

Quando e come eseguire Ablate and Pace

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Sommario

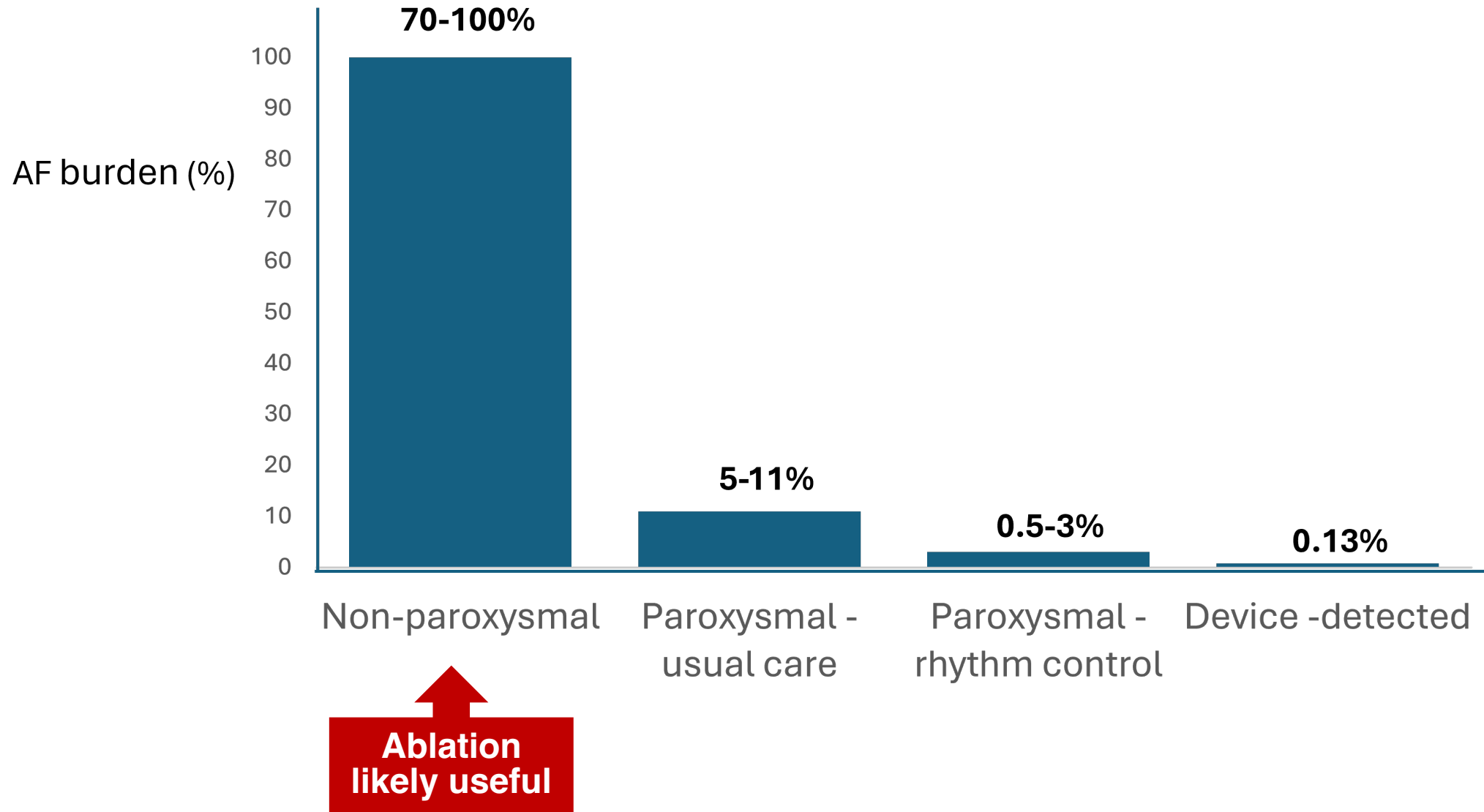
- Quando è indicato?
- Quale pacing nei pazienti con QRS stretto ?
- Quale pacing nei pazienti con QRS largo ?



Atrioventricular node ablation: when it is NOT appropriate

SR is better than AF
SR should be maintained until it is
reasonably feasible

How much AF is needed to give HF ?



2024 ESC Guidelines for the management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery (EACTS)

Ablate & Pace: when is it appropriate?

Recommendations for heart rate control in patients with AF

Tachycardiomyopathy (narrow QRS)

Atrioventricular node ablation in combination with pacemaker implantation should be considered in patients unresponsive to, or ineligible for, intensive rate and rhythm control therapy to control heart rate and reduce symptoms.

Ila

B

Indication to CRT (wide QRS)

Atrioventricular node ablation combined with cardiac resynchronization therapy should be considered in severely symptomatic patients with permanent AF and at least one hospitalization for HF to reduce symptoms, physical limitations, recurrent HF hospitalization, and mortality.

Ila

B

APAF-CRT versus CAAN-AF: why such different results ?



