

**CARDIO
RUN
2024**

**16^{ème} CONGRÈS DE PATHOLOGIE
CARDIO-VASCULAIRE**

18-19-20 SEPTEMBRE 2024

Hôtel Saint Alexis **ILE DE LA RÉUNION** France



CARDIORUN.ORG

Stimulation du système de conduction: Technique et indications

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Pourquoi vouloir remplacer la stim VD ?

Potentiels bénéfiques de la CSP

- Avoid ventricular dyssynchrony and deleterious long term effects induced by apical RV pacing

On AF incidence

On HF hospitalization rate

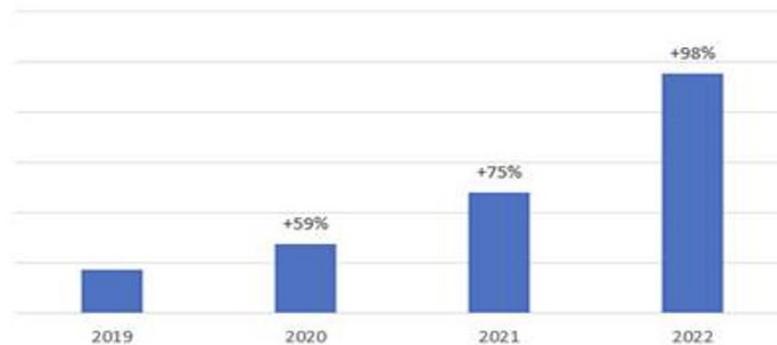
X 2.6 if >40%; in the MOST trial
Cut off > 20% in more recent studies

On mortality (in pts with low EF and > 40% RV pacing, DAVID)

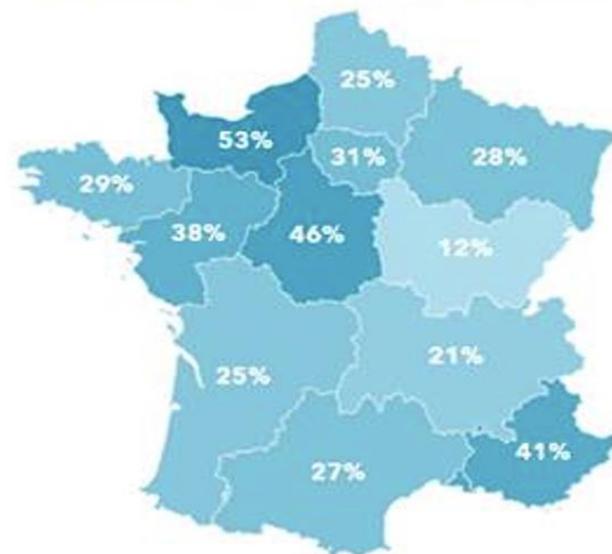
- Preservation of physiological left ventricular electrical activation

Stimulation du système de conduction Etat des lieux en France

Yearly consumer product data of 3830 lead



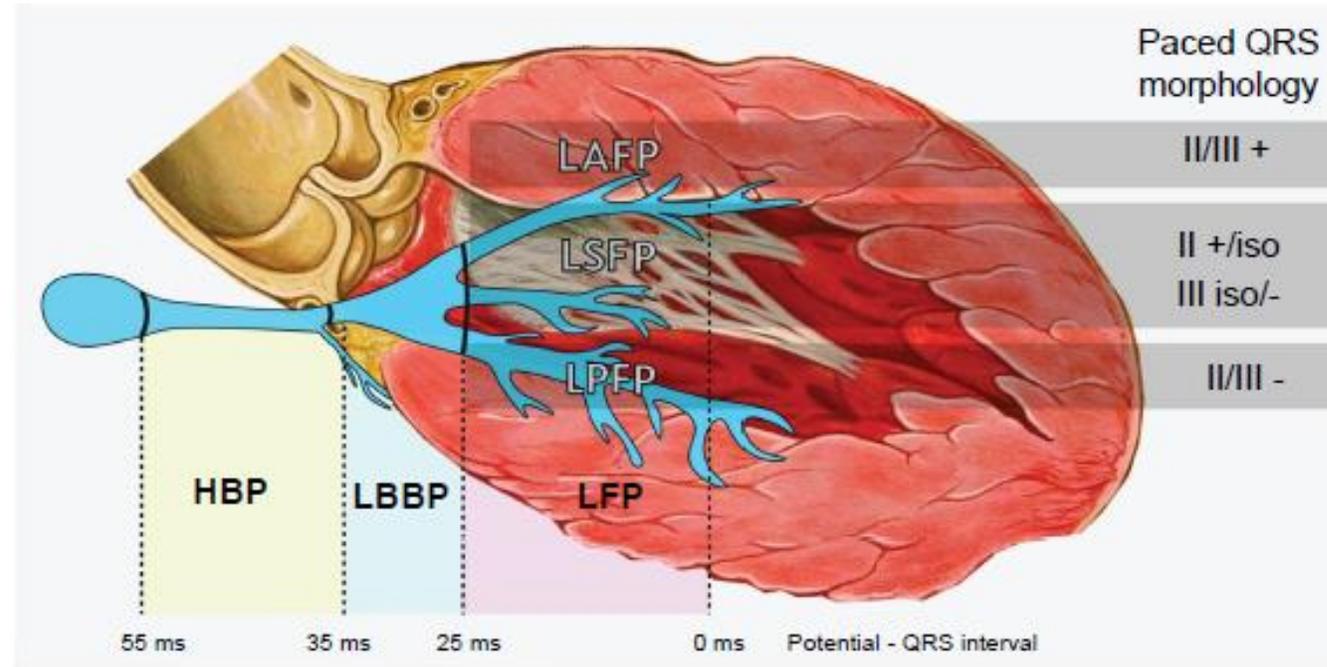
Proportion of centers with 3830 lead utilization (2022)



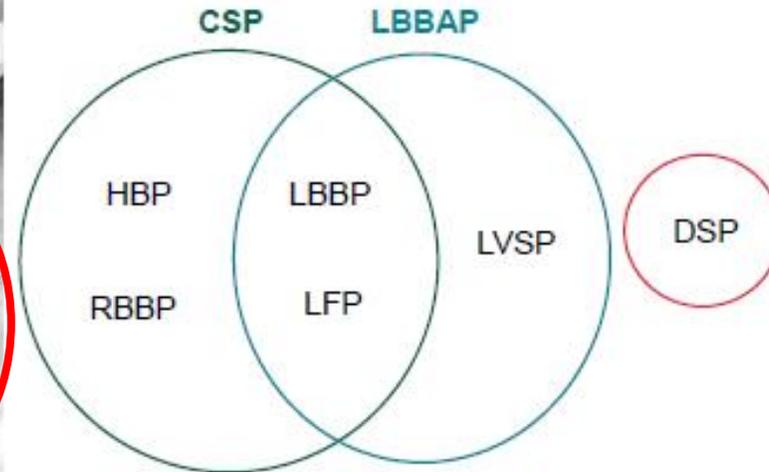
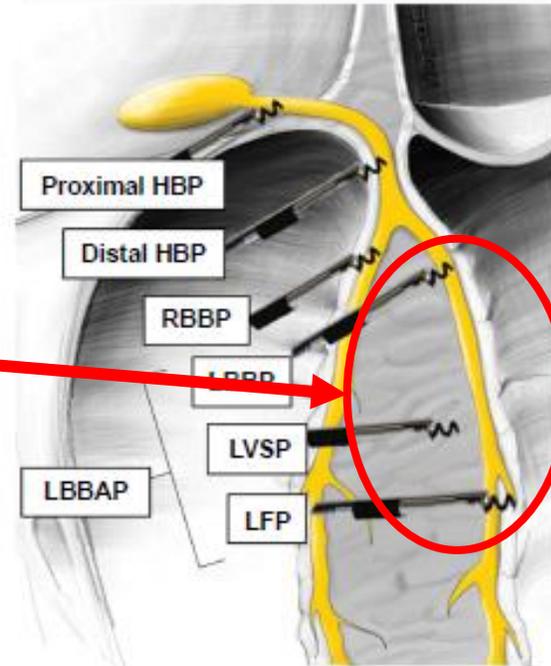
Pourquoi LBBAP plutôt que HBP ?

