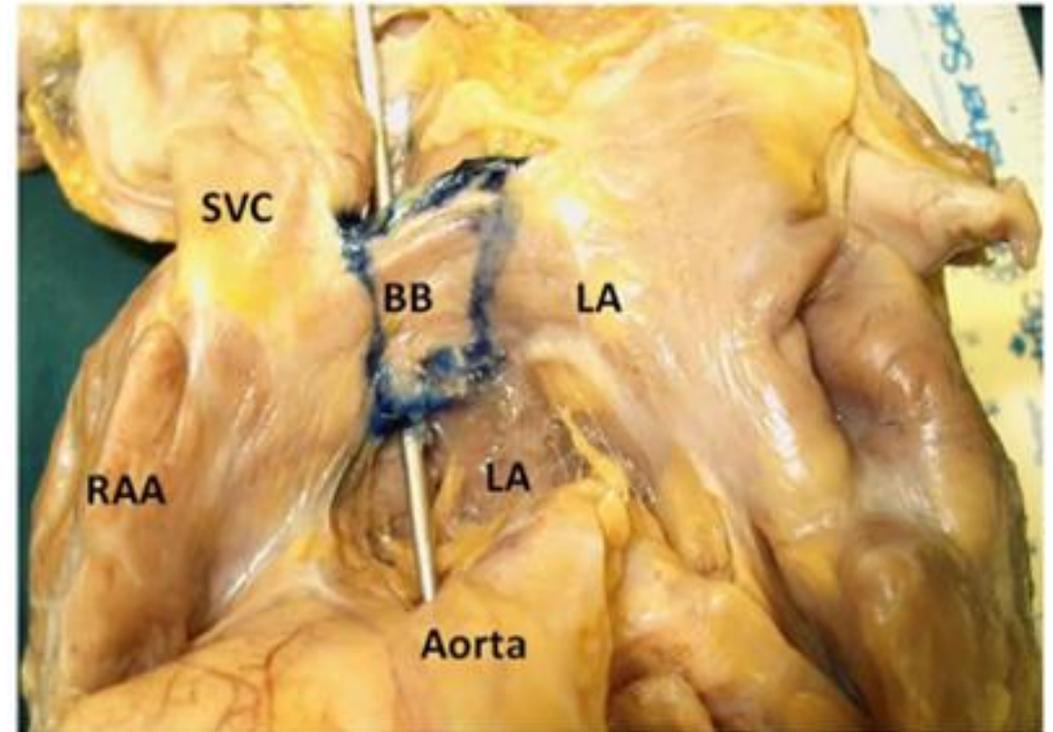
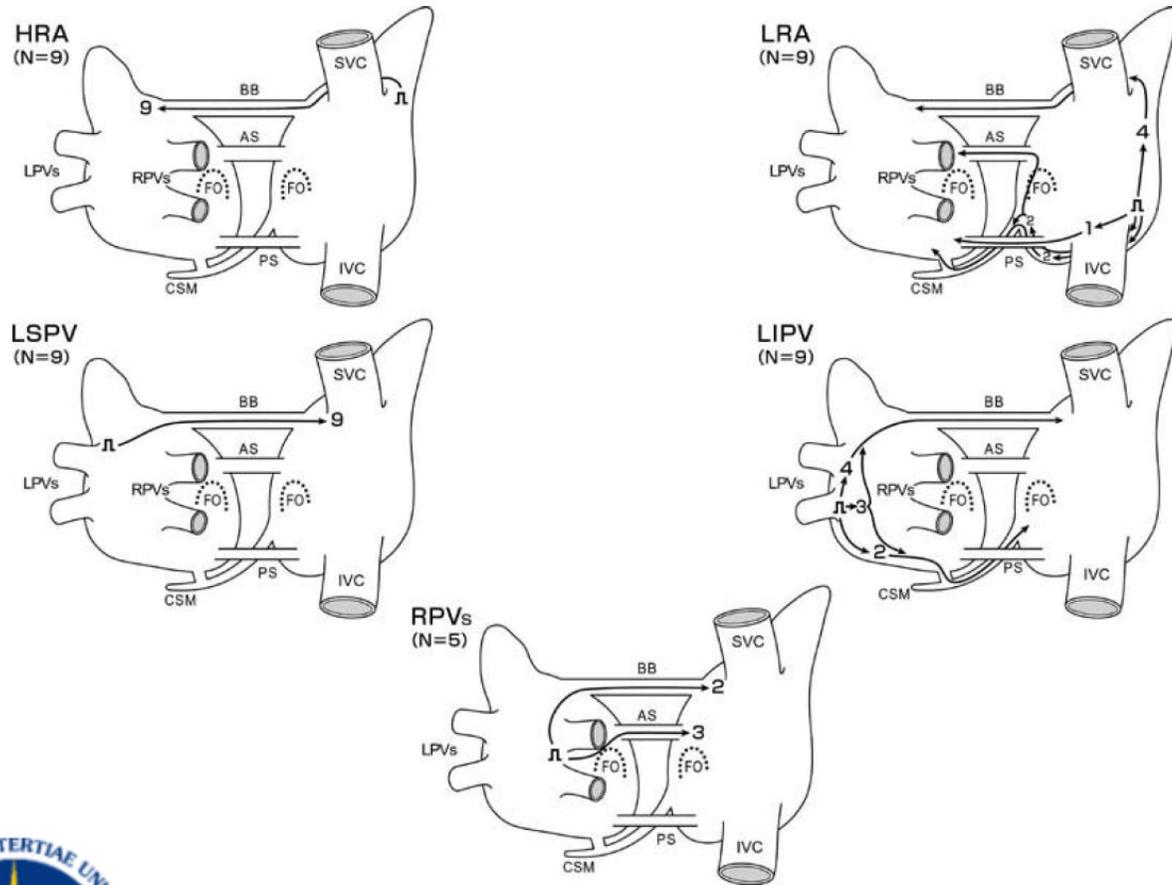


Stimulace Bachmanova svazku – nová kapitola ve fyziologické stimulaci?

MUDr. Karol Čurila



Co to je Bachmanův svazek?

