



MAM 2017

MULTIDISCIPLINARY ARRHYTHMIA MEETING

NOVEMBER 2 - 3, 2017

ZURICH, SWITZERLAND

The way to all-round Multidisciplinary Arrhythmia Heart Team cooperation

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Potential conflicts of interest

Speaker's name: Mark La Meir

- I have the following potential conflicts of interest to report:
- Consultant Atricure

2016 ESC Guidelines for the management of atrial fibrillation
 developed in collaboration with EACTS
 European Heart Journal (2016) 37, 2893–2962

Integrated AF management			
Patient involvement	Multidisciplinary teams	Technology tools	Access to all treatment options for AF
<ul style="list-style-type: none"> • Central role in care process • Patient education • Encouragement and empowerment for self-management • Advice and education on lifestyle and risk factor management • Shared decision making <p>• <i>Informed, involved, empowered patient</i></p>	<ul style="list-style-type: none"> • Physicians (general physicians, cardiology and stroke AF specialists, surgeons) and allied health professionals work in a collaborative practice model • Efficient mix of communication skills, education, and experience <p>• <i>Working together in a multidisciplinary chronic AF care team</i></p>	<ul style="list-style-type: none"> • Information on AF • Clinical decision support • Checklist and communication tools • Used by healthcare professionals and patients • Monitoring of therapy adherence and effectiveness <p>• <i>Navigation system to support decision making in treatment team</i></p>	<ul style="list-style-type: none"> • Structured support for lifestyle changes • Anticoagulation • Rate control • Antiarrhythmic drugs • Catheter and surgical interventions (ablation, LAA occluder, AF surgery, etc.) <p>• <i>Complex management decisions underpinned by an AF Heart Team</i></p>

AF = atrial fibrillation; LAA = left atrial appendage.

Recommendations for an integrated approach to care

Recommendations	Class ^a	Level ^b	Ref ^c
An integrated approach with structured organization of care and follow-up should be considered in all patients with AF, aiming to improve guidelines adherence and to reduce hospitalizations and mortality.	IIa	B	330–332
Placing patients in a central role in decision-making should be considered in order to tailor management to patient preferences and improve adherence to long-term therapy.	IIa	C	330, 332, 334

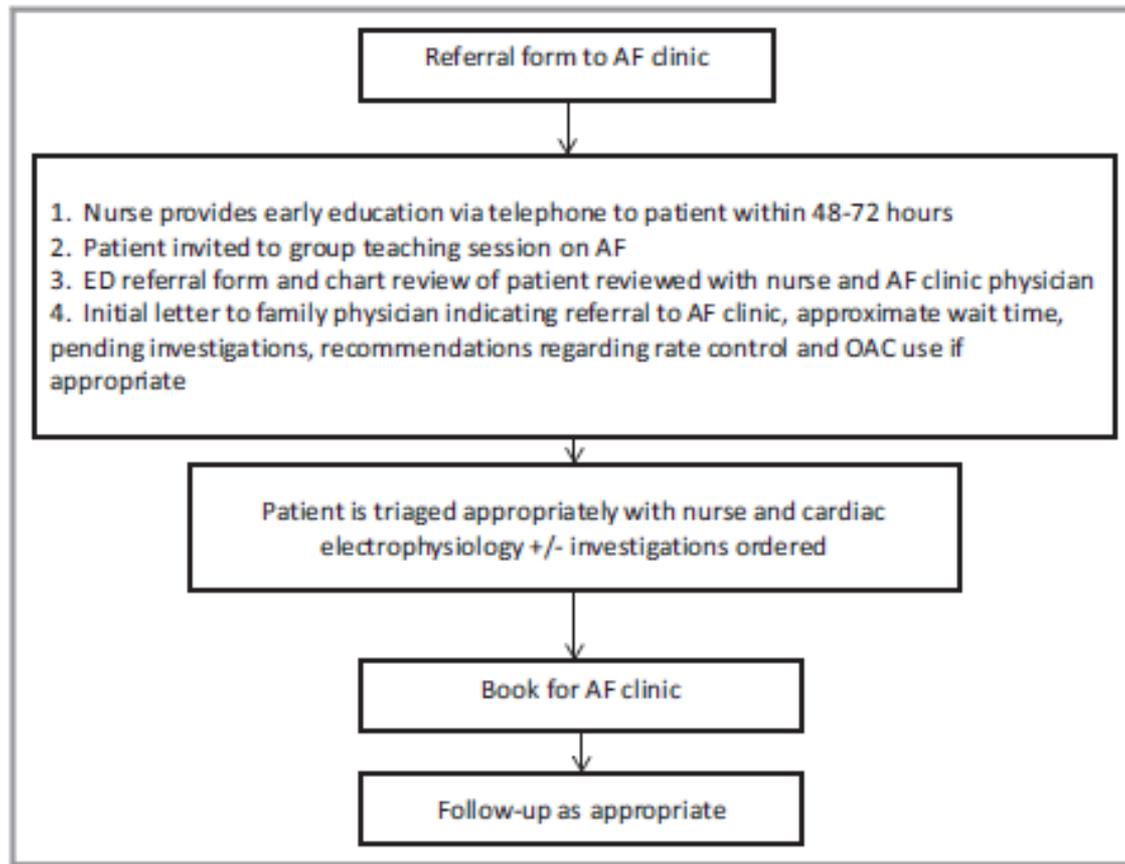
AF = atrial fibrillation

^aClass of recommendation.