- Electrical performances of HBP
 - High energy consumption
 - Rise in HB pacing thresholds and loss of HB capture in 8-17%
 - Low ventricular sensing values
- Procedural challenges of HBP:
 - success rate between 65-92%

Définitions de la stimulation du système de conduction cardiaque



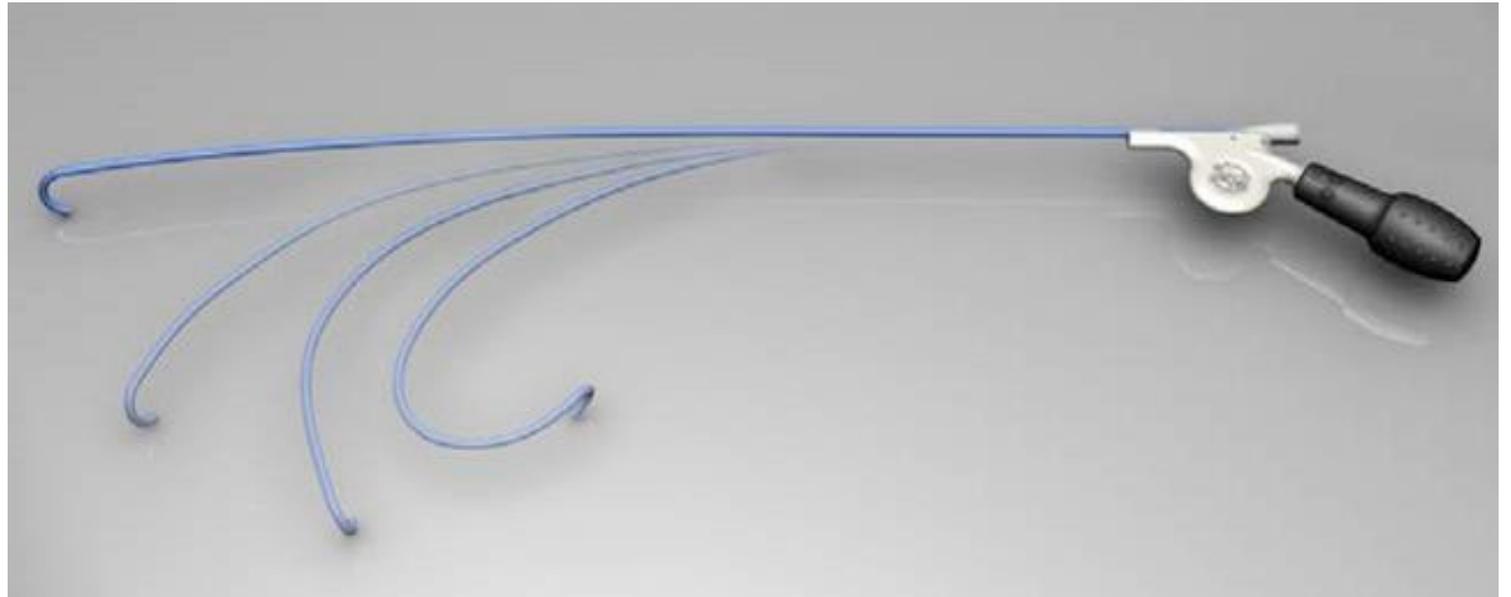
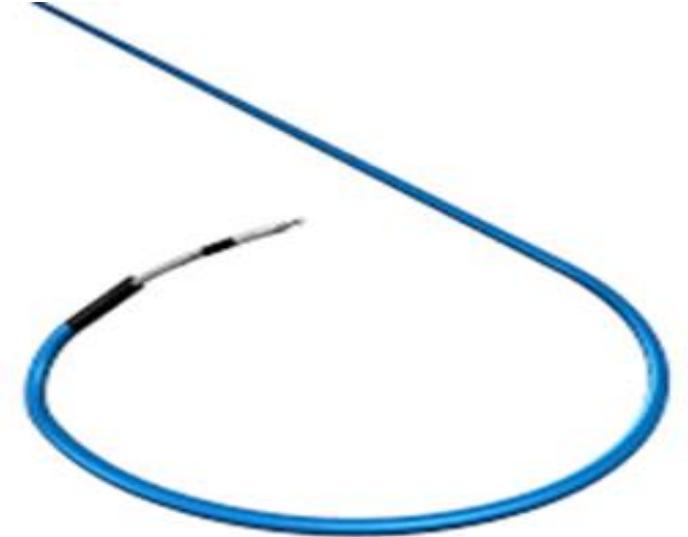
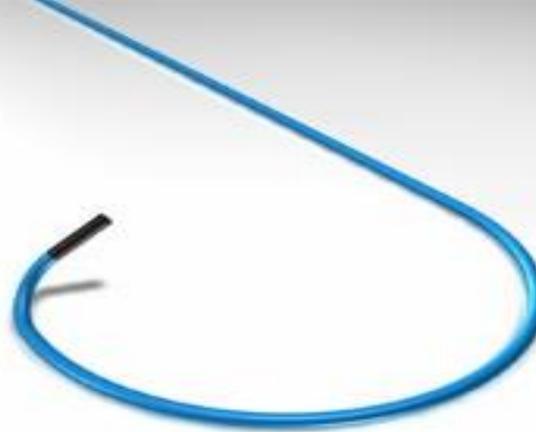
Stimulation de l'aire de la branche gauche



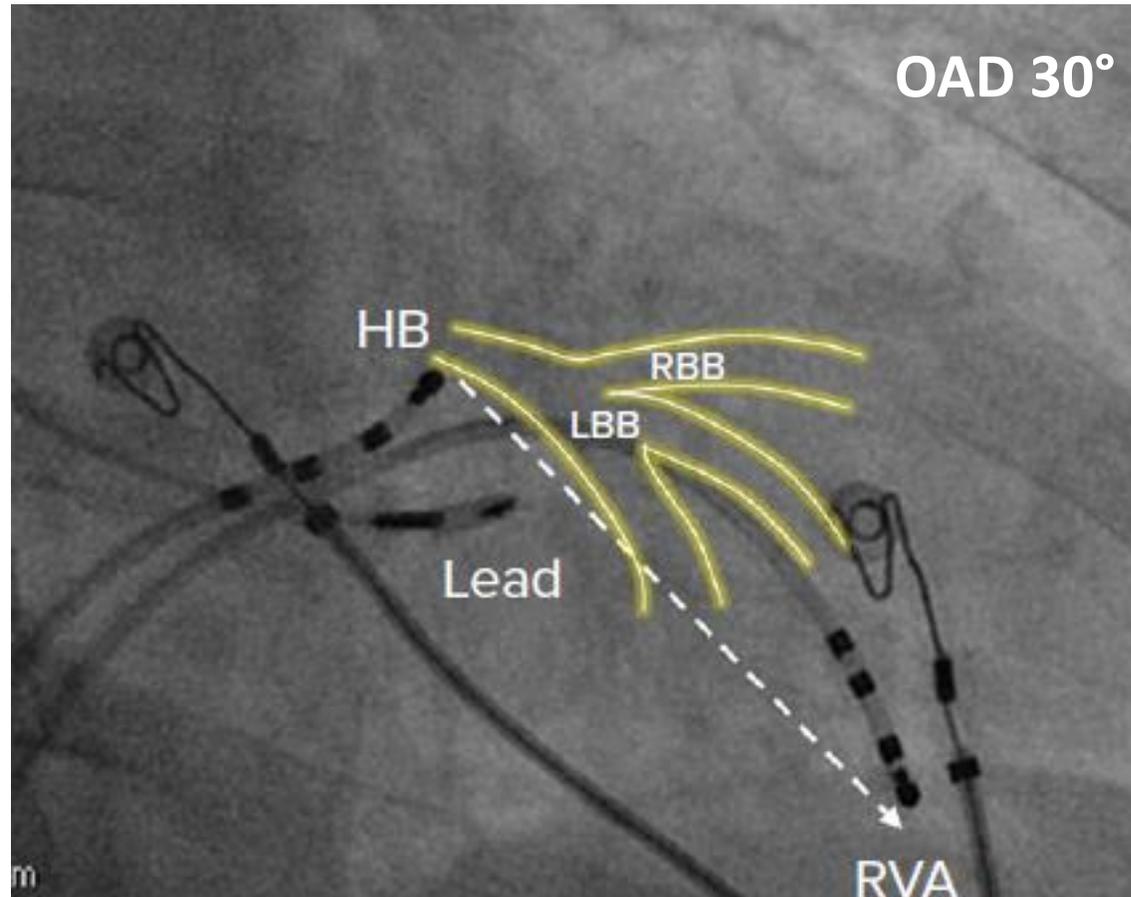
CSP: conduction system pacing; DSP: deep septal pacing; HBP: His bundle pacing
LBBAP: left bundle branch area pacing; LBBP: left bundle branch pacing
LFP: left fascicular pacing; RBBP: right bundle branch pacing