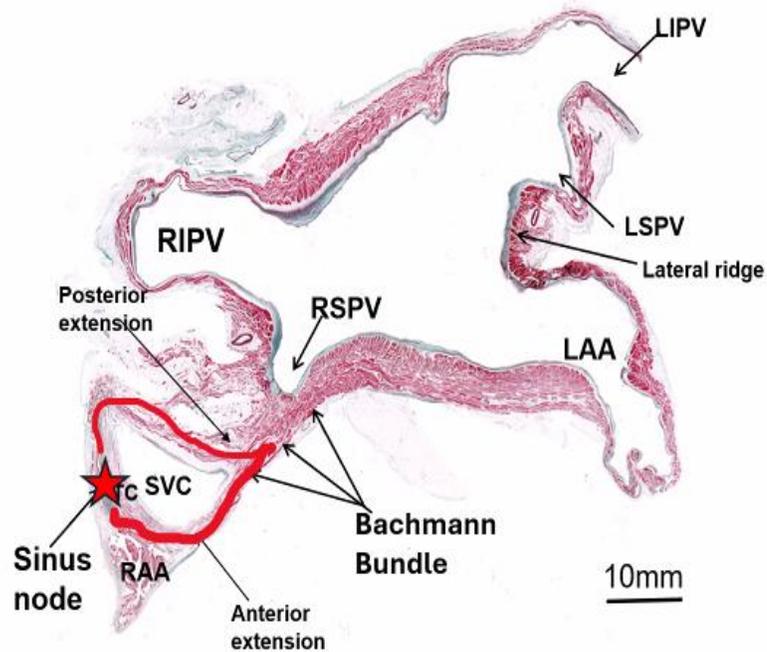


J Interv Card Electrophysiol (2013) 37:267-

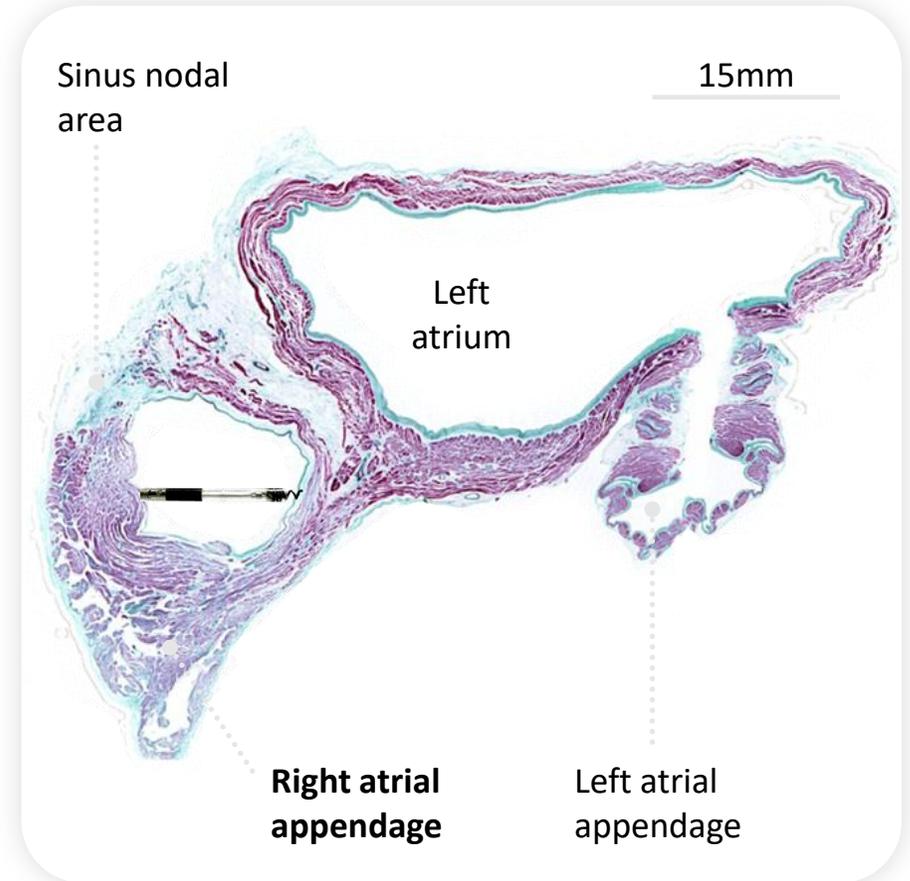
Sakamoto. 2005.

Anatomie Bachmanova svazku

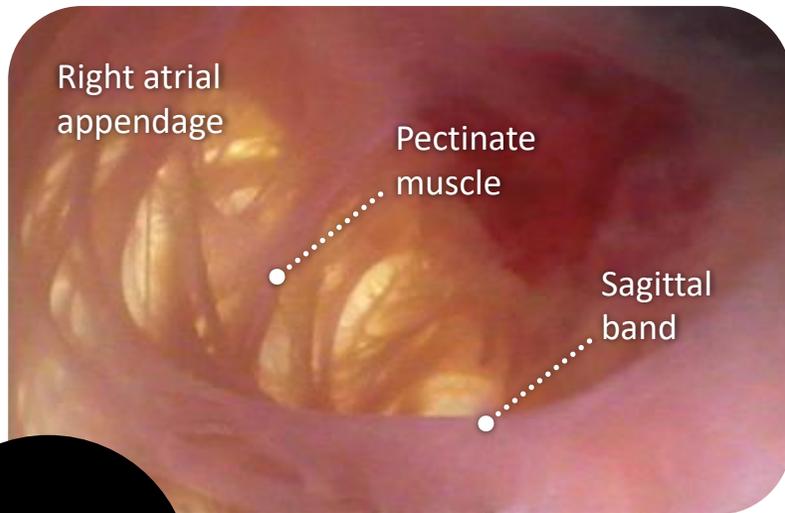
Serial activation of the superior BB from the Sinus Node:



Lustgarten et al *Heart Rhythm* 2024;21:1711–1717



Proč nestimulovat ouško PS, ale stimulovat Bachmanův svazek?



0.39mm

Ouško pravé síně:
tloušťka stěny pod
1 mm

Zoppo et. al. 2015
Lim et. al. 2021

3.5%

Incidence
perforací



Tloušťka stěny

>3mm

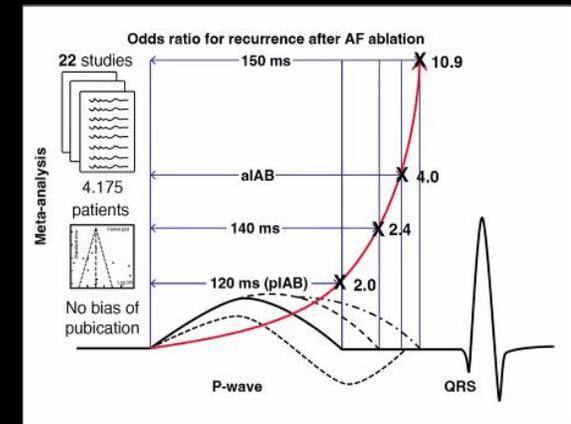
Lemery et. al. 2003.

Proč nestimulovat ouško PS?

Measurement	Sinus Rhythm	RAA Pacing
P wave duration	~100–110 ms	↑ ~120–140 ms
Atrial electromechanical delay (AEMD)	~25–40 ms	↑ ~50–70 ms
Interatrial conduction time	~20–40 ms	↑ ~40–80 ms

- Dilaveris P. et al. *Circulation*, 1999.
- D'Este D. et al. *Europace*, 2012.
- Chauhan VS et al. *JACC*, 2000 – showed atrial conduction time is significantly prolonged during RAA pacing in patients with atrial conduction disorders.

Baseline P wave duration predicts AF recurrence following AF ablation, powerfully:

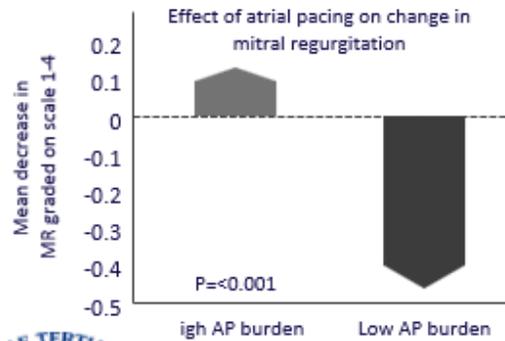
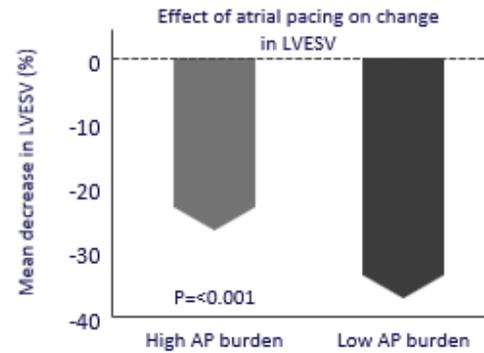


