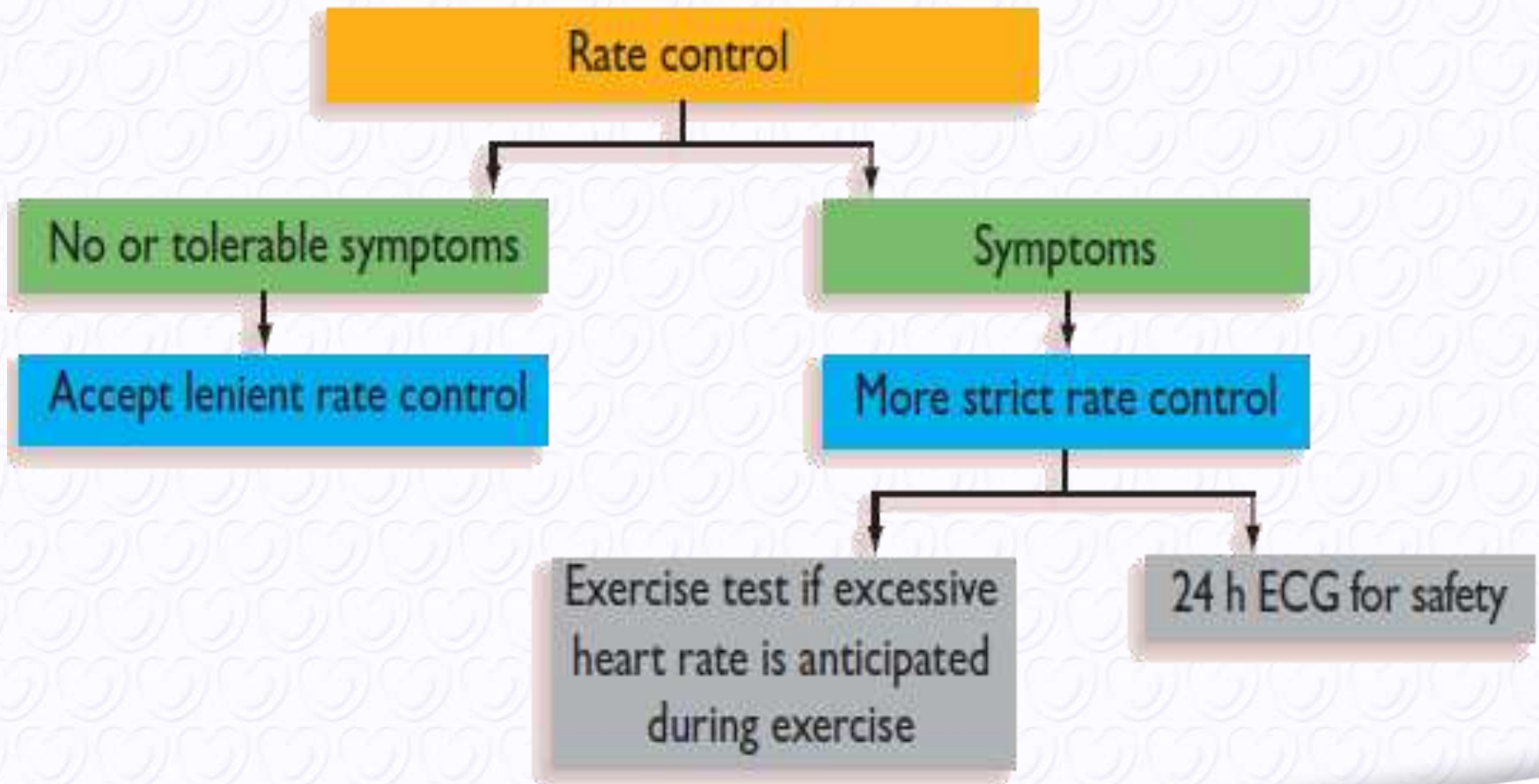
# Bleeding Risk – HAS-BLED Score

Letter	Clinical characteristic <sup>a</sup>	Points awarded
<b>H</b>	Hypertension	1
<b>A</b>	Abnormal renal and liver function (1 point each)	1 or 2
<b>S</b>	Stroke	1
<b>B</b>	Bleeding	1
<b>L</b>	Labile INRs	1
<b>E</b>	Elderly (e.g. age >65 years)	1
<b>D</b>	Drugs or alcohol (1 point each)	1 or 2
		Maximum 9 points

# Rate and Rhythm Control



# Optimal Rate Control



# Optimal Rate Control

<p>It is reasonable to initiate treatment with a lenient rate control protocol aimed at a resting heart rate &lt;110 bpm.</p>	IIa	B
<p>It is reasonable to adopt a stricter rate control strategy when symptoms persist or tachycardiomyopathy occurs, despite lenient rate control: resting heart rate &lt;80 bpm and heart rate during moderate exercise &lt;110 bpm. After achieving the strict heart rate target, a 24 h Holter monitor is recommended to assess safety.</p>	IIa	B

# Principles of Antiarrhythmic Drug Therapy to Maintain Sinus Rhythm

1. Treatment is motivated by attempts to reduce AF-related symptoms
2. Efficacy of antiarrhythmic drugs to maintain sinus rhythm is modest
3. Clinically successful antiarrhythmic drug therapy may reduce rather than eliminate recurrence of AF
4. If one antiarrhythmic drug 'fails' a clinically acceptable response may be achieved with another agent
5. Drug-induced proarrhythmia or extra-cardiac side-effects are frequent
6. Safety rather than efficacy considerations should primarily guide the choice of antiarrhythmic agent

