



**Estrazione Elettrocateri
disfunzionanti: è sempre la prima
scelta?**

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GVM
CARE & RESEARCH

*I dati ufficiali dell'Istituto Superiore di Sanità (ISS) mostrano un **costante aumento dei primi impianti e delle sostituzioni di pacemaker (PM) in Italia** negli ultimi vent'anni.*

Il trend degli interventi mostra una crescita costante:
Dal 2001 al 2023, il numero di interventi annui totali (somma di PM e defibrillatori ICD) è passato da circa 50.000 a oltre 100.000 casi.

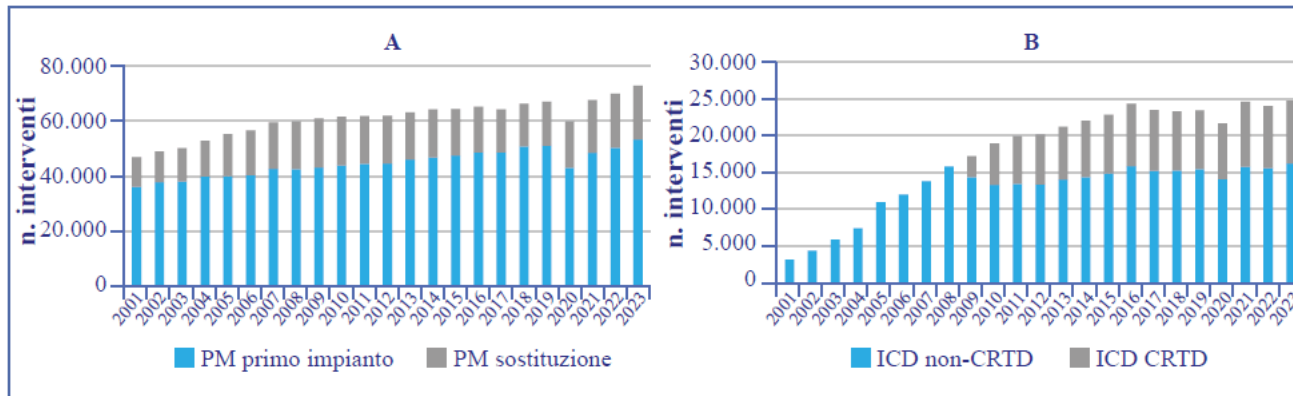


Figura 2 A e B - Numero di interventi effettuati annualmente per: (A) pacemaker (PM), con suddivisione tra primo impianto e sostituzione; (B) implantable cardioverter defibrillator (ICD) con suddivisione tra cardiac resynchronization therapy with a defibrillator (CRTD) e non-CRTD. Anni 2001-2023 (Fonte dati: Schede di dimissione ospedaliera)

ABSTRACT ONLY • Volume 21, Issue 5, Supplement, S263, May 2024

PO-02-180 TEN-YEAR INCIDENCE OF ICD AND PACEMAKER LEAD REMOVAL IN PATIENTS WITH RECALLED AND NON-RECALLED LEADS SUSPECTED OF PREMATURE FAILURE

[Jenna Robinson](#) • [Stacey Knight](#) • [Janette L. Lancaster](#) • ... • [Douglas L. Packer](#) • [Kirk U. Knowlton](#) • [Michael J. Cutler](#) ... [Show more](#)

•La percentuale di malfunzionamento degli elettrocateteri per pacemaker varia tipicamente dallo 0,2% all'1% per anno nei dispositivi standard. Entro i primi 10 anni, il tasso complessivo di guasto si aggira in media sull'**8,2%**. Il tasso può però raggiungere il **20% annuo** per i cateteri più vecchi (oltre 10 anni di impianto) o subire impennate in caso di modelli specifici soggetti ad avvisi di sicurezza.

