

OptiSense™ Lead (Model 1699)

"SEE NO"
FAR-FIELD SIGNALS



"HEAR NO"
FAR-FIELD SIGNALS



SENSE
ONLY WHAT YOU WANT



Position With the Best



The OptiSense™ lead is designed to eliminate far-field signal concerns:

- Far-field ventricular signals can lead to inappropriate mode switching and loss of AV synchrony.
- Programming around far-field R-waves with sensitivity settings or blanking periods can lead to atrial undersensing.
- Far-field signals may prevent placement of the atrial lead near the ventricle.

The First of Its Kind



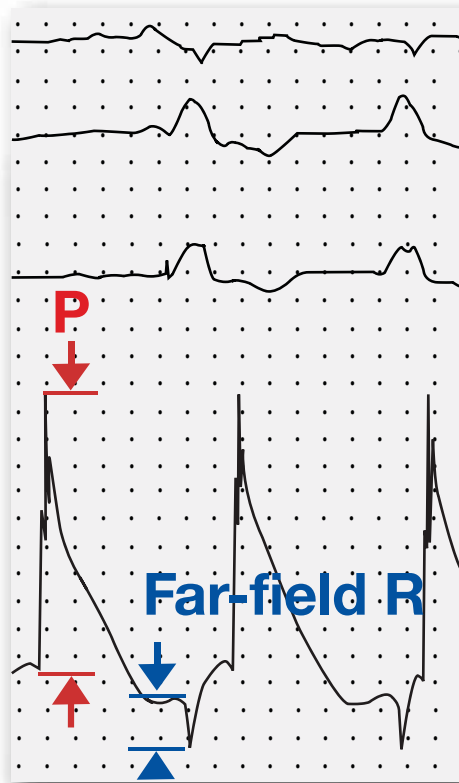
The OptiSense™ lead helps you sense only what you want in the atrium. With **1.1 mm tip-to ring** spacing designed to **reduce oversensing and mitigate far-field R-wave signals**, the lead maintains robust near-field sensing. This one-of-a-kind lead allows for more accurate atrial therapy and diagnostics.

Reduce paced far-field R-wave oversensing

Atrial IEGM Comparison¹

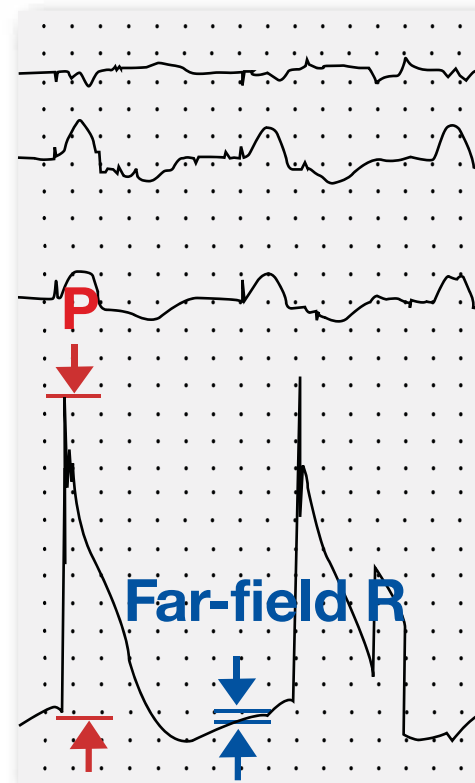
Standard lead
(10 mm)

P- to Far-field
R-wave
ratio:
~5 to 1



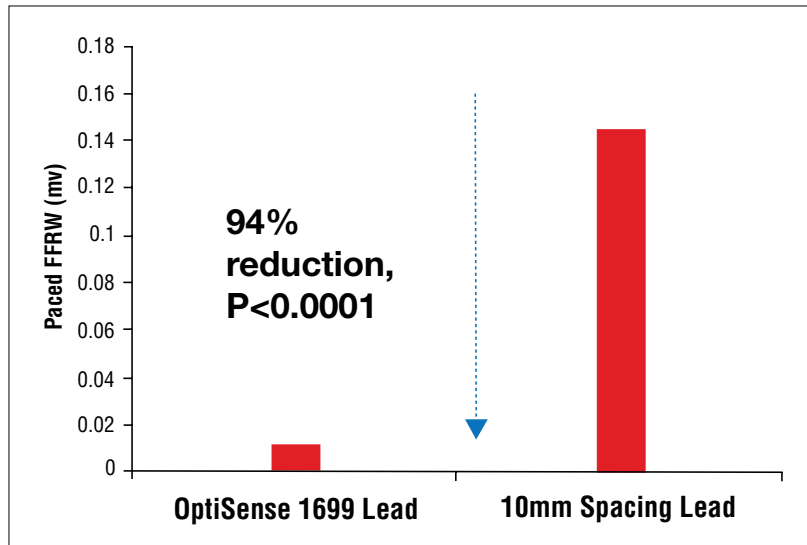
OptiSense™ Lead
(1.1 mm)