Intzes et al *Europace* (2023) 25,

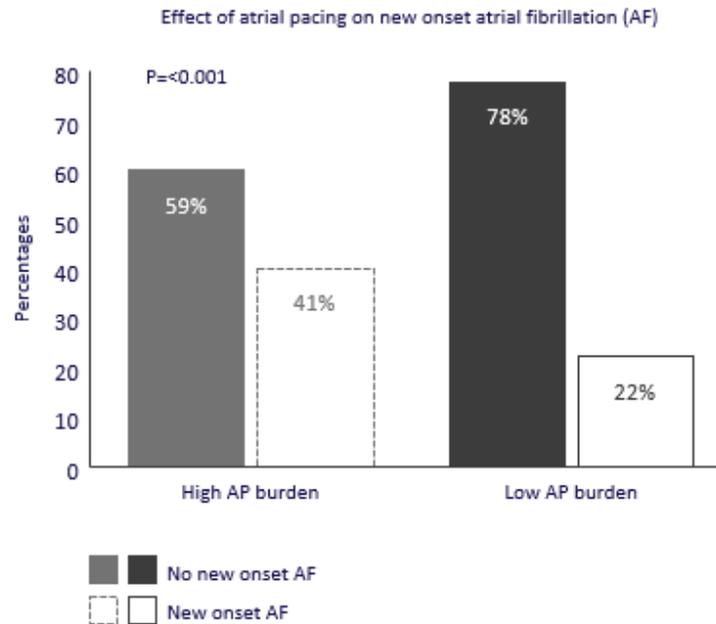
Proč nestimulovat ouško PS?



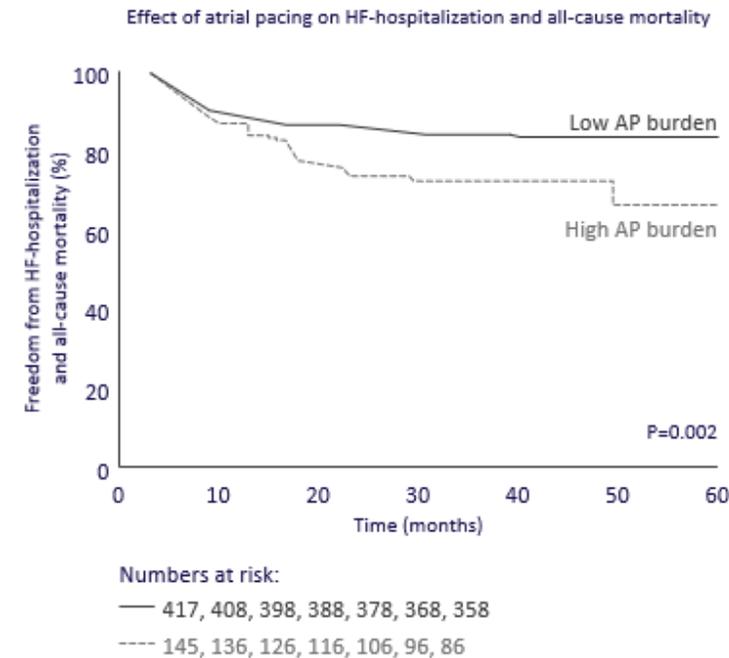
Reduced LV reverse remodeling⁶



Increased risk of new onset or recurrent AF⁶



Increased risk of HF readmission⁶



Martens P et al., 2020.

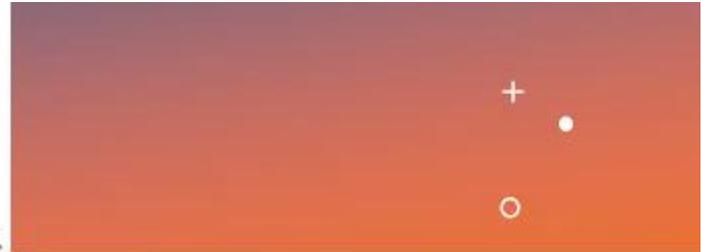


Proč stimulovat Bachmanův svazek?

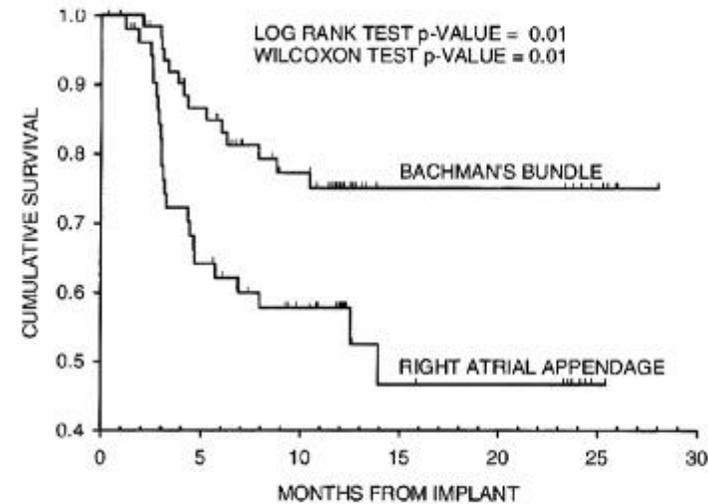
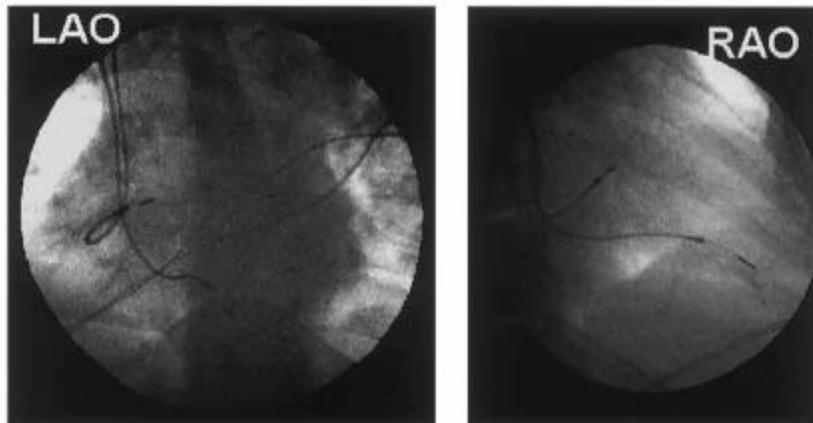
Prevention of Chronic Atrial Fibrillation by Pacing in the Region of Bachmann's Bundle: Results of a Multicenter Randomized Trial

STEVEN J. BAILIN, M.D., STUART ADLER, M.D.,* and MICHAEL GIUDICI, M.D.†

From the Iowa Heart Center, Des Moines, Iowa; the *St. Paul Heart Institute, St. Paul, Minnesota; and the †Division of Cardiology, Genesis Medical Center, Davenport, Iowa

