

Lessons Learned After CABANA

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Disclosures: Nothing relevant to disclose on this topic

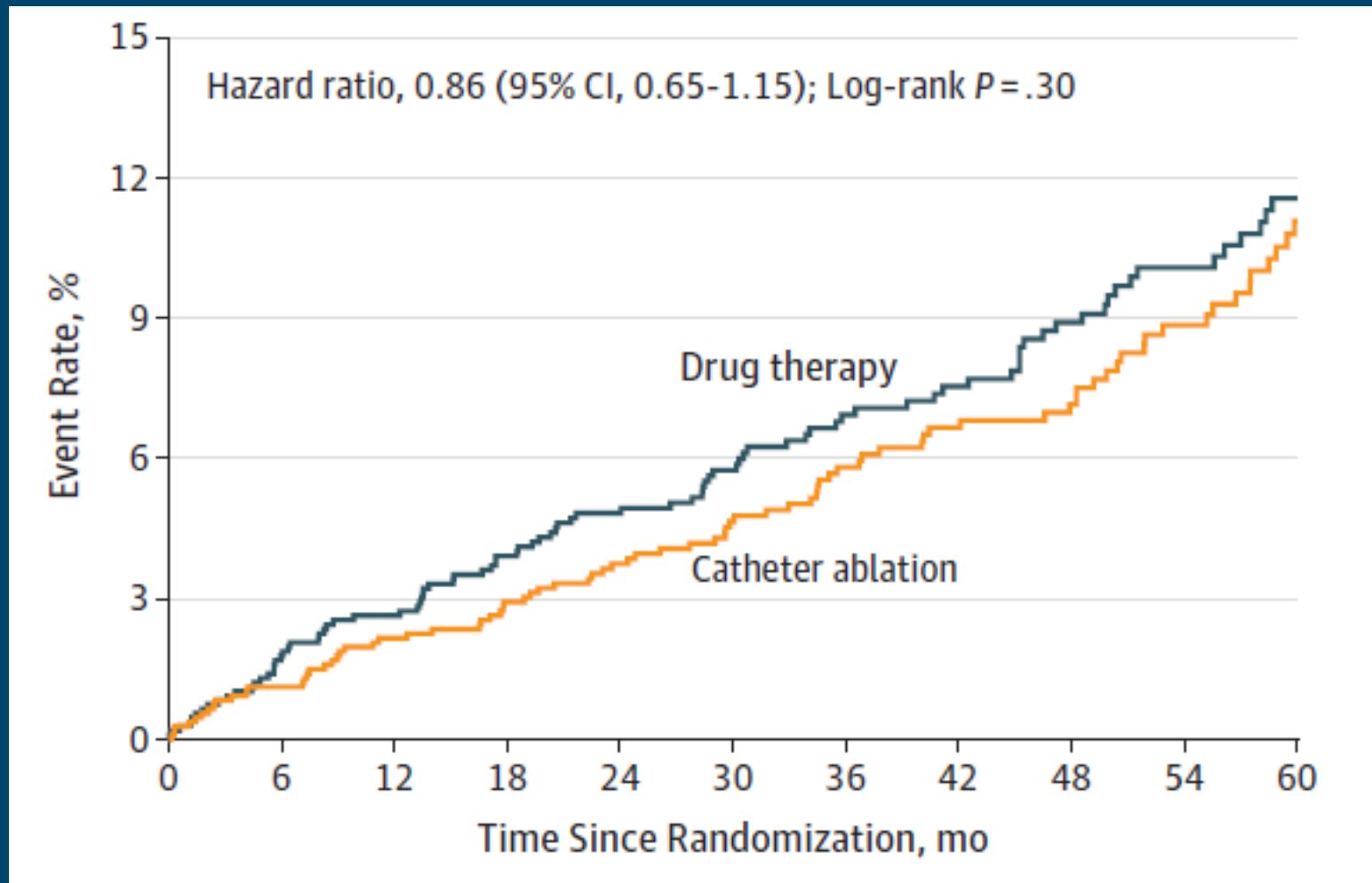
Lessons Learned After CABANA

- Selective approach to AF ablation using shared decision-making
- Improving quality of life via a reduction of AF burden and curtailing drug intake
- Managing asymptomatic AF
- Managing AF in patients with failure
- Managing patients with AF who are not good candidates for ablation

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Primary Endpoint (Death, Disabling Stroke, Serious Bleeding, or Cardiac Arrest: ITT)



CABANA was more than a “Negative” Trial

- CABANA tells us that either ablation or drug therapy is an acceptable treatment for AF.
- Even in higher risk patients, the rate of adverse events was low in both arms.
- That ablation reduced the secondary endpoints of mortality/CV hospitalization (17%) and recurrent AF (47%) has to be viewed in the context of the primary endpoint having been negative.

2019 AHA/ACC/HRS Focused Update of the 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation



A Report of the American College of Cardiology/American Heart Association
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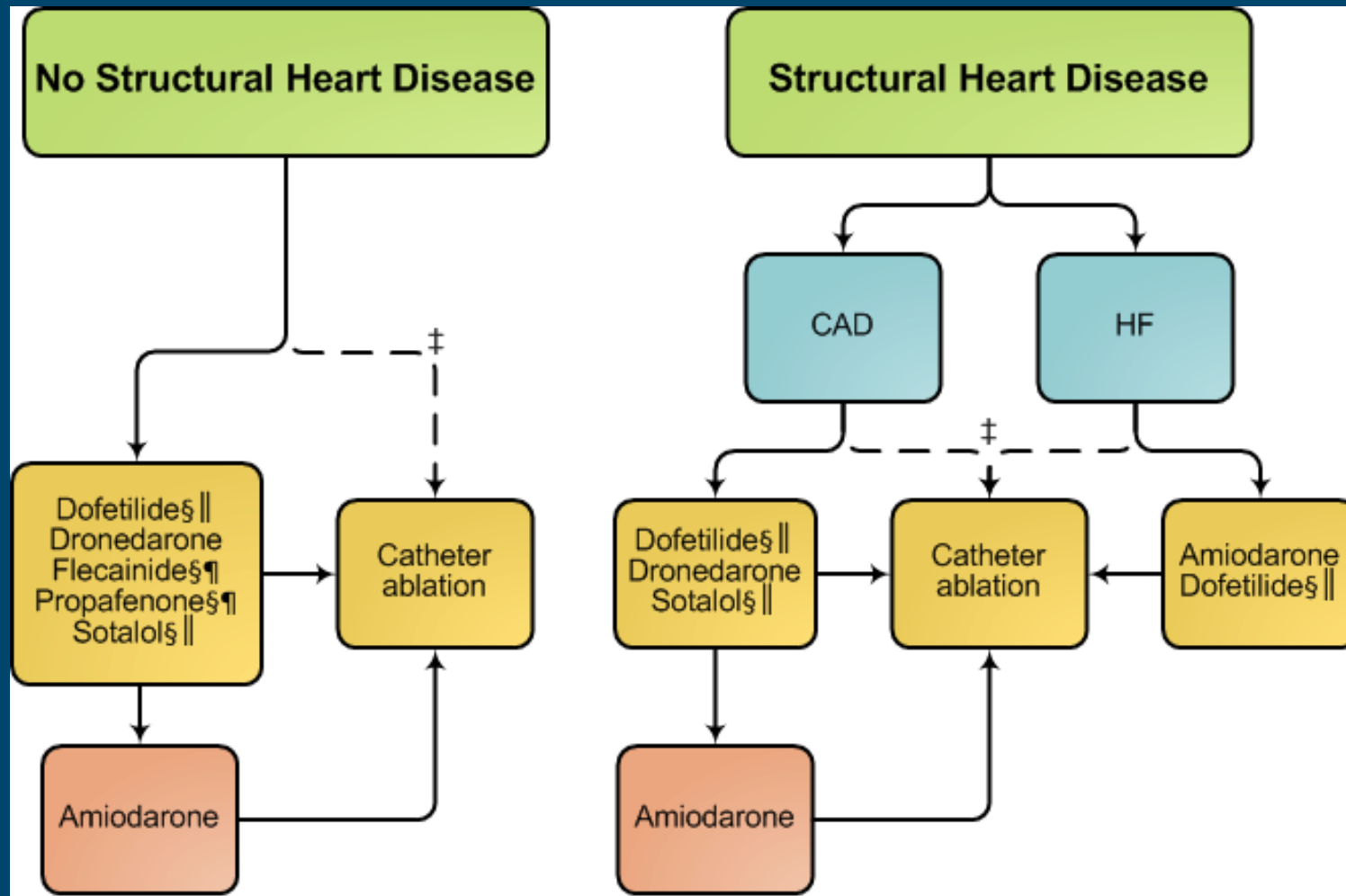
*Writing group members are required to recuse themselves from voting on sections to which their specific relationships with industry may apply; see [Appendix 1](#) for detailed information. †ACC/AHA Task Force on Clinical Practice Guidelines Liaison. ||ACC/AHA Representative. ‡HRS Representative. §STS Representative. ¶ACC/AHA Task Force on Performance Measures Representative.

Adherence to recommendations can be enhanced by shared decision-making between clinicians and patients, with patient engagement in selecting interventions on the basis of individual values, preferences, and associated conditions and comorbidities.

Why do we need drugs for AF?