P- to Far-field
R-wave
ratio:
~40 to 1



mpy and diagnostics

The multicenter randomized controlled clinical investigation showed a **94%** reduction in average paced far-field R-wave amplitude ($P < 0.0001$)²

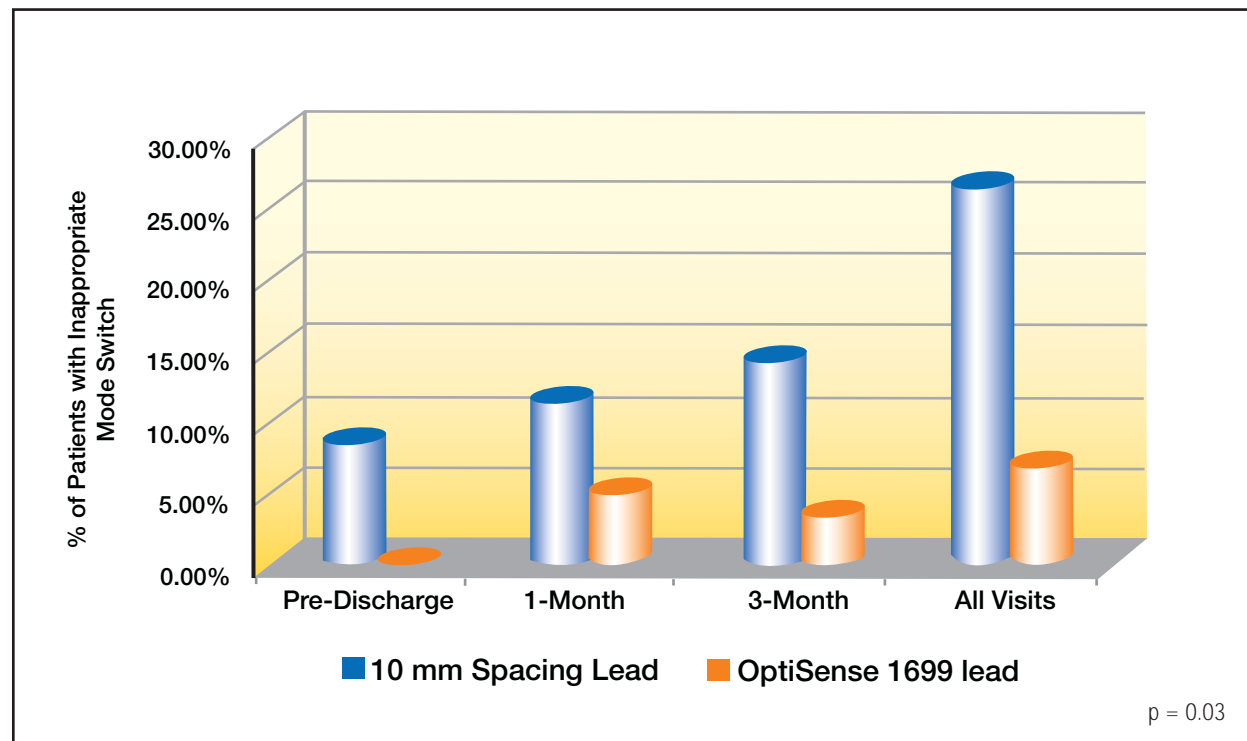


Paced Far-Field R-wave Amplitudes

	Optisense™ lead (N=58)	10 mm spacing lead (N=33)
Median (mV)	0.0	0.1
Mean \pm SD (mV)	0.01 \pm 0.05	0.16 \pm 0.18
Range (mV)	0.0-0.2	0.0-0.75