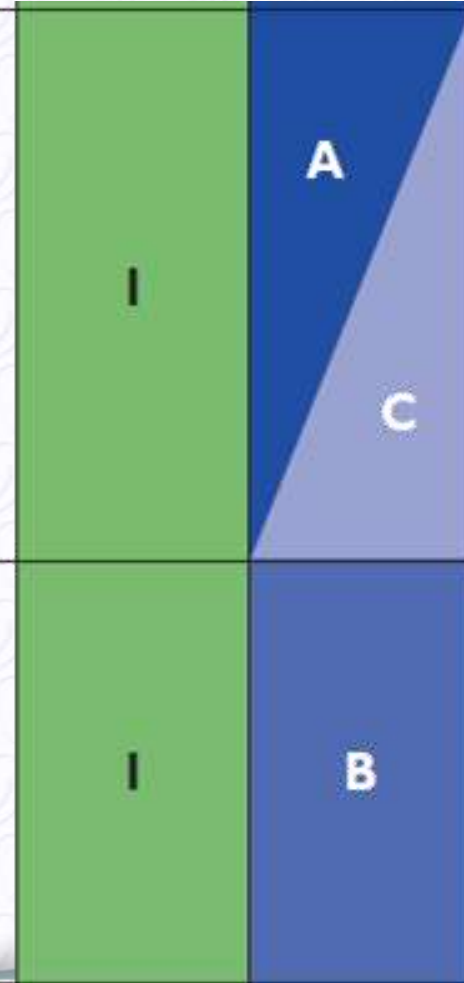
# Antiarrhythmic Medication for Rhythm Control

The following antiarrhythmic drugs are recommended for rhythm control in patients with AF, depending on underlying heart disease:		
• amiodarone	I	A
• dronedarone	I	A
• flecainide	I	A
• propafenone	I	A
• d,l-sotalol	I	A

# Antiarrhythmic Medication for Rhythm Control

Amiodarone is more effective in maintaining sinus rhythm than sotalol, propafenone, flecainide (by analogy), or dronedarone (LoE A), but because of its toxicity profile should generally be used when other agents have failed or are contraindicated (LoE C).

In patients with severe heart failure, NYHA class III and IV or recently unstable (decompensation within the prior month) NYHA class II, amiodarone should be the drug of choice.



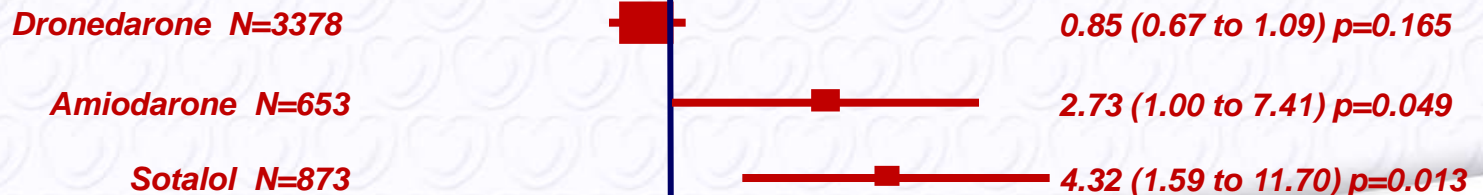
# AF Recurrence and All Cause Mortality

*Odds Ratios compared with Placebo*

## Antiarrhythmic Efficacy



## All Cause Mortality



0.1 0.2 0.5 1 2 5 10 100

# European Approval of Dronedarone



European Medicines Agency  
*Pre-Authorisation Evaluation of Medicines for Human Use*

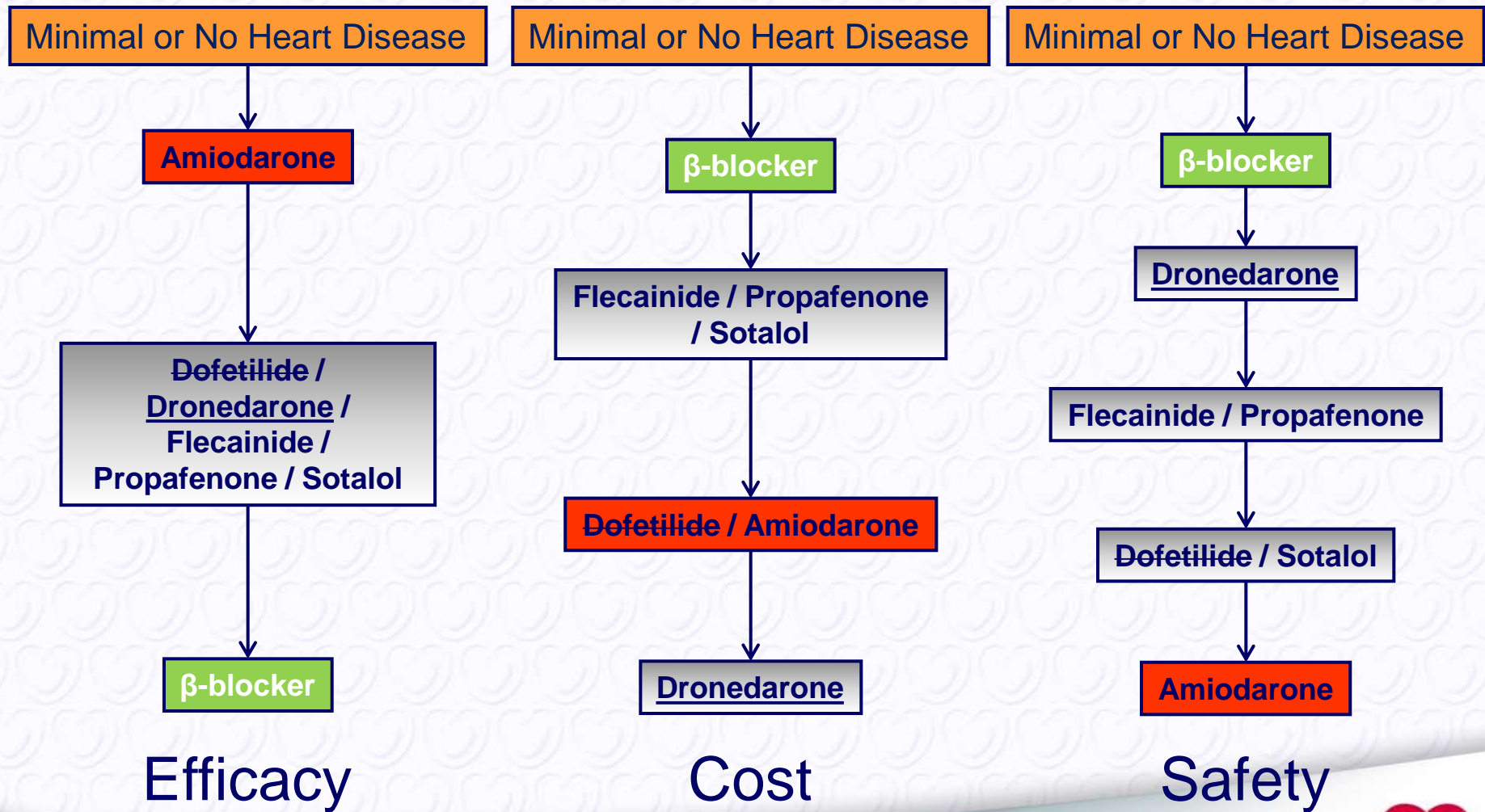
London, 24 September 2009  
Doc.Ref: EMEA/CHMP/376839/2009