ESC

European Society
of Cardiology

European Heart Journal (2021) 42, 4731–4739
doi:10.1093/eurheartj/ehab569

FASTTRACK CLINICAL RESEARCH

Arrhythmias

AV junction ablation and cardiac resynchronization for patients with permanent atrial fibrillation and narrow QRS: the APAF-CRT mortality trial

Michele Brignole ^{1,2*}, Francesco Pentimalli ³, Pietro Palmisano ⁴, Maurizio Landolina ⁵, Fabio Quartieri ⁶, Eraldo Occhetta ⁷, Leonardo Calò ⁸, Giuseppe Mascia ⁹, Lluís Mont ¹⁰, Kevin Vernooy ¹¹, Vincent van Dijk ¹², Cor Allaart ¹³, Laurent Fauchier ¹⁴, Maurizio Gasparini ¹⁵, Gianfranco Parati ^{2,16}, Davide Soranna ¹⁷, Michiel Rienstra ¹⁸, and Isabelle C. Van Gelder ¹⁸; for the APAF-CRT Trial Investigators[†]

Results: AV node ablation superior to drug rate control as regard all-mortality, hospitalization for HF and worsening HF

Cardiac Resynchronization Therapy and AV Node Ablation in Heart Failure with Reduced Ejection Fraction and Atrial Fibrillation (The CAAN-AF Trial)

Prashanthan Sanders, MBBS, PhD

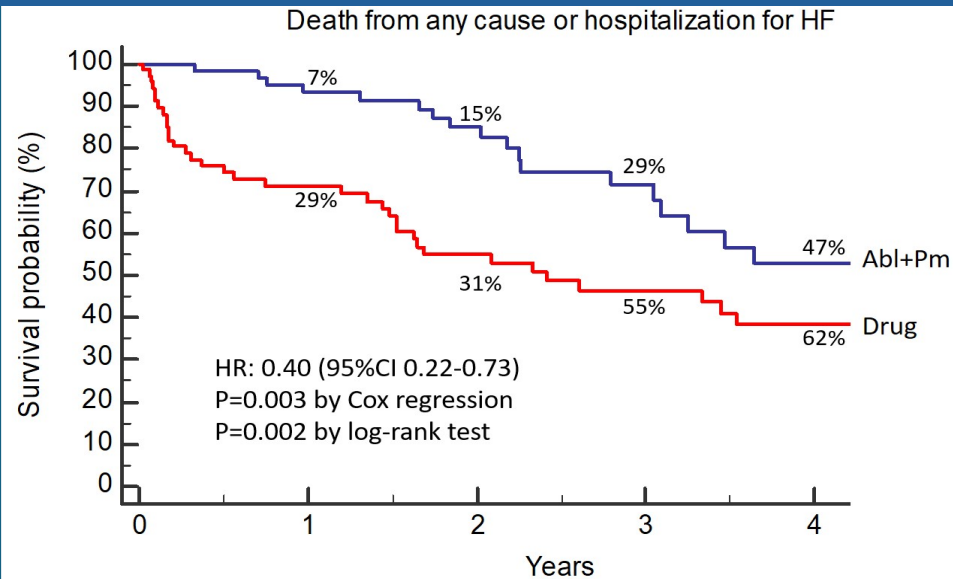
For the CAAN-AF-AF Investigators

Eur Heart J: 2026:
doi.org/10.1093/eurheartj/ehag355 (in press)

Results: AV node ablation not superior to GDMT as regard all-mortality, and HF events