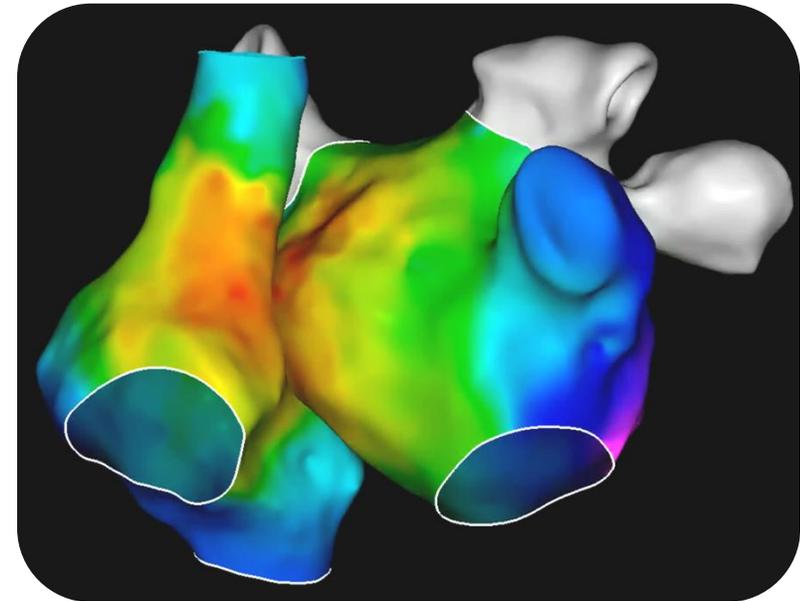


2A Bachmann Bundle

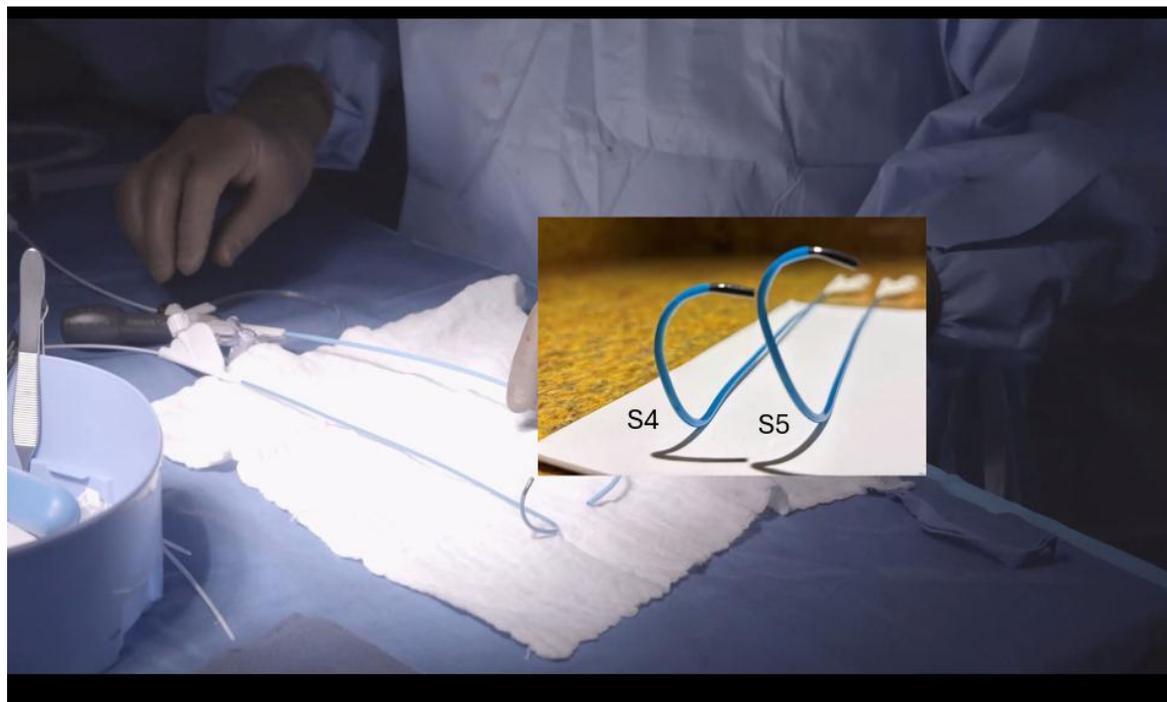


Co je nového při stimulaci BB?

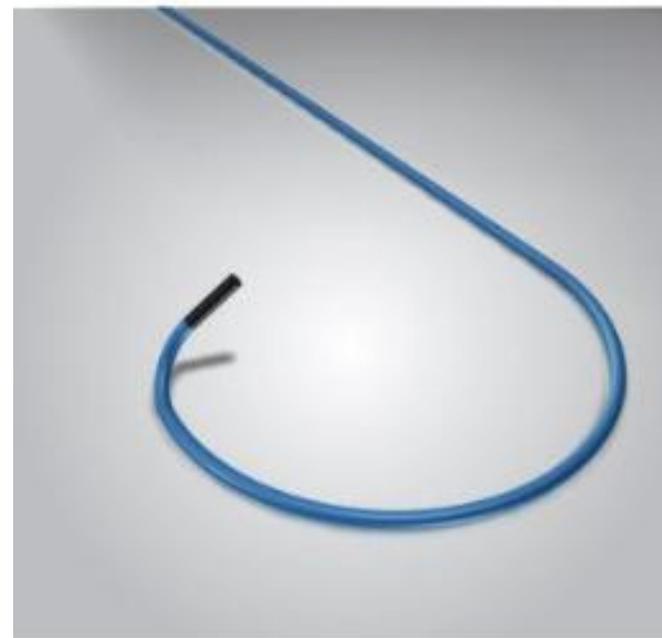
- Využití zavaděčů pro jeho stimulaci
- Využití intrakardiálních signálů
- Nová kritéria je potvrzení stimulace BB



Jak ji provádět?

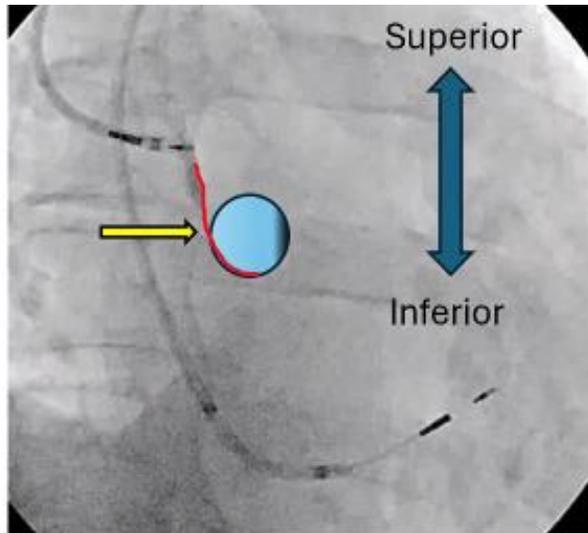


C315HIS

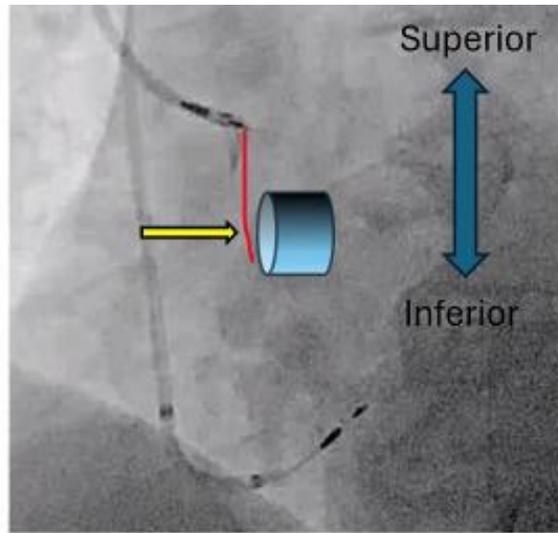


Jak ji provádět?