## COMMITTEE FOR MEDICINAL PRODUCTS FOR HUMAN USE SUMMARY OF POSITIVE OPINION\* for MULTAQ

International Non-proprietary Name (INN): *dronedarone*

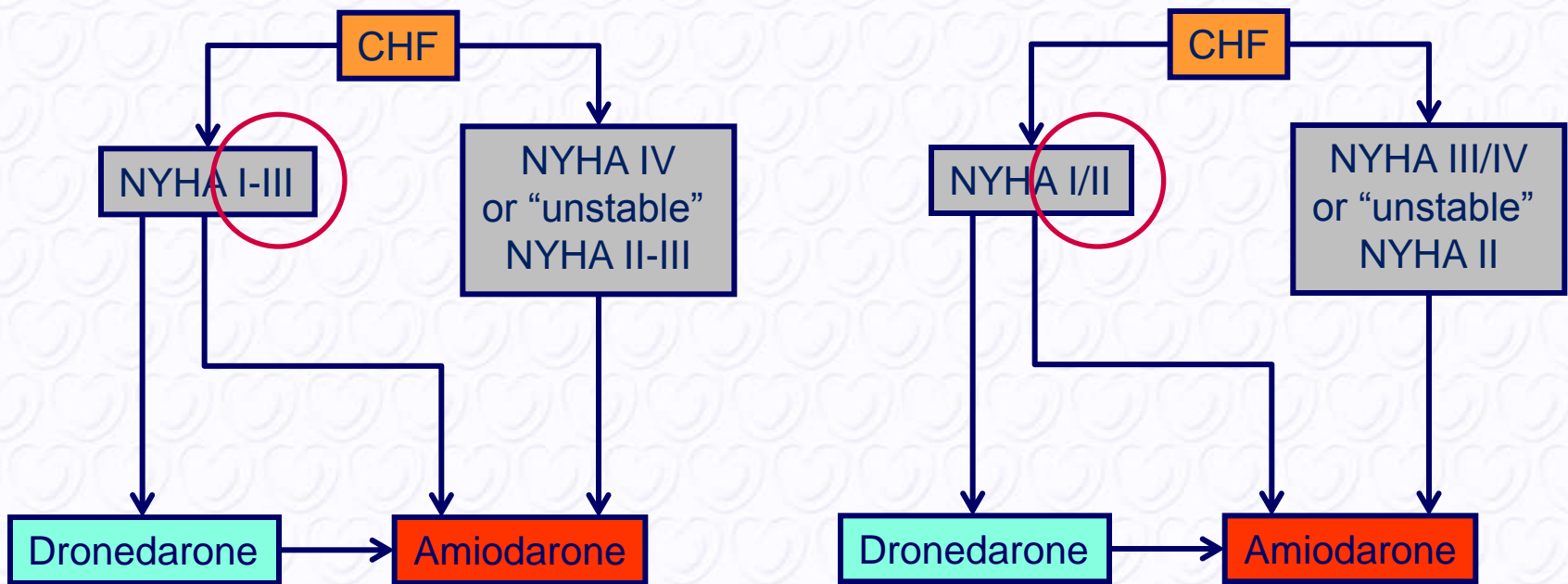
On 24 September 2009 the Committee for Medicinal Products for Human Use (CHMP) adopted a positive opinion,\*\* recommending granting a marketing authorisation for the medicinal product Multaq 400 mg film-coated tablet indicated in adult clinically stable patients with history of, or current non-permanent atrial fibrillation (AF) to prevent recurrence of AF or to lower ventricular rate (see section 5.1).