APAF-CRT

All-cause mortality or hospitalization for HF

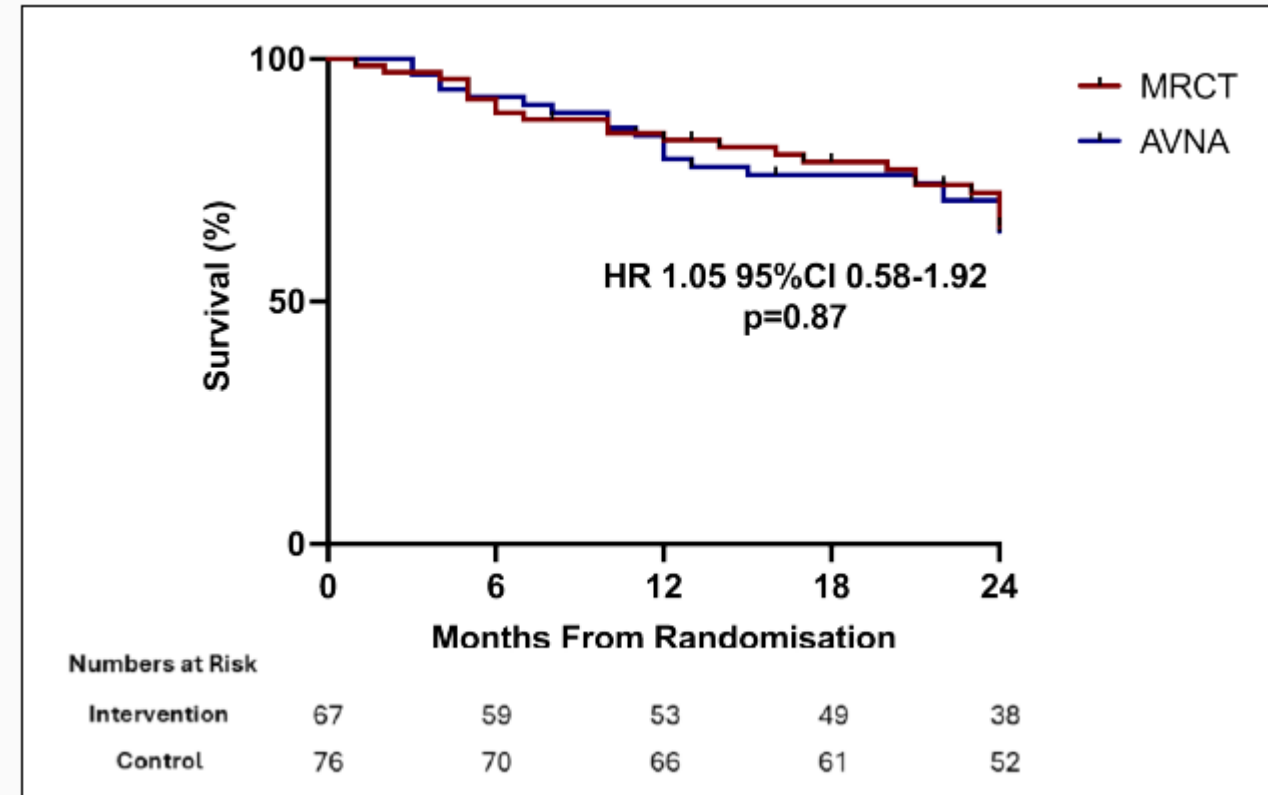


Number at risk

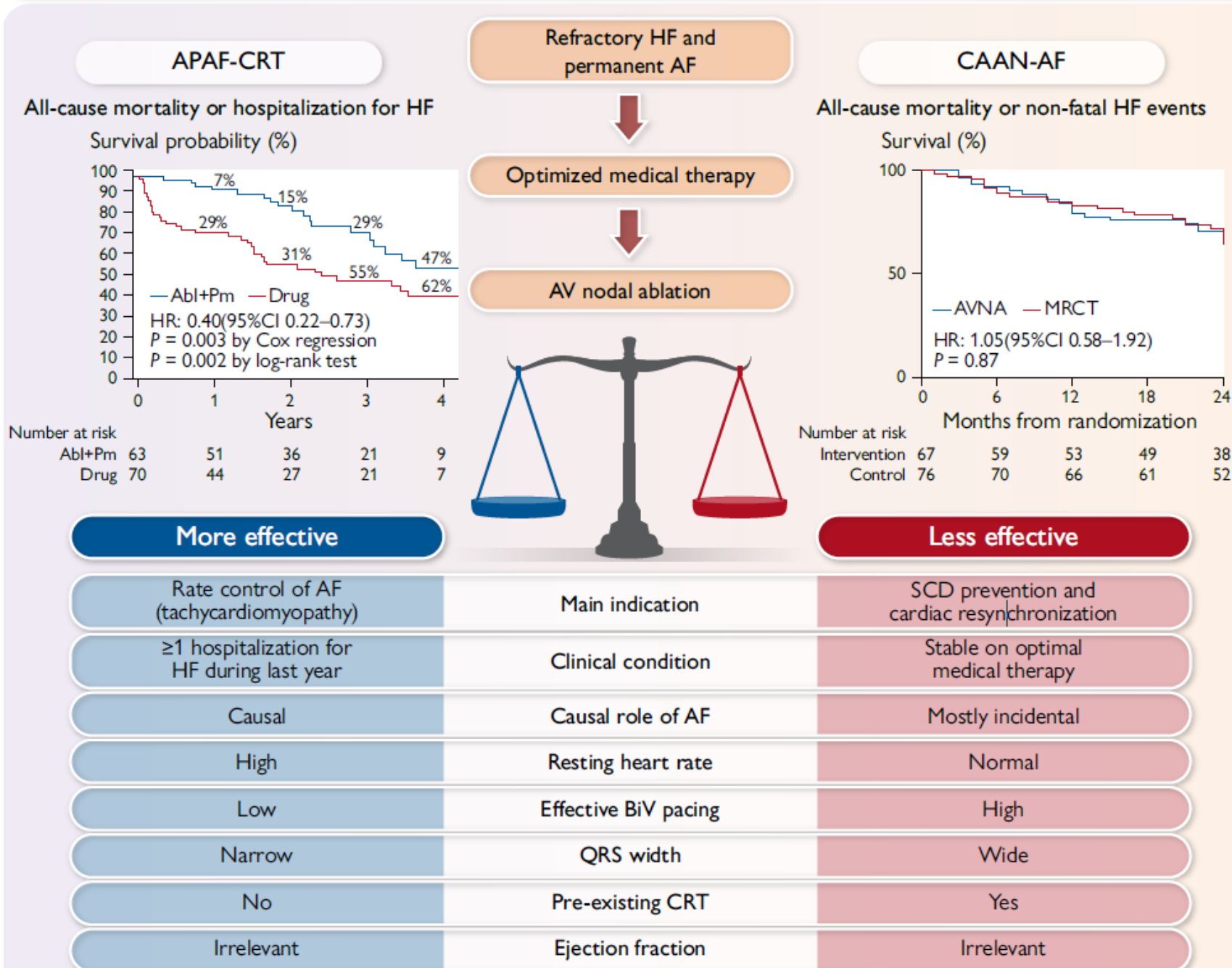
Abl+Pm	63	51	36	21	9
Drug	70	44	27	21	7

CAAN-AF

All-cause mortality or non-fatal HF events



Comparative analysis of APAF-CRT and CAAN-AF trials



Ablate & Pace: which pacing modalities?