1 sonde et 1 gaine

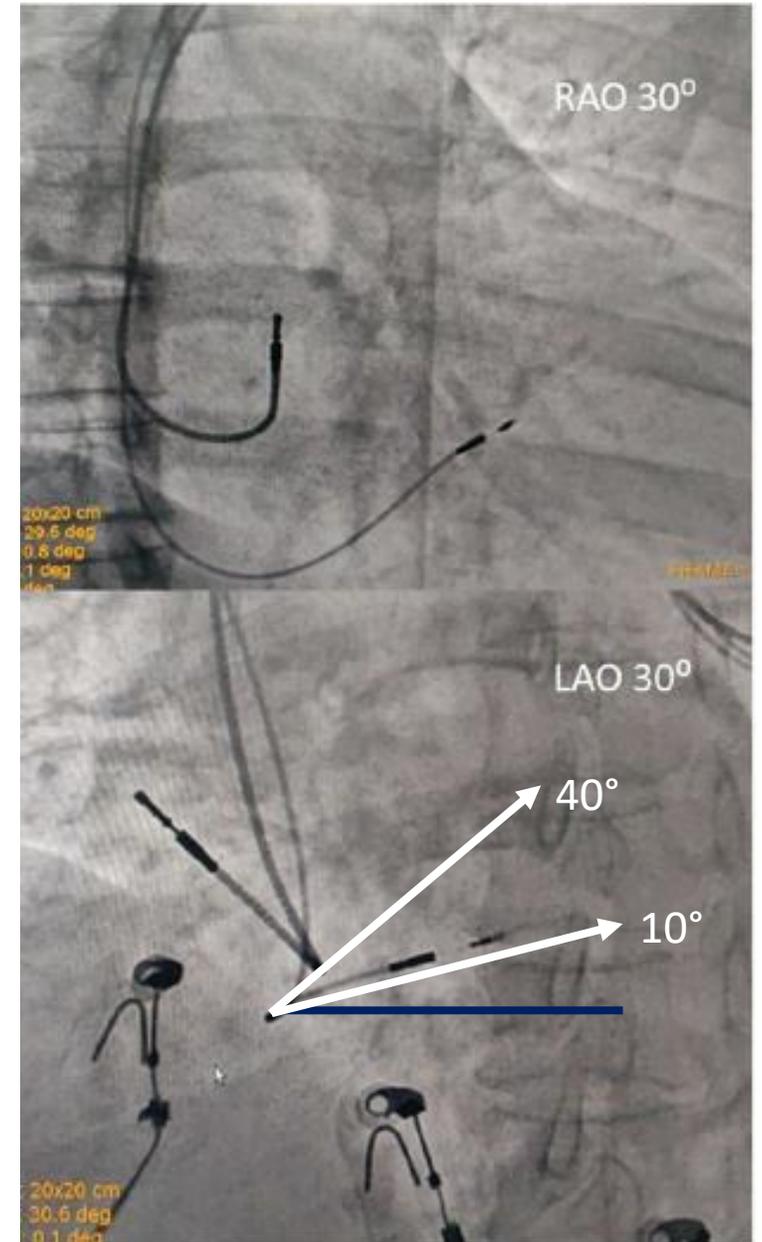
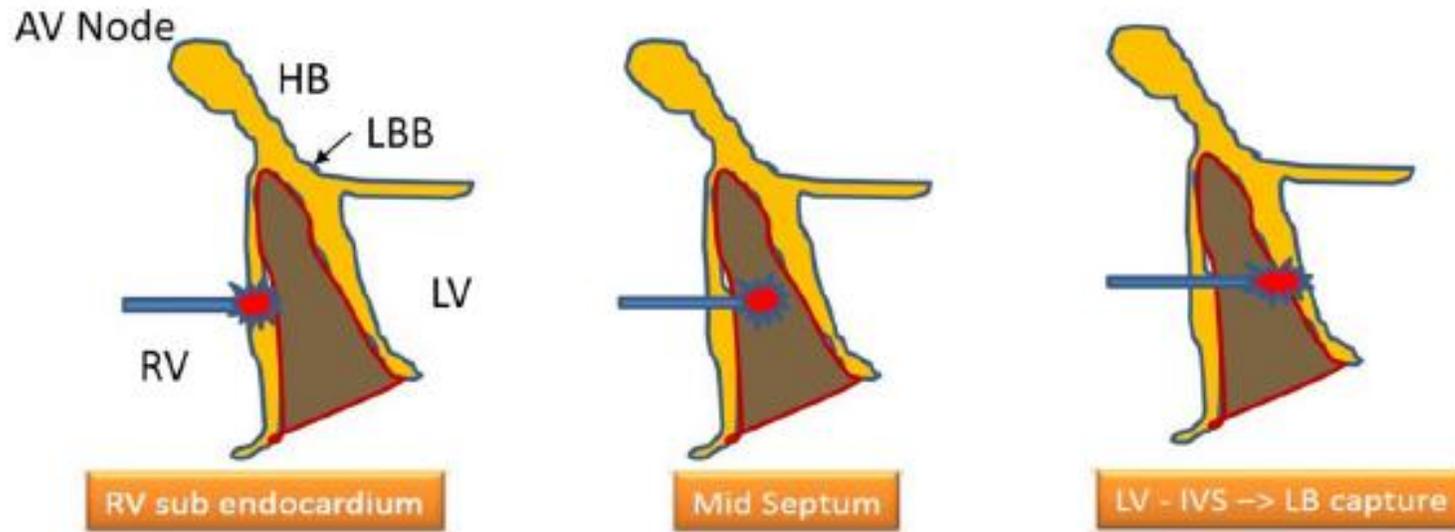
- Sonde fine sans lumière
Ou
- Sonde "classique"
- Fixation par vis