^bLevel of evidence.

^cReference(s) supporting recommendations.

An Integrated Management Approach to Atrial Fibrillation. Carter L et al.
J Am Heart Assoc. 2016 Jan 25;5(1).



Heart team approach for left atrial appendage therapies: in addition to stroke prevention-is electrical isolation important?
Salzberg SP, Hürlimann D, Corti R, Grünenfelder J
Ann Cardiothorac Surg. 2014 Jan;3(1):75-7.

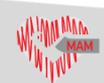
FAST TRIAL

Atrial Fibrillation Catheter Ablation Versus Surgical Ablation Treatment

- 124 patients, 65% PAF
- Previously failed catheter ablation (67%) or atria >40 mm in AHT, or >45 mm without AHT (33%)
- Randomised to a CA or to a TT SA

Table 4. Procedural Adverse Events of CA and SA

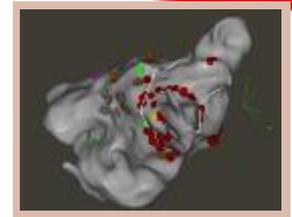
Adverse Events	CA N=63	SA N=61	P-Value
Pericardial effusion/tamponade	1	1	
TIA/Stroke	1	1	
Pneumothorax	...	6	
Hemothorax	...	1	
Rib fracture	...	1	
Sternotomy for bleeding	...	1	
Pneumonia	...	1	
Death	
PM implant	...	2	
Total	2 (3.2%)	14 (23.0%)	P=0.001
Minor			
Groin hematoma/bleed	4 (6.3%)	...	



Multidisciplinary Treatment

The Arrhythmia Team

- Always consists of an arrhythmia surgeon, an EP and a cardiologist
- Meeting once a week
- Close collaboration with other disciplines
- All cases of concomitant AF are discussed preoperatively
 - Need for arrhythmia surgery?
 - What kind?
 - Need for LAA closure?
- All lone AF patients referred for surgical AF ablation are discussed