Background:
Rate
Irregularity

- The benefit is due to AV junction ablation
(that permits rate control and rate regularization)
- CRT/CSP counteracts the adverse effects of non-physiological pacing from the RV apex

***Apical RV pacing is dangerous
and must be avoided***

Sommario

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AF-HF

**Ablate
& CSP**

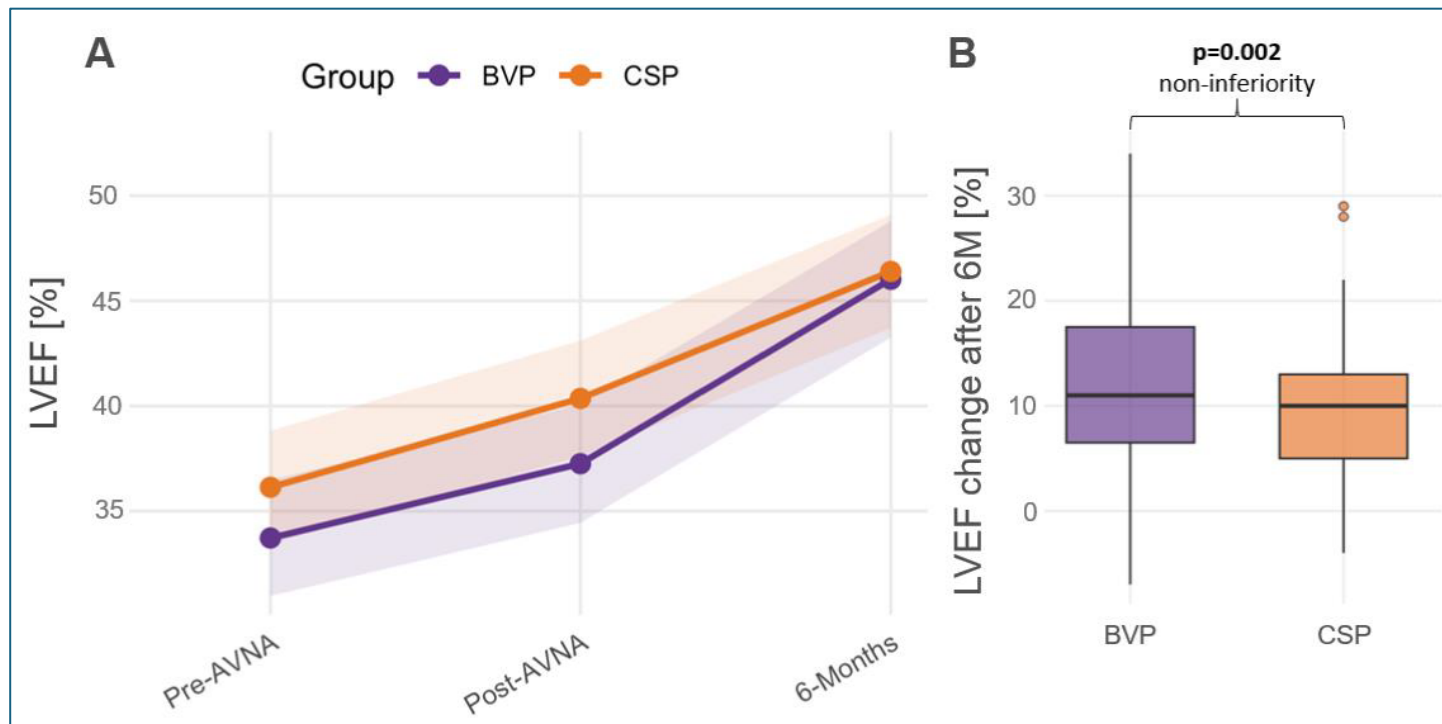
**CSP in AF patients with HF and
narrow QRS**

Native narrow QRS: nothing to resynchronize

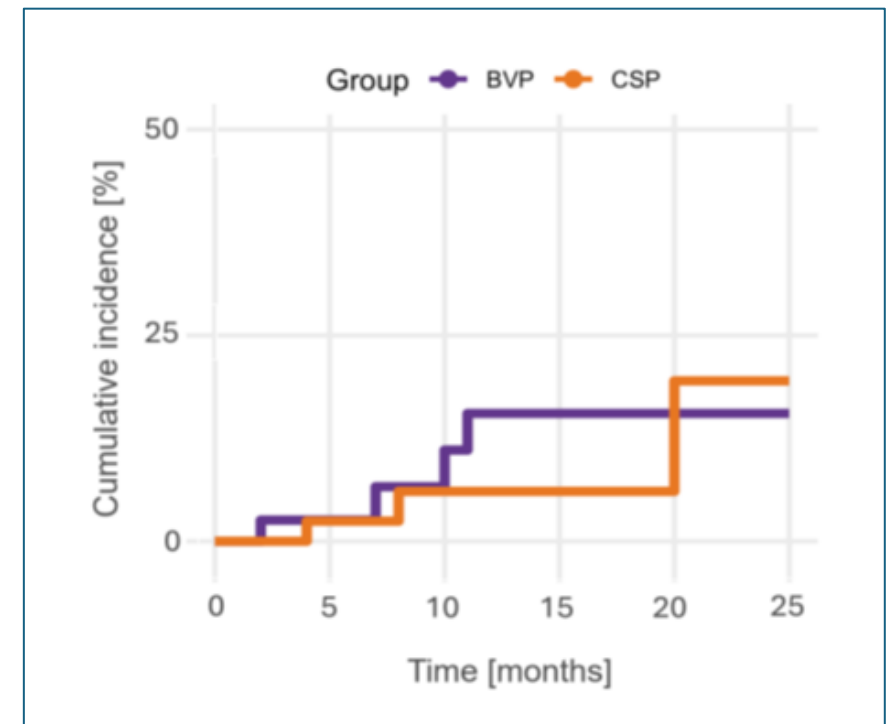
Biventricular versus conduction system pacing in patients undergoing atrioventricular node ablation for HF with AF: the CONDUCT-AF randomized trial