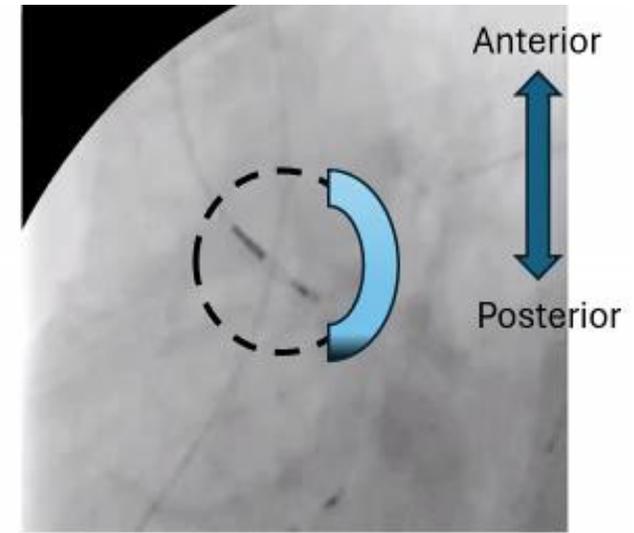
Krok 1: identifikovat ústí HDŽ do pravé síně



RAO



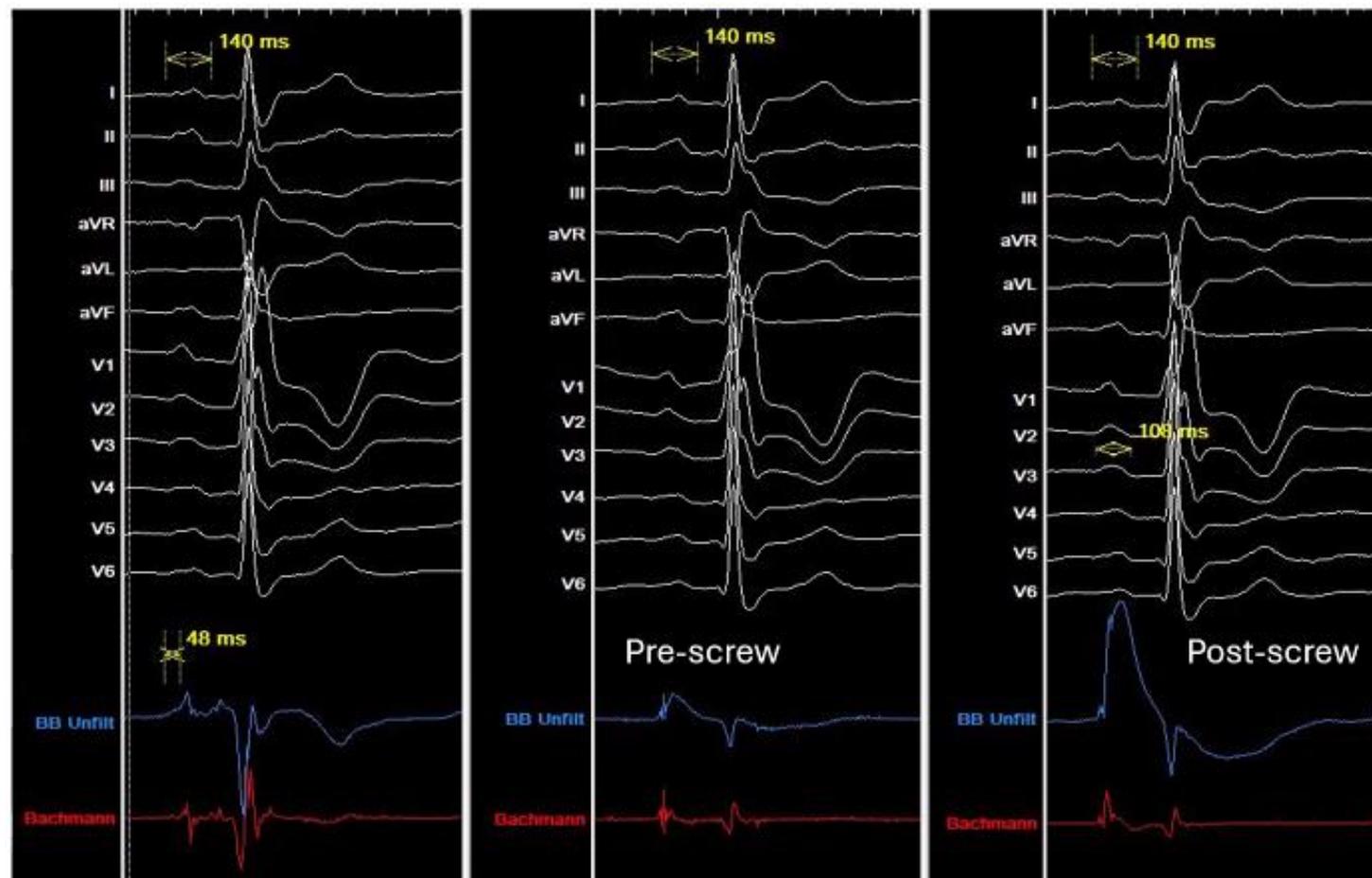
LAO



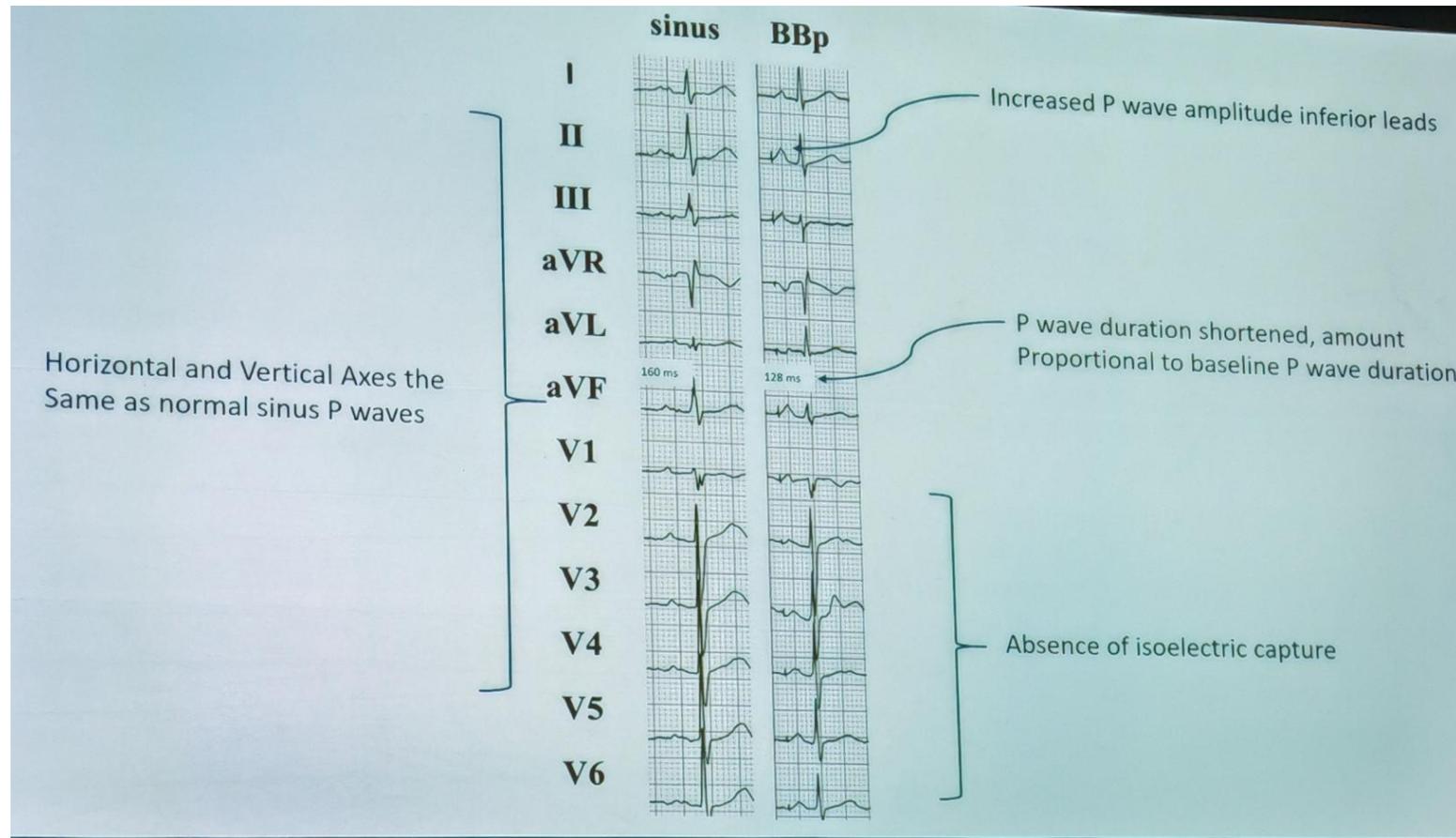
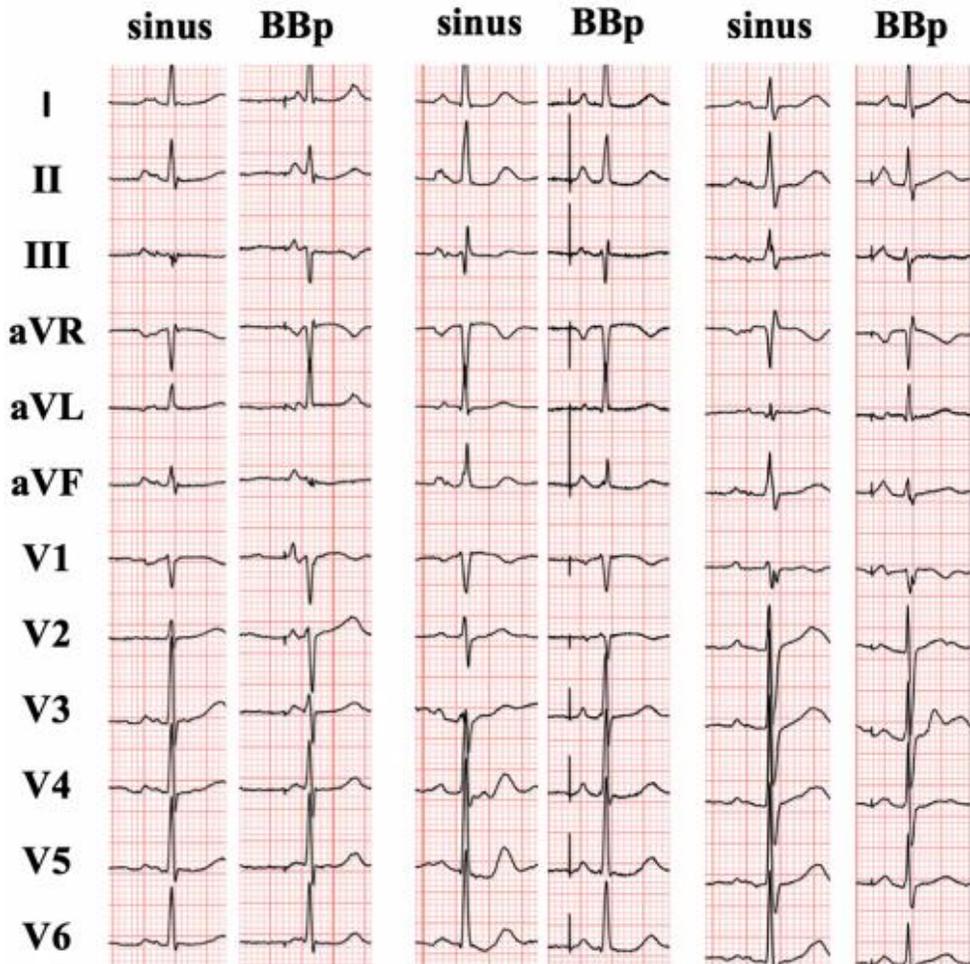
LAO Caudal:
bottom-up view
of the SVC

Intrakardiální signály

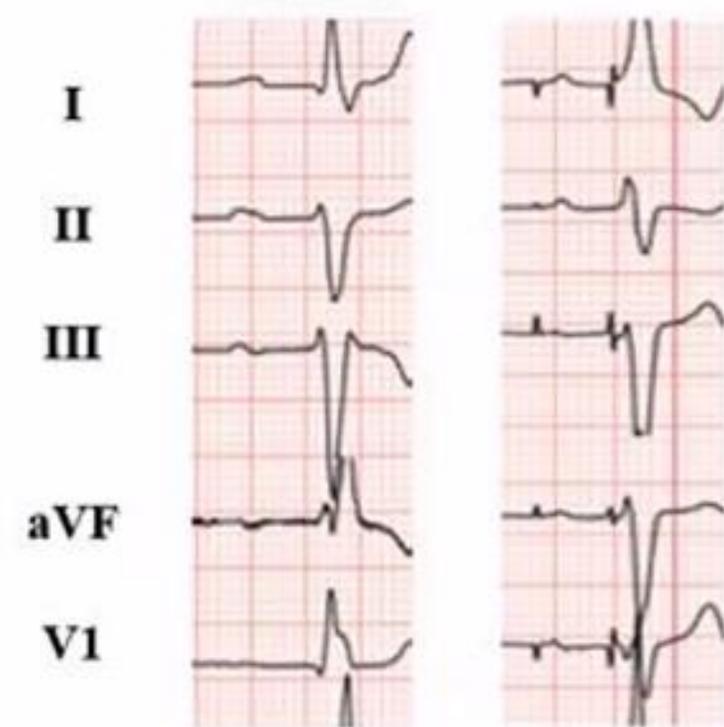
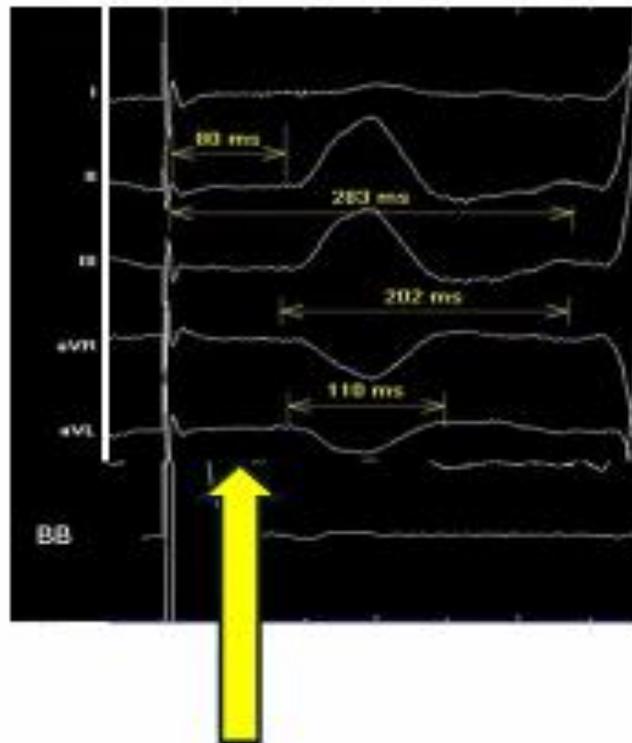
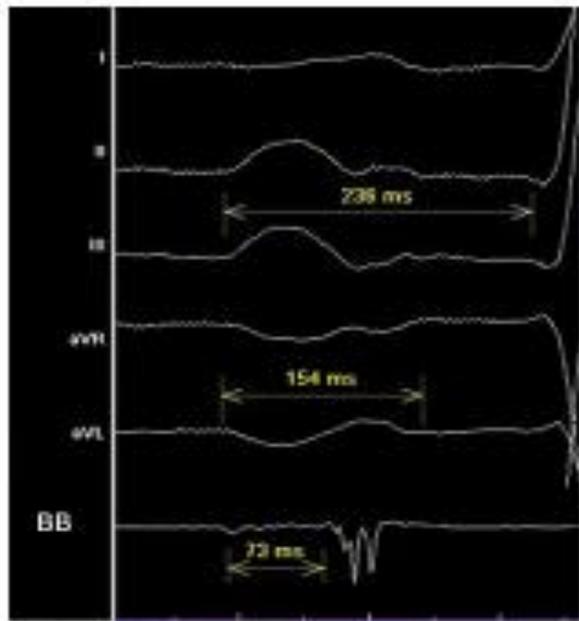
Krok 2: porozumět pozici na základě intrakardiálních signálů