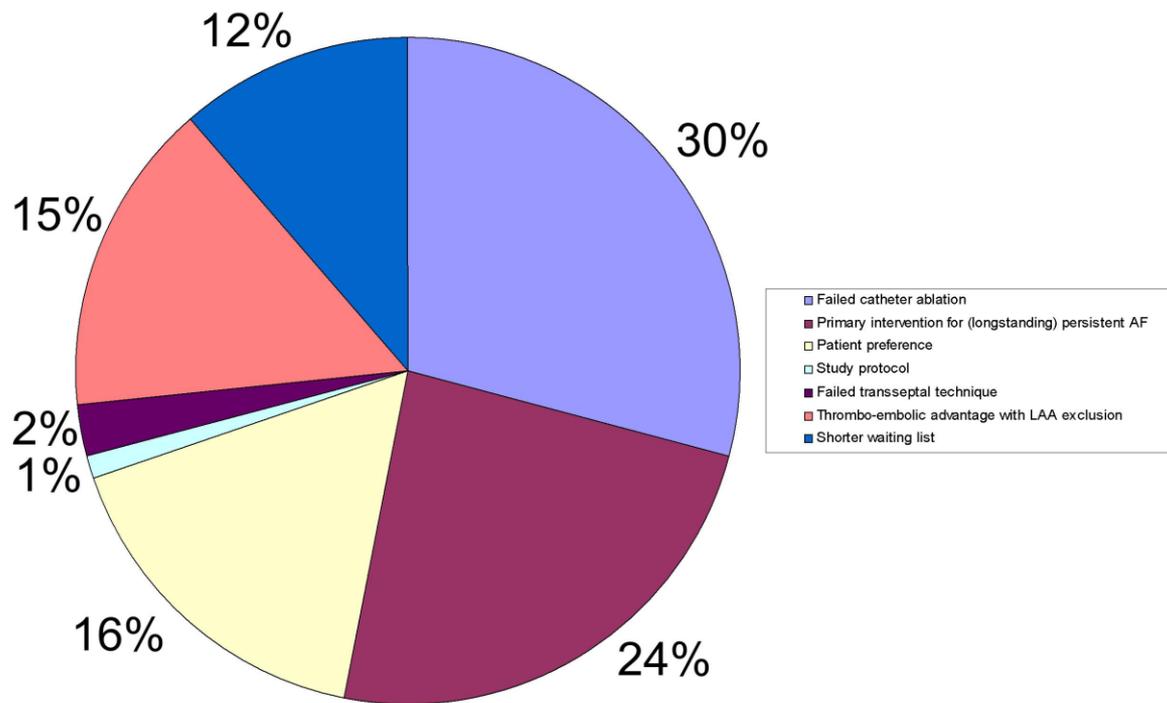
“ AF begets AF “

“ Catheter ablation begets catheter ablation “



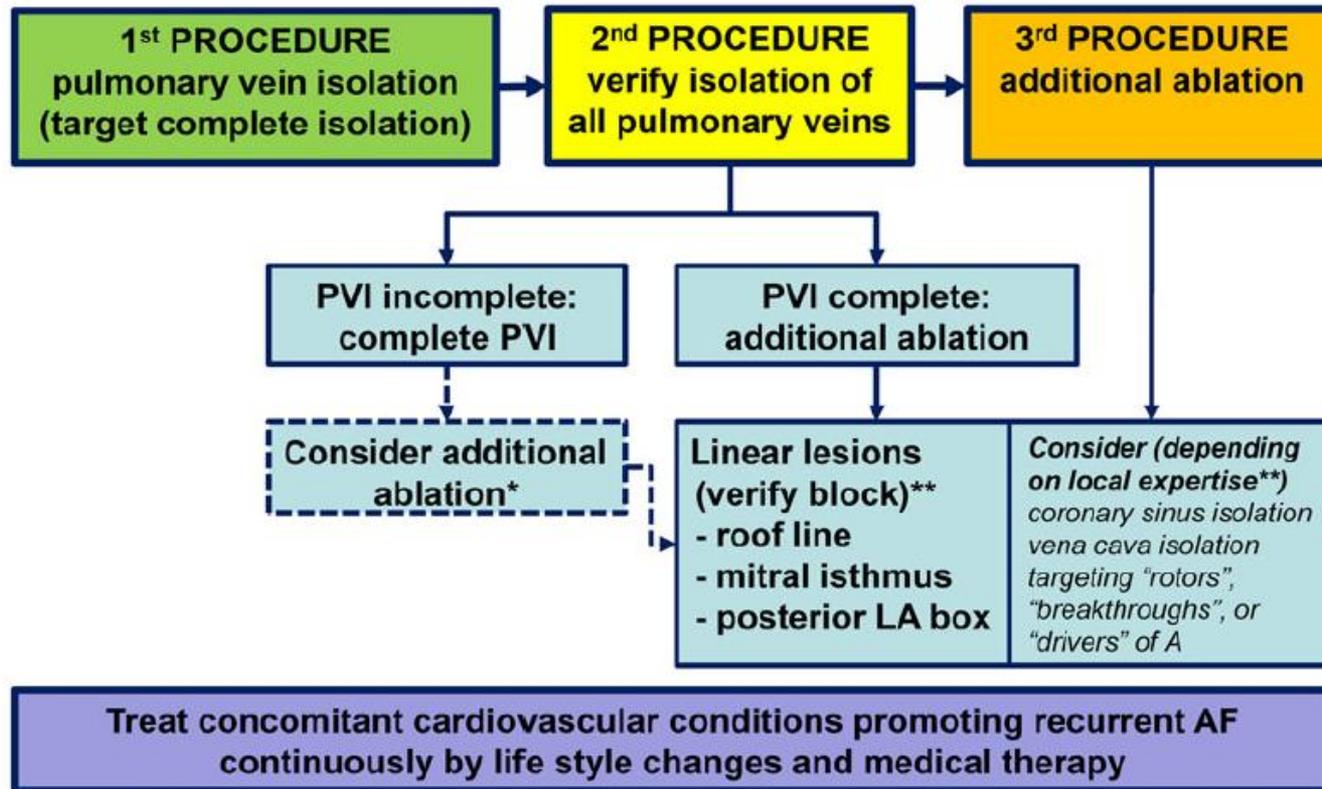
Centre for Heart Disease, University Hospital, Brussels - Maastricht





Catheter ablation in patients with persistent AF

Sequence of ablation targets for persistent AF



*additional linear lesions should be performed in patients with macroreentrant atrial tachycardia / flutter

** there is little data to inform the choice of linear lesions and other additional ablation targets. Local expertise to achieve the desired ablation target (e.g. crossing short lines) should determine the choice.

*** right atrial isthmus ablation should be considered if isthmus-dependent atrial flutter is documented

Catheter ablation of asymptomatic longstanding persistent AF: impact on quality of life, exercise performance, arrhythmia perception, and arrhythmia-free survival.

Mohanty S, Santangeli P, Mohanty P, Di Biase L, Holcomb S, Trivedi C, Bai R, Burkhardt D, Hongo R, Hao S, Beheiry S, Santoro F, Forleo G, Gallinghouse JG, Horton R, Sanchez JE, Bailey S, Hranitzky PM, Zagrodzky J, Natale A.

J Cardiovasc Electrophysiol. 2014 Oct;25(10):1057-64.

- ✓ 61 consecutive patients (mean age 62 ± 13 years, 71% males)
- ✓ FU 20 ± 5 months
- ✓ 36 (57%) patients SR free off AAD
- ✓ 25 patients AF, 21 (84%) were symptomatic
- ✓ SF-36 scores improved significantly for patients with successful ablation, physical component summary (PCS) and mental component summary (MCS) demonstrated substantial improvement.

Thoracoscopic surgical ablation versus catheter ablation for AF

Phan et al. Eur J Cardiothorac Surg 2015;
doi:10.1093/ejcts/ezv180.

Eight comparative studies:

- Three are prospectively randomized, five articles were retrospective observation studies
- 321 VATS ablation patients compared with 378 CA patients,
- Two studies treated PAF patients, two studies treated persistent AF patients, the remainder of the studies had a study population of both paroxysmal and persistent AF.