82 patients with refractory AF, LVEF <50%, QRS <120 ms, p

LVEF changes at 6 months



Worsening HF or death



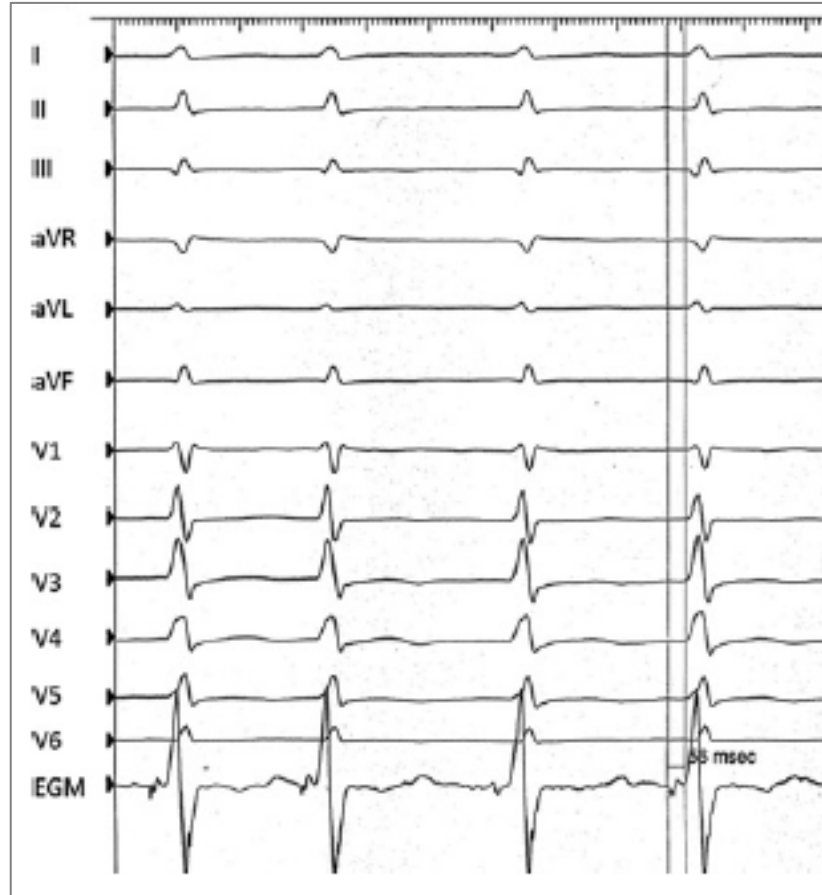
D. Zizek. Presented at ESC 2026 Heart Failure congress. Eur Heart J (in press)