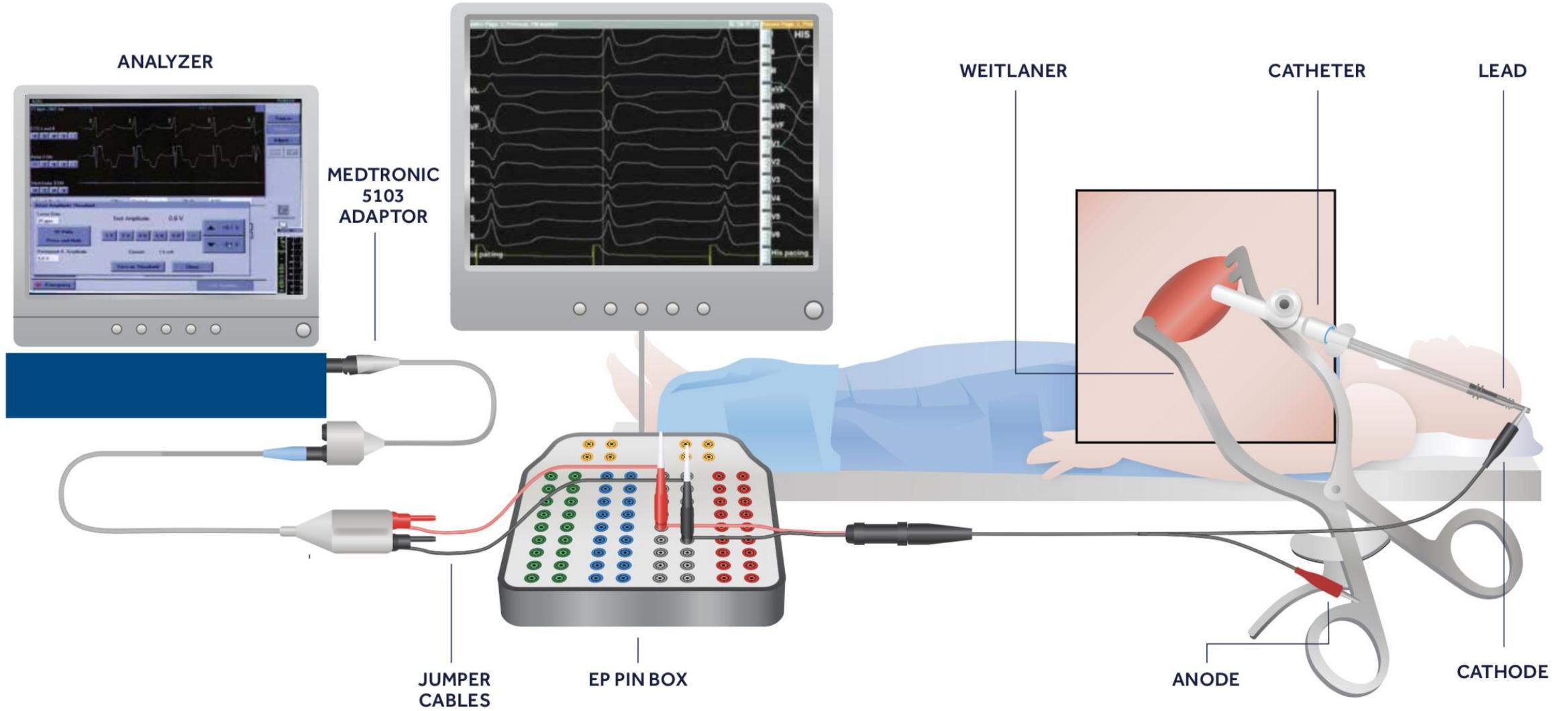
Technique d'implantation



Méthode



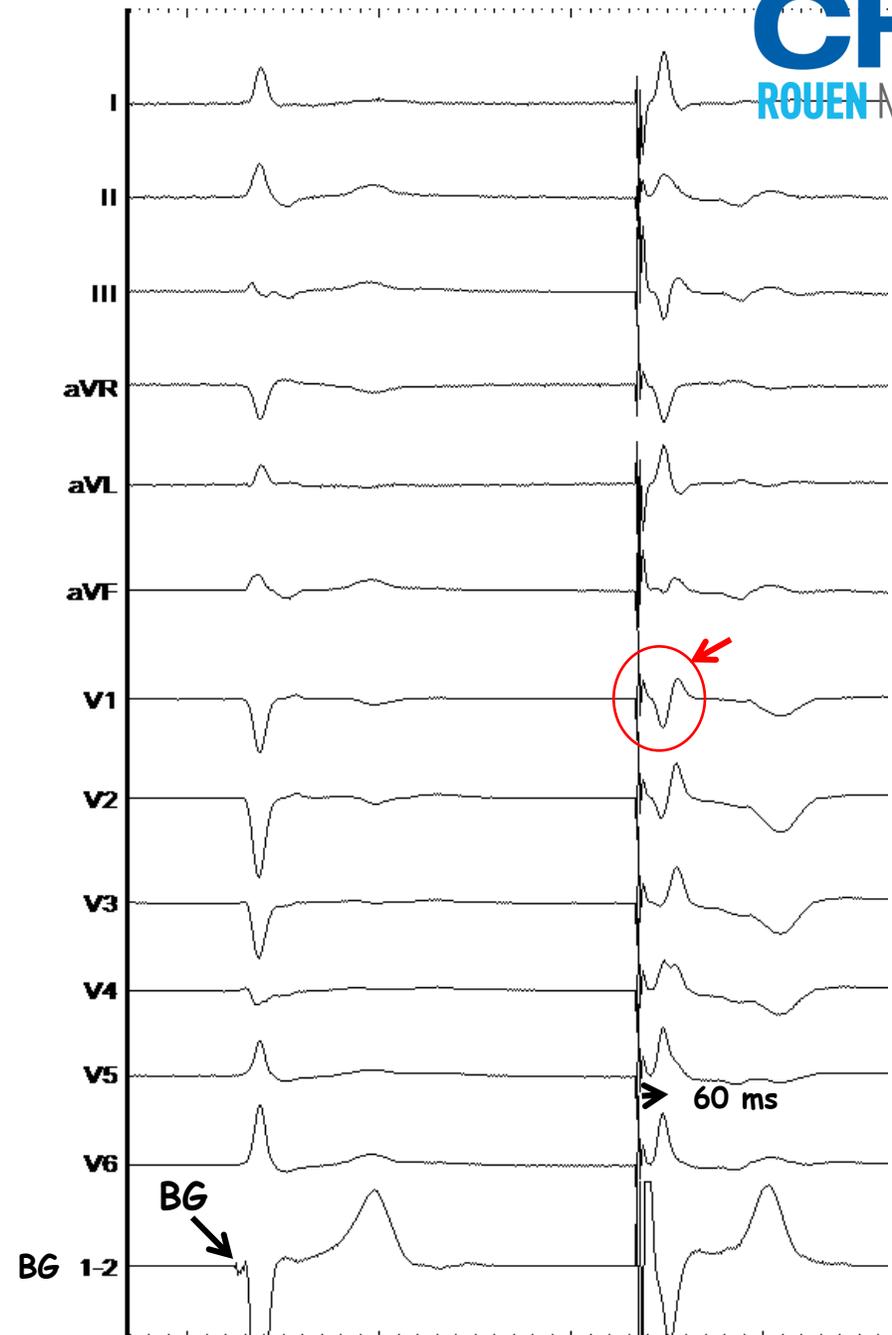
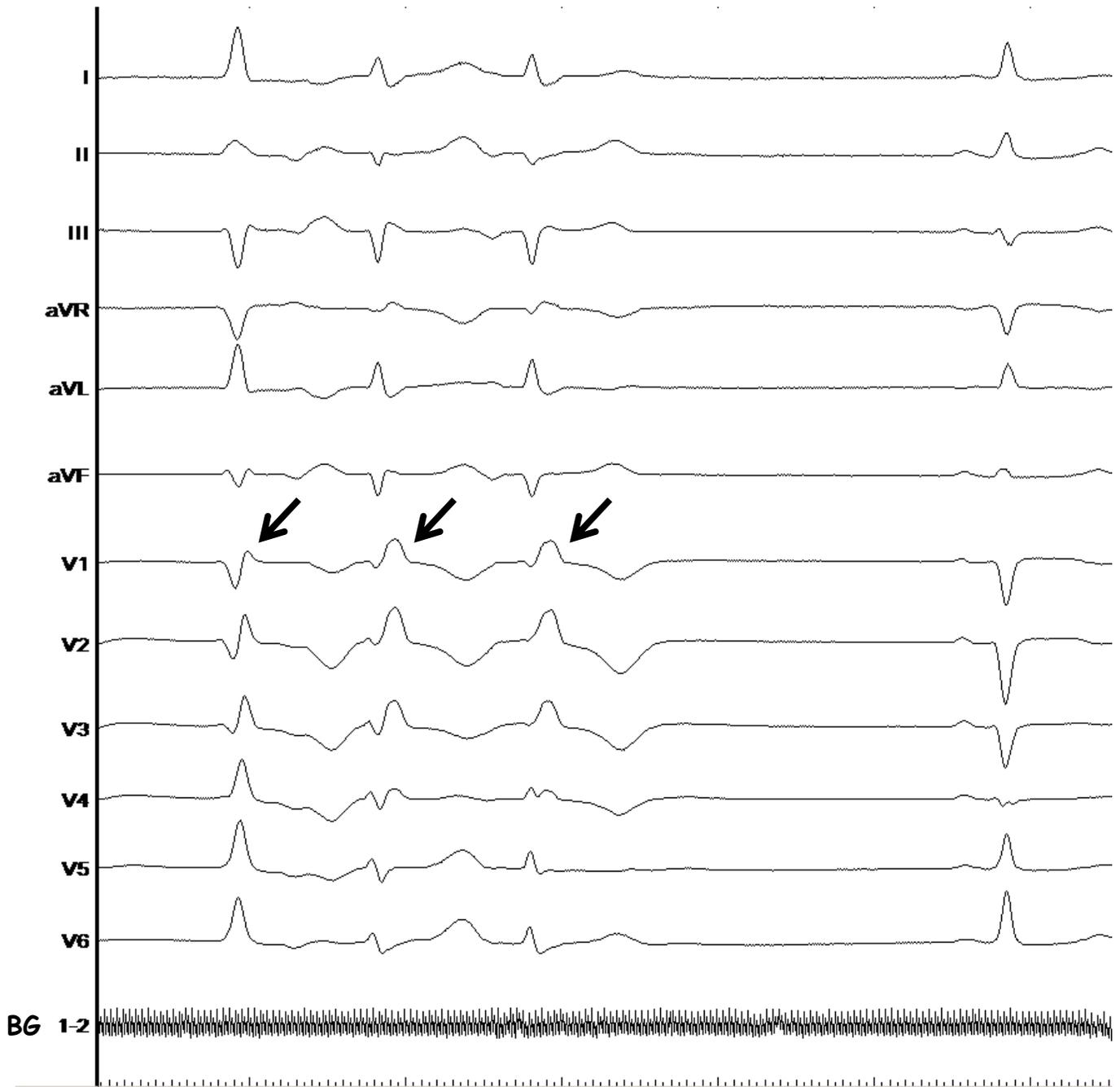
EP SYSTEM/MONITOR