# AADs for – Guideline Considerations



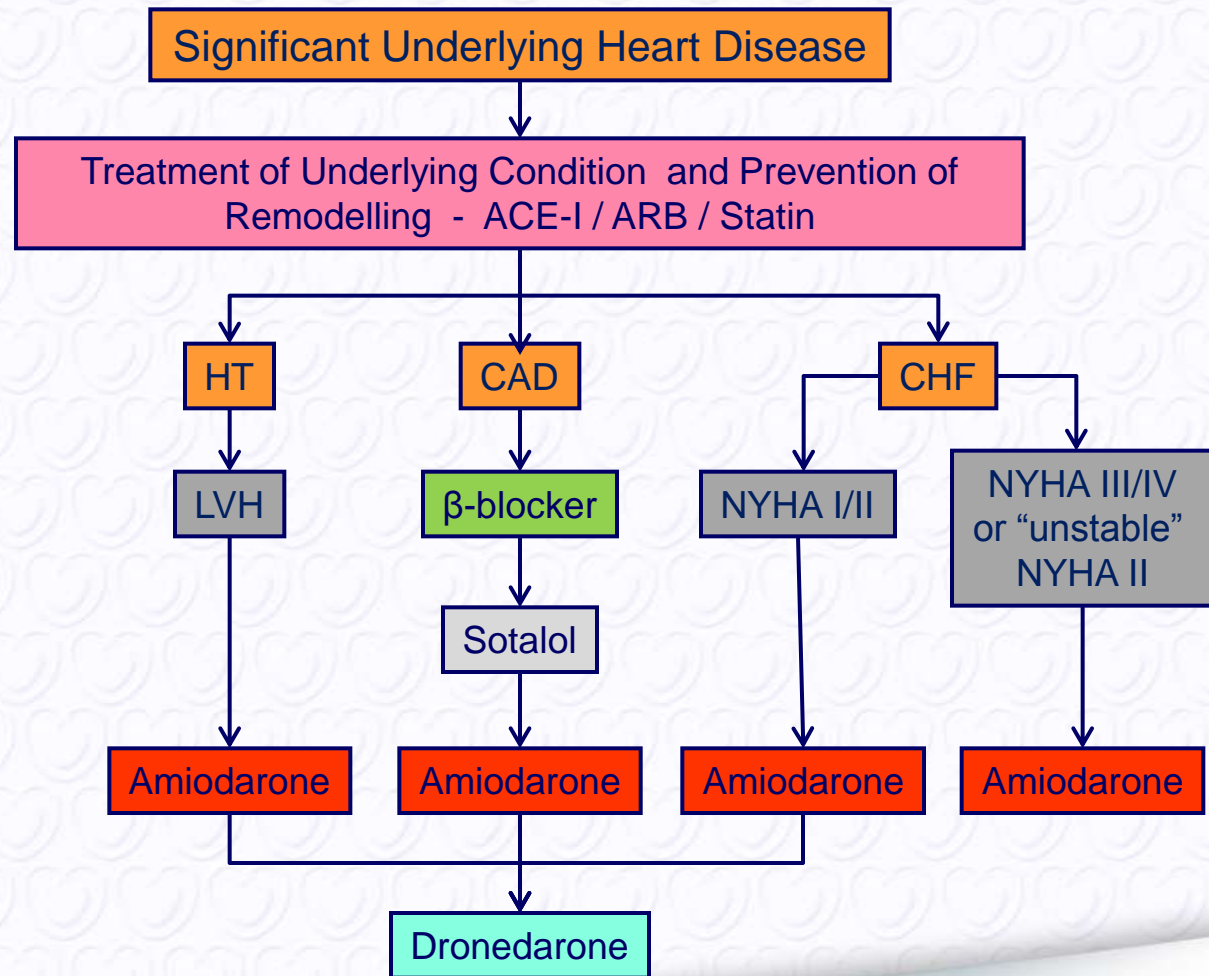
# AADs for – Guideline Considerations

## Congestive Heart Failure



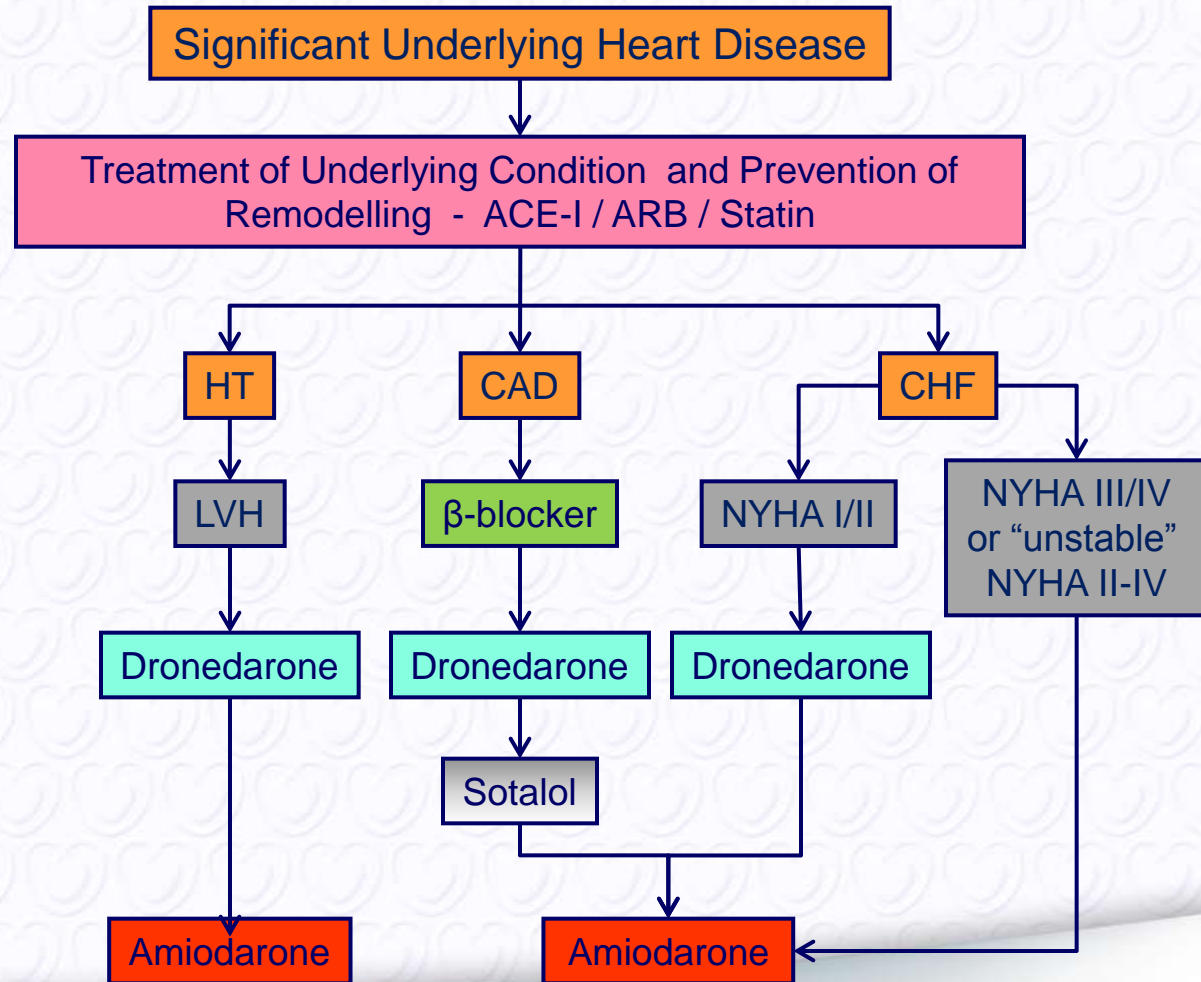
# AADs for – Guideline Considerations

Cost  
and  
Anti-  
arrhythmic  
Efficacy



# AADs for – Guideline Considerations

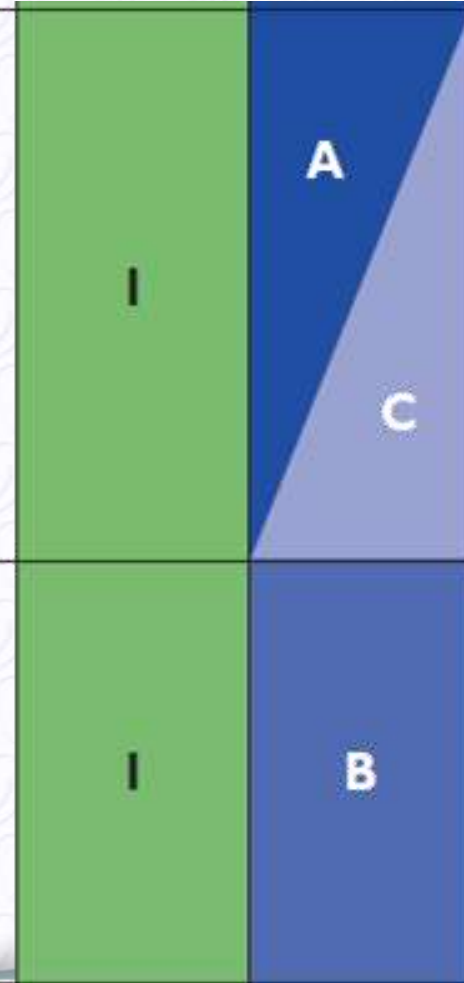
Safety  
and  
Outcome  
Indication