- Both AAD therapy and ablation are acceptable 1st and 2nd tier alternatives
- Even after ablation, drugs often remain needed
- Considerations are the same for AADs and ablation:
 - Safety/adverse drug effects
 - Efficacy

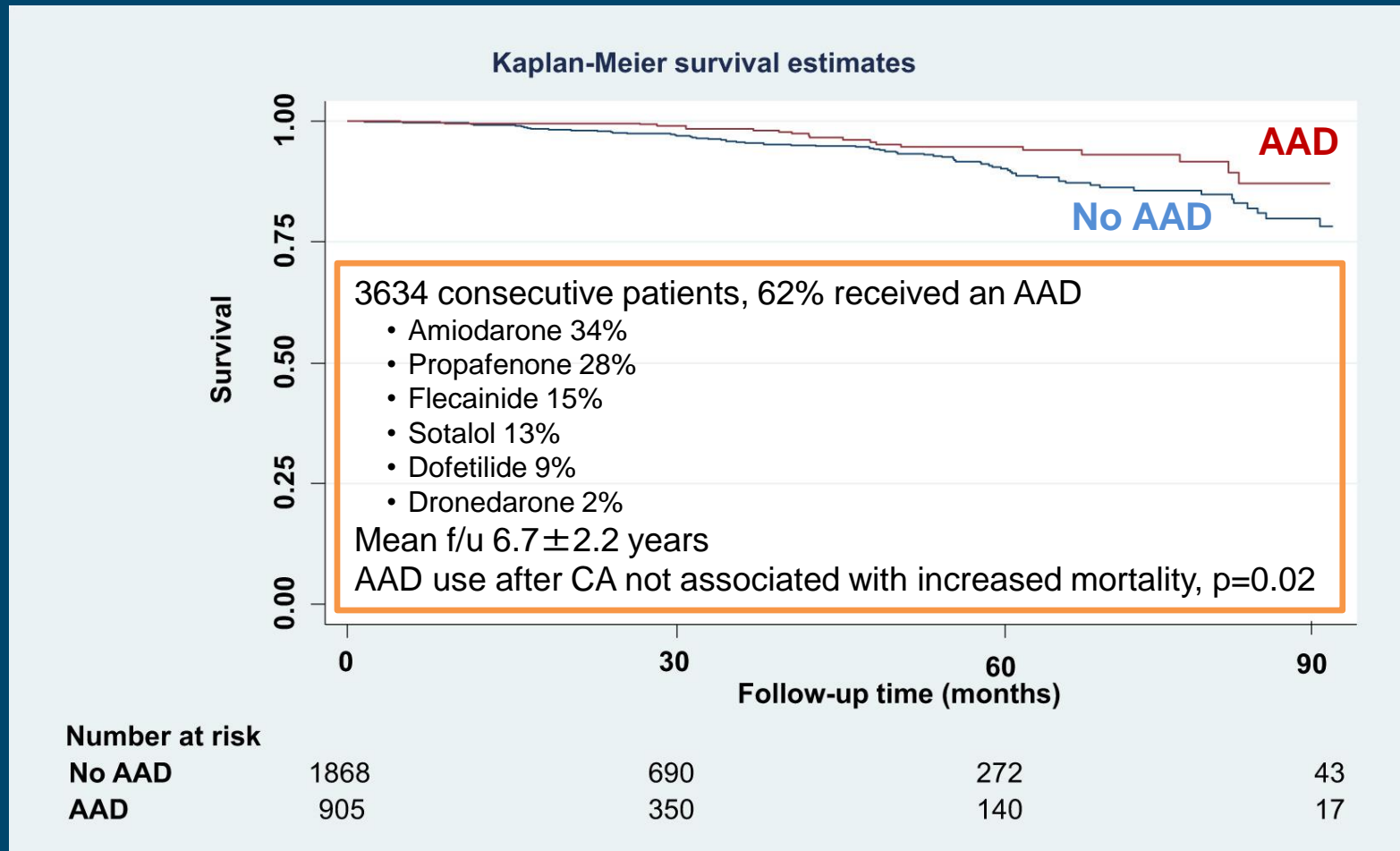
2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation: Executive Summary



Maximizing Safety: What Is a Structurally Normal Heart for the Purpose of Choosing an AAD?

- Normal history
- Normal cardiac physical exam
- Normal 12-lead ECG
- No significant ventricular abnormalities or dysfunction on echocardiogram
- Normal stress test in appropriate patients

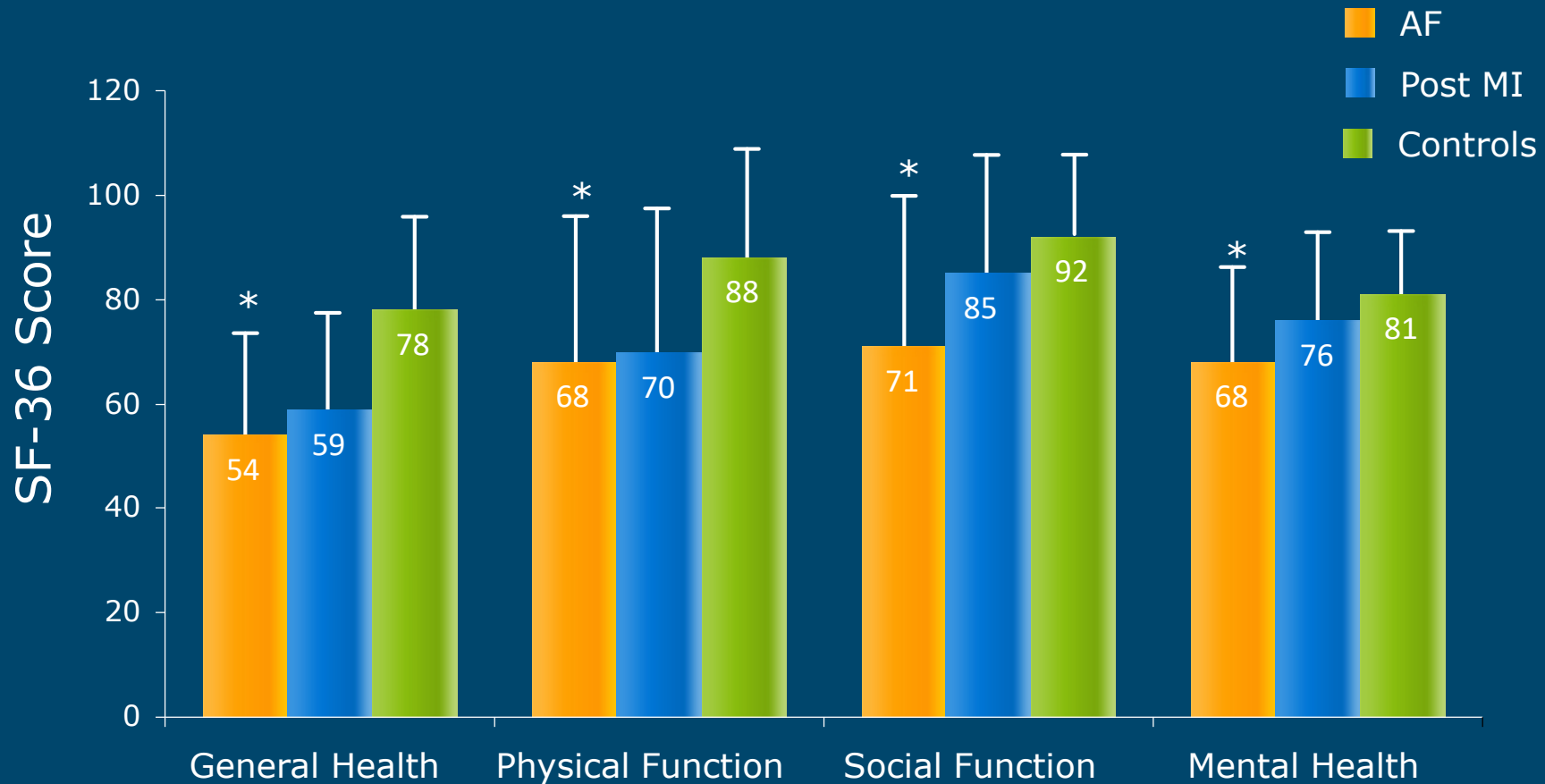
AAD Therapy and All-cause Mortality after CA for AF: A Propensity-matched Analysis



Lessons Learned After CABANA

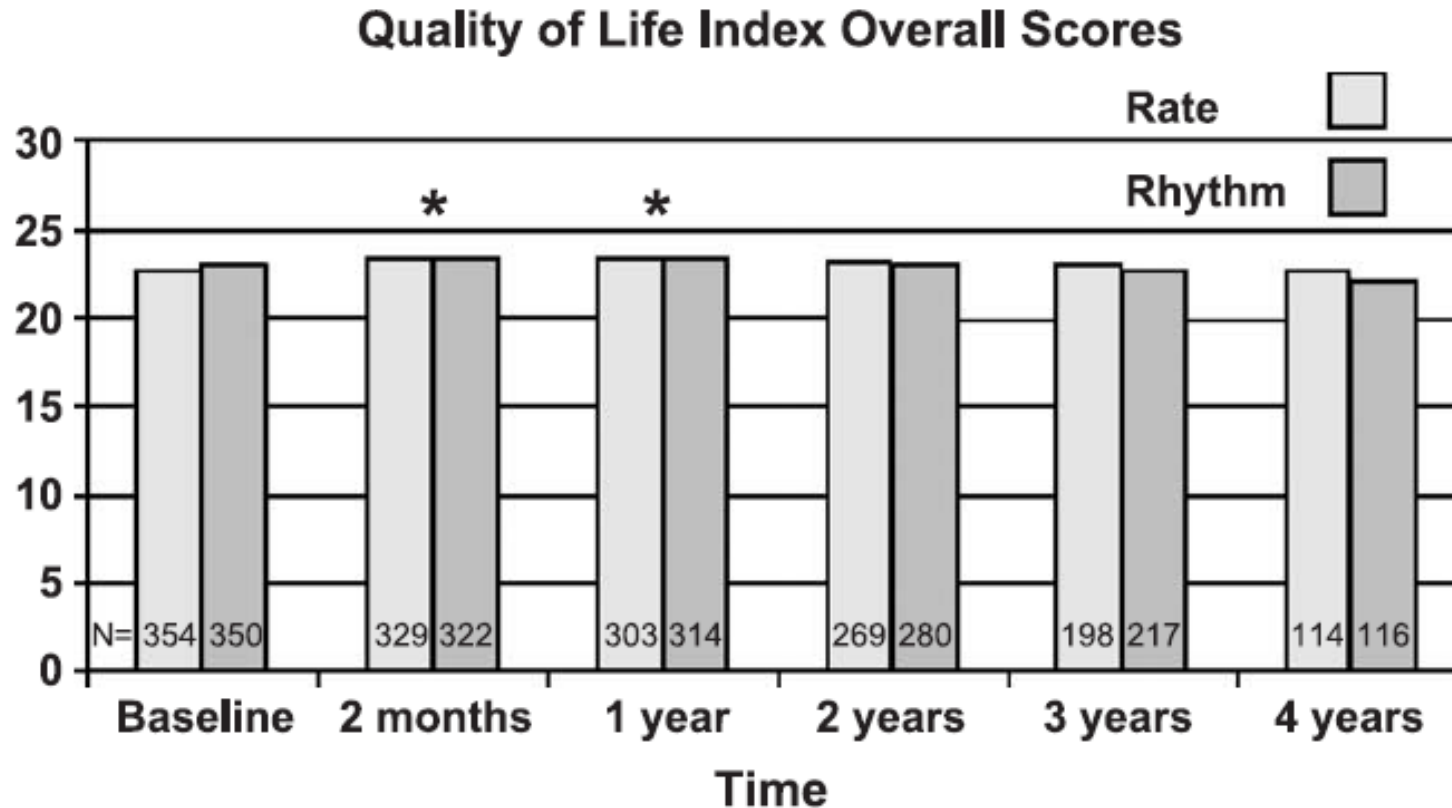
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AF Adversely Affects QoL