Reduce inappropriate mode switching; maintain A-V synchrony

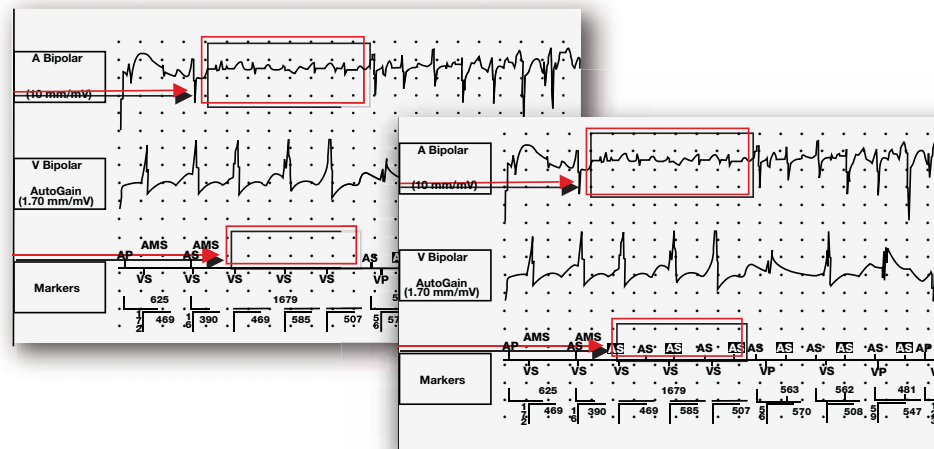
By mitigating paced far-field R-waves, the OptiSense™ lead reduces the percentage of patients with inappropriate mode switching by **73%**.² This increases rhythm stability and patient comfort.



Allows more sensitive atrial sensing

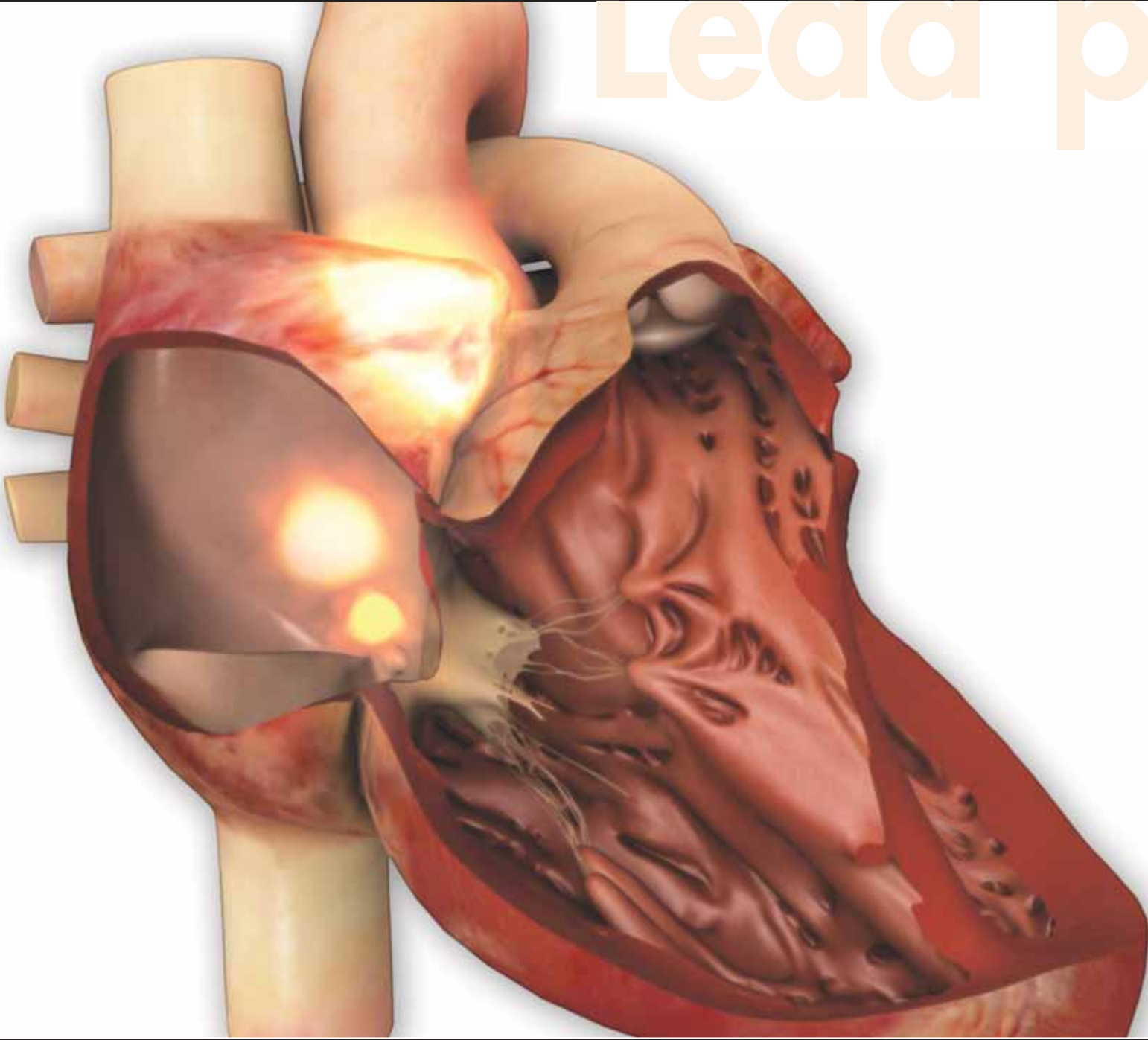
By reducing far-field R-waves, the OptiSense™ lead allows you to increase atrial sensitivity settings and may reduce the need to extend blanking periods. "Atrial sensing is especially important in patients with atrial tachyarrhythmias..."³ Increased atrial sensitivity settings allow for sensing even fine atrial signals. During the clinical investigation, when the device was at its most sensitive setting (0.1 mV), **91%** of the OptiSense™ lead patients exhibited no oversensing of paced far-field R-wave signals.

