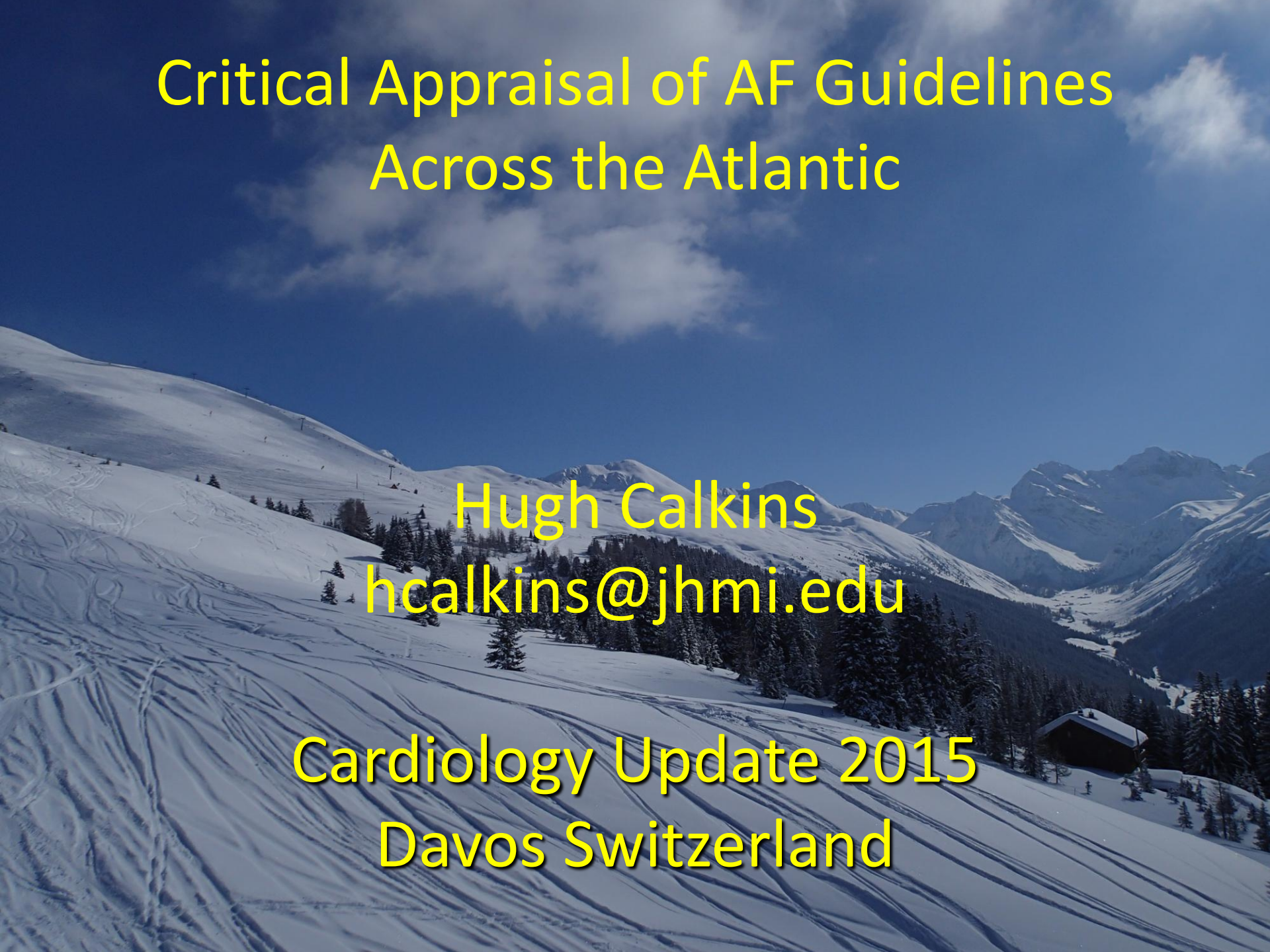
Critical Appraisal of AF Guidelines Across the Atlantic



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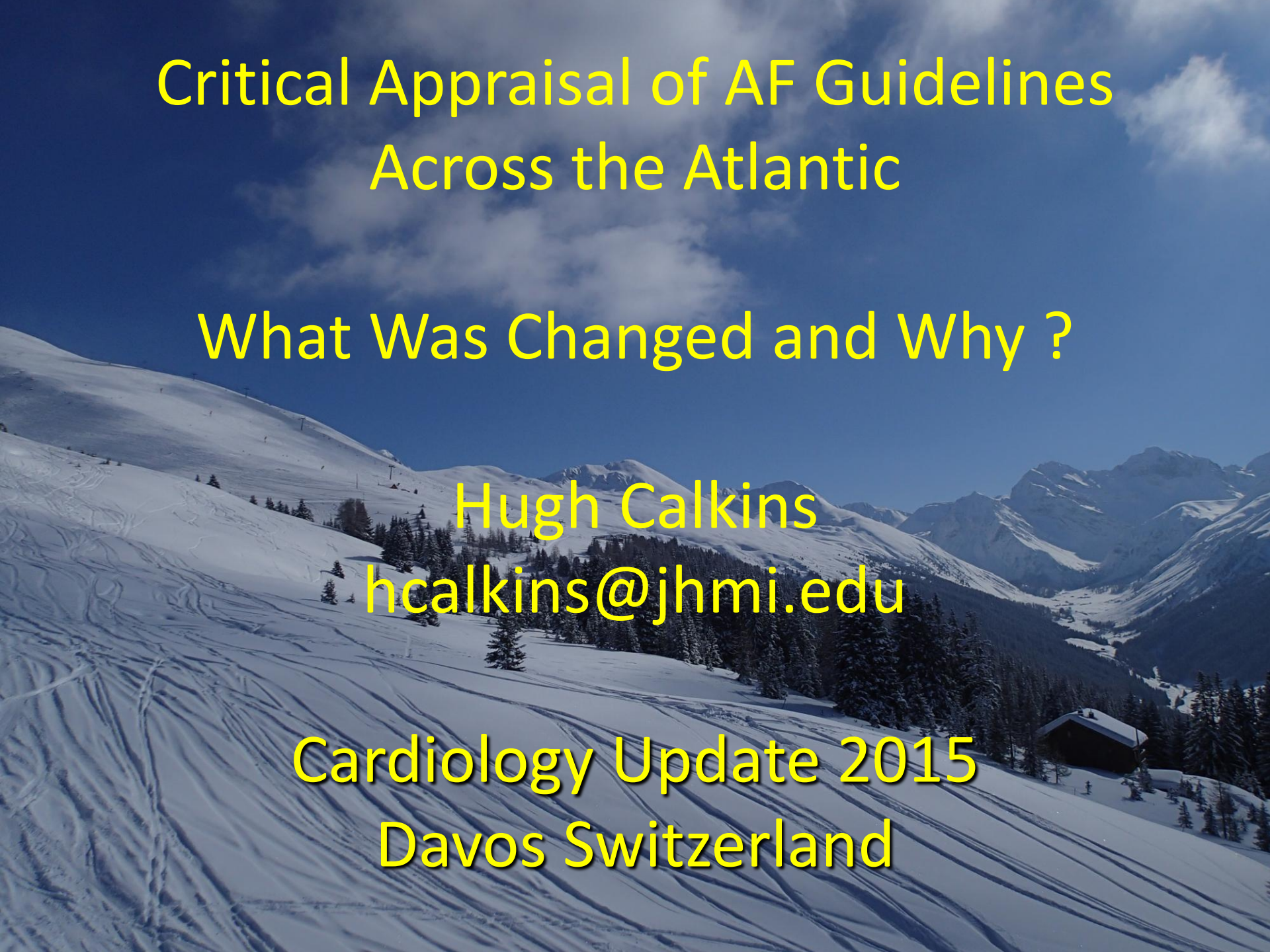
Cardiology Update 2015
Davos Switzerland



