

# “Techniques for ablation of atrial fibrillation “ ( Електрофизиологија на срце, процедури и техники )

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# Techniques for ablation of atrial fibrillation

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# Techniques for ablation of atrial fibrillation

- Radiofrequency ablation
  - Hybrid ( endo-epicardial ) ablation.
- Surgical ablation ( cox maze III & IV )
  - it involved a complicated set of incisions made in a maze-like pattern on the left and right atria to permanently interrupt atrial fibrillation.
- Cryoablation

# Techniques for ablation of atrial fibrillation

## Left Atrial Ablation

### Recommendations for left atrial ablation

Recommendations	Class	Level
Catheter ablation of symptomatic paroxysmal AF is recommended in patients who have symptomatic recurrences of AF on antiarrhythmic drug therapy (amiodarone, dronedarone, flecainide, propafenone, sotalol) and who prefer further rhythm control therapy, when performed by an electrophysiologist who has received appropriate training and is performing the procedure in an experienced centre.	I	A
Catheter ablation of AF should be considered as <u>first-line</u> therapy in selected patients with symptomatic, paroxysmal AF as an alternative to antiarrhythmic drug therapy, considering patient choice, benefit, and risk.	IIa	B

[www.escardio.org/guidelines](http://www.escardio.org/guidelines)

European Heart Journal 2012;33:2719-2747 -  
doi:10.1093/eurheartj/ehs253



Studies:

- MANTRA-PAF
- RAAFT II
- FAST

## Left Atrial Ablation

Recommendations	Class	Level
Catheter ablation of AF should target isolation of the pulmonary veins.	IIa	A
When catheter ablation of AF is planned, continuation of oral anticoagulation with a VKA should be considered during the procedure, maintaining an INR close to 2.0.	IIa	B
When AF recurs within the first 6 weeks after catheter ablation, a watch-and-wait rhythm control therapy should be considered.	IIa	B

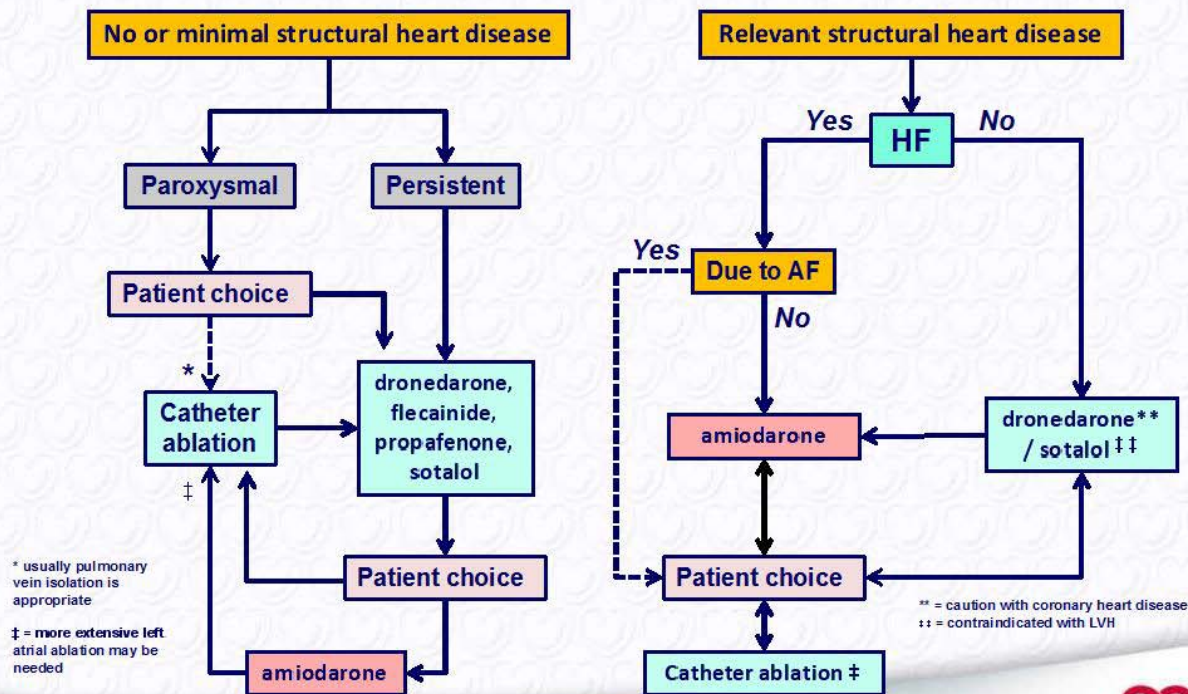
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# Techniques for ablation of atrial fibrillation