* $P < .05$ AF vs controls

AFFIRM: Rhythm Control Strategy Did Not Result in Improved QoL over Rate Control

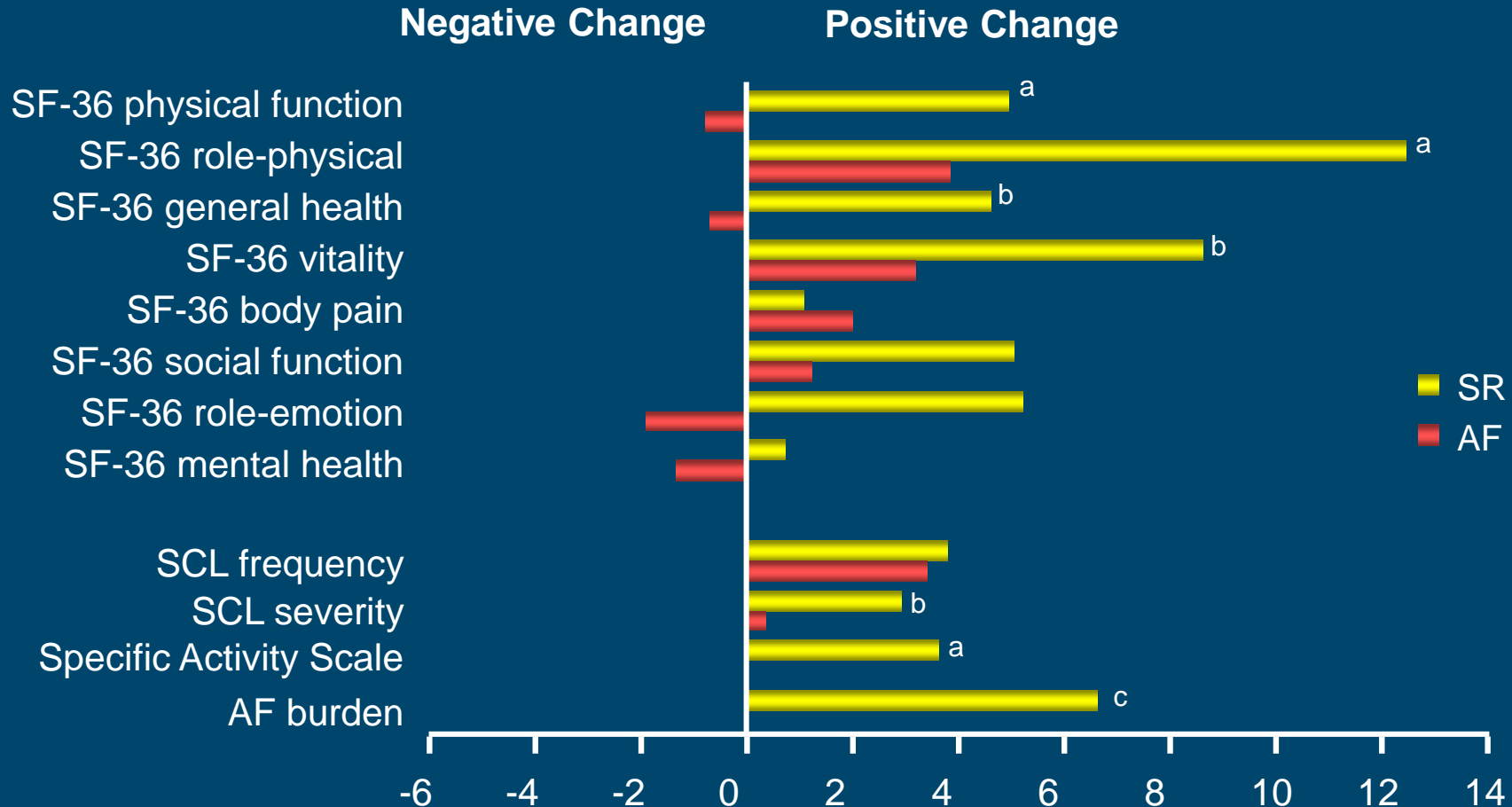


Scale = 1-30; higher is better

* $P < .01$ compared to Baseline; no differences, rate versus rhythm

QoL Improvement With Restoration of SR

SAFE-T Study (amiodarone, sotalol, PLB): Symptomatic Patients



SR group: n=167; AF group: n=179

SCL=symptom checklist; SF-36=Short Form-36. ^aP=.05; ^bP=.01; ^cP=.001.

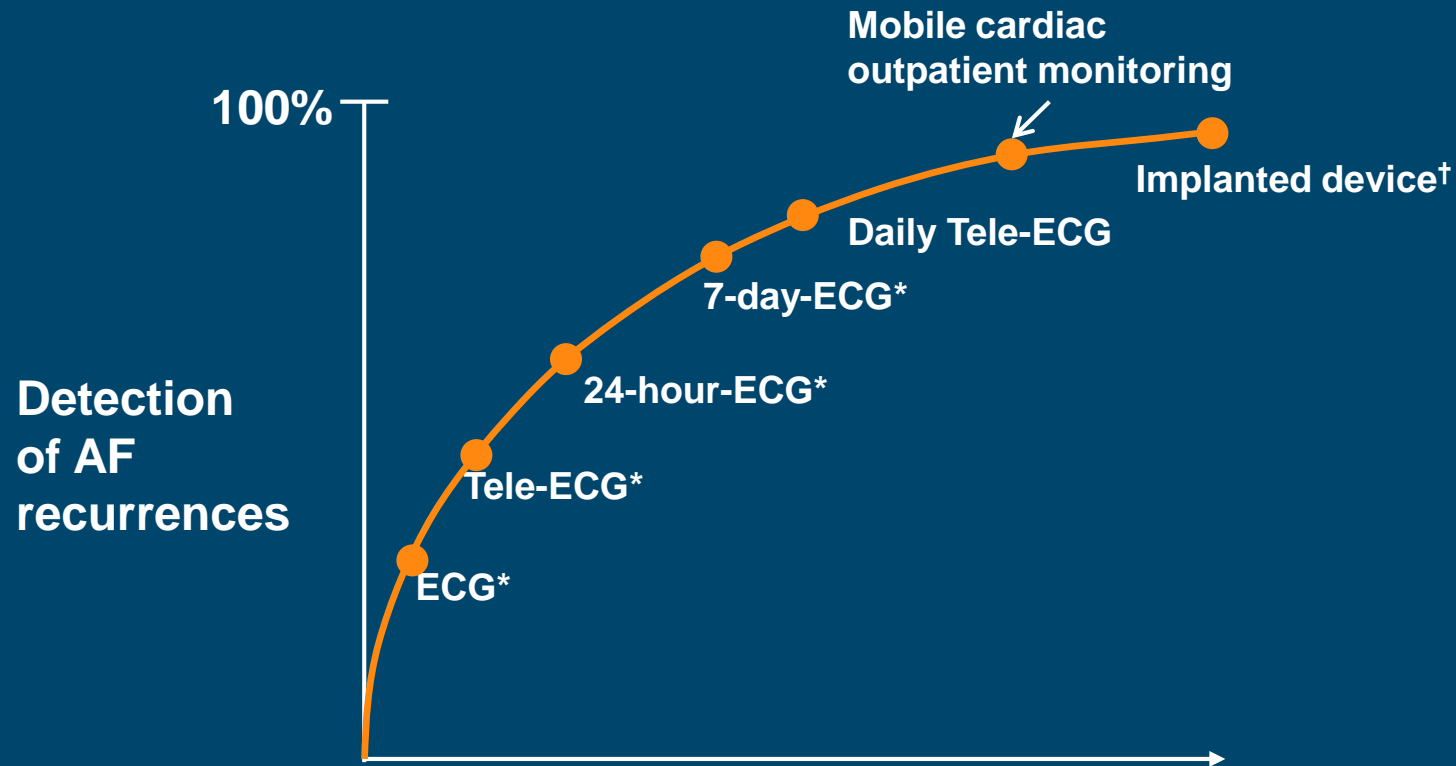
Singh S, et al. *J Am Coll Cardiol* 2006;48:721-730.