AF-HF

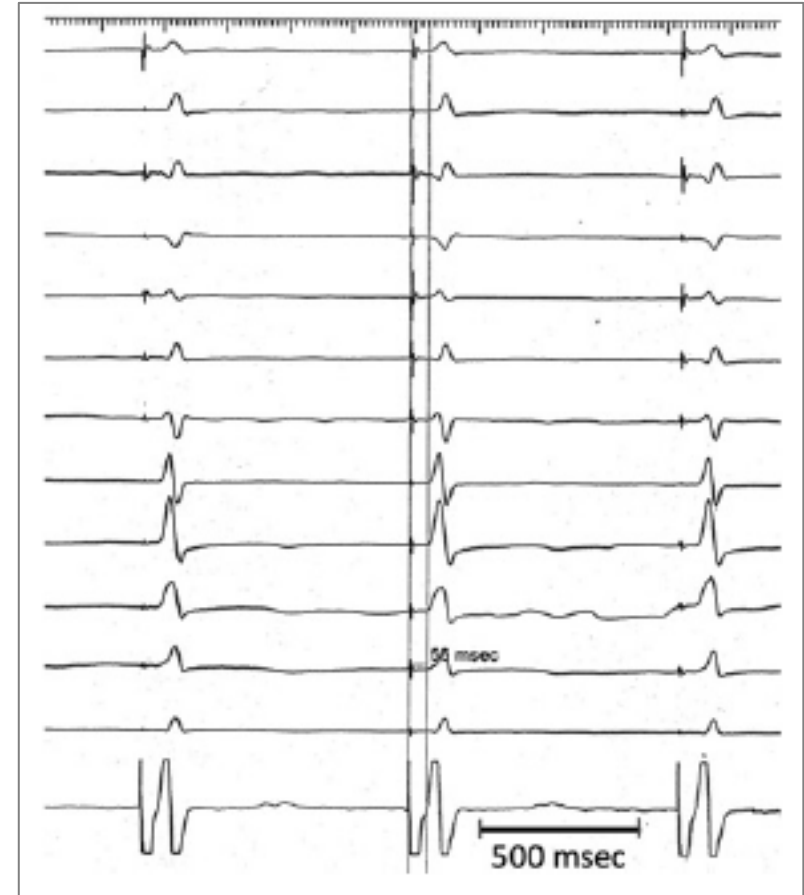
**Ablate
& CSP**

His bundle pacing and AVN ablation

AF, native narrow QRS (n=42 pts)



QRS width before: **107±26 ms**



QRS width after: **105±24 ms**

AF-HF

**Ablate
& CSP**

Paced QRS width

	No. of pts	Native QRS, ms	Paced QRS width, ms
HBP (1)	52	107±26	105±24
HBP (2)	503	165±9	123±12
LBBP (3)	2270	Narrow/RBBB	137±19
LBBP (3)		Wide	145±22

1) Huang W et al. J Am Heart Assoc. 2017;6:e005309

2) Qi J et al. Metanalysis. J Interv Cardiac Electrophysiol 2020; 59: 463-470

3) Jastrzebski M, et al. MELOS registry. Eur Heart J 2022; 43: 4161-4173

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AF-HF

**Ablate
& CSP**

**CSP in AF patients with HF and
wide QRS**

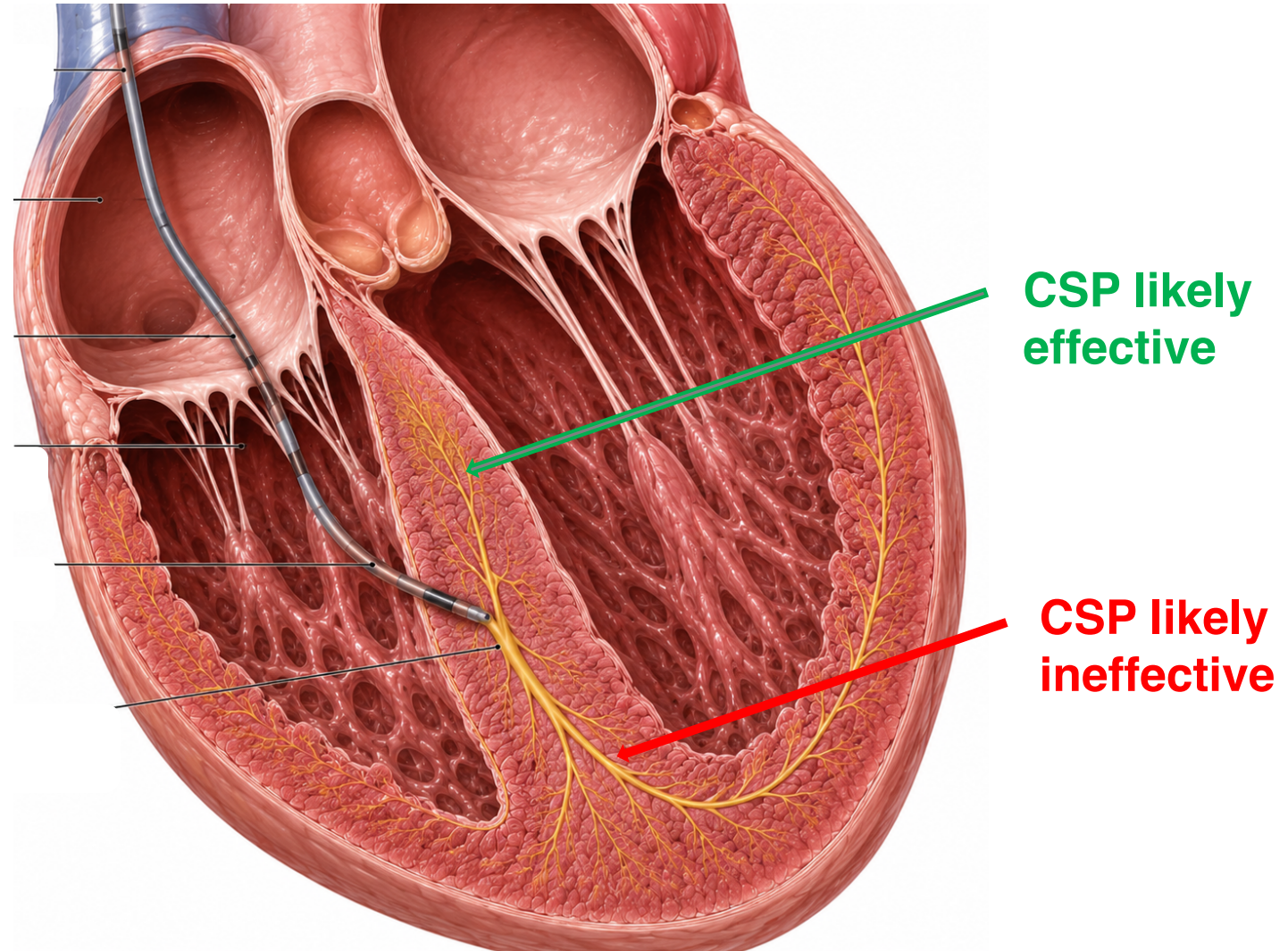
Native wide QRS: need to resynchronize the LV

AF-HF

CSP in AF patients with HF and wide QRS

Where is the site of the BBB block?