Critical Appraisal of AF Guidelines Across the Atlantic

What Was Changed and Why ?

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Cardiology Update 2015
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Disclosures

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CLINICAL PRACTICE GUIDELINE: FULL TEXT

2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and the Heart Rhythm Society

Developed in Collaboration With the Society of Thoracic Surgeons

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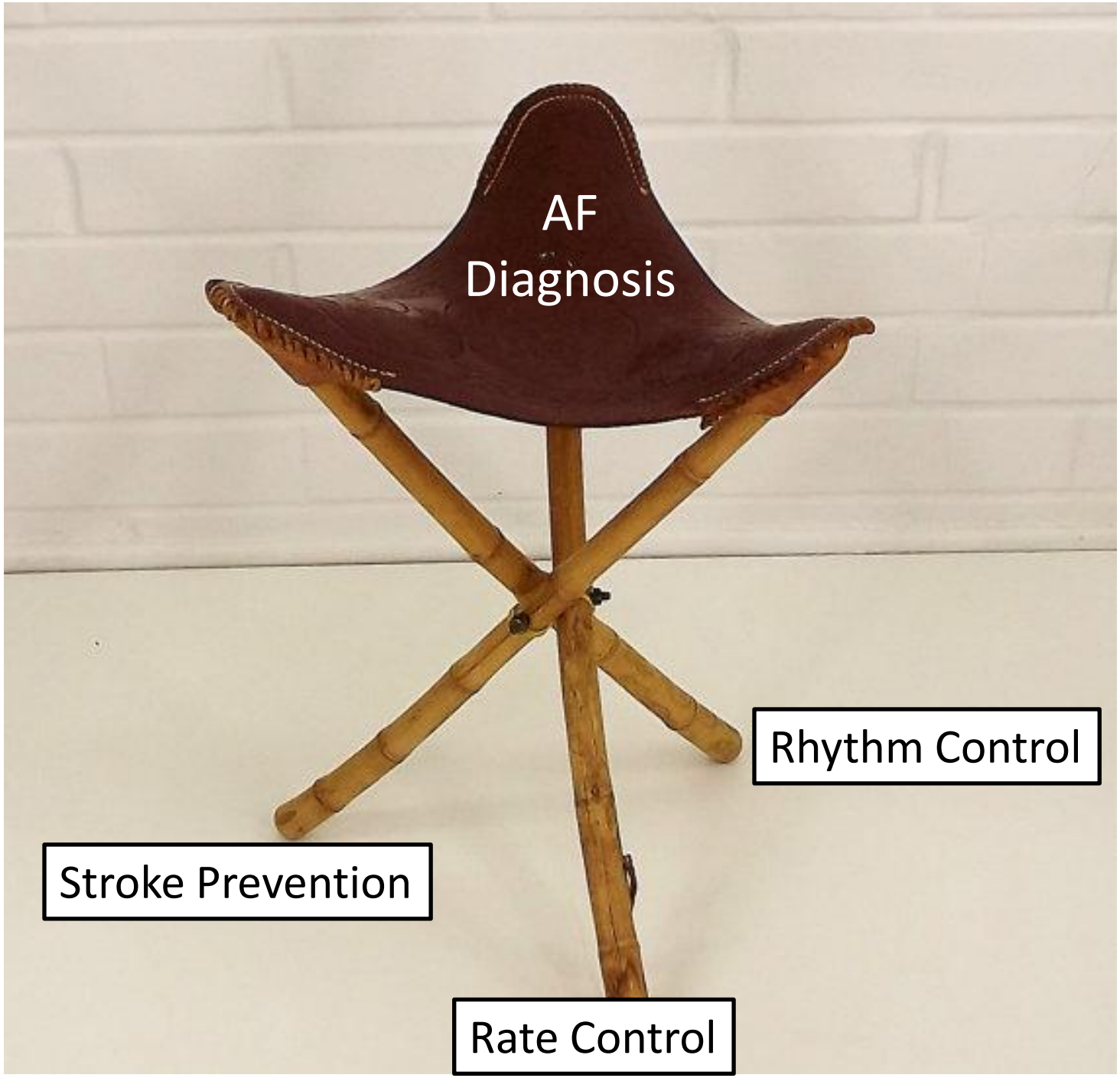
The 10 Most Important Changes in the 2014 ACC/AHA/HRS Atrial Fibrillation Guidelines