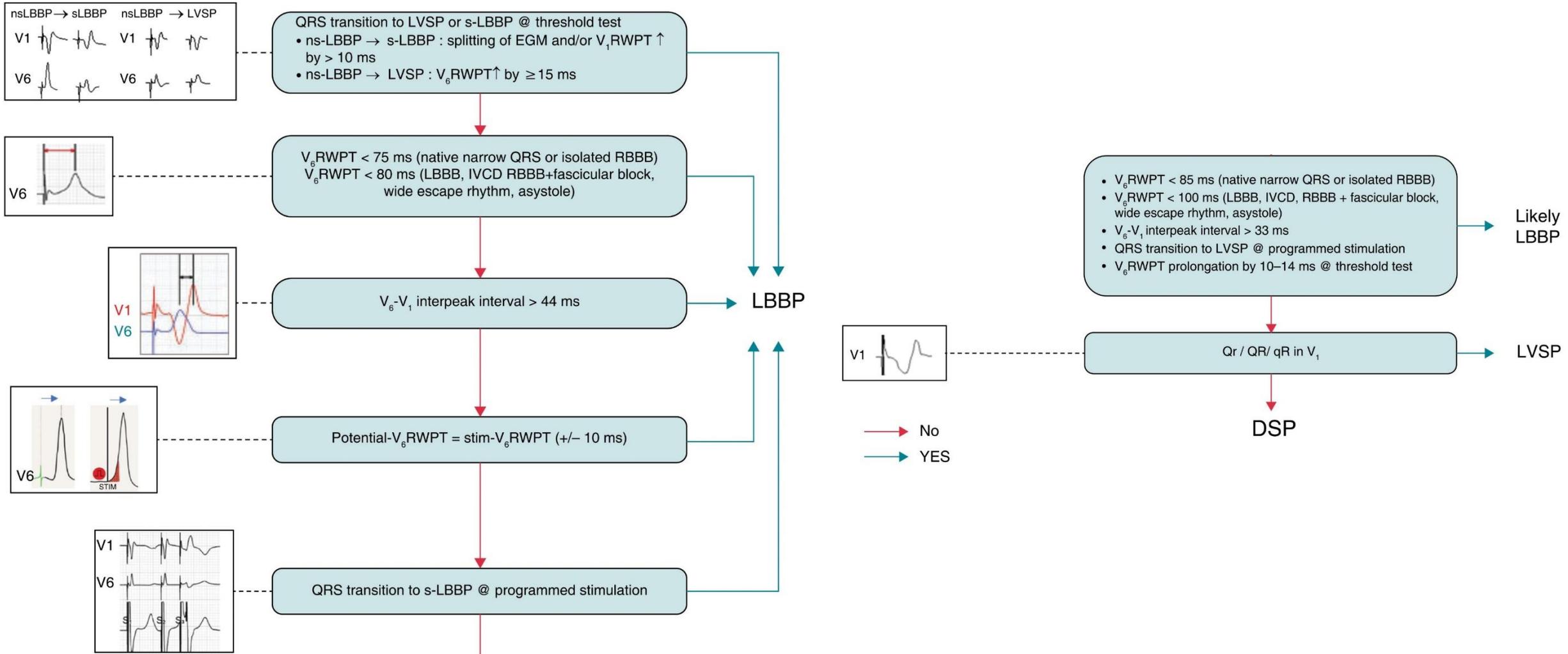
Label	Type	Inputs		Gain	Filter Settings	
		+	-		High Pass	Low Pass
HIS d	Bipolar	6	5	10,000	30.00 Hz	500 Hz
HIS m	Bipolar	6	5	5,000	0.50 Hz	500 Hz

For optimal viewing:

Adjust the gain to the highest setting without observing artifact. See example on the left of filter settings for His d and His m.



Multiple critères ECG

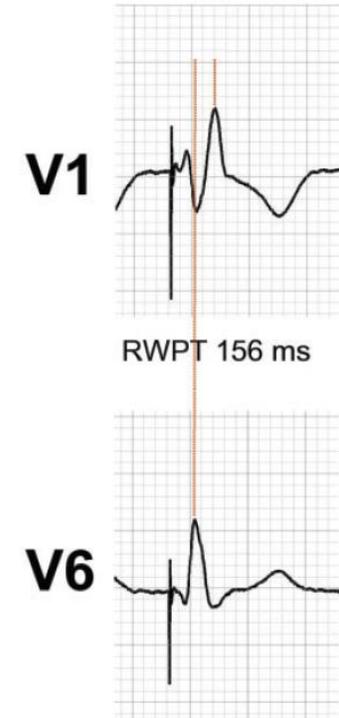
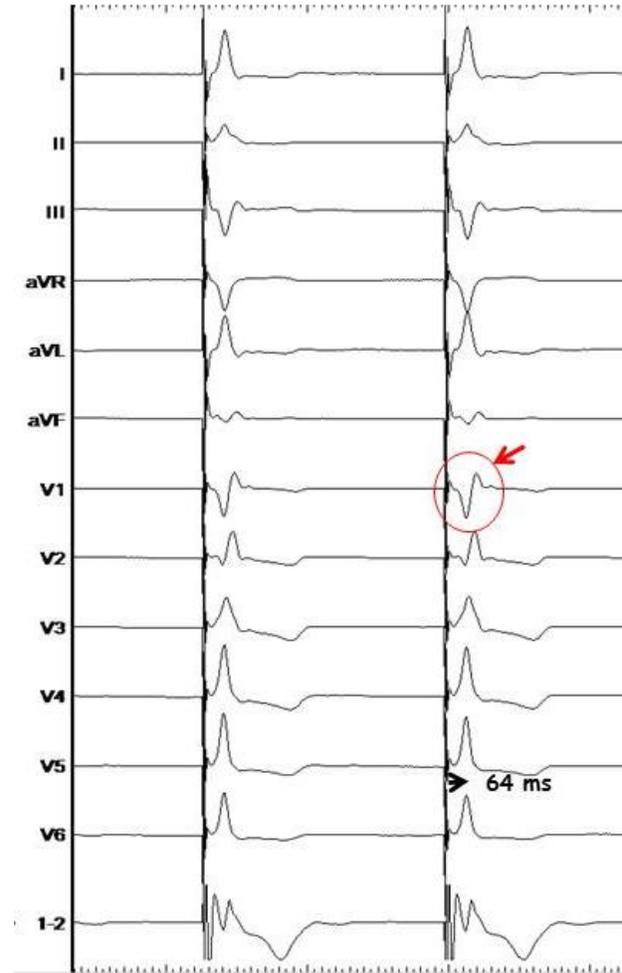


Definition of success ?