## Left Atrial Ablation (and AAD)



# Techniques for ablation of atrial fibrillation

- Techniques of RF ablation:
  - wide area or PV antral circumferential ablation. ( most common )
  - Segmental PV isolation ( young patients)

Paroxysmal and persists atrial fibrillation



# Techniques for ablation of atrial fibrillation

## RF ablation

- Double transseptal puncture.
- ICE – intracardiac echocardiography ( guided transseptal puncture, posmonitor for pericardial effusions, locating pulmonary veins and to ensure ablative lesions are placed on the atrial side of pulmonary vein ).



# Techniques for ablation of atrial fibrillation RF ablation

- Left atrial mapping (carto3 mapping, navix mapping)
  - lasso (diagnostic mapping) catheter
  - Penta-ray (diagnostic mapping) catheter
- Pulmonary venous antral isolation
  - ablation (irrigated tip) catheter

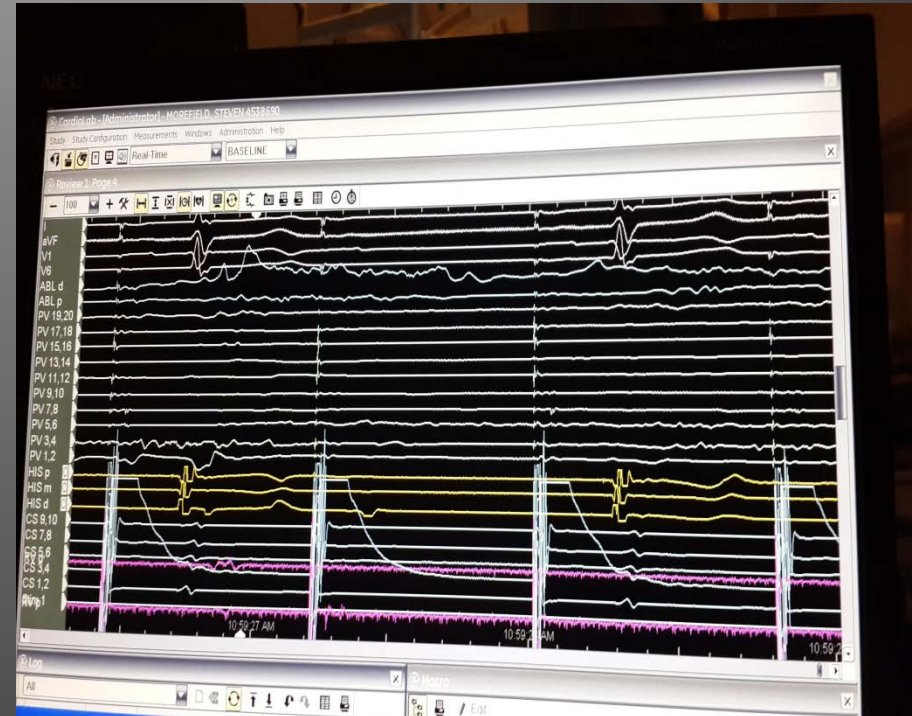
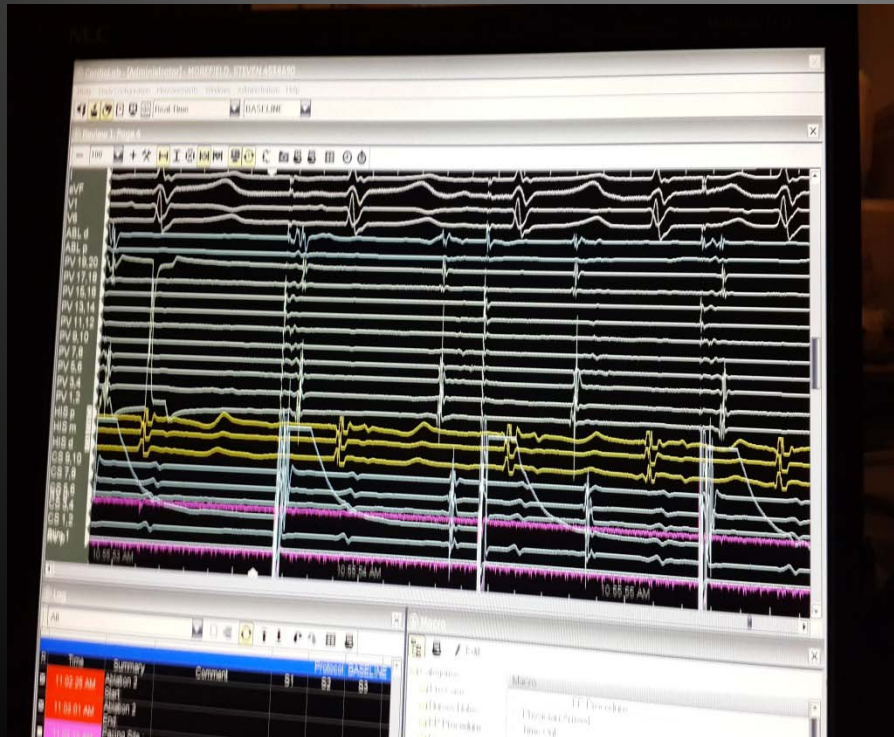