AF
Diagnosis
Rhythm Control
Stroke Prevention
Rate Control

#1

The Classification Scheme for AF Was Changed

TABLE 4 Definitions of AF: A Simplified Scheme

Term	Definition
Paroxysmal AF	• AF that terminates spontaneously or with intervention within 7 d of onset. • Episodes may recur with variable frequency.
Persistent AF	• Continuous AF that is sustained >7 d.
Long-standing persistent AF	• Continuous AF >12 mo in duration.
Permanent AF	• The term "permanent AF" is used when the patient and clinician make a joint decision to stop further attempts to restore and/or maintain sinus rhythm. • Acceptance of AF represents a therapeutic attitude on the part of the patient and clinician rather than an inherent pathophysiological attribute of AF. • Acceptance of AF may change as symptoms, efficacy of therapeutic interventions, and patient and clinician preferences evolve.
Nonvalvular AF	• AF in the absence of rheumatic mitral stenosis, a mechanical or bioprosthetic heart valve, or mitral valve repair.

#1

The Notion of "First Detected" AF Episodes as a Distinct Entity was Deleted

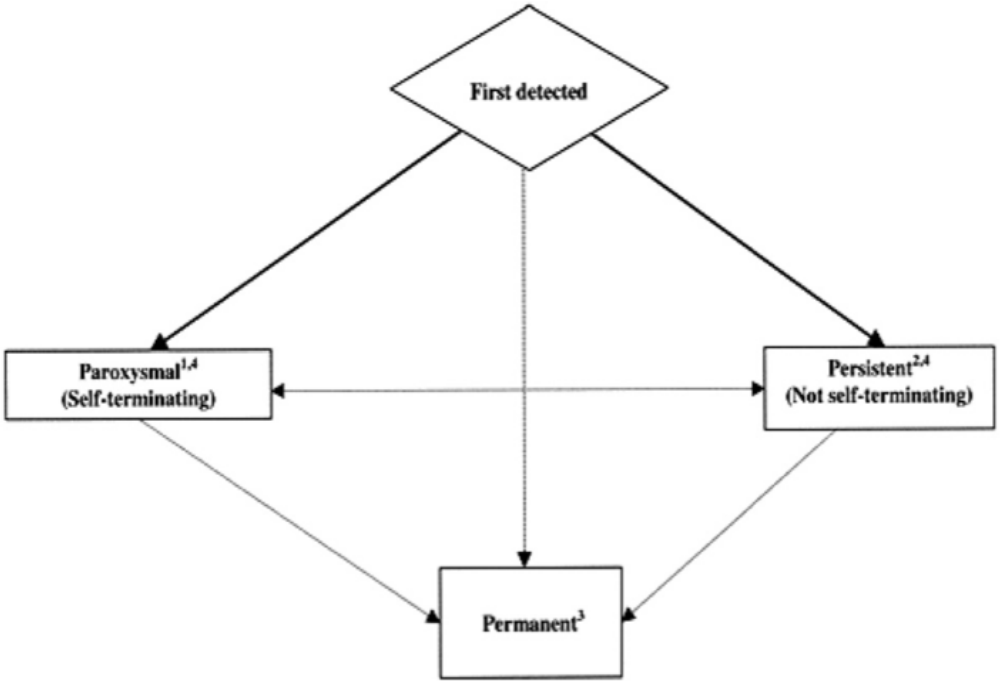


Figure 3. Patterns of atrial fibrillation (AF). 1, Episodes that generally last 7 d or less (most less than 24 h); 2, episodes that usually last longer than 7 d; 3, cardioversion failed or not attempted; and 4, both paroxysmal and persistent AF may be recurrent.

#1
The term “lone AF” was put to rest.

“Lone AF” is a historical descriptor that has been variably applied to younger persons without clinical or echocardiographic evidence of cardiopulmonary disease, hypertension, or diabetes mellitus (63). Because the definitions are variable, the term lone AF is potentially confusing and should not be used to guide therapeutic decisions.

#2

The CHADSVasc Risk Score replaces the CHADS2 Risk Score for Stroke Prevention (Class1, LOE B)

TABLE 7 **Comparison of the $CHADS_2$ and CHA_2DS_2-VASc Risk Stratification Scores for Subjects With Nonvalvular AF**

Definition and Scores for $CHADS_2$ and CHA_2DS_2-VASc		Stroke Risk Stratification With the $CHADS_2$ and CHA_2DS_2-VASc Scores	
	Score		Adjusted Stroke Rate (% per y)
$CHADS_2$		$CHADS_2$*	
Congestive HF	1	0	1.9
Hypertension	1	1	2.8
Age ≥75 y	1	2	4.0
Diabetes mellitus	1	3	5.9
Stroke/TIA/TE	2	4	8.5
Maximum score	6	5	12.5
		6	18.2

CHA_2DS_2-VASc		CHA_2DS_2-VASc†	
Congestive HF	1	0	0
Hypertension	1	1	1.3
Age ≥75 y	2	2	2.2
Diabetes mellitus	1	3	3.2
Stroke/TIA/TE	2	4	4.0
Vascular disease (prior MI, PAD, or aortic plaque)	1	5	6.7
Age 65–74 y	1	6	9.8
Sex category (i.e., female sex)	1	7	9.6
Maximum score	9	8	6.7
		9	15.20

#3

The Anticoagulation Recommendations Were Modified

For patients with nonvalvular AF with prior stroke, transient ischemic attack (TIA), or a CHA_2DS_2-VASc score of 2 or greater, oral anticoagulants are recommended. Class 1, LOE B

For patients with nonvalvular AF and a CHA_2DS_2-VASc score of 0, it is reasonable to omit antithrombotic therapy (183,184). *(Level of Evidence: B)* Class 2