Kritéria pro úspěšný BBP

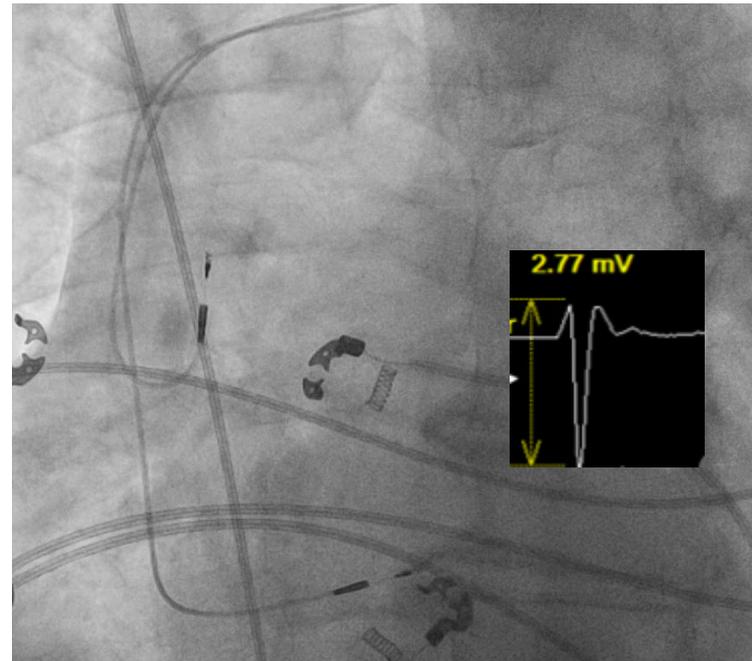
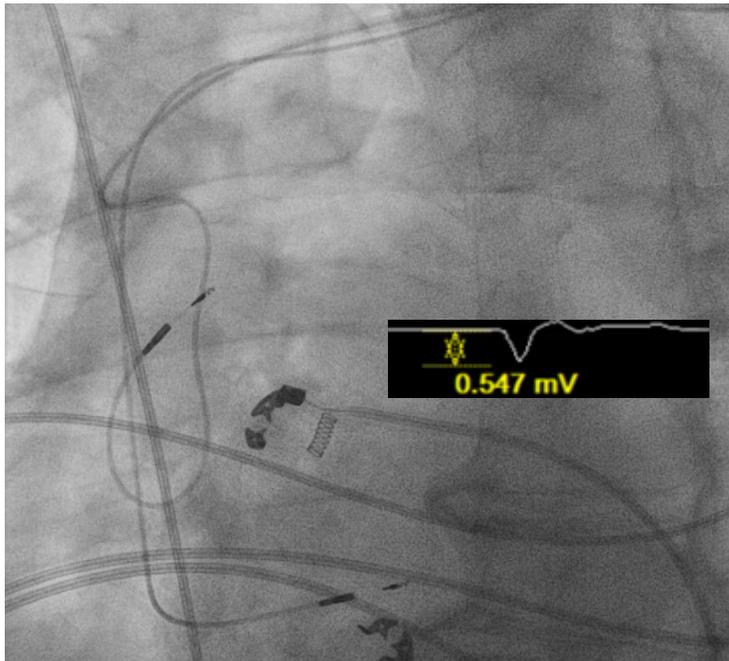
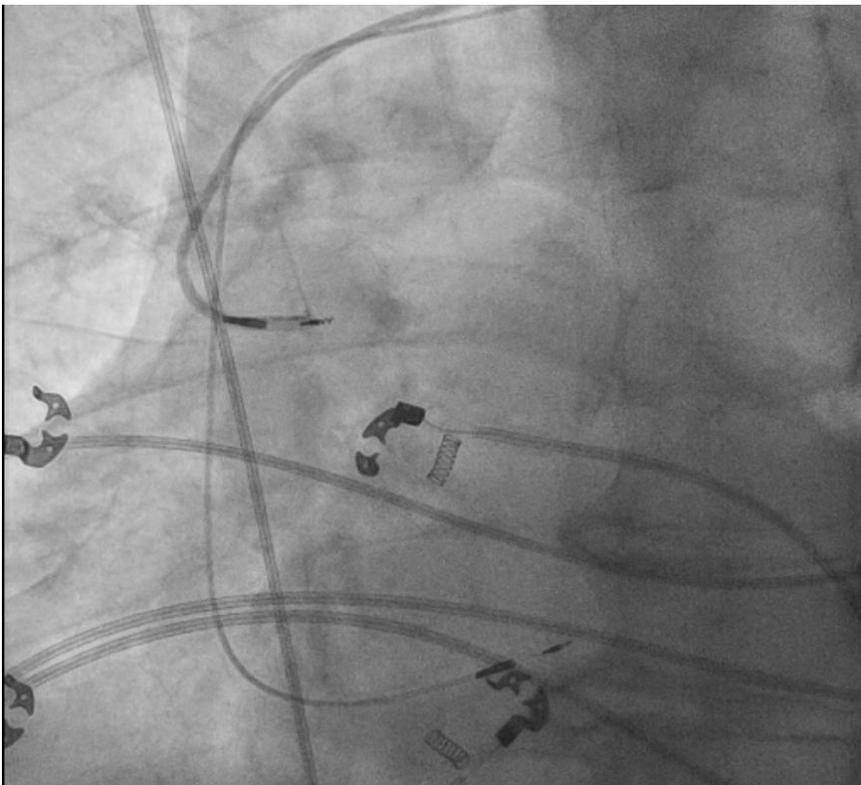