Qr/rSr'/qR in V1

+
RWPT in V6 < 80 ms

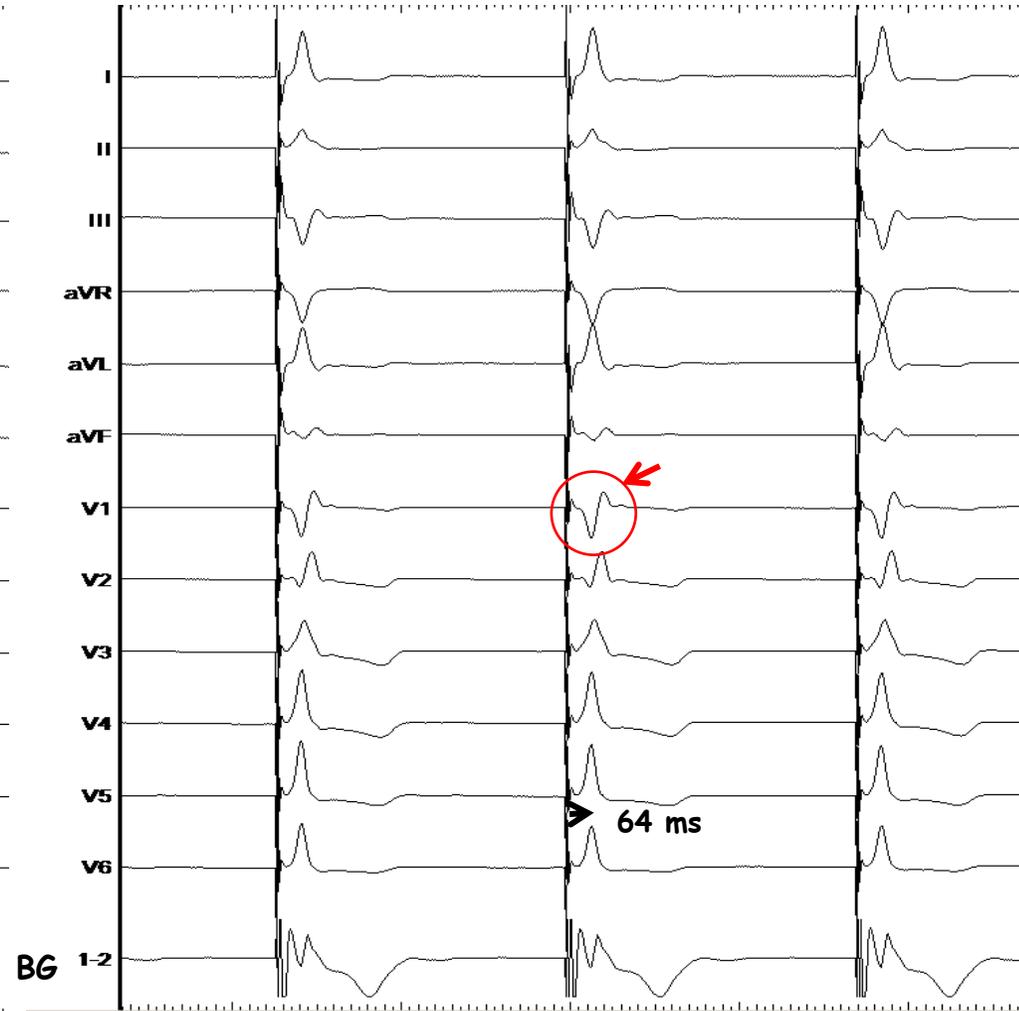
±
V₆-V₁ interpeak interval > 40 ms



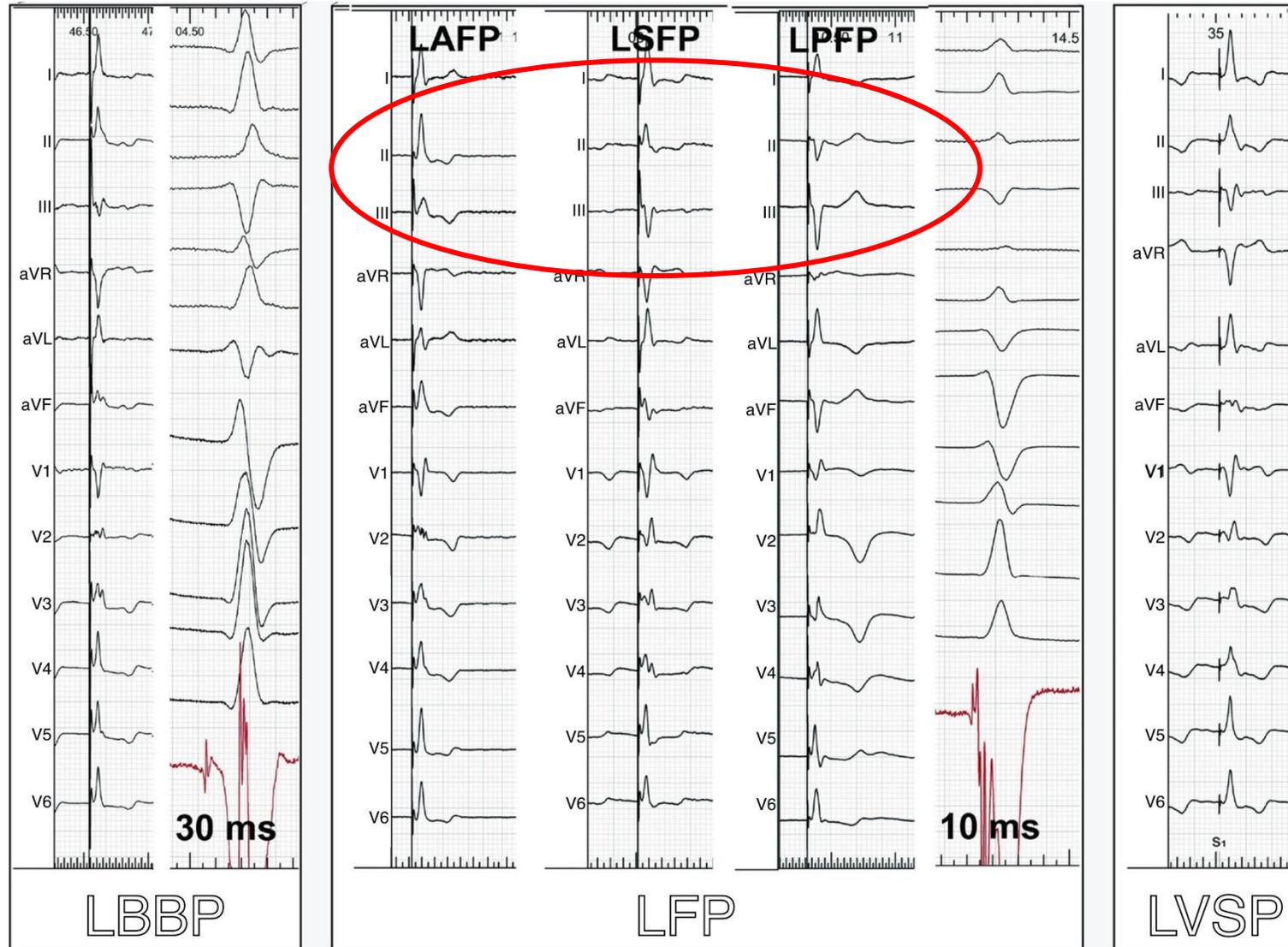
V1-V6 = 68 ms

Définition de LBBAP

- LBB potential not required for successful implantation