# Antiarrhythmic Medication for Rhythm Control

Amiodarone is more effective in maintaining sinus rhythm than sotalol, propafenone, flecainide (by analogy), or dronedarone (LoE A), but because of its toxicity profile should generally be used when other agents have failed or are contraindicated (LoE C).

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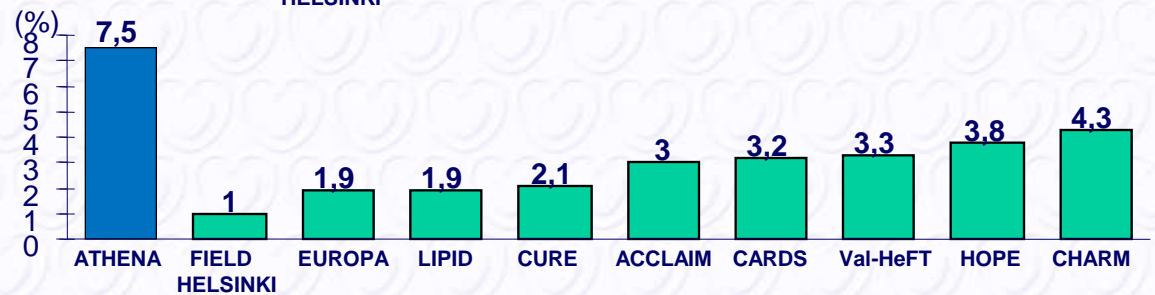
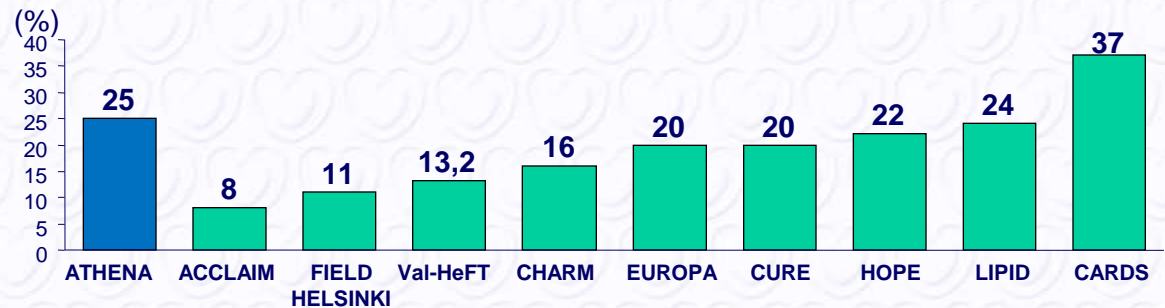