Neúspěšný BBP/suboptimální výsledek



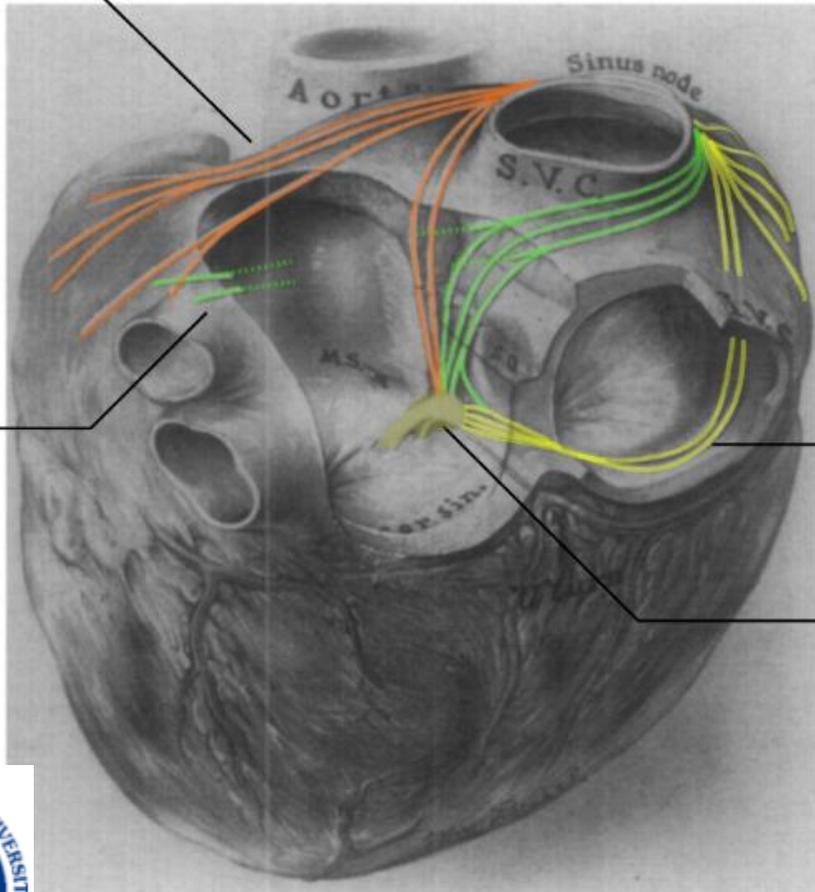
- Izolinie po stimulačním artefaktu je známkou stimulace příliš vysoko
- Pokud při vyšším výdeji zmizí, tak je to dobře a při vyšším výdeji se jedná o BBP

Extrakce zavaděče a optimalizace polohy stimulační elektrody



Na co si dát pozor?

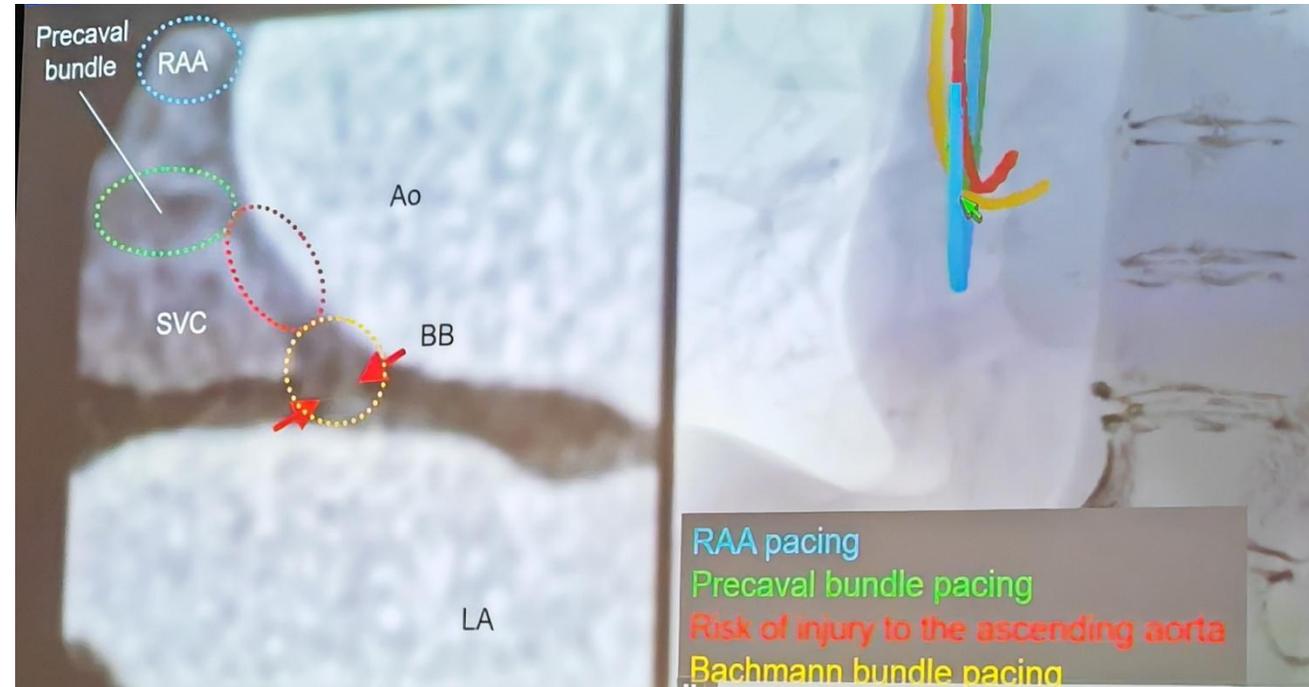
Bachmann's bundle and the anterior internodal tract



Middle internodal tract

Posterior internodal tract

AV node



RAA pacing
Precaval bundle pacing
Risk of injury to the ascending aorta
Bachmann bundle pacing

Shrnutí

- Stimulace Bachmanova svazku je nová možnost stimulace síní
- Poskytuje teoretickou výhodu bezpečnějšího místa fixace a více fyziologické síňové stimulace
- Je potřeba klinických důkazů že 'nový' způsob BBp povede ke klinickému benefitu

Stačí k tomu stávající kritéria pro BBp???



Friday 21 November 2025
Prague, Czech Republic

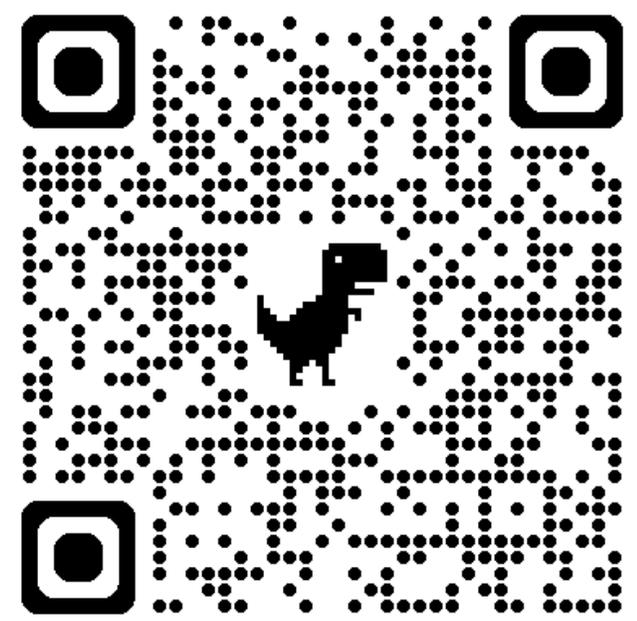


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Děkuji za pozornost



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