Table 1: Study characteristics

First author	Study period	Country	Study design	n (SA)	n (CA)	PAF	PersAF	Mean follow-up (months)
Wang <i>et al.</i> , 2014	2008–12	China	P, RCT	66	72	138	0	6–40
Rong <i>et al.</i> 2014	2007–12	China	R, OS (abstract)	16	32	48	0	30.6 ± 18.9
De Souza <i>et al.</i> 2014	2012–13	UK	R, OS (abstract)	20	20	0	40	12
De Maat <i>et al.</i> 2014	2009–11	Netherlands	R, OS	33	66	76	23	12.6 ± 2
Pokushalov <i>et al.</i> 2013	NR	USA	P, RCT	32	32	38	26	12
Boersma <i>et al.</i> 2012	2007–10	Netherlands	P, RCT	61	63	82	42	12
Wang <i>et al.</i> 2011	2006–09	China	R, OS	83	83	0	166	26.4
Sauren <i>et al.</i> 2009	2007–08	Netherlands	R, OS	10	10	9	11	6

SA: surgical ablation; CA: catheter ablation; PAF: paroxysmal atrial fibrillation; PersAF: persistent atrial fibrillation; P: prospective; R: retrospective; OS: observational study.

Table 2: Baseline characteristics of thoracoscopic SA versus CA for AF

Parameter	SA	CA	RR or WMD, 95% CI	I ² (%)	P-value
Age (years)	53.8	55.2	−0.07 (−1.44, 1.31)	0	0.93
Males (%)	70.5	74.6	0.95 (0.87, 1.04)	0	0.23
Persistent AF (%)	43.9	43.6	0.97 (0.46, 2.06)	90	0.93
Hypertension (%)	33.5	42.8	0.77 (0.61, 0.99)	23	0.04
Diabetes (%)	11.1	11.4	0.92 (0.55, 1.52)	0	0.74
Prior stroke/TIA (%)	12.6	7.1	1.73 (0.93, 3.22)	0	0.08
LVEF (%)	59.6	59.7	−0.19 (−1.81, 1.43)	44	0.82
LAD (mm)	46.9	46.2	0.48 (−1.01, 1.97)	31	0.53
AF history (years)	5.9	5.7	0.29 (−0.23, 0.80)	0	0.27
BMI (kg/m ²)	27.8	28.2	−0.43 (−1.37, 0.52)	0	0.37

SA: surgical ablation; CA: catheter ablation; RR: relative risk; WMD: weighted mean difference; CI: confidence interval; AF: atrial fibrillation; TIA: transient ischaemic attack; LVEF: left ventricular ejection fraction; LAD: left atrial diameter; BMI: body mass index.

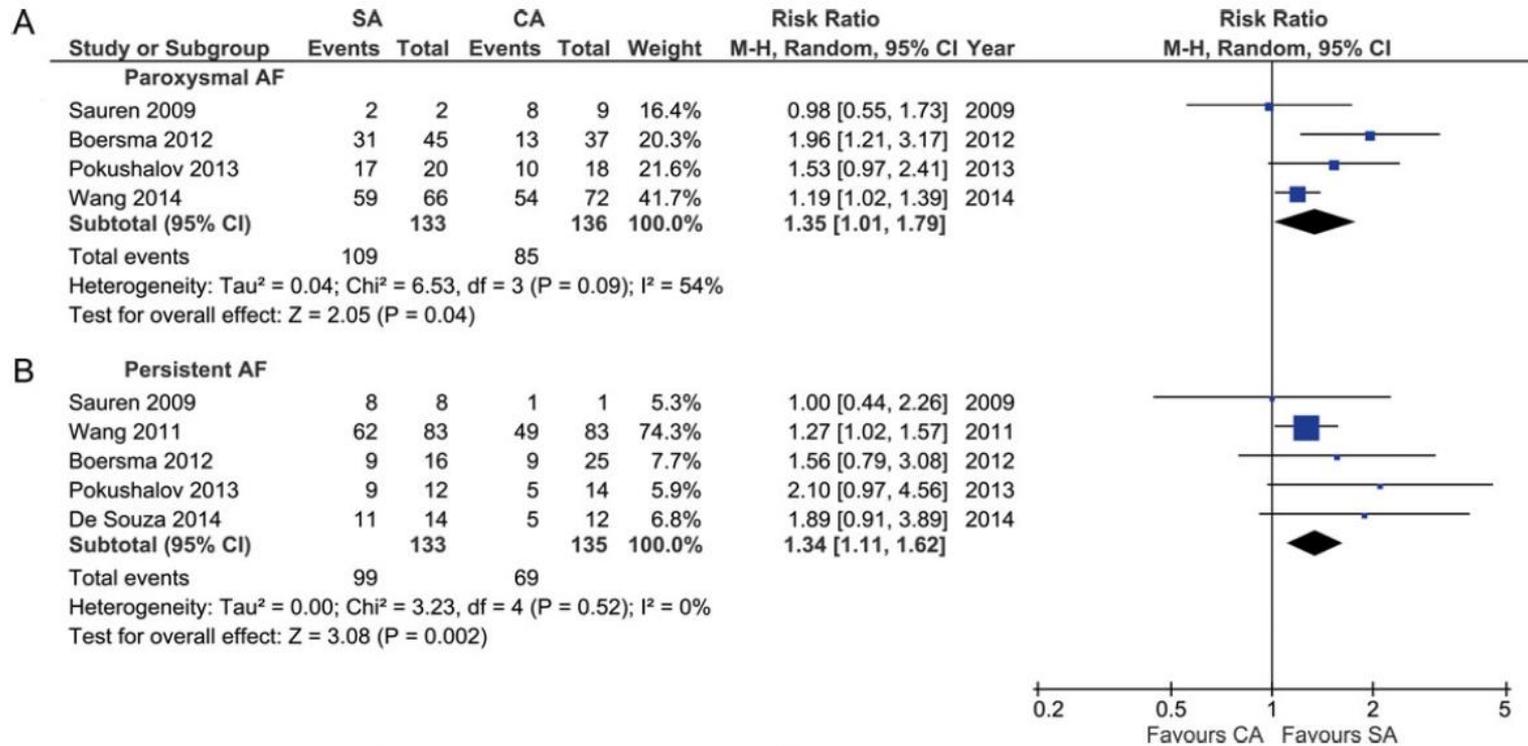


Figure 3: Forest plot of freedom from atrial fibrillation (AF) in (A) paroxysmal and (B) persistent AF subgroups for thoracoscopic surgical ablation (SA) versus catheter ablation (CA).