**Ablate
& CSP**



CSP vs BiVP in patients with HF and wide QRS (AF pts excluded)

Randomized controlled trials

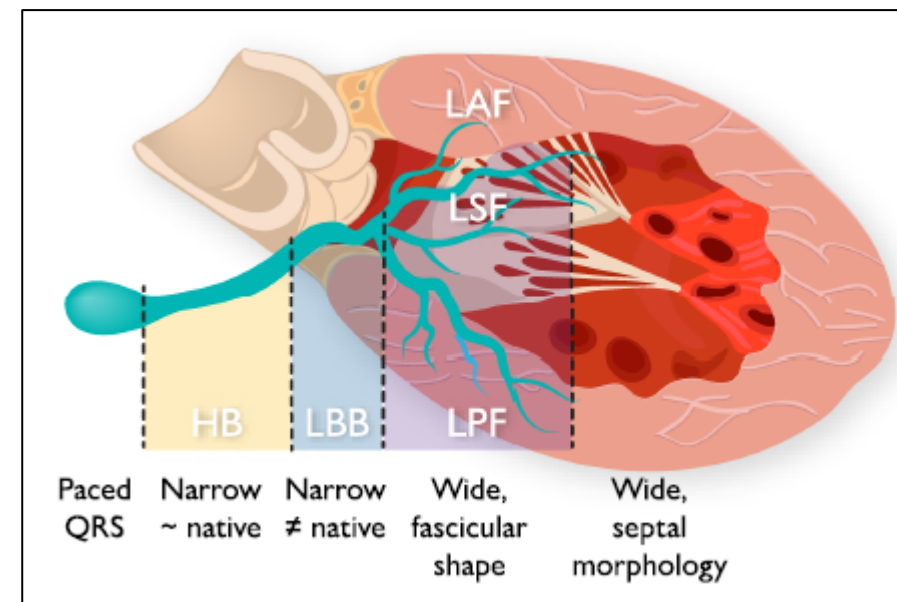
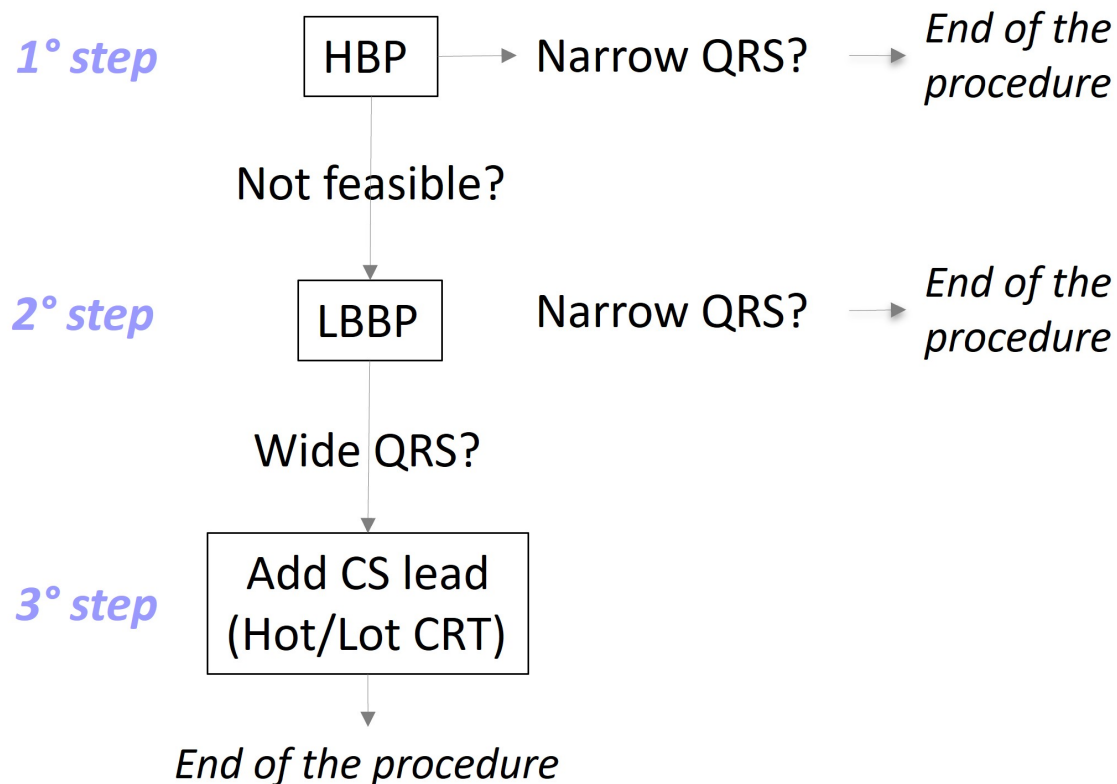
	No. of pts	Main results
HeartSync-LBBP. <i>JAMA Cardiol</i> 2026	200	CSP superior to BiVP for any death and HFH (HR=0.26)
PhysioSync-HF. <i>JAMA Cardiol</i> 2026	173	CSP inferior to BiVP for any death and HFH (HR=2.36)
LEFT-BUNDLE-CRT. <i>Eur Heart J</i> 2026	176	CSP failed to show non-inferiority for a composite CCS and LVESV reduction >15% (RR=0.95)