# CV Morbi-Mortality Outcome Studies

Relative Risk Reduction

**Morbi-Mortality**  
annualised

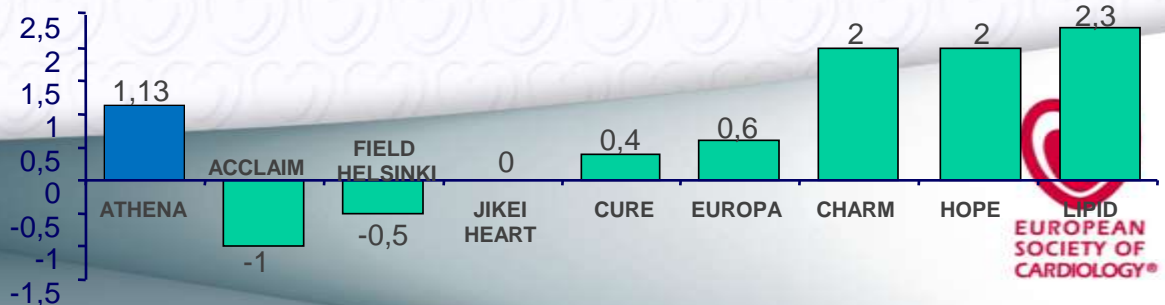
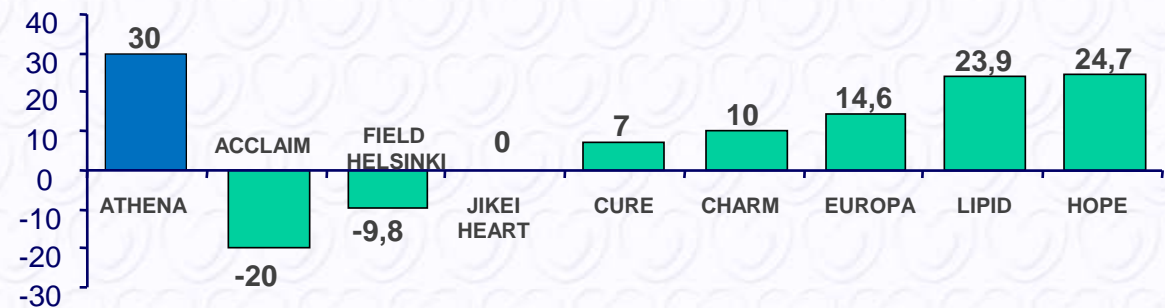
Absolute Risk Reduction



Relative Risk Reduction

**CV Mortality**  
annualised

Absolute Risk Reduction



# NICE Decision – 23/03/10

## 1 Appraisal Committee's preliminary recommendations

1.1 Dronedarone is recommended as an option for the treatment of non-permanent atrial fibrillation **only** in people:

- whose atrial fibrillation is not controlled by first-line therapy (usually including beta-blockers), that is, as a second-line treatment option, **and**
- who have at least one of the following cardiovascular risk factors:
  - hypertension requiring drugs of at least two different classes
  - diabetes mellitus
  - previous transient ischaemic attack, stroke or systemic embolism
  - left atrial diameter of 50 mm or greater
  - left ventricular ejection fraction less than 40%, **or**
  - age 70 years or older, **and**
- who do not have unstable New York Heart Association (NYHA) class III or IV heart failure.

ATHENA  
Inclusion  
criteria

ANDROMEDA inclusion criteria

# Antiarrhythmic Medication for Rhythm Control

Dronedarone should be considered in order to reduce cardiovascular hospitalizations in patients with non-permanent AF and cardiovascular risk factors.