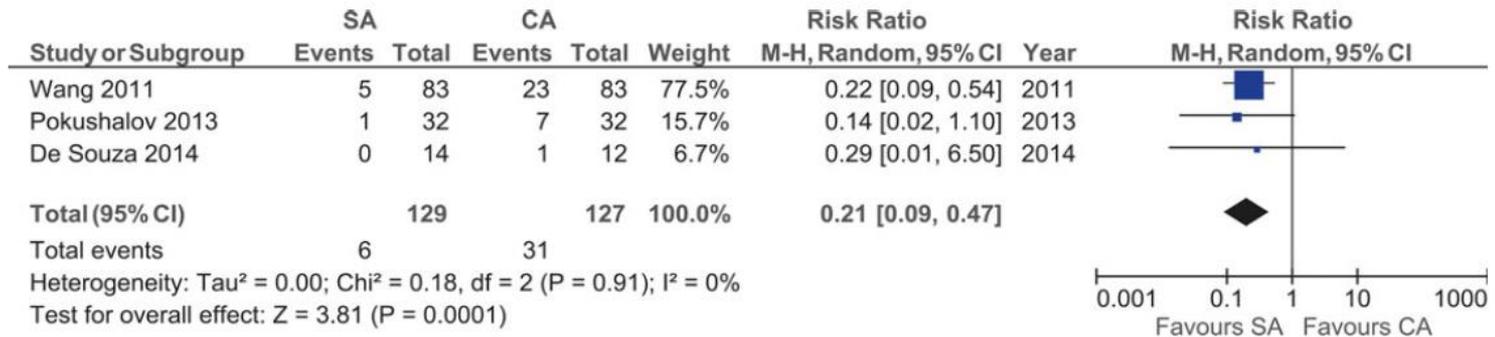


Figure 4: Forest plot of repeat procedures for thoracoscopic surgical ablation (SA) versus catheter ablation (CA) for atrial fibrillation.

Table 3: Complications of thoracoscopic SA versus CA for atrial fibrillation

Complication	SA	CA	RR, 95% CI	<i>I</i> ² (%)	<i>P</i> -value
Mortality (%)	0	0.5	0.34 (0.01, 8.29)	–	0.51
Stroke (%)	0.8	0.7	1.06 (0.16, 7.15)	0	0.95
TIA (%)	0.6	1.0	0.88 (0.14, 5.69)	4	0.89
Pneumonia (%)	4.4	1.3	1.98 (0.32, 12.19)	18	0.46
Pleural effusion (%)	6.2	0	6.95 (1.28, 37.72)	0	0.02
Pneumothorax (%)	6.2	0	9.77 (1.27, 75.32)	0	0.03
Pericardial effusion/ tamponade (%)	3.4	1.7	1.98 (0.50, 7.75)	0	0.33
Groin haematoma	0	2.8	0.29 (0.05, 1.71)	0	0.14
Pacemaker implantations (%)	1.4	1.1	1.08 (0.07, 15.69)	52	0.95

SA: surgical ablation; CA: catheter ablation; RR: relative risk; TIA: transient ischaemic attack.