LBBP vs Left fascicular pacing

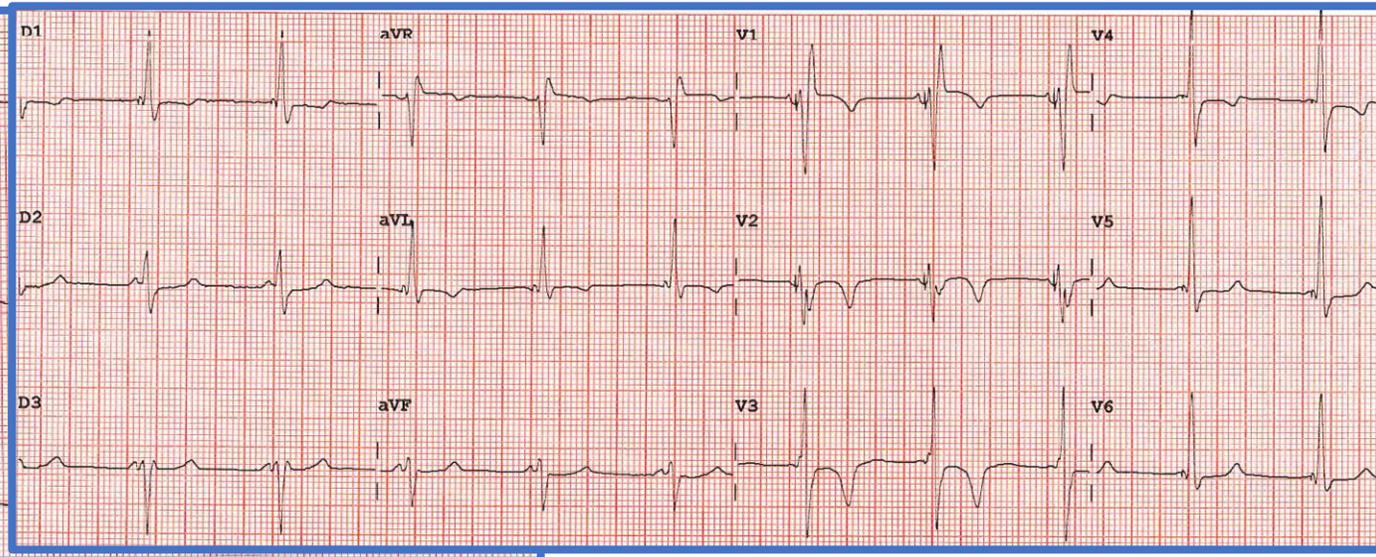
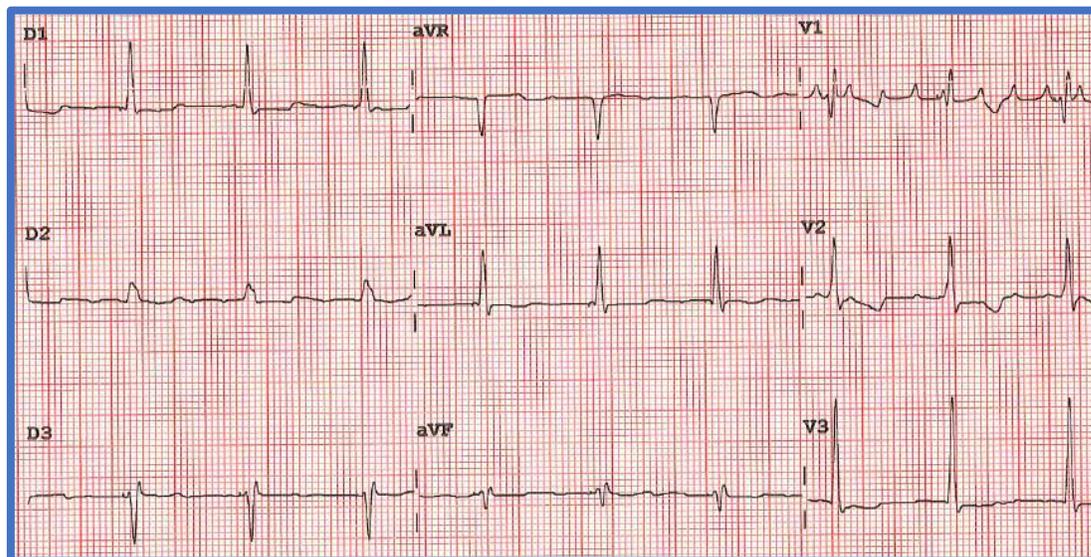
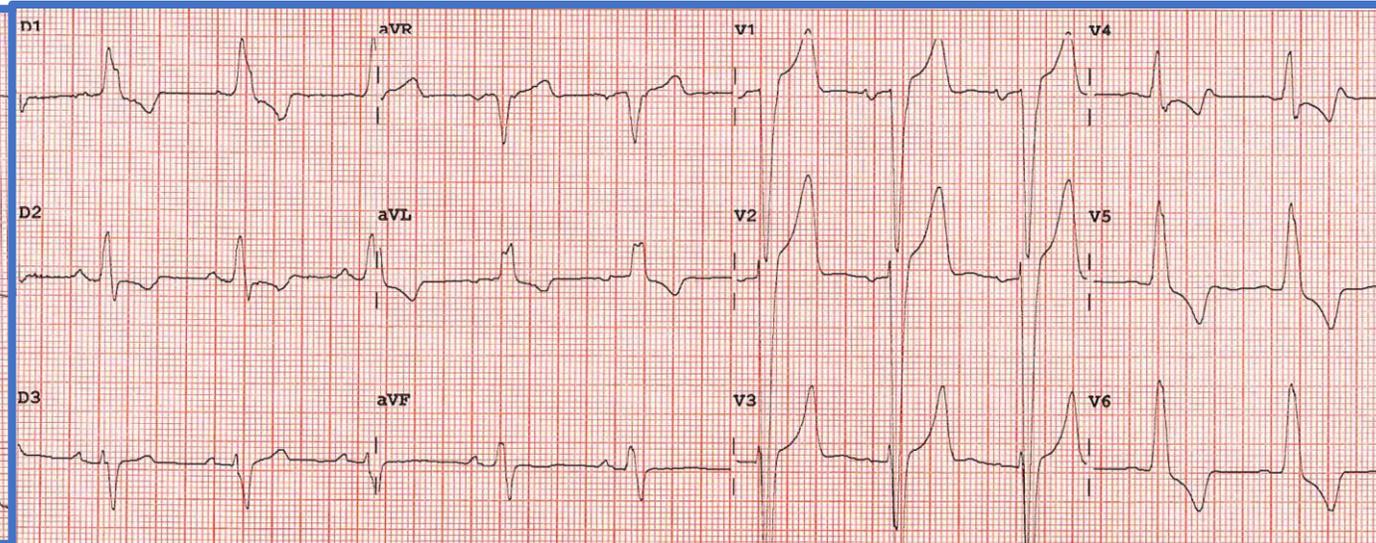
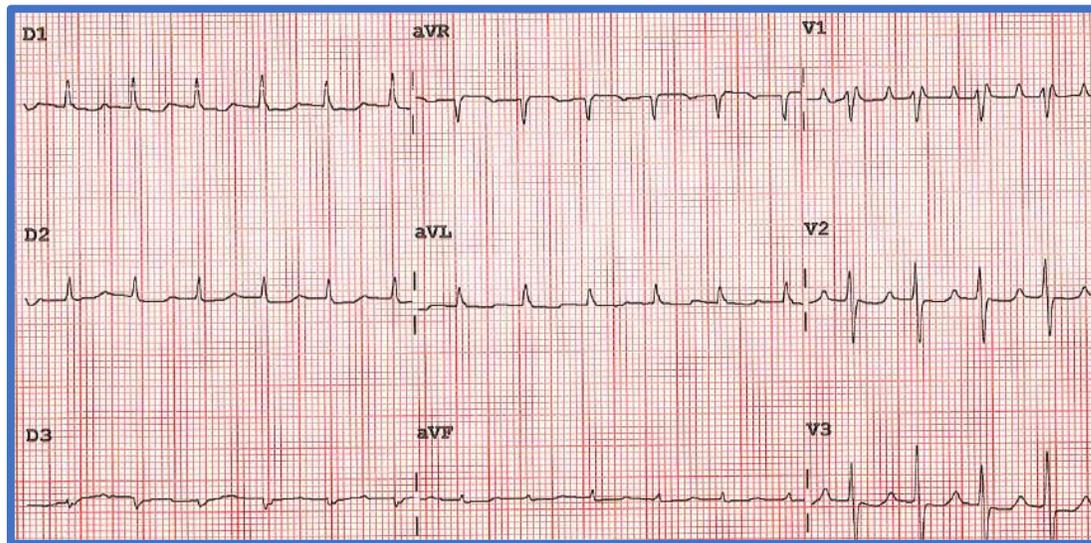