**IIa**

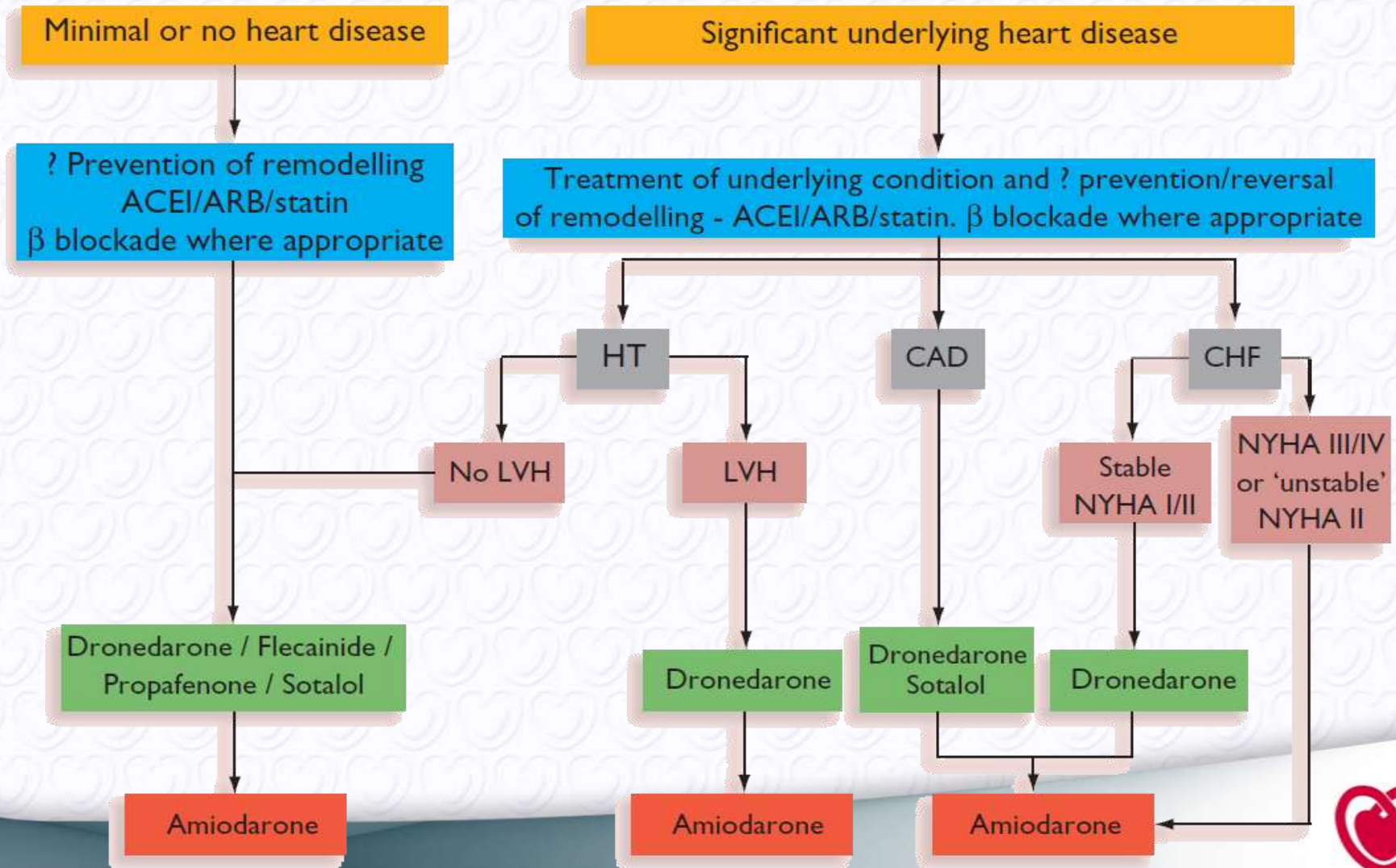
**B**

Dronedarone is not recommended for treatment of AF in patients with NYHA class III and IV, or with recently unstable (decompensation within the prior month) NYHA class II heart failure.

**III**

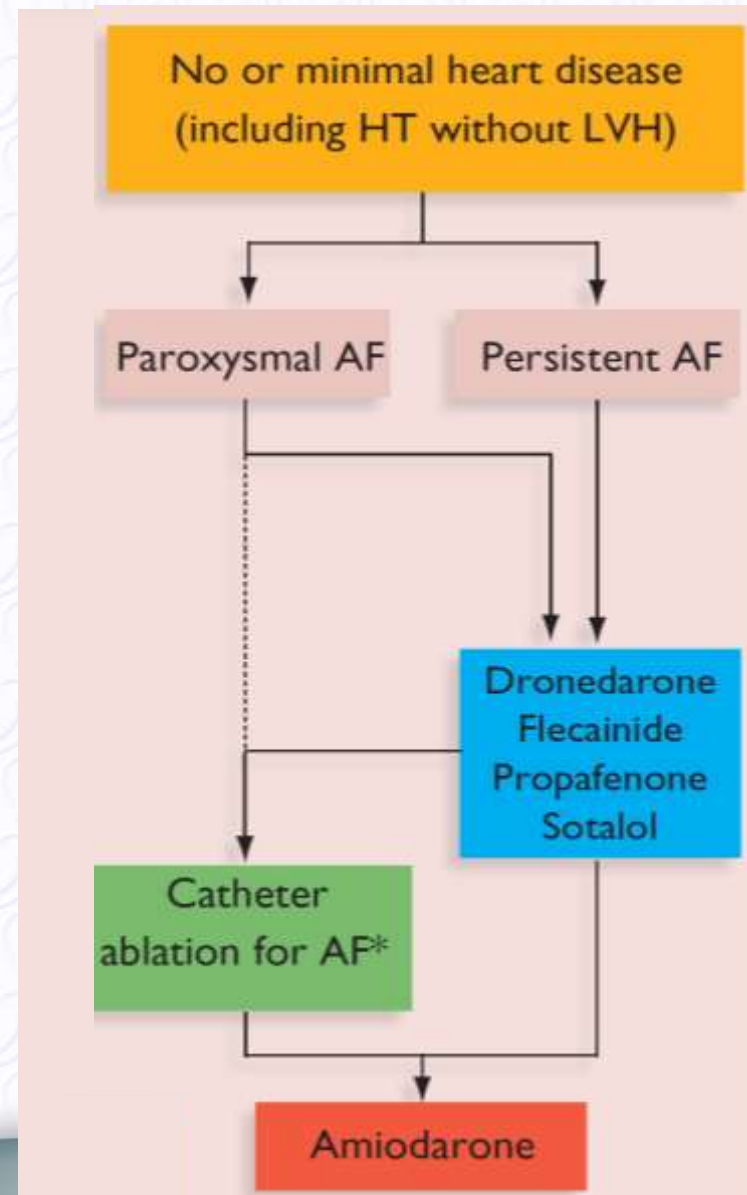
**B**

# Choice of AAD - Underlying Pathology



# Indication for LA Catheter Ablation

Catheter ablation for paroxysmal AF should be considered in symptomatic patients who have previously failed a trial of antiarrhythmic medication.	<b>IIa</b>	<b>A</b>
Ablation of persistent symptomatic AF that is refractory to antiarrhythmic therapy should be considered a treatment option.	<b>IIa</b>	<b>B</b>
Catheter ablation of AF may be considered prior to antiarrhythmic drug therapy in symptomatic patients despite adequate rate control with paroxysmal symptomatic AF and no significant underlying heart disease.	<b>IIIb</b>	<b>B</b>



Catheter ablation of AF in patients with heart failure may be considered when antiarrhythmic medication, including amiodarone, fails to control symptoms.

