

APOLLO Study

- Safety and Performance of INVICTA DF4 Ventricular Defibrillation Lead:
Results From the APOLLO Prospective Multicenter Study –



K. K. Witte, J. G. Martínez, M. M. Oliveira, et al. "Safety and Performance of INVICTA DF4 Ventricular Defibrillation Lead: Results From APOLLO Prospective Multicenter Study." *Pacing and Clinical Electrophysiology* (2026): . <https://doi.org/10.1111/pace.70286>

Background & objectives

Implantable cardioverter-defibrillators (ICDs) are a cornerstone therapy for patients at high risk of life-threatening ventricular arrhythmias.

The RV defibrillation lead is a critical component of ICD therapy.

Objective:

→ Evaluate the safety and performance of the **INVICTA DF4 ventricular defibrillation lead** in patients undergoing de novo ICD/CRT-D implantation.

Primary endpoints (evaluated at 3 months)

→ Freedom from RV lead-related complications
→ RV pacing threshold (0.5 ms)

Secondary endpoints (evaluated at 24 months)

→ Electrical performance
→ Defibrillation efficacy
→ Lead-related complications
→ Implant handling and success
→ Adverse events

Methodology

Study design:

→ Prospective
→ Multicenter
→ Single-arm European study
→ 24-month follow-up



8
European
countries



45
Hospitals



446
Patients
enrolled

Results

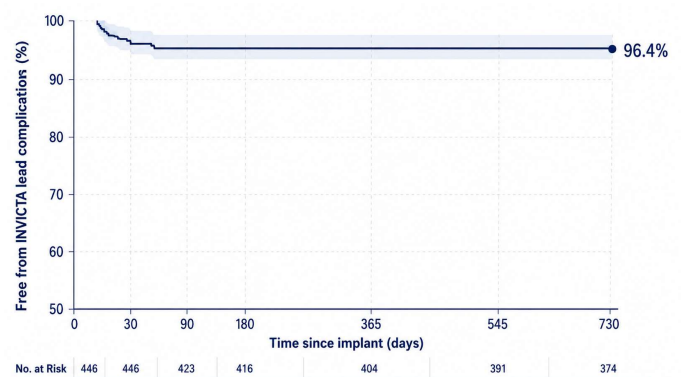
100% implant success

Electrical performance (24 months):

→ Pacing threshold: **0.85 V** ± 0.33 V
→ Sensing: **13.4 mV** ± 3.17 mV
→ Pacing impedance: **525 Ω** ± 94.2 Ohms

97.7% Successful shock therapy

96.4% Complication-free survival



Conclusion

→ Excellent implant success and stable electrical performance through 24 months
→ Low lead-related complication rates with effective ventricular arrhythmia termination
→ Comparable electrical performance between RV septal and apical lead placement