Burri H, et al. *Europace*
2023. 15;25(4):1237-1248

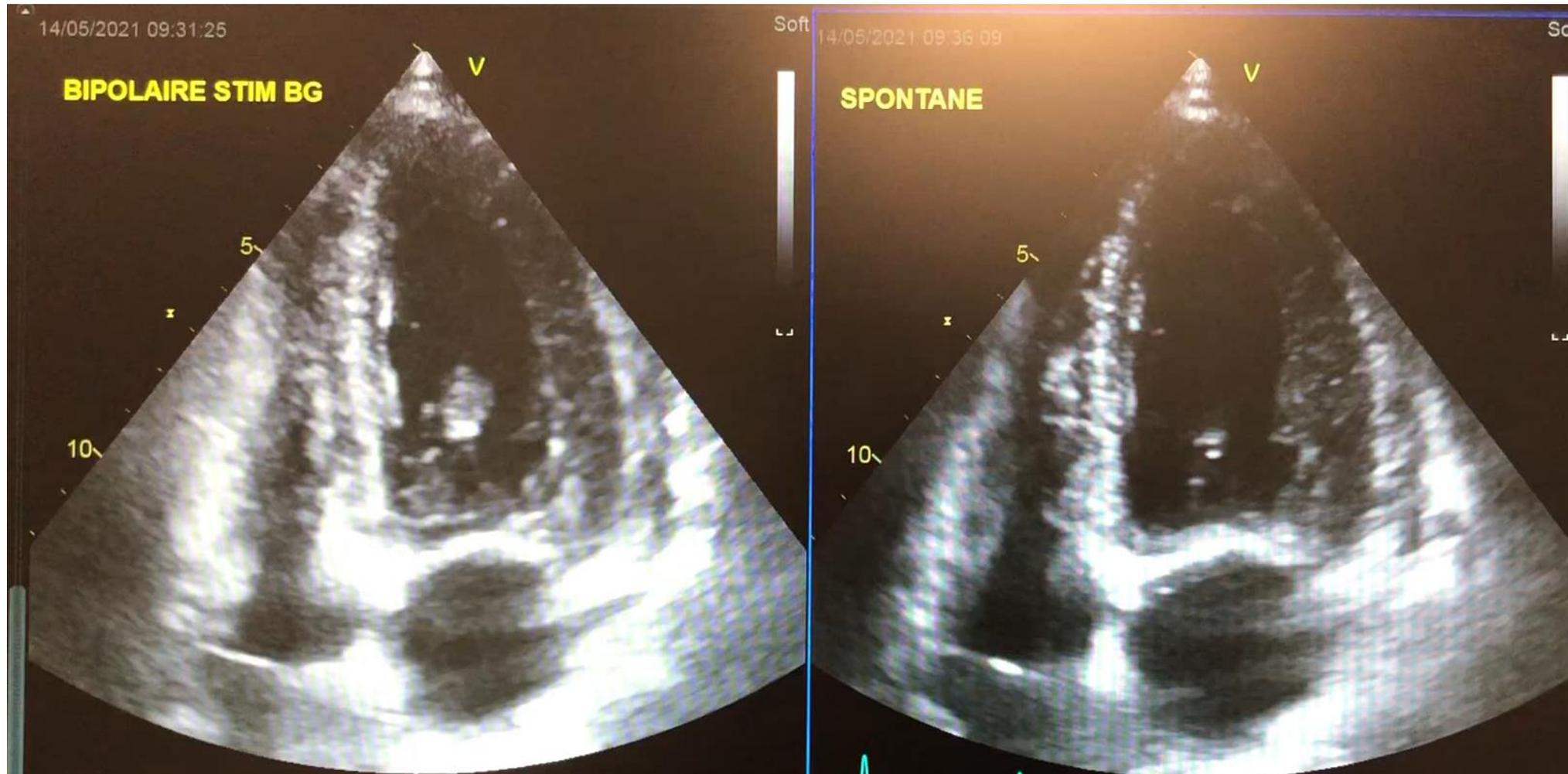
Examples

• In narrow QRS patient

In LBBB patient



Exemple chez un patient avec BBG

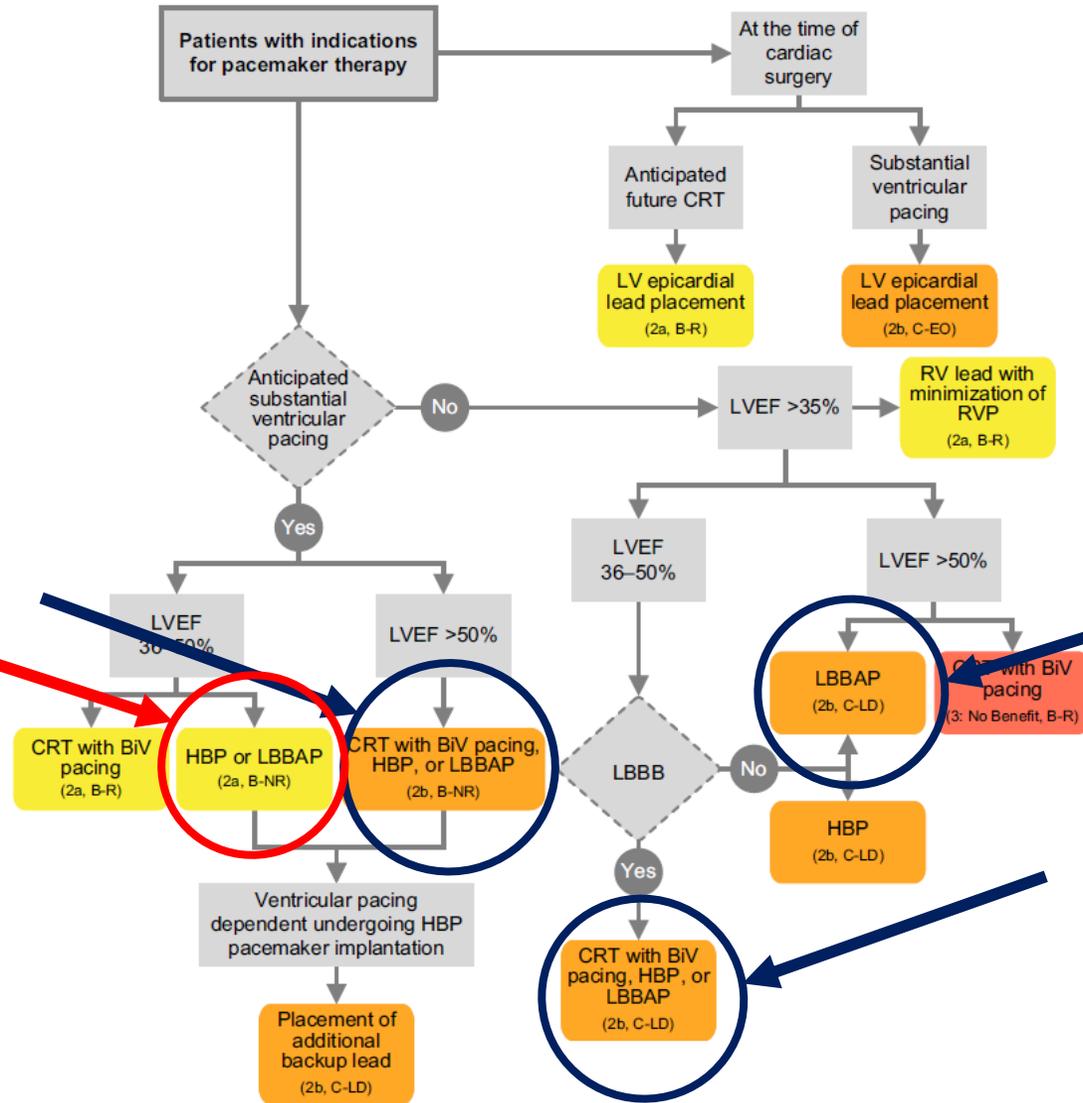


ESC Guidelines

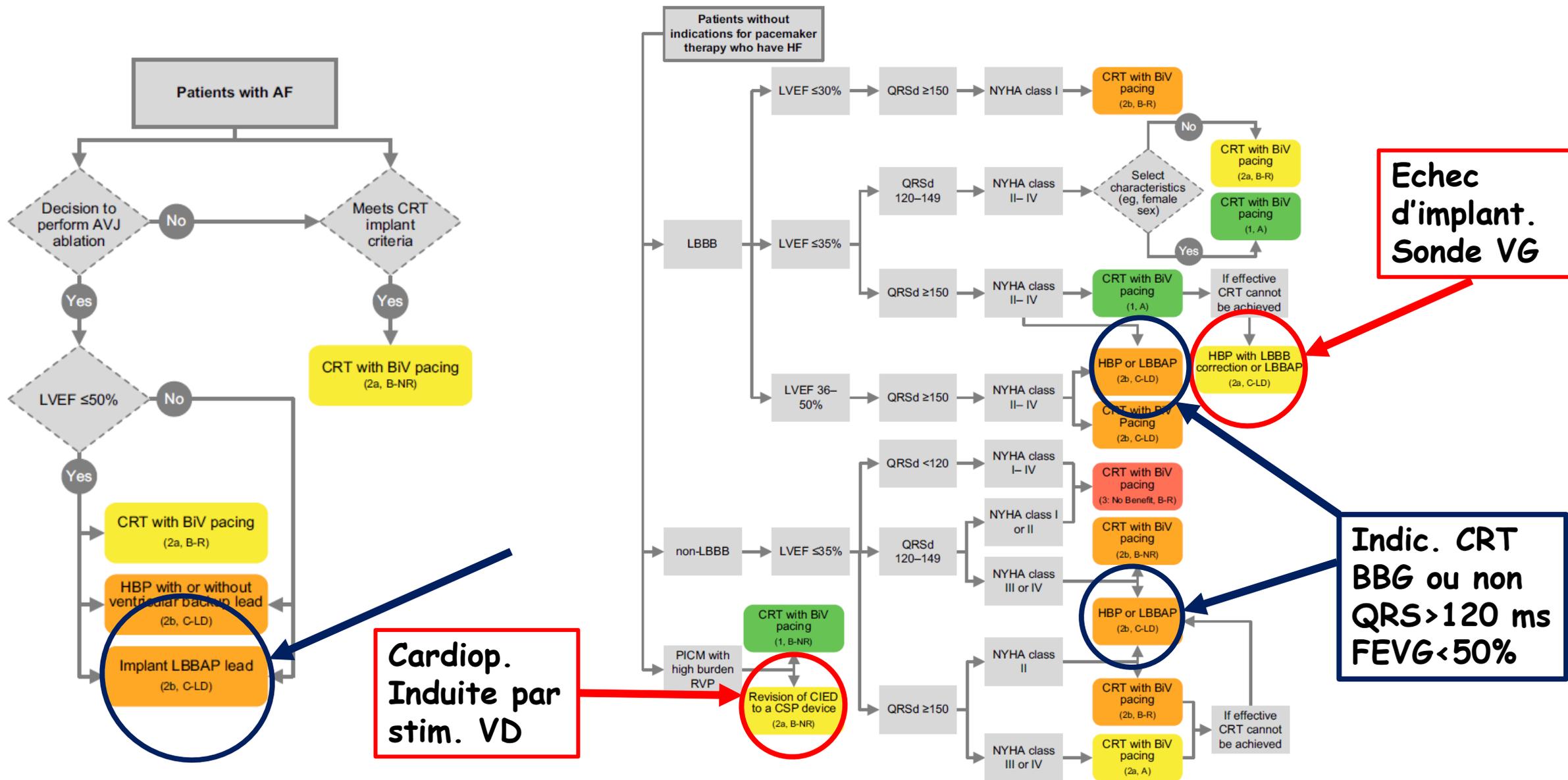


2023 HRS/APHRS/LAQRS guideline on cardiac physiologic pacing for the avoidance and mitigation of heart failure

Taux de stim élevé attendu et FEVG 35-50%



2023 HRS/APHRS/LAHRS guideline on cardiac physiologic pacing for the avoidance and mitigation of heart failure



Résumé

- **Technique très prometteuse...**

- Manque d'études prospectives randomisées +++
- Une définition simple du succès de l'implantation est manquante
- Procédures parfois difficiles
- Le 100% de succès n'est pas atteint
 - Plus longue avec plus de temps de scopie / Stim VD
 - Les outils et les sondes doivent être améliorés
- À privilégier chez des patients à fort taux de stimulation ventriculaire attendu

Merci pour votre attention