**IIb**

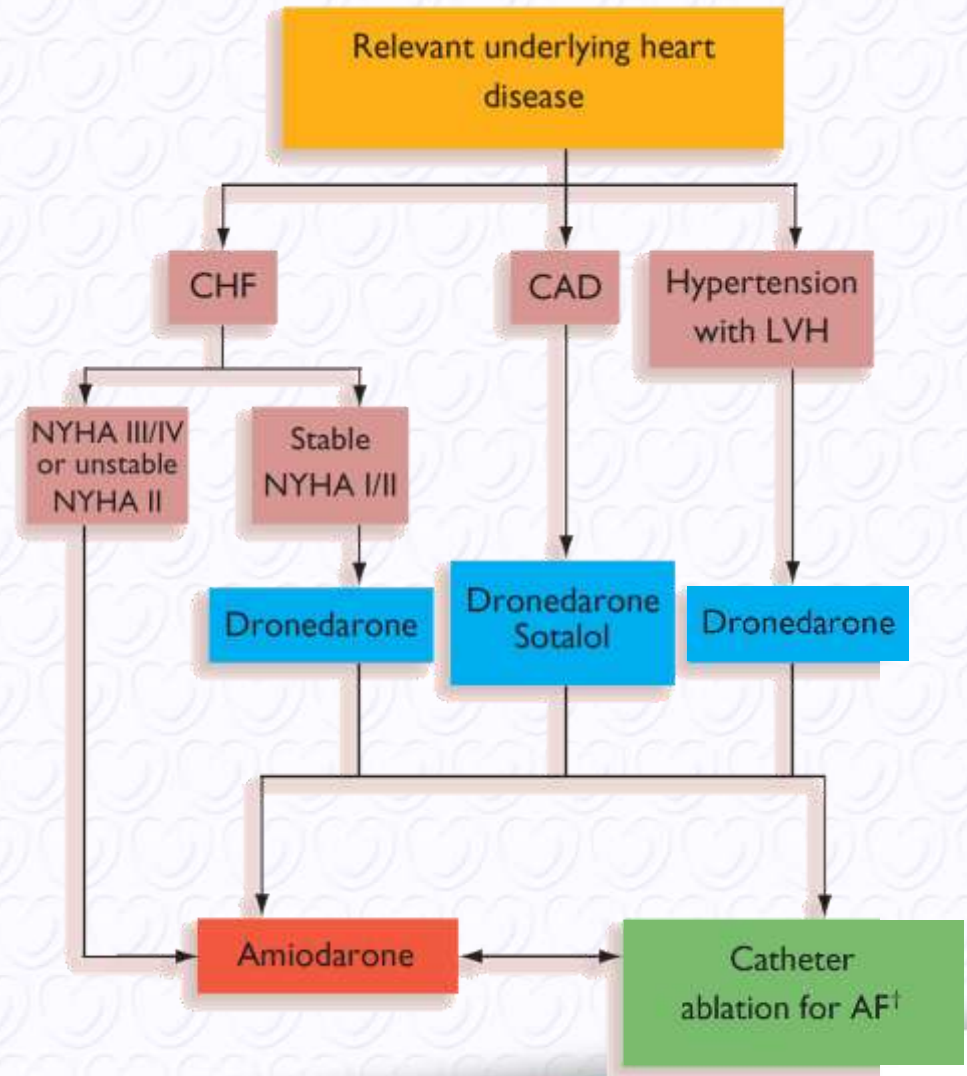
**B**

Catheter ablation of AF may be considered in patients with symptomatic long-standing persistent AF refractory to antiarrhythmic drugs.

**IIb**

**C**

# Ablation when SHD is Present



# “Upstream” Therapy Primary Prevention

## Agents Considered:

ACE inhibitors, Angiotensin receptor blockers, Aldosterone antagonists

Statins, PUFAs

ACEIs and ARBs should be considered for prevention of new-onset AF in patients with heart failure and reduced ejection fraction.	IIa	A
ACEIs and ARBs should be considered for prevention of new-onset AF in patients with hypertension, particularly with left ventricular hypertrophy.	IIa	B
Statins should be considered for prevention of new-onset AF after coronary artery bypass grafting, isolated or in combination with valvular interventions.	IIa	B

Statins may be considered for prevention of new-onset AF in patients with underlying heart disease, particularly heart failure.	IIb	B
Upstream therapies with ACEIs, ARBs, and statins are not recommended for primary prevention of AF in patients without cardiovascular disease.	III	C

# Atrial Fibrillation in Athletes

Recommendations	Class <sup>a</sup>	Level <sup>b</sup>
When a 'pill-in-the-pocket' approach with sodium channel blockers is used, sport cessation should be considered for as long as the arrhythmia persists, and until 1–2 half-lives of the antiarrhythmic drug used have elapsed.	IIa	C
Isthmus ablation should be considered in competitive or leisure-time athletes with documented atrial flutter, especially when therapy with flecainide or propafenone is intended.	IIa	C
Where appropriate, AF ablation should be considered to prevent recurrent AF in athletes.	IIa	C

Recommendations	Class <sup>a</sup>	Level <sup>b</sup>
When a specific cause for AF is identified in an athlete (such as hyperthyroidism), it is not recommended to continue participation in competitive or leisure time sports until correction of the cause.	III	C
It is not recommended to allow physical sports activity when symptoms due to haemodynamic impairment (such as dizziness) are present.	III	C

# Thank you



Abraham Lincoln

**You can *please* all the people some of the time, and some of the people all the time, but you cannot *please* all the people all the time."**

Guideline Writers' Lament

**LoE = A**

> 2000 emails from me  
and >3000 emails to me

# ESC POCKET GUIDELINES

Committee for Practice Guidelines

To improve the quality of clinical practice and patient care in Europe



## AFib

**GUIDELINES FOR THE MANAGEMENT  
OF ATRIAL FIBRILLATION**