Undersensing with 10 mm
tip-to-ring spacing lead



Small atrial signals can be sensed with the
OptiSense lead with 1.1 tip-to-ring spacing

Lead placement



ment options

More options for targeted lead placement

**Targeted lead placement is
increasingly common:**

- Physicians are seeking to pace more physiologically.
- Better lead placement can reduce refractory atrial tachycardias.⁴
- Pacing on the atrial septum may allow for shorter intra-atrial conduction delays.

OptiSense™ lead technology is designed to reduce far-field R-wave concerns.

Focused sensing

With **innovative technology** and **1.1 mm tip-to-ring spacing**, the OptiSense™ lead (model 1699) provides several benefits:

- Reduced far-field R-wave amplitudes
- Reduced inappropriate mode switching, maintaining A-V synchrony
- Allows more sensitive atrial sensing
- Confidence in therapy and diagnostics
- More options for targeted lead placement

Exclusively from St. Jude Medical

1. de Voogt WG, van Hemel N, Willems A, et al. Far-field R-wave reduction with a novel lead design: Experimental and human results. *PACE*, August 2005, 28: 782-788.
2. OptiSense™ lead Clinical PMA Report, November 2006.
3. Nash A, Fröhlig G, Taborsky M et al. Rejection of atrial sensing artifacts by a pacing lead with short tip-to-ring spacing. *Europace* 2005; 7: 67-72.
4. Bailin SJ, Adler S, Guidici M. Prevention of chronic atrial fibrillation by pacing in the region of Bachmann's Bundle: Results of a multicenter randomized trial. *Journal of Cardiovascular Electrophysiology* 2001; 12(8): 912-917.

The OptiSense™ lead technology is supported by several clinical papers that have been published during the last two years:

de Voogt WG, van Mechelen R, van den Bos AA et al. Electrical characteristics of low atrial septum pacing compared with right atrial appendage pacing. *Europace* 2005; 7: 60-66.

Kolb C, Wille B, Maurer D et al. Management of far-field R-wave sensing for the avoidance of inappropriate mode switch in dual-chamber pacemakers. Results of the FFS-test study. *J of Cardiovasc Electrophysiol* 2006; 17:992-997.

Padeletti L, Porciani MC, Michelucci A et al. Interatrial Septum Pacing: A new approach to prevent recurrent atrial fibrillation. *J Interv Card Electrophysiol* 1999; 3:35-43.

Yu C, Sperzel J, Fung, WH et al. Initial Clinical Evaluation of a new far-field signal reduction (FSR) pacing lead in the right atrium. *Heart Rhythm* 2006; 3: 26-27. Abstract.



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