RESEARCH ARTICLE

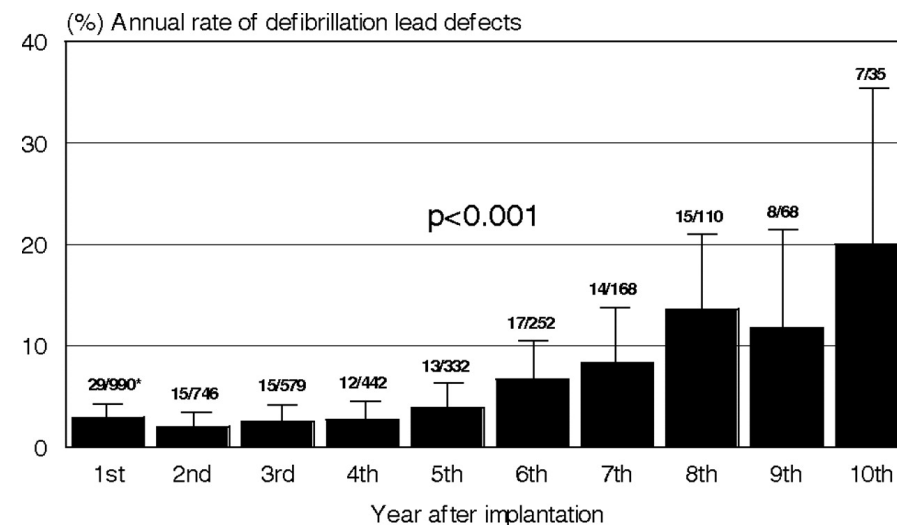
Originally Published 30 April 2007 | 

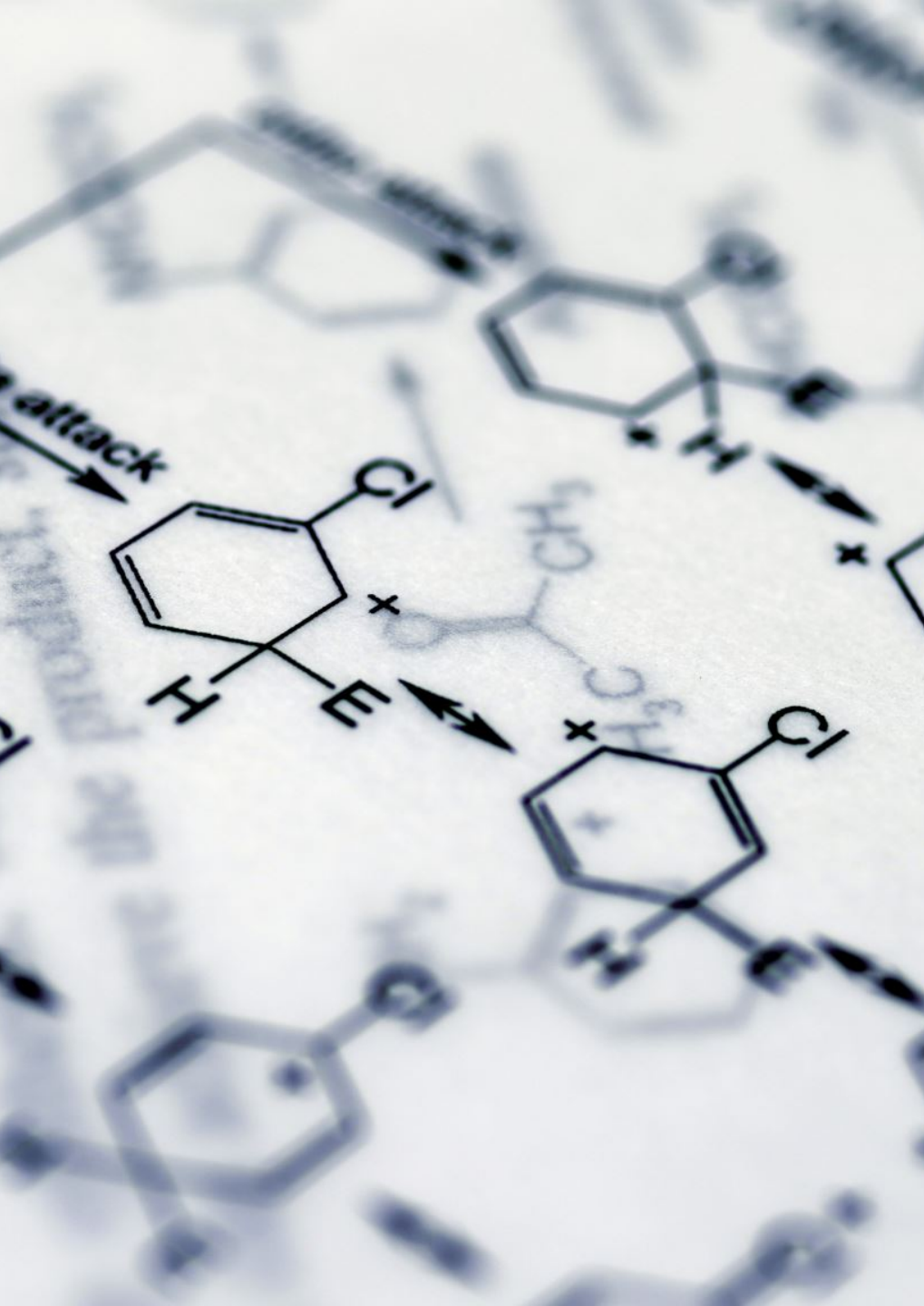
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Annual Rate of Transvenous Defibrillation Lead Defects in Implantable Cardioverter-Defibrillators Over a Period of >10 Years

Thomas Kleemann, MD, Torsten Becker, MD, Klaus Doenges, MD, Margit Vater, MD, Jochen Senges, MD, Steffen Schneider, PhD, Werner Saggau, MD, Udo Weisse, MD, and Karlheinz Seidl, MD, FESC [AUTHOR INFO & AFFILIATIONS](#)

Circulation • Volume 115, Number 19 • <https://doi.org/10.1161/CIRCULATIONAHA.106.663807>





Indicazione all'estrazione

- Infezioni
- Elettrocatteteri non funzionanti o funzionanti abbandonati, con rischio per il paziente.
- Trombosi venosa

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