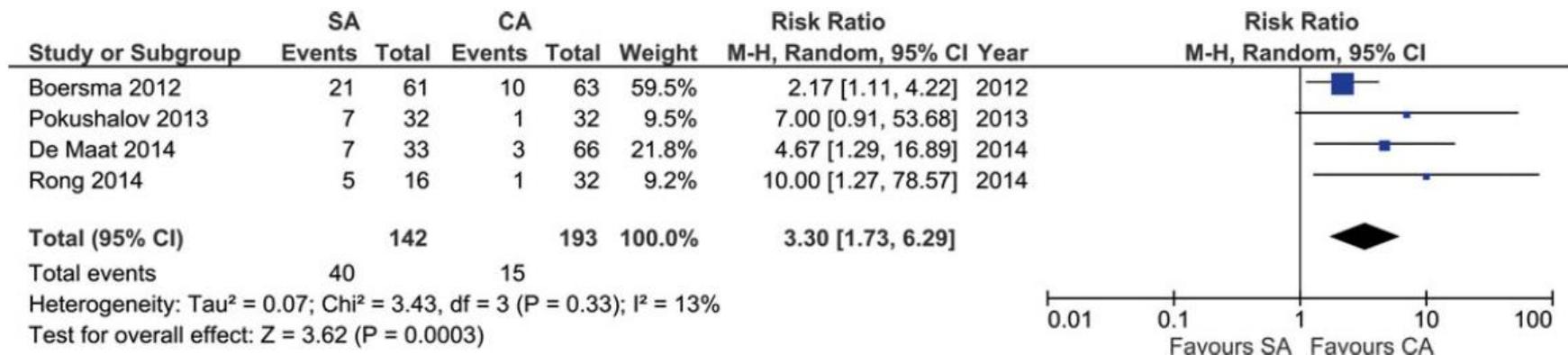
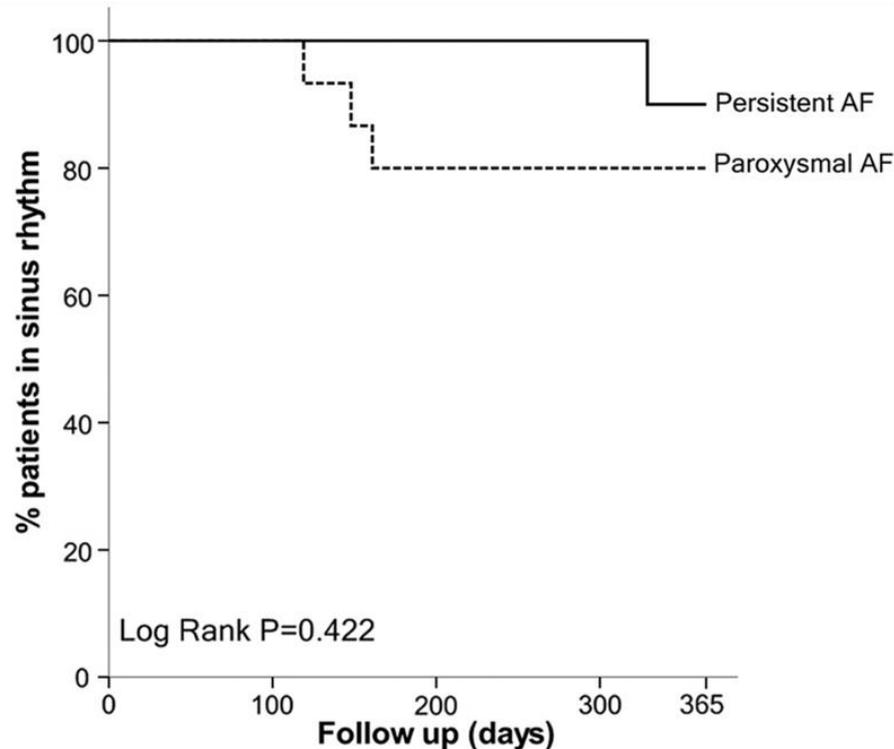


Figure 5: Forest plot of major complications for thoracoscopic surgical ablation (SA) versus catheter ablation (CA) for atrial fibrillation.

Hybrid Thoracoscopic Surgical and Transvenous Catheter Ablation of Atrial Fibrillation

Laurent Pison, MD,* Mark La Meir, MD,† Jurren van Opstal, MD, PhD,* Yuri Blaauw, MD, PhD,* Jos Maessen, MD, PhD,† Harry J. Crijns, MD, PhD*



Remaining cases paroxysmal AF	15	12	12	11
Remaining cases persistent AF	11	11	11	9

EDITORIAL COMMENT

Hybrid Thoracoscopic and Transvenous Catheter Ablation of Atrial Fibrillation

Is This the Answer
We Are Searching For?*

Hugh Calkins, MD
Baltimore, Maryland

Vol. 60, No. 1, 2012
ISSN 0735-1097/\$36.00
<http://dx.doi.org/10.1016/j.jacc.2012.01.068>

The enthusiasm for this “hybrid” ablation strategy must be tempered by some important limitations:

✓It is a logistical nightmare.

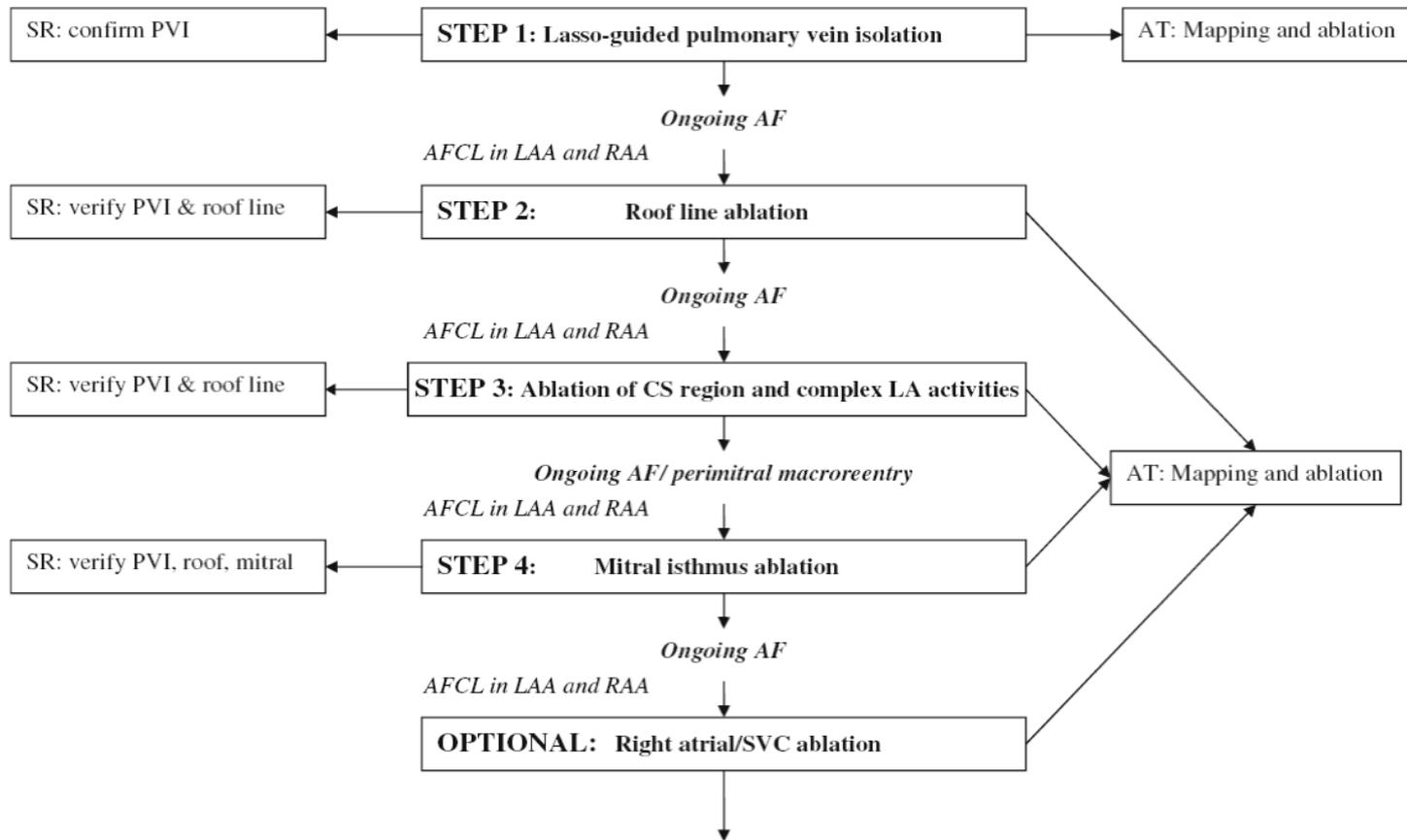
✓It is rare to have tremendous expertise with catheter ablation and surgical AF ablation at the same institution.

✓Which lesions or lesion sets are needed and what is the best end point for the procedure?

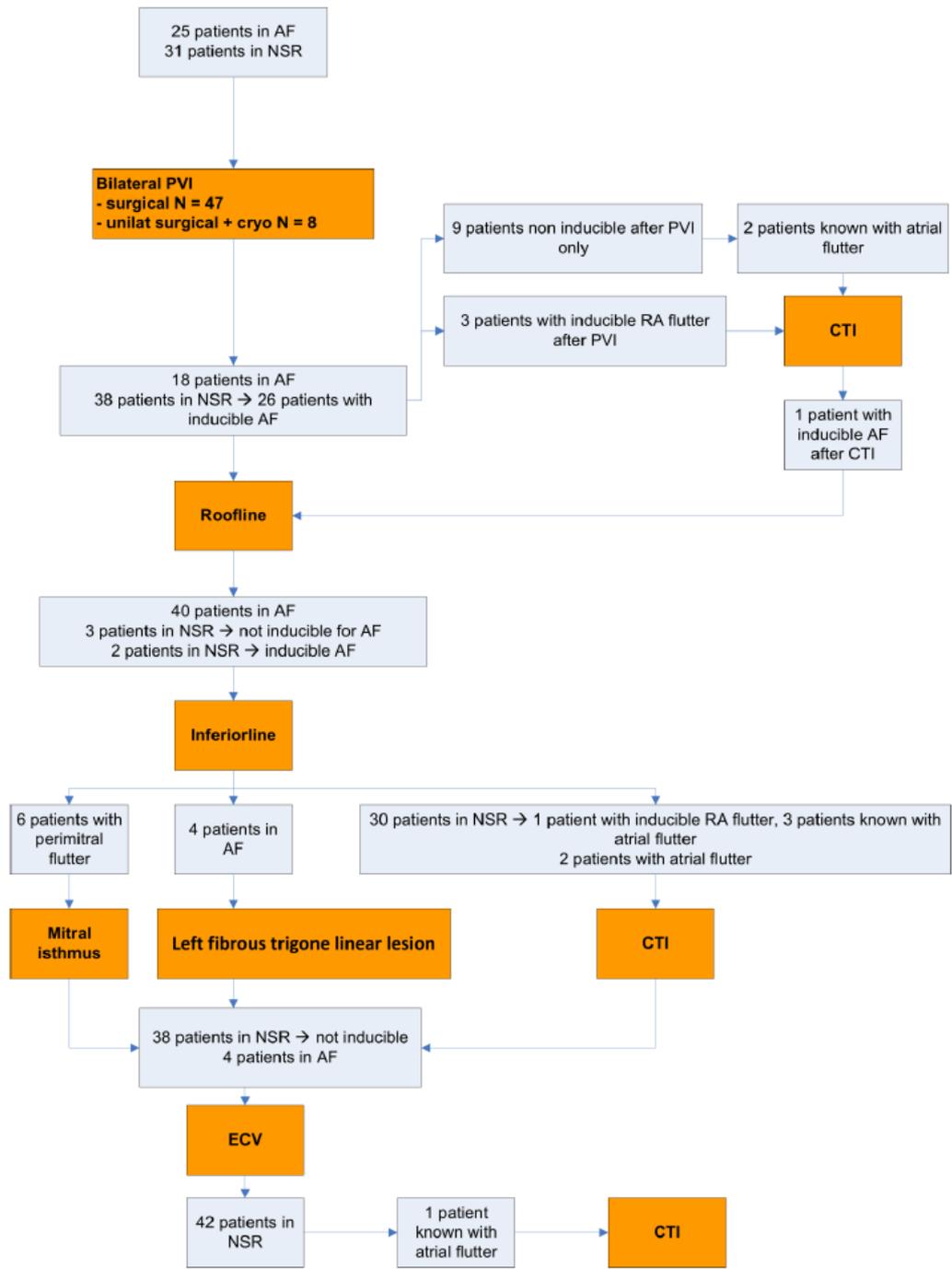
✓One wonders if it would be preferable to perform the surgical ablation with PVI first and perform the catheter ablation part of the procedure only if AF recurs.

The stepwise ablation approach for chronic atrial fibrillation—Evidence for a cumulative effect

Mark D O'Neill · Pierre Jaïs · Yoshihide Takahashi · Anders Jönsson · Frédéric Sacher · Méléze Hocini · Prashanthan Sanders · Thomas Rostock · Martin Rotter · Andrej Pernat · Jacques Clémenty · Michel Haïssaguerre



Ongoing AF: Electrical/Chemical cardioversion and verification of conduction block at roof, mitral isthmus and PVI



‘Heart Team’ Concept has gained increasing traction in context of complex and multi modality procedures. Despite an array of advantages including the much touted

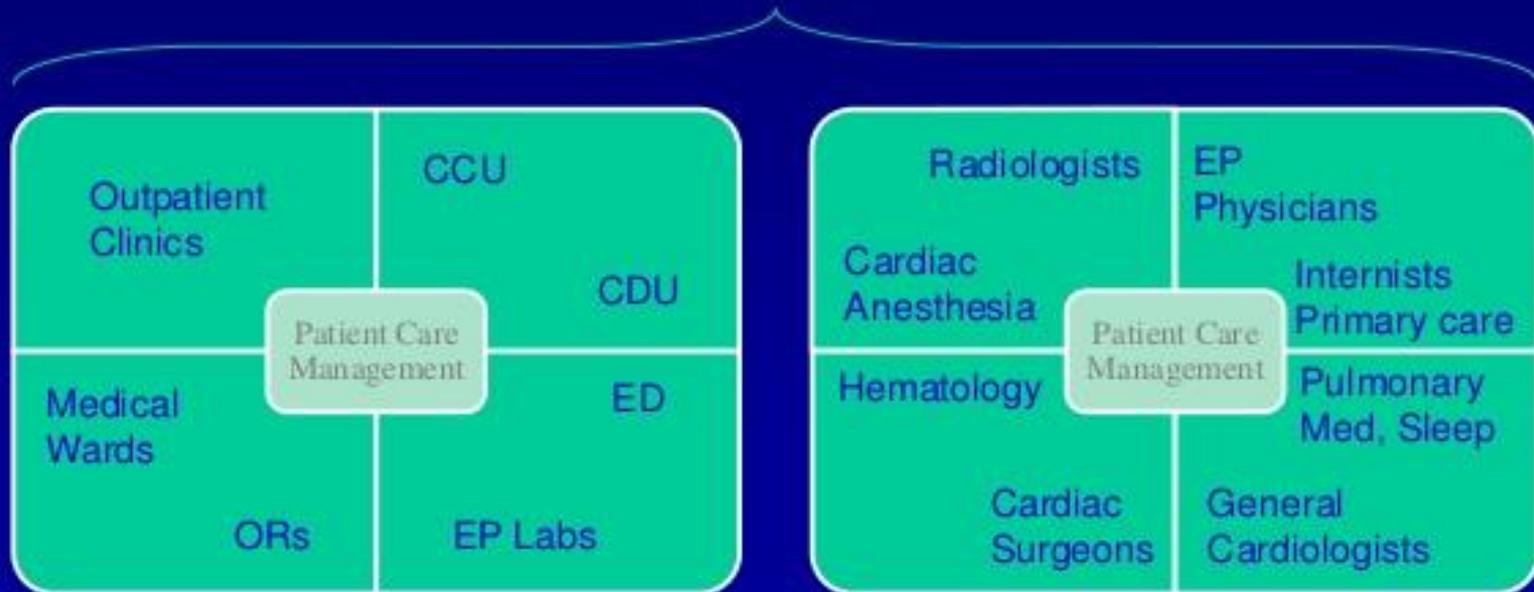
- ‘the patient is central’ -

As it stands today, ‘Heart Team’ is more of a fictional euphemism, a kind of 'Platonic Illusion' rather than a pragmatic reality?

AFib patient care will be managed with a coordinated, multi-disciplinary approach

- Dedicated AFib Nurse Coordinator
- Interaction between groups, patient care management discussions
- Evidence-based patient care management – all options available
- Databasing for management, QI
- Access to new therapies via ongoing clinical trials

Care Teams for AF Patients



Heart Team - Central role of

- optimising patient selection
 - procedural performance
 - follow - up care (early complication detection)
 - enhancing patient education
-
- composition of HT will vary
 - logistical and mental blockades will have to be overcome
 - HT Concept will form the Heart of Modern Cardiovascular Care