Urgent need of large RCTs

AF-HF

**Ablate
& CSP**

QRS-width-based strategy (to avoid RV apical pacing)

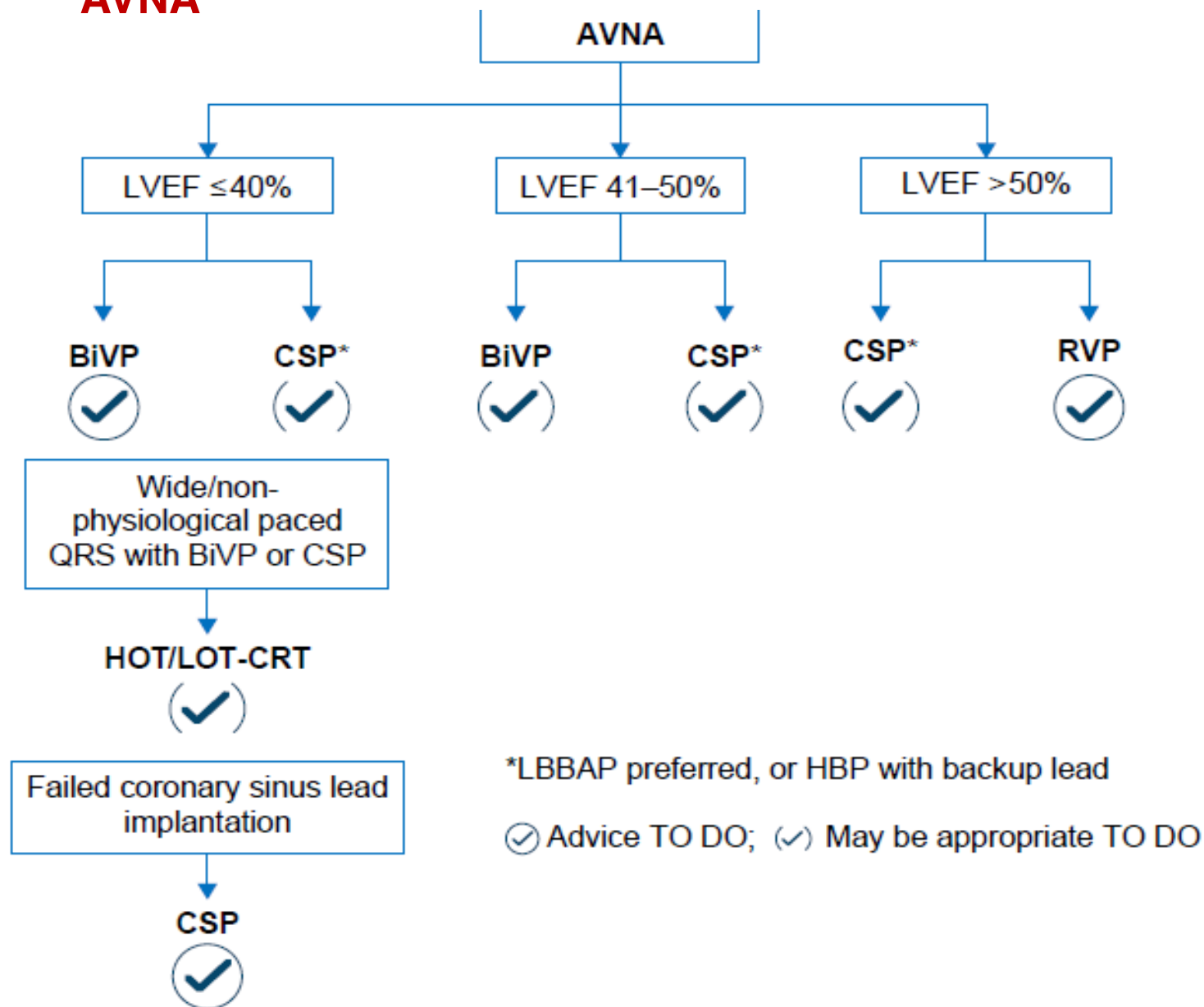


Brignole M, Sutton R. Eur Heart J 2022; 43: 4174-4176

AF-HF

**Ablate
& CSP**

Indications for CSP in patients scheduled for AVNA



Take home messages

- In pts with HF and AF, rate irregularity is the most important factor that cause/worsen HF
- The beneficial effect of Ablate & Pace is due to AV junction ablation (*that permits rate control and rate regularization*)
- CRT/CSP counteracts the adverse effects of non-physiological pacing from the RV apex
- Ablate & Pace is the best rate control therapy. It is effective in improving symptoms and QoL, and in reducing worsening HF and mortality