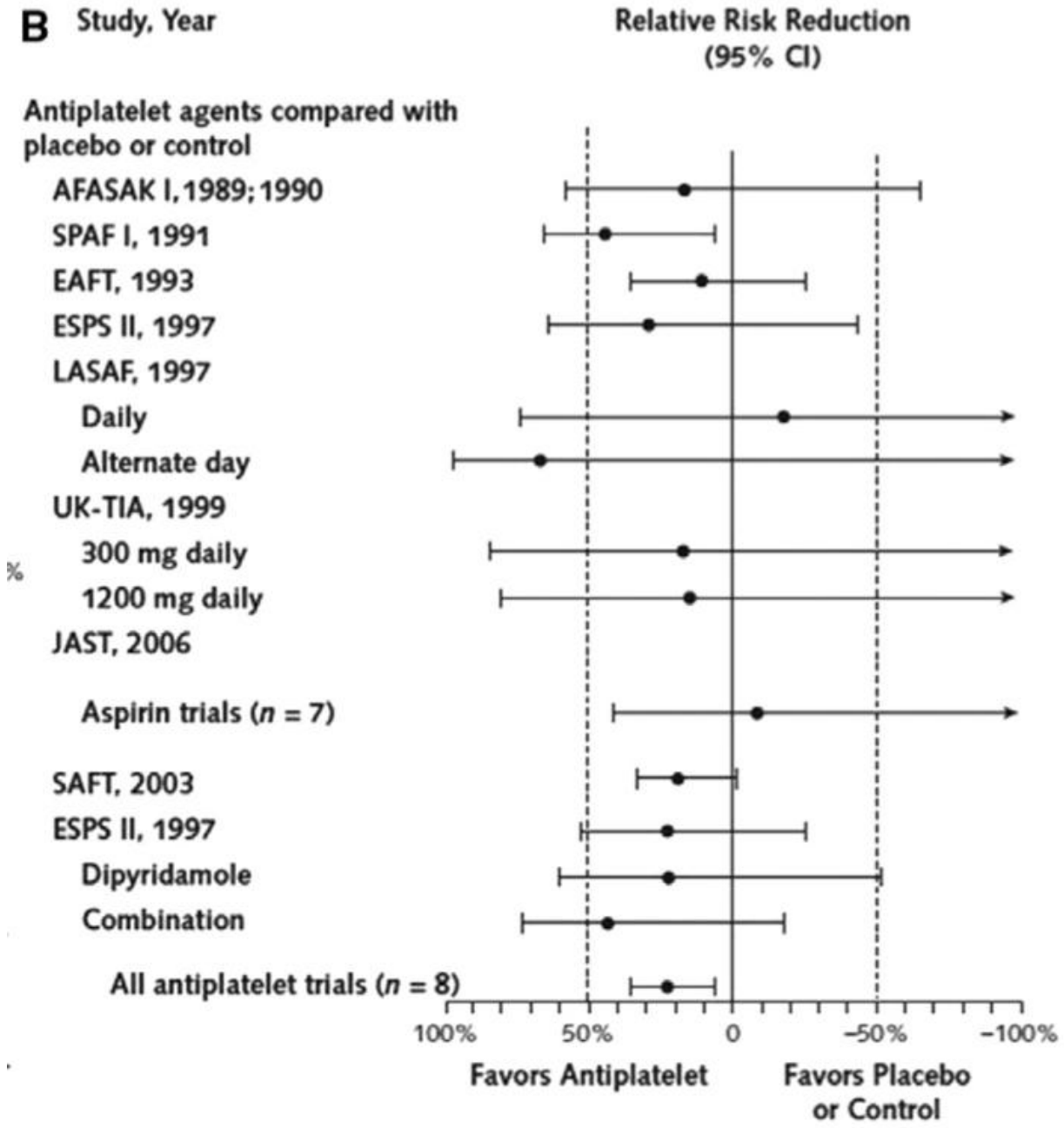
For patients with nonvalvular AF and a CHA_2DS_2-VASc score of 1, no antithrombotic therapy or treatment with an oral anticoagulant or aspirin may be considered. *(Level of Evidence: C)* Class 2

#4

Aspirin is No Longer Considered an "Antithrombotic Therapy"

2. **For patients with nonvalvular AF who have 1 or more of the following less well-validated risk factors, antithrombotic therapy with either aspirin or a vitamin K antagonist is reasonable for prevention of thromboembolism: age 65 to 74 y, female gender, or CAD. The choice of agent should be based upon the risk of bleeding complications, ability to safely sustain adjusted chronic anticoagulation, and patient preferences.** ***(Level of Evidence: B)*** Class 2A

1. **For patients with nonvalvular AF and a CHA_2DS_2-VASc score of 1, no antithrombotic therapy or treatment with an oral anticoagulant or aspirin may be considered.** ***(Level of Evidence: C)*** Class 2A


B
Study, Year
Relative Risk Reduction
(95% CI)
Antiplatelet agents compared with placebo or control
AFASAK I, 1989; 1990
SPAF I, 1991
EAFT, 1993
ESPS II, 1997
LASAF, 1997
Daily
Alternate day
UK-TIA, 1999
300 mg daily
1200 mg daily
JAST, 2006
Aspirin trials (n = 7)
SAFT, 2003
ESPS II, 1997
Dipyridamole
Combination
All antiplatelet trials (n = 8)
100%
50%
0
−50%
−100%
Favors Antiplatelet
Favors Placebo or Control

#5

The Role of NOACS is Fine Tuned

For patients with nonvalvular AF with prior stroke, transient ischemic attack (TIA), or a CHA_2DS_2-VASc score of 2 or greater, oral anticoagulants are recommended. Options include warfarin (INR 2.0 to 3.0) (171–173) *(Level of Evidence: A)*, dabigatran (177) *(Level of Evidence: B)*, rivaroxaban (178) *(Level of Evidence: B)*, or apixaban (179). *(Level of Evidence: B)* Class1

For patients with nonvalvular AF unable to maintain a therapeutic INR level with warfarin, use of a direct thrombin or factor Xa inhibitor (dabigatran, rivaroxaban, or apixaban) is recommended. *(Level of Evidence: C)*

#6
Limited Recommendations for Nonpharmacologic Stroke Prevention

- No recommendations for percutaneous approaches to occlude the LAA
- Only one recommendation for surgical LAA removal.

CLASS IIb

1. **Surgical excision of the LAA may be considered in patients undergoing cardiac surgery.** ***(Level of Evidence: C)***

2012 ESC AF Guidelines

Recommendations	Class[a]	Level[b]	Ref[c]
Interventional, percutaneous LAA closure may be considered in patients with a high stroke risk and contraindications for long-term oral anticoagulation.	IIb	B	115, 118
Surgical excision of the LAA may be considered in patients undergoing open heart surgery.	IIb	C	

#7

Anticoagulation Recommendations Surrounding Cardioversion Tweaked

Prevention of thromboembolism		
With AF or atrial flutter for ≥48 h, or unknown duration, anticoagulate with warfarin for at least 3 wk before and 4 wk after cardioversion	I	
With AF or atrial flutter for >48 h or unknown duration, requiring immediate cardioversion, anticoagulate as soon as possible and continue for at least 4 wk	I	C
With AF or atrial flutter <48 h and high stroke risk, IV heparin or LMWH, or factor Xa or direct thrombin inhibitor, is recommended before or immediately after cardioversion, followed by long-term anticoagulation	I	C
Following cardioversion of AF, long-term anticoagulation should be based on thromboembolic risk	I	C
With AF or atrial flutter for ≥48 h or unknown duration and no anticoagulation for preceding 3 wk, it is reasonable to perform TEE before cardioversion and then cardiovert if no LA thrombus is identified, provided anticoagulation is achieved before TEE and maintained after cardioversion for at least 4 wk	IIa	B
With AF or atrial flutter ≥48 h or unknown duration, anticoagulation with dabigatran, rivaroxaban, or apixaban is reasonable for ≥3 wk before and 4 wk after cardioversion	IIa	C
With AF or atrial flutter <48 h and low thromboembolic risk, IV heparin, LMWH, a new oral anticoagulant, or no antithrombotic may be considered for cardioversion	IIb	C

#7

Anticoagulation Recommendations Surrounding Cardioversion Tweaked

- What if a thrombus is seen on TEE prior to CV?

If a thrombus is identified on TEE, the cardioversion should be postponed, followed by ≥3 to 4 weeks of anticoagulation. Repeat TEE to ensure thrombus resolution is an option before another cardioversion attempt (322).

#8
Rate Control Recommendations Modified

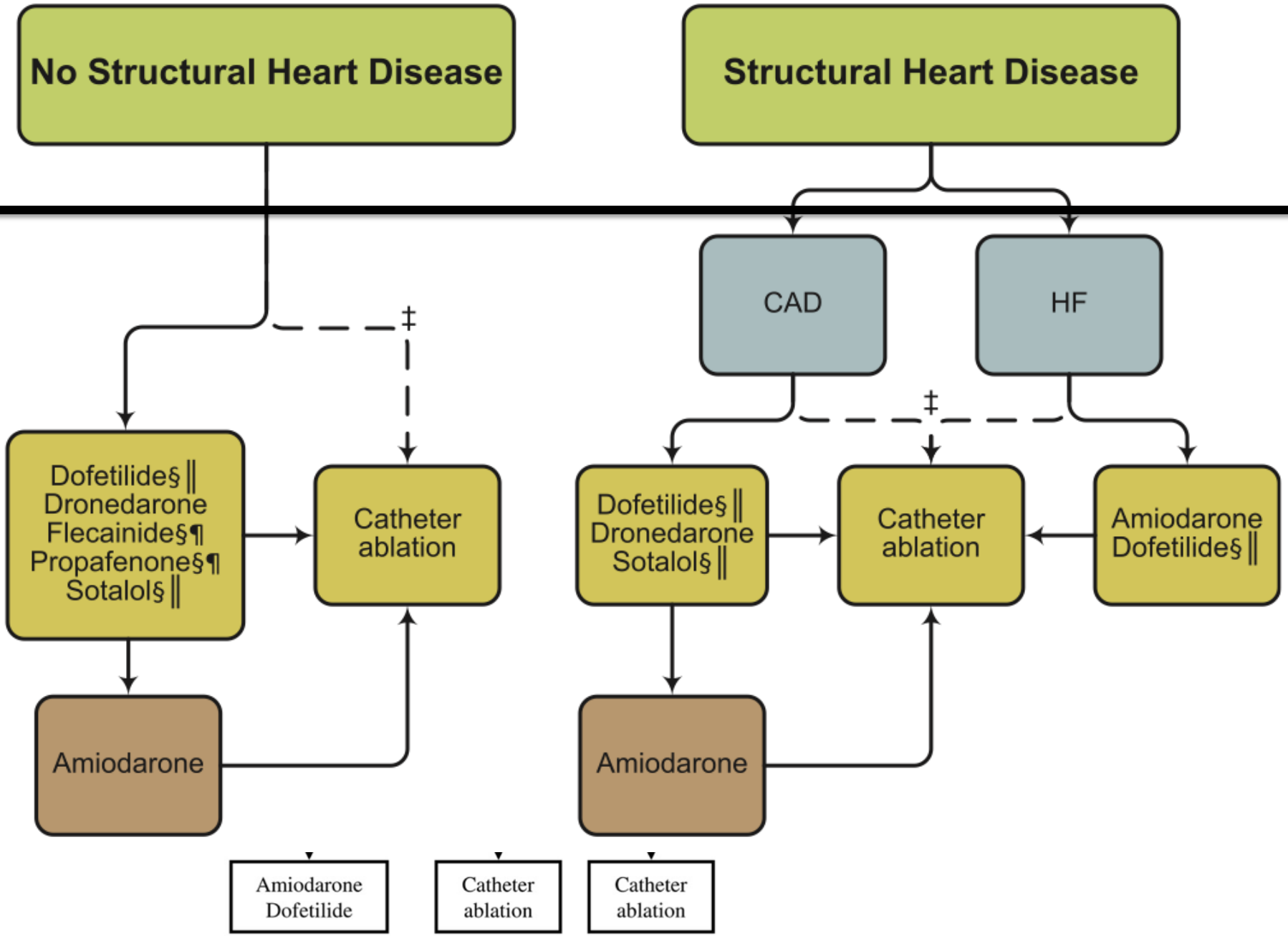
Recommendations	COR	LOE
Control ventricular rate using a beta blocker or nondihydropyridine calcium channel antagonist for paroxysmal, persistent, or permanent AF	I	B
IV beta blocker or nondihydropyridine calcium channel blocker is recommended to slow ventricular heart rate in the acute setting in patients without pre-excitation. In hemodynamically unstable patients, electrical cardioversion is indicated	I	B
For AF, assess heart rate control during exertion, adjusting pharmacological treatment as necessary	I	C
A heart rate control (resting heart rate <80 bpm) strategy is reasonable for symptomatic management of AF	IIa	B
IV amiodarone can be useful for rate control in critically ill patients without pre-excitation	IIa	B
AV nodal ablation with permanent ventricular pacing is reasonable when pharmacological therapy is inadequate and rhythm control is not achievable	IIa	B
A lenient rate-control strategy (resting heart rate <110 bpm) may be reasonable when patients remain asymptomatic and LV systolic function is preserved	IIb	B
Oral amiodarone may be useful for ventricular rate control when other measures are unsuccessful or contraindicated	IIb	C
AV nodal ablation should not be performed without prior attempts to achieve rate control with medications	III: Harm	C
Nondihydropyridine calcium channel antagonists should not be used in decompensated HF	III: Harm	C
With pre-excitation and AF, digoxin, nondihydropyridine calcium channel antagonists, or amiodarone should not be administered	III: Harm	B
Dronedarone should not be used to control ventricular rate with permanent AF	III: Harm	B

#9

The Rate / Rhythm Control Balance Shifts Slightly Towards Rhythm Control

Although an initial rate-control strategy is reasonable for many patients, several considerations favor pursuing a rhythm-control strategy. Successful sinus rhythm maintenance is associated with improvements in symptoms and quality of life for some patients (314,315). Persistent symptoms associated with AF remain the most compelling indication for a rhythm-control strategy. Other factors that may favor attempts at rhythm control include difficulty in achieving adequate rate control, younger patient age, tachycardia-mediated cardiomyopathy, first episode of AF, AF precipitated by an acute illness, and patient preference. AF progresses from paroxysmal to persistent in many patients and subsequently results in electrical and structural remodeling that becomes irreversible with time (126,316). For this reason, acceptance of AF as permanent in a patient may render future rhythm-control therapies less effective. This may be more relevant for a younger patient who wishes to remain a candidate for future developments in rhythm-control therapies. Early intervention with a rhythm-control strategy to prevent progression of AF may be beneficial (317–319).

#10


No Structural Heart Disease
Structural Heart Disease
CAD
HF
‡
‡
Dofetilide§‖
Dronedarone
Flecainide§¶
Propafenone§¶
Sotalol§‖
Catheter ablation
Amiodarone
Dofetilide§‖
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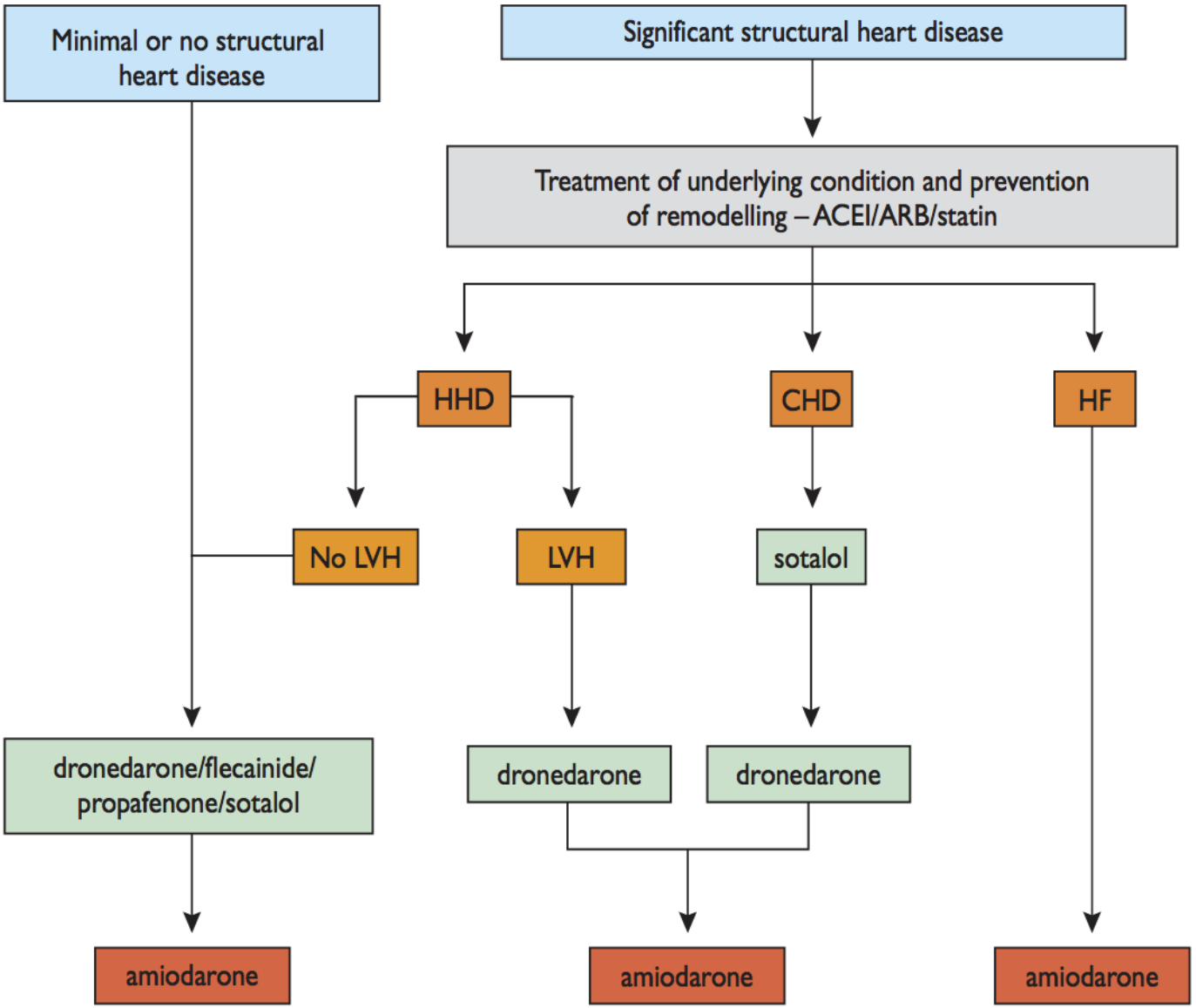


#10

Because of its potential toxicities, amiodarone should only be used after consideration of risks and when other agents have failed or are contraindicated (314,354,359-362). *(Level of Evidence: C)* Class 1

A rhythm-control strategy with pharmacological therapy can be useful in patients with AF for the treatment of tachycardia-induced cardiomyopathy. *(Level of Evidence: C)*

Class 2A

#10

6.2.1.2. Outpatient Initiation of Antiarrhythmic Drug Therapy

Sotalol also results in QT prolongation and may cause proarrhythmia. Its initiation and dose escalation during hospitalization with electrocardiographic monitoring should be considered; the package insert has a corresponding black box warning. There is considerable experience, however, initiating sotalol in an outpatient setting. Some experts allow outpatient initiation when sotalol is started with the patient in sinus rhythm, provided that the QT interval and serum potassium level are normal and no other QT interval–prolonging medications are present, but require inpatient hospitalization when sotalol is initiated while a patient is in AF (316). Other experts always initiate sotalol in an inpatient-monitored setting. Practice patterns vary widely both in terms of which patients are hospitalized for initiation of antiarrhythmic drug therapy and in length of hospitalization. The decision about whether to initiate other antiarrhythmic drugs in an inpatient or outpatient setting should be carefully individualized (378). Data supporting the outpatient initiation of antiarrhythmic drug therapy are best established for amiodarone and dronedarone (**Table 13**).

#10

Catheter Ablation is Appropriate First Line

6.3. AF Catheter Ablation to Maintain Sinus Rhythm: Recommendations

CLASS I

1. AF catheter ablation is useful for symptomatic paroxysmal AF refractory or intolerant to at least 1 class I or III antiarrhythmic medication when a rhythm-control strategy is desired (363,392-397). *(Level of Evidence: A)*
2. Before consideration of AF catheter ablation, assessment of the procedural risks and outcomes relevant to the individual patient is recommended. *(Level of Evidence: C)*

CLASS IIa

1. AF catheter ablation is reasonable for some patients with symptomatic persistent AF refractory or intolerant to at least 1 class I or III antiarrhythmic medication (394,398-400). *(Level of Evidence: A)*
2. In patients with recurrent symptomatic paroxysmal AF, catheter ablation is a reasonable initial rhythm-control strategy before therapeutic trials of antiarrhythmic drug therapy, after weighing the risks and outcomes of drug and ablation therapy (401-403). *(Level of Evidence: B)*

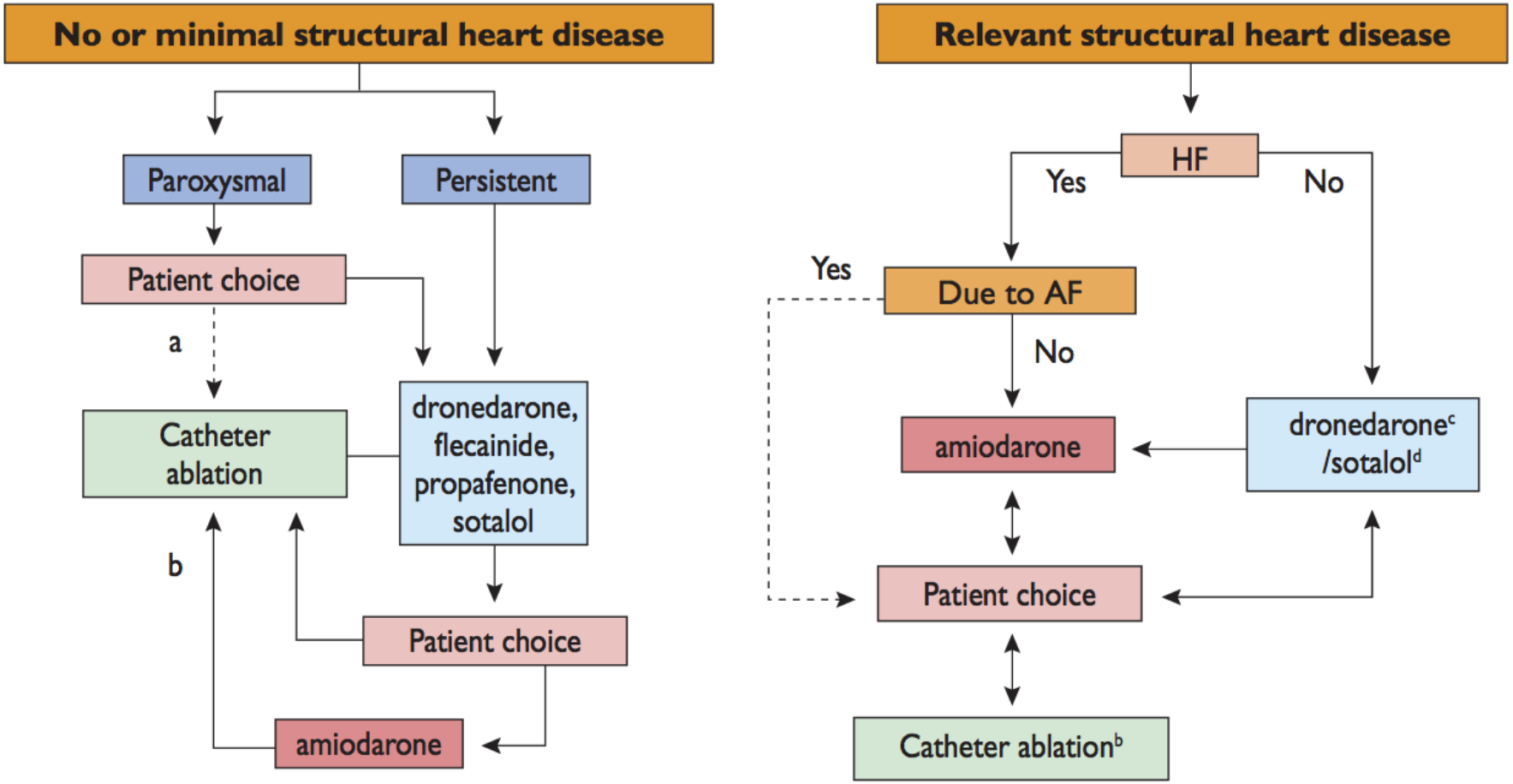
CLASS IIb

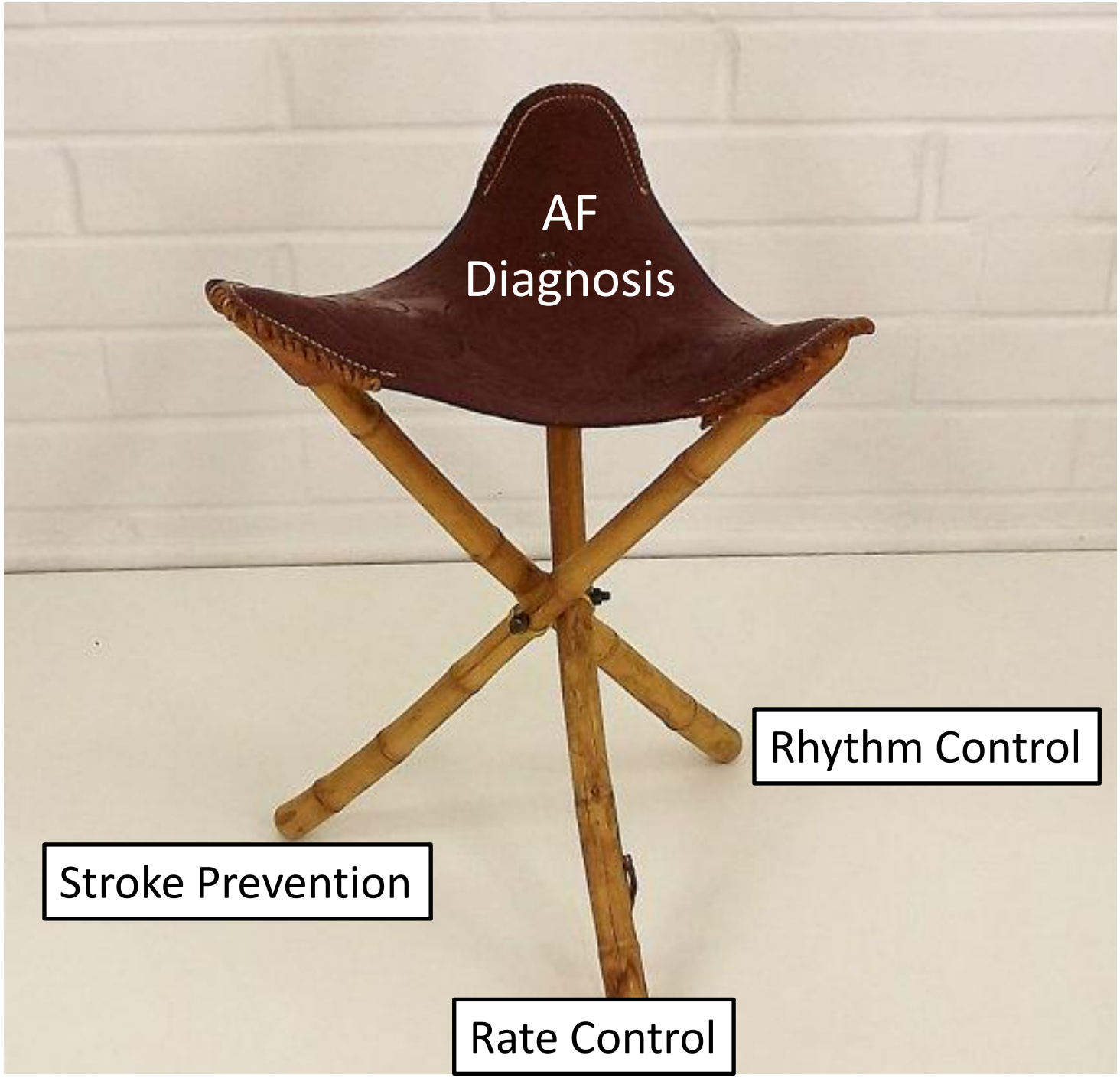
1. AF catheter ablation may be considered for symptomatic long-standing (>12 months) persistent AF refractory or intolerant to at least 1 class I or III antiarrhythmic medication when a rhythm-control strategy is desired (363,404). *(Level of Evidence: B)*
2. AF catheter ablation may be considered before initiation of antiarrhythmic drug therapy with a class I or III antiarrhythmic medication for symptomatic persistent AF when a rhythm-control strategy is desired. *(Level of Evidence: C)*

CLASS III: HARM

1. AF catheter ablation should not be performed in patients who cannot be treated with anticoagulant therapy during and after the procedure. *(Level of Evidence: C)*
2. AF catheter ablation to restore sinus rhythm should not be performed with the sole intent of obviating the need for anticoagulation. *(Level of Evidence: C)*

2012 ESC AF Guidelines




AF
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Summary and Conclusion

- The AF Guidelines across the Atlantic are

not surprisingly very similar.

- The main difference is the target heart rate for rate control.
- A second difference is lack of recommendations for appendage occlusion.
- Other differences are the threshold for anticoagulation and the preference for NOACS.

Thank You