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Follow-up AF Detection Depends on Monitoring Strategy

Estimated correlation between follow-up technique and AF recurrence following catheter ablation



*During 3-month follow-up

†As the theoretical gold standard

Tele = transtelephonic

AHA SCIENTIFIC STATEMENT

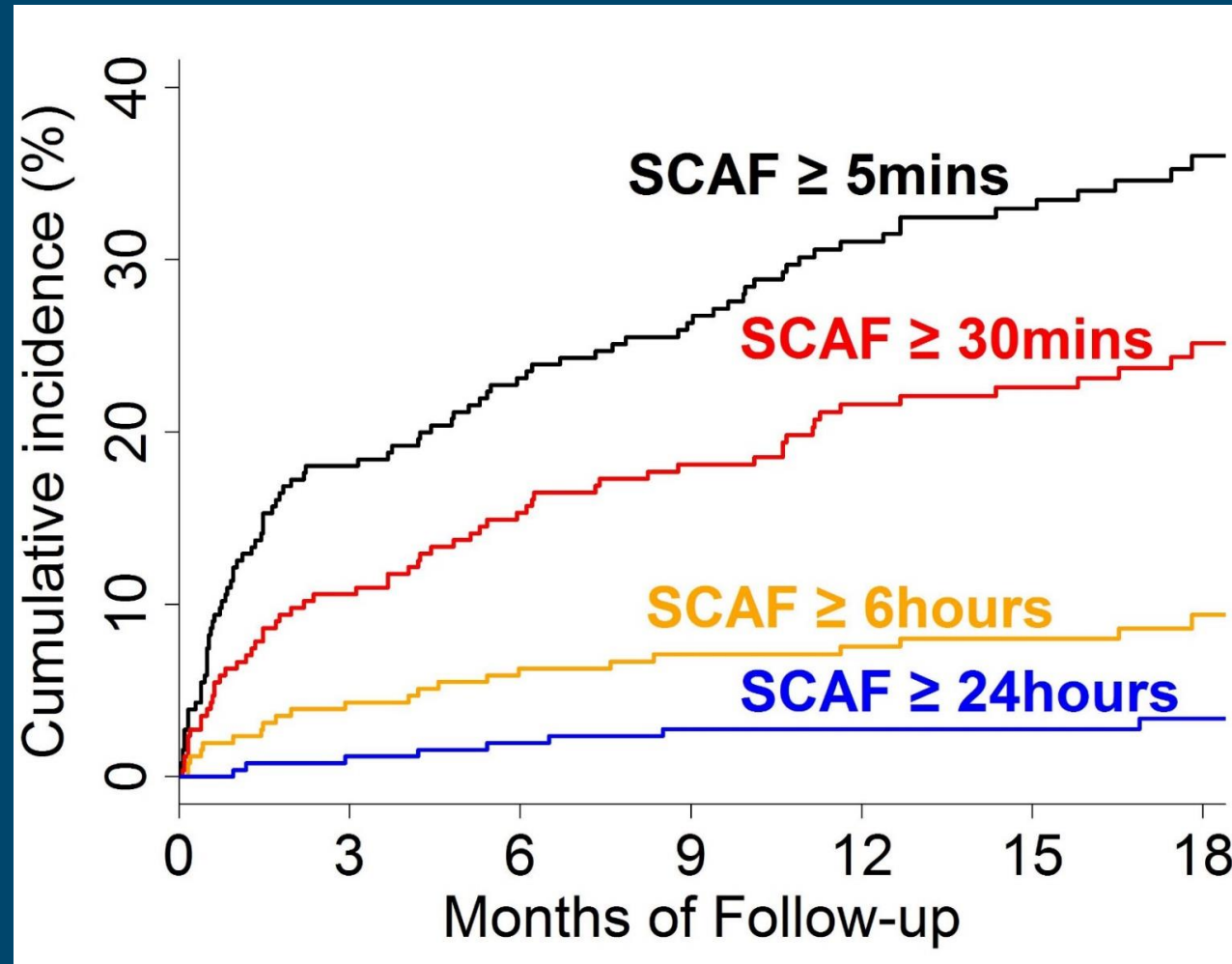
Atrial Fibrillation Burden: Moving Beyond Atrial Fibrillation as a Binary Entity

A Scientific Statement From the American Heart Association

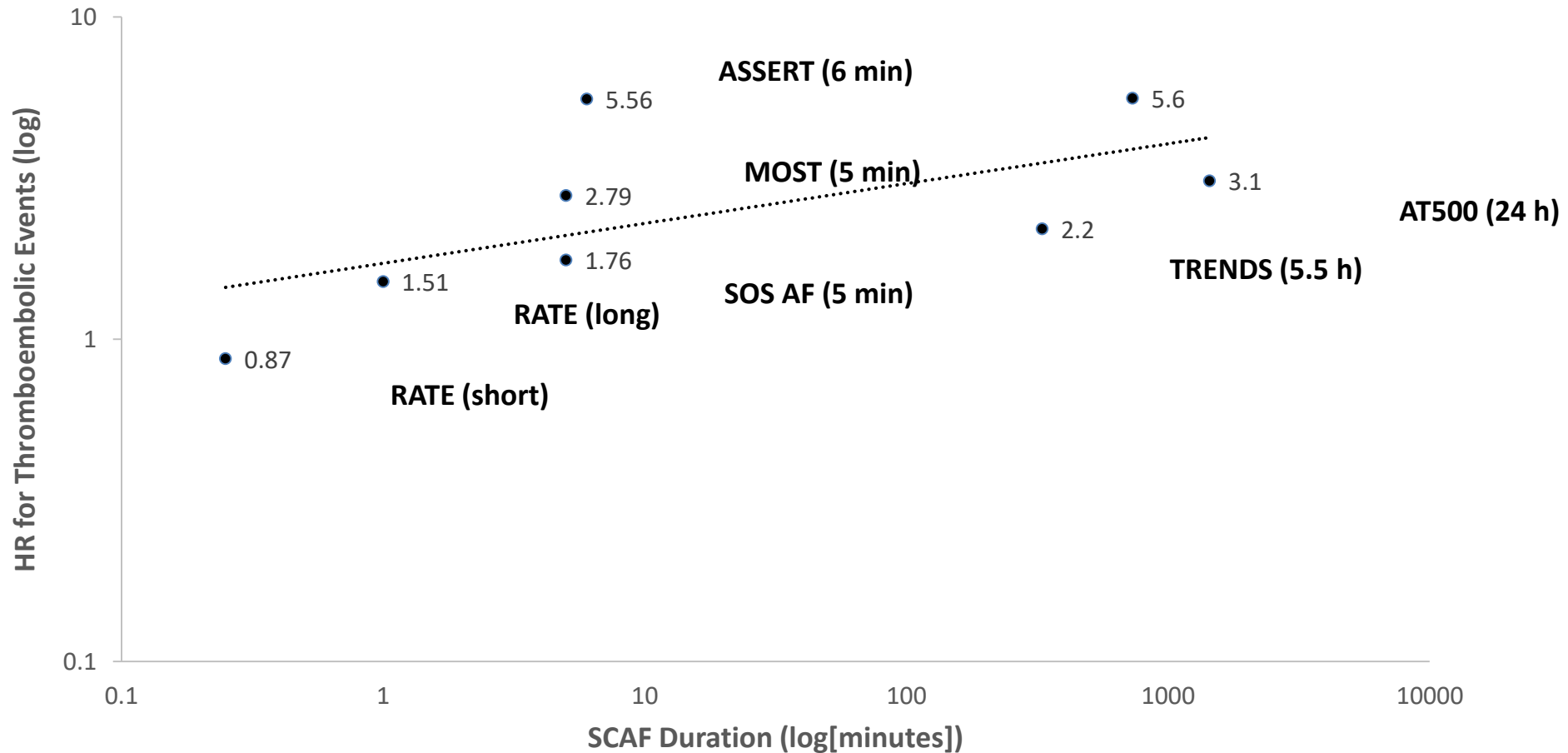
- AF Burden = amount of AF an individual has
 - Frequency (#episodes/unit time)
 - Percent (proportion of time in AF)
- Longest duration of AF

ASSERT: Incidence of Subclinical AF (SCAF)

N=2580 with HTN
& PM/ICD

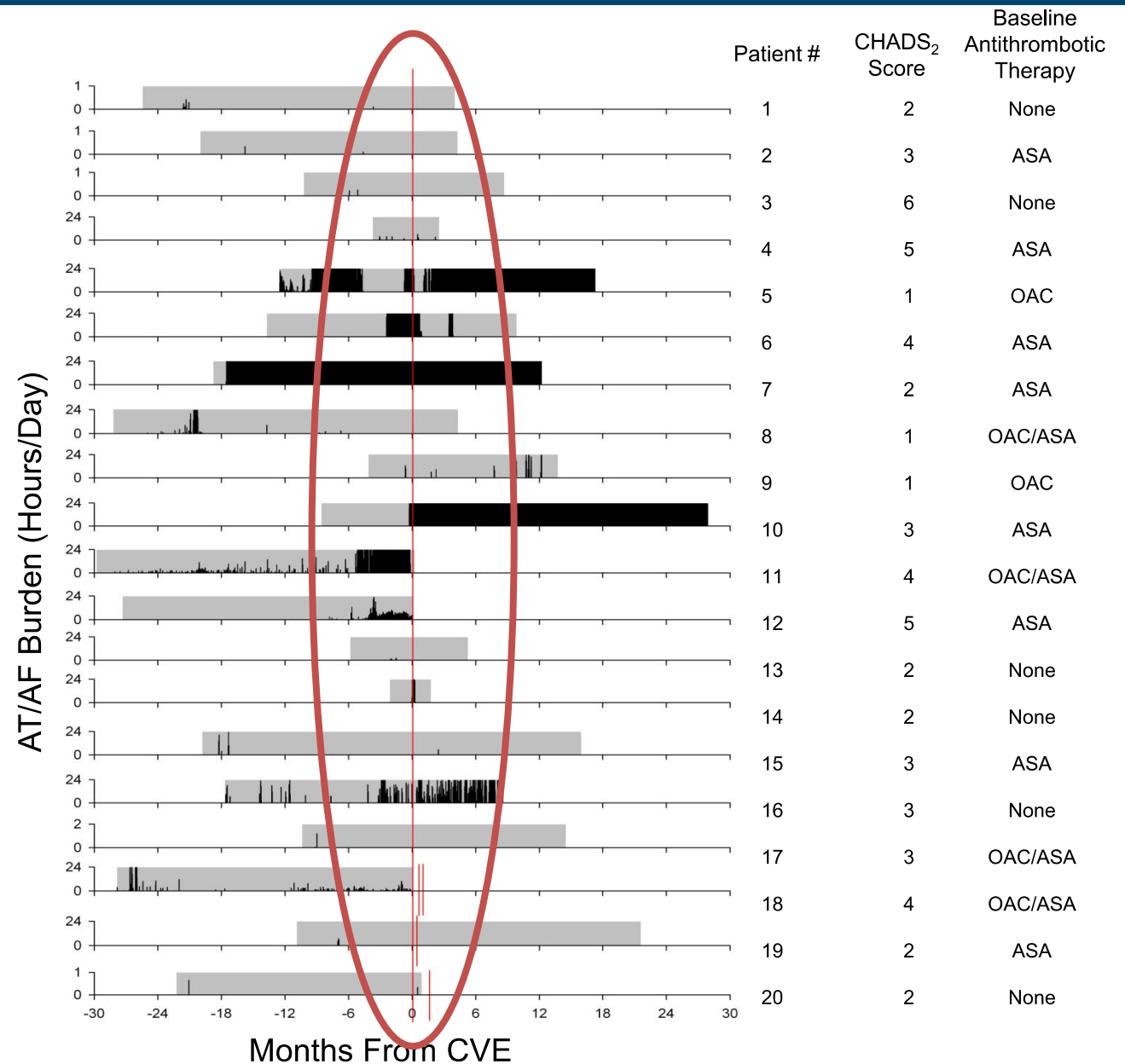


AF Burden and Stroke Risk



Glotzer TV, et al. Circulation 2003;107:1614-1619. Capucci A, et al. J Am Coll Cardiol 2005;46:1913-20. Glotzer T, et al. Circ Arrhythm Electrophysiol 2009;2:474-480. Healey JS, et al. N Engl J Med 2012;366:120-129. Boriani G, et al. Eur Heart J 2014; 35:508-516. Swiryn S, et al. Circulation 2016;134:1130-1140.

TRENDS: Most patients did not have AT/AF within 30 days of their stroke event



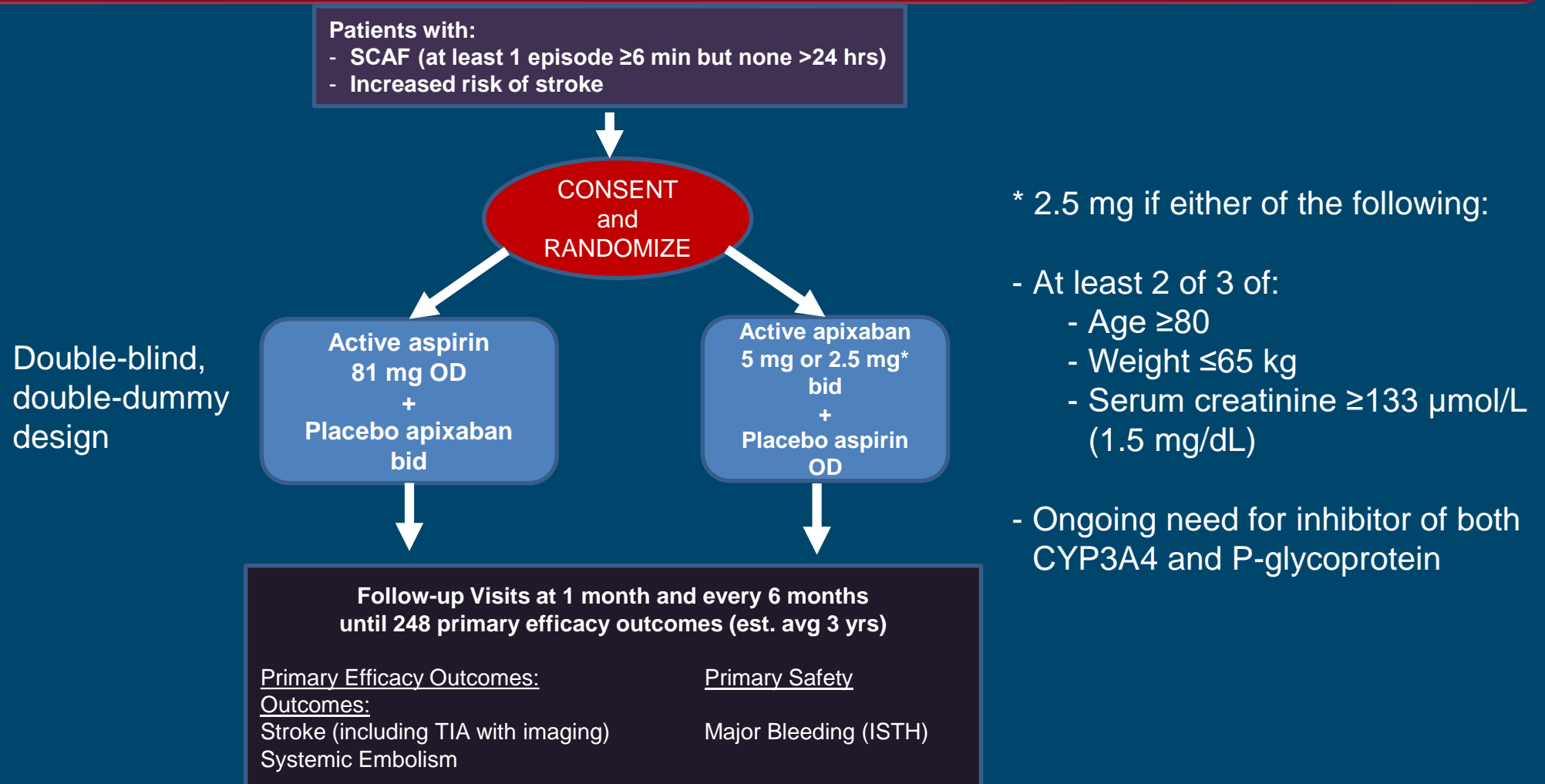
2019 AHA/ACC/HRS Focused Update of the 2014 AHA/ACC/HRS Guideline for the Management of Patients With Atrial Fibrillation



Recommendations for Device Detection of AF and Atrial Flutter

COR	LOE	Recommendations
I	B-NR	In patients with cardiac implantable electronic devices (pacemakers or implanted cardioverter-defibrillators), the presence of recorded atrial high-rate episodes (AHREs) should prompt further evaluation to document clinically relevant AF to guide treatment decisions.
IIa	B-R	In patients with cryptogenic stroke (i.e., stroke of unknown cause) in whom external ambulatory monitoring is inconclusive, implantation of a cardiac monitor (loop recorder) is reasonable to optimize detection of silent AF.

Apixaban for the Reduction of Thromboembolism in Patients with Device-Detected Sub-Clinical Atrial Fibrillation (ARTESIA)

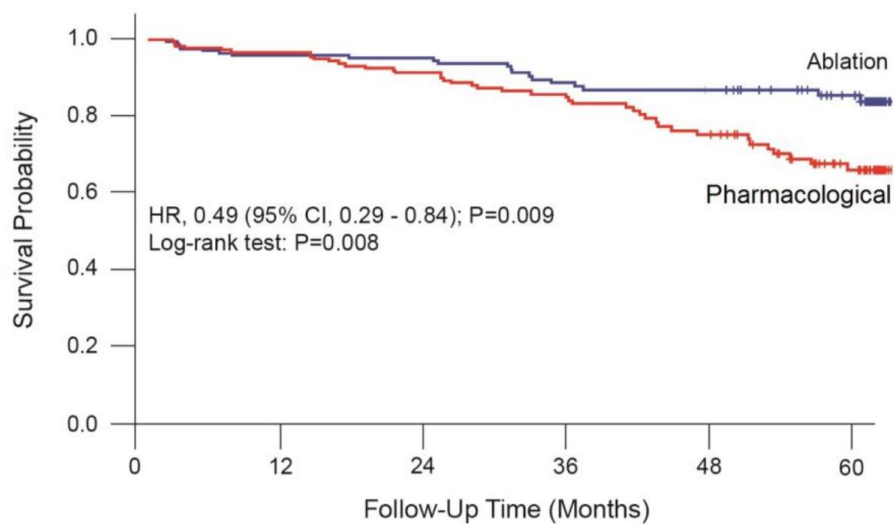


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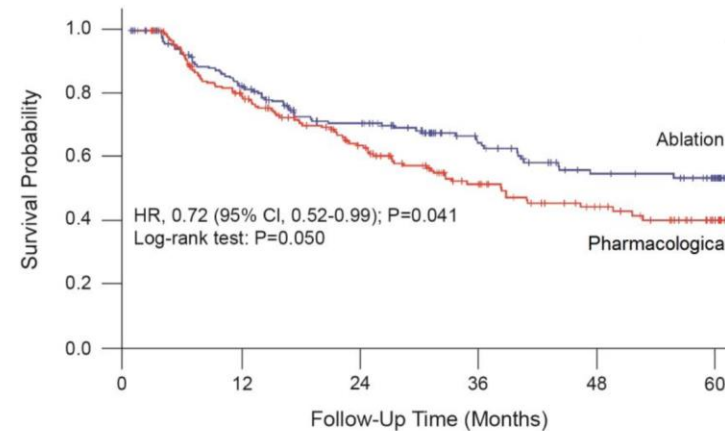


CV Death



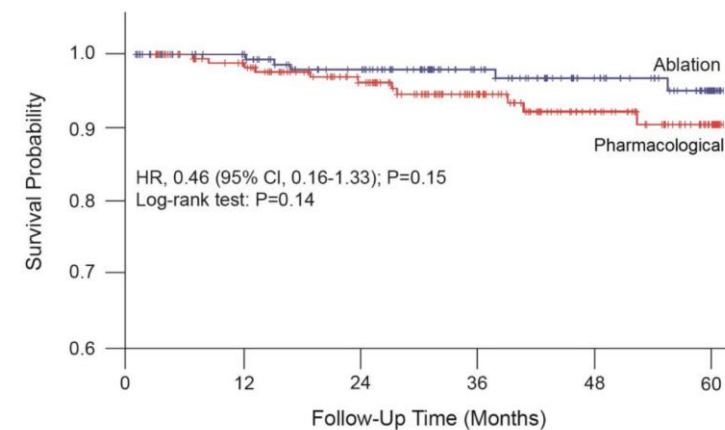
Patients at Risk		0	12	24	36	48	60
Ablation	179	154	130	94	71	27	
Pharmacological	184	168	138	97	63	19	

CV Hospitalization



Patients at Risk		0	12	24	36	48	60
Ablation	179	127	95	60	42	17	
Pharmacological	184	131	91	52	33	8	

Stroke



Patients at Risk		0	12	24	36	48	60
Ablation	179	153	127	91	68	24	
Pharmacological	184	165	135	95	60	18	

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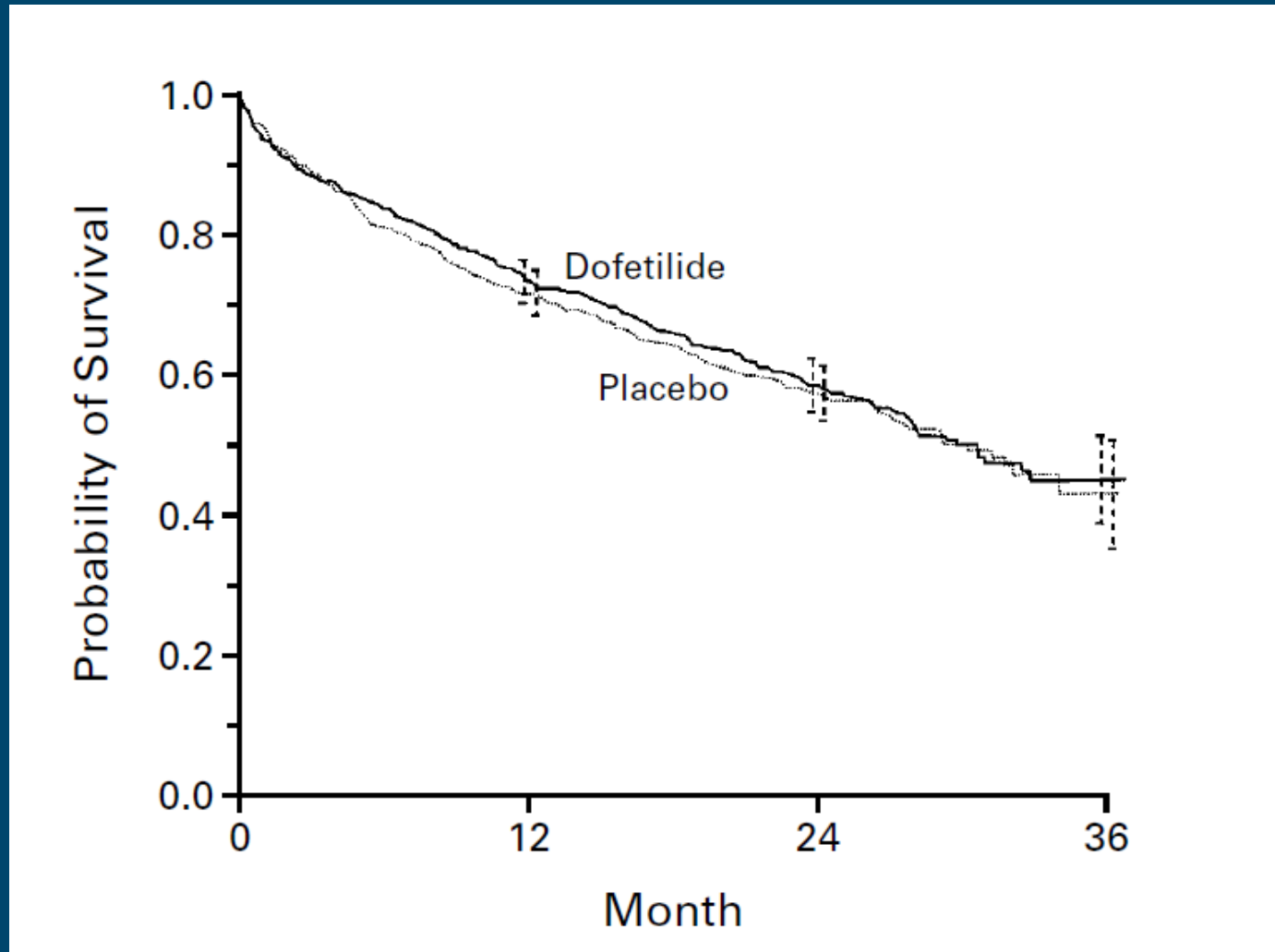


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Recommendation for Catheter Ablation in HF		
COR	LOE	Recommendation
IIb	B-R	<p>AF catheter ablation may be reasonable in selected patients with symptomatic AF and HF with reduced left ventricular (LV) ejection fraction (HFrEF) to potentially lower mortality rate and reduce hospitalization for HF.</p> <p>NEW: New evidence, including data on improved mortality rate, has been published for AF catheter ablation compared with medical therapy in patients with HF.</p>

DIAMOND: Dofetilide for AF in HF



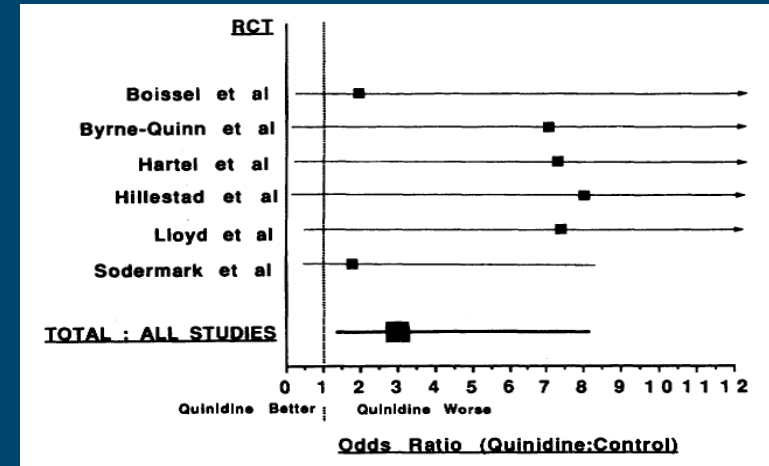
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Efficacy and Safety of Quinidine Therapy for Maintenance of Sinus Rhythm After Cardioversion

A Meta-Analysis of Randomized Control Trials

Sharon E. Coplen, MD, Elliott M. Antman, MD, Jesse A. Berlin, ScD,
Peg Hewitt, MS, and Thomas C. Chalmers, MD



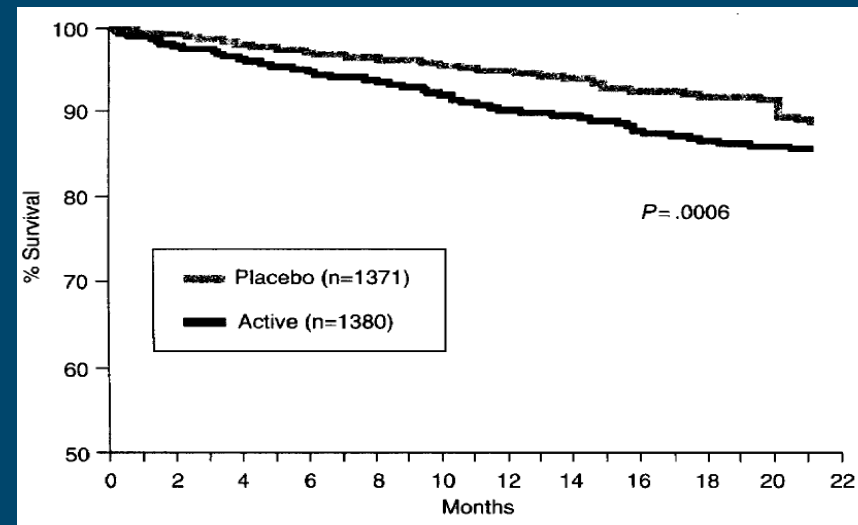
Quinidine OR 2.98 for total mortality
Quinidine-treated 2.9%
Control 0.8%

Circulation 1990;82:1106-1116.

Mortality Following Ventricular Arrhythmia Suppression by Encainide, Flecainide, and Moricizine After Myocardial Infarction

The Original Design Concept of the Cardiac Arrhythmia Suppression Trial (CAST)

Andrew E. Epstein, MD; Alfred P. Hallstrom, PhD; William J. Rogers, MD; Philip R. Liebson, MD;
A. Allen Seals, MD; Jeffery L. Anderson, MD; Jerome D. Cohen, MD; Robert J. Capone, MD;
D. George Wyse, MD, PhD; for the CAST Investigators



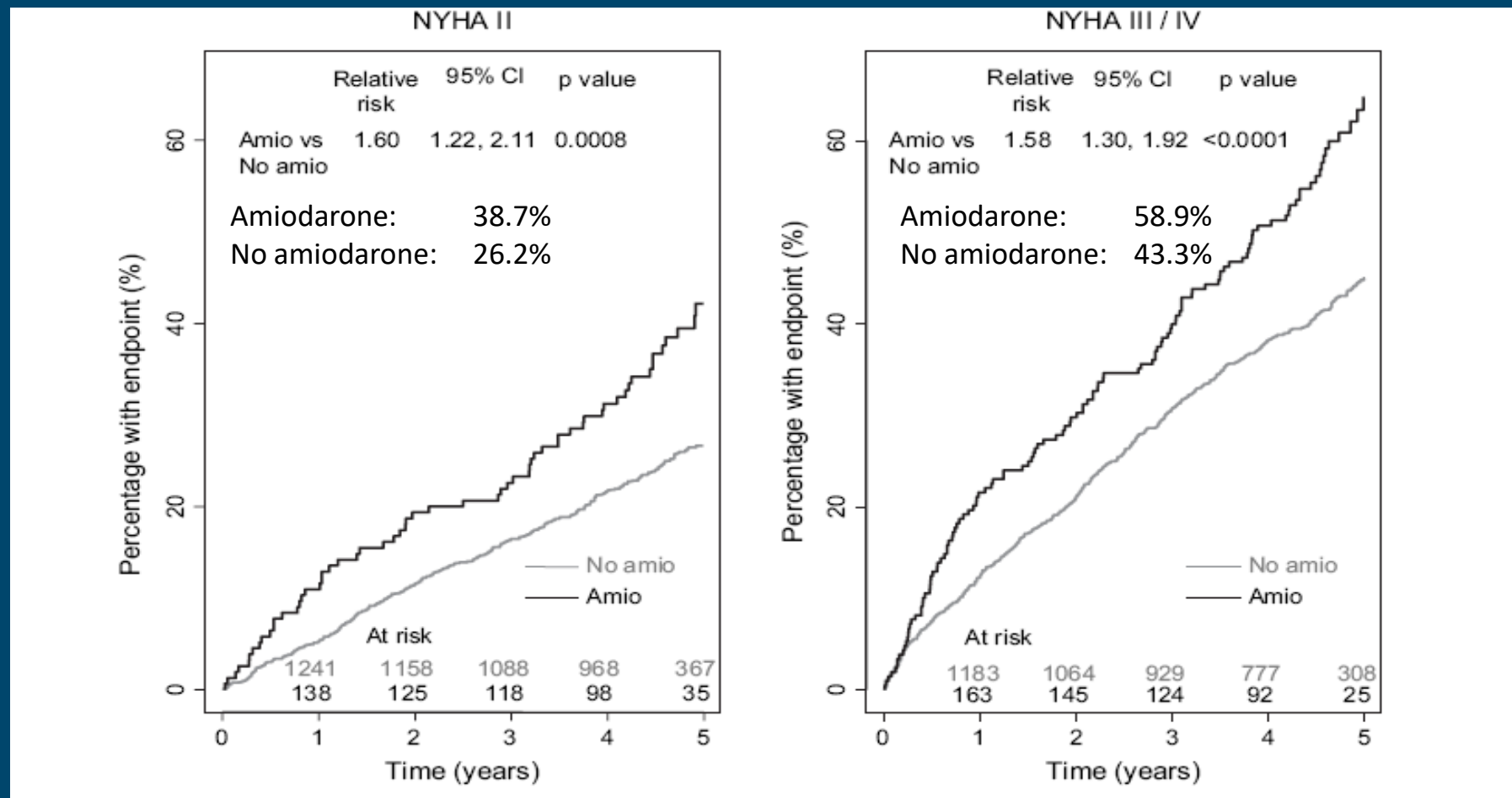
JAMA 1993;270:2451-2455.

Drug Selection Considerations

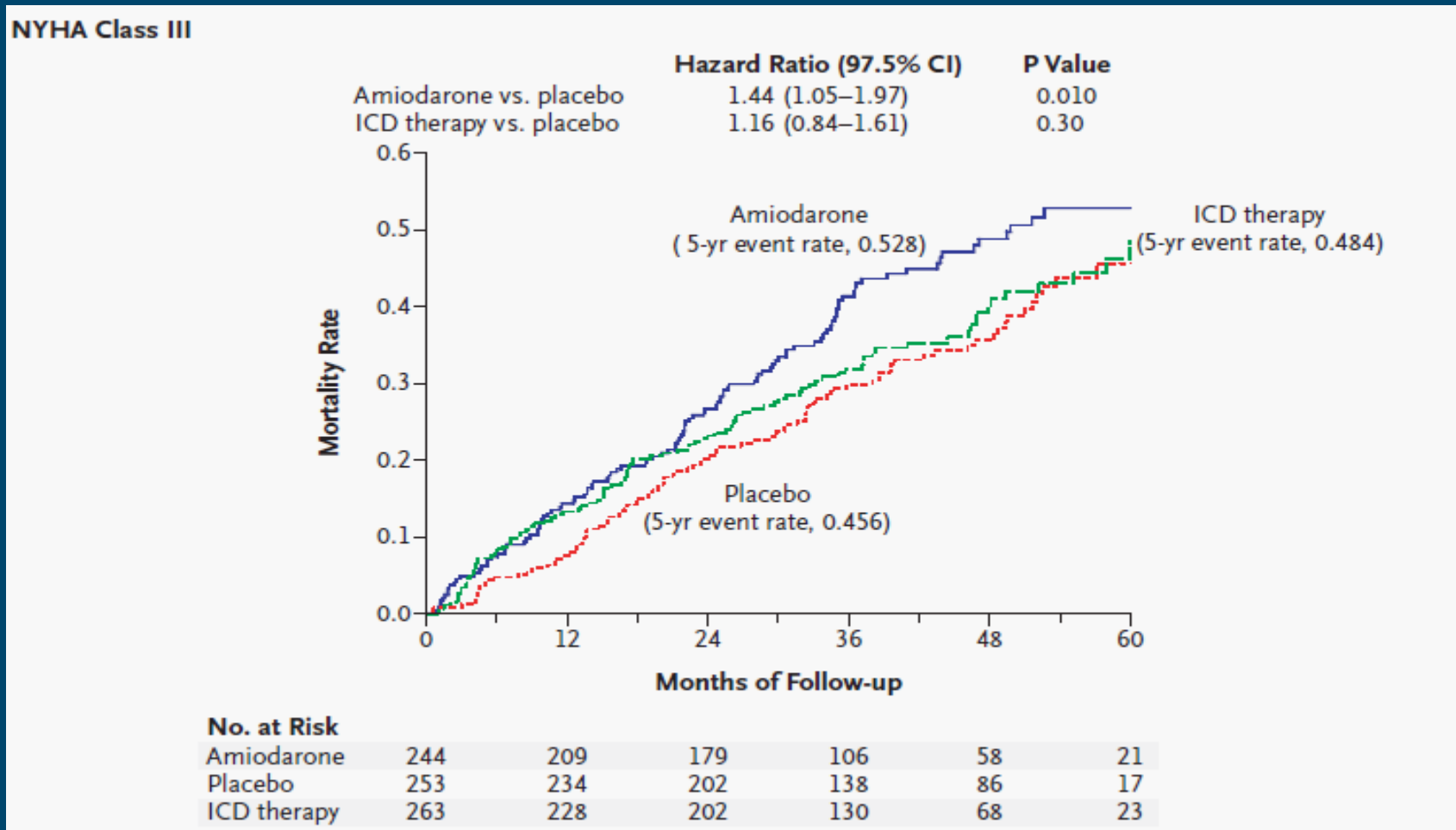
- Adverse effects
 - Proarrhythmia, both bradycardia and tachycardia
 - Torsades de pointes VT (Class IA and III antiarrhythmic drugs)
 - Flutter with 1:1 conduction (Class IC antiarrhythmic drugs)
 - Heart failure
- Drug interactions
 - Amiodarone: warfarin, digitalis
 - Dofetilide: verapamil, inhibitors of cation transport (cimetidine, trimethoprim), megestrol, and QT-prolonging drugs
 - Digitalis: levels increase with amiodarone, propafenone, quinidine, verapamil
- Organ toxicity
 - Amiodarone: pulmonary, thyroid, skin, ocular
 - Procainamide: lupus, agranulocytosis
 - Quinidine: thrombocytopenia, lupus

Amiodarone: Not a Panacea COMET

N = 3029
 Amiodarone = 364
 No amiodarone = 2665



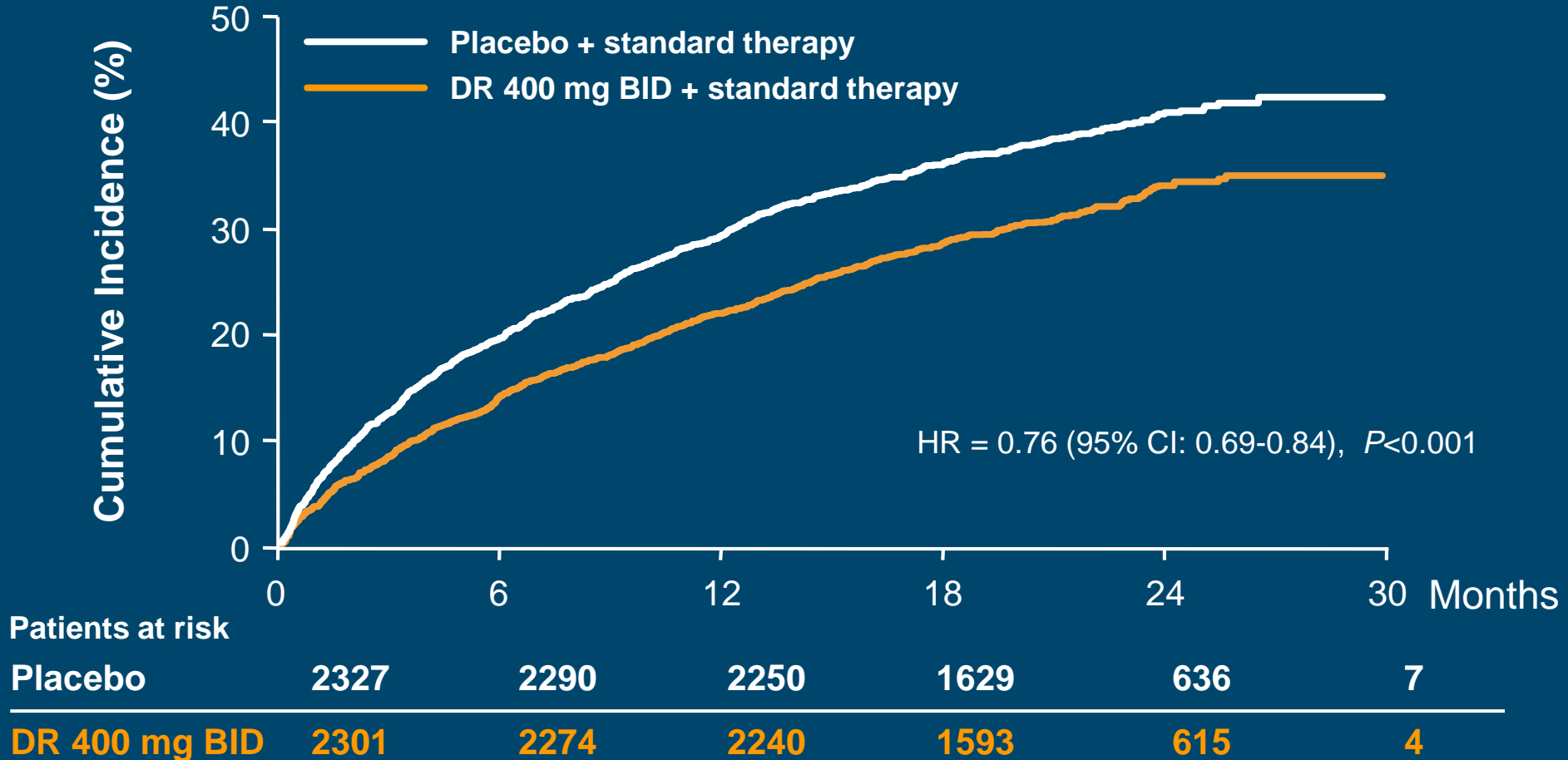
Amiodarone: Not a Panacea SCD-HeFT



Out-Patient vs. In-Patient: Initiation of Antiarrhythmics for AF

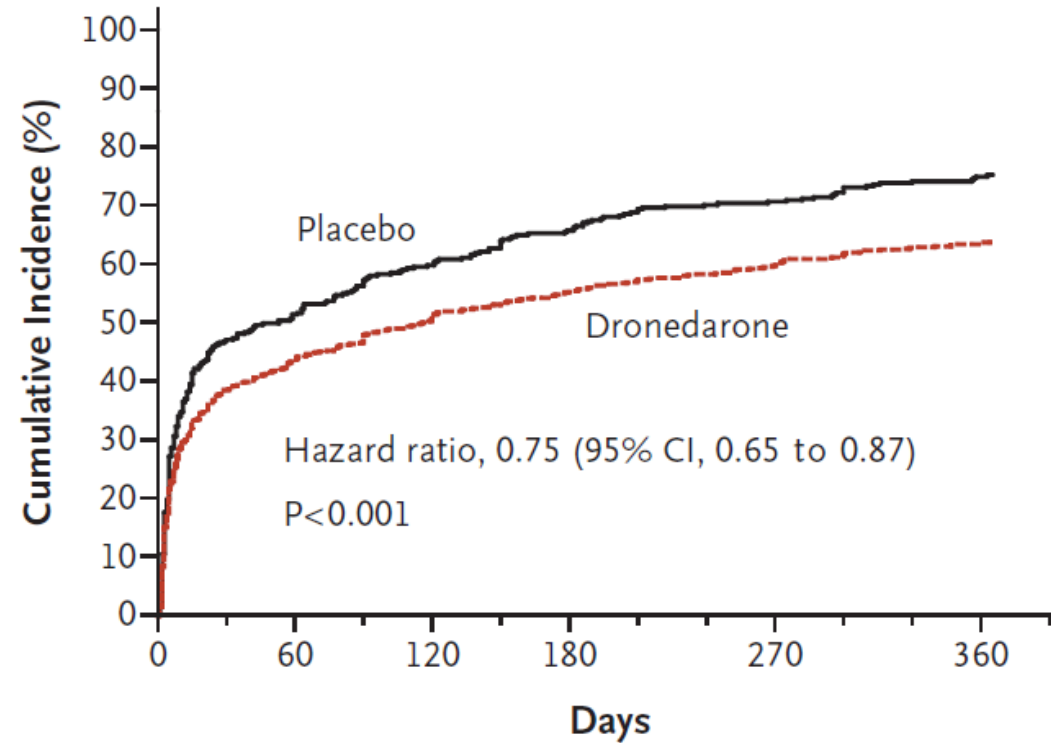
	In AF		In NSR	
	Hospital	Out-patient	Hospital	Out-patient
IA	X		X	
IC	(X)	X		X
Sotalol	X		X	
Dofetilide	X		X	
Dronedarone		X		X
Amiodarone		X		X

ATHENA Primary Endpoint: Reduction in CV Hospitalization or Death



Mean follow-up 21 ± 5 months. DR=dronedarone.

EURIDIS and ADONIS Primary Endpoint: First Recurrence of AF/AFI

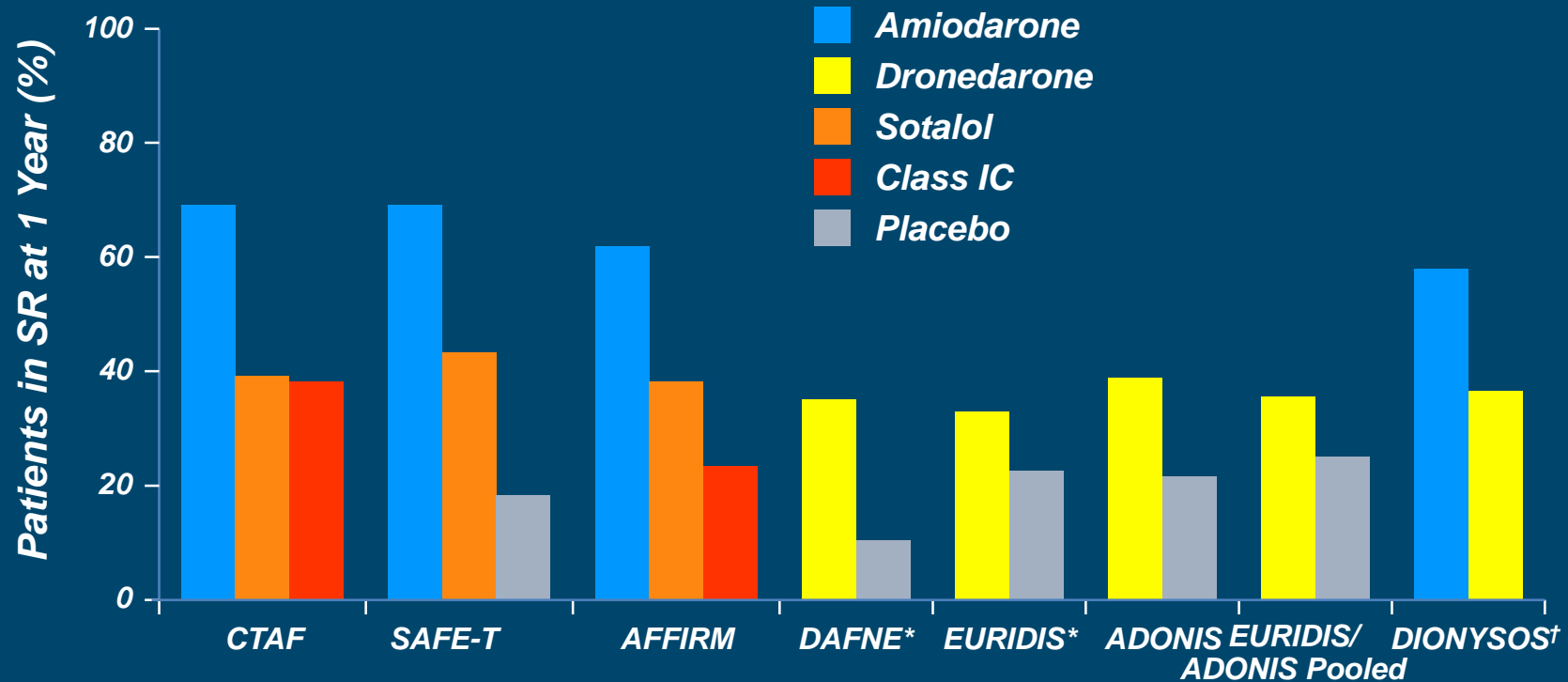


No. at Risk

Placebo	409	192	156	133	112	90
Dronedaronone	828	450	389	347	307	262

Efficacy of AADs in AF Trials

Except for Amiodarone, 50% Efficacy is High



*At 6 months; †Mean follow-up 7 months.

CTAF = Canadian Trial of Atrial Fibrillation; SAFE-T = Sotalol Amiodarone Atrial Fibrillation Efficacy Trial; DAFNE = Dronedaronne Atrial Fibrillation Study after Electrical Cardioversion; EURIDIS = European Trial in Atrial Fibrillation or Flutter Patients Receiving Dronedaronne for the Maintenance of Sinus Rhythm; ADONIS = American-Australian-African Trial with Dronedaronne in Atrial Fibrillation or Flutter for the Maintenance of Sinus Rhythm; DIONYSOS = Randomized, Double-blind Trial to Evaluate the Efficacy and Safety of Dronedaronne vs Amiodarone for at Least 6 Months for the Maintenance of Sinus Rhythm in Patients with AF.

Naccarelli G., et al. Clin Med Insights Cardiol 2011;5: 103-119; Roy D, et al. Am J Cardiol. 1997;80:464-468. Singh BN, et al. N Engl J Med. 2005;352(18):1861-1872. AFFIRM Investigators. J Am Coll Cardiol. 2003;42:20-29. Touboul P, et al. Eur Heart J. 2003;24:1481-1487. Singh BN, et al. N Engl J Med. 2007;357(10):987-999. Le Heuzey JY, et al. J Cardiovasc Electrophysiol. 2010;21:597-605.

Antiarrhythmic Drug Versus Ablation Therapy

- Follow the guidelines
- Consider the pros and cons of each
- Talk to the patient