# Techniques for ablation of atrial fibrillation

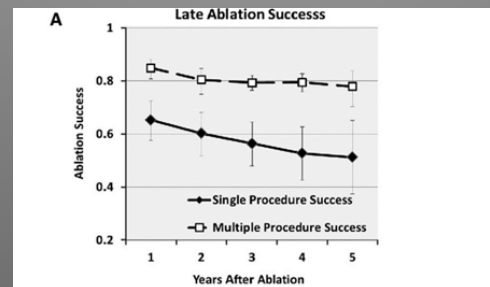
## RF ablation

- End result  
(bidirectional block)

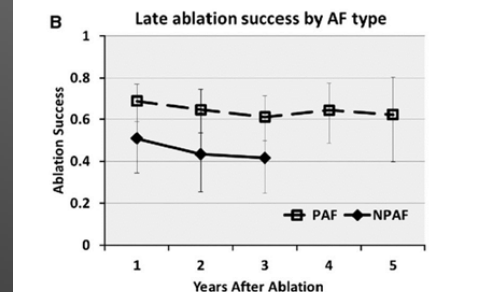


# Techniques for ablation of atrial fibrillation

## RF ablation



Years After Ablation	1	2	3	4	5
Single (number of studies)	17	17	17	10	6
Multiple (number of studies)	9	9	9	9	4



Years After Ablation	1	2	3	4	5
PAF (number of studies)	10	10	10	5	3
NPAF (number of studies)	6	6	6	2	1

# Techniques for ablation of atrial fibrillation cryoablation

- *2012 HRS Consensus Statement* for ablation ... and Cryoballoon Therapy  
Now a standard Treatment for AF  
Ablation

# Techniques for ablation of atrial fibrillation cryoablation



## Techniques for ablation of atrial fibrillation cryoablation

- New advancements in pulmonary vein isolation:
  - no need of 3D mapping system
  - single transseptal puncture
  - Safety benefits cryo vs RF
  - more than 60% effectiveness at 1 year.

# conclusion

- Ablation of atrial fibrillation is an emerging technology that shows promise for maintaining sinus rhythm
- Although the techniques are still being developed, none have proven to be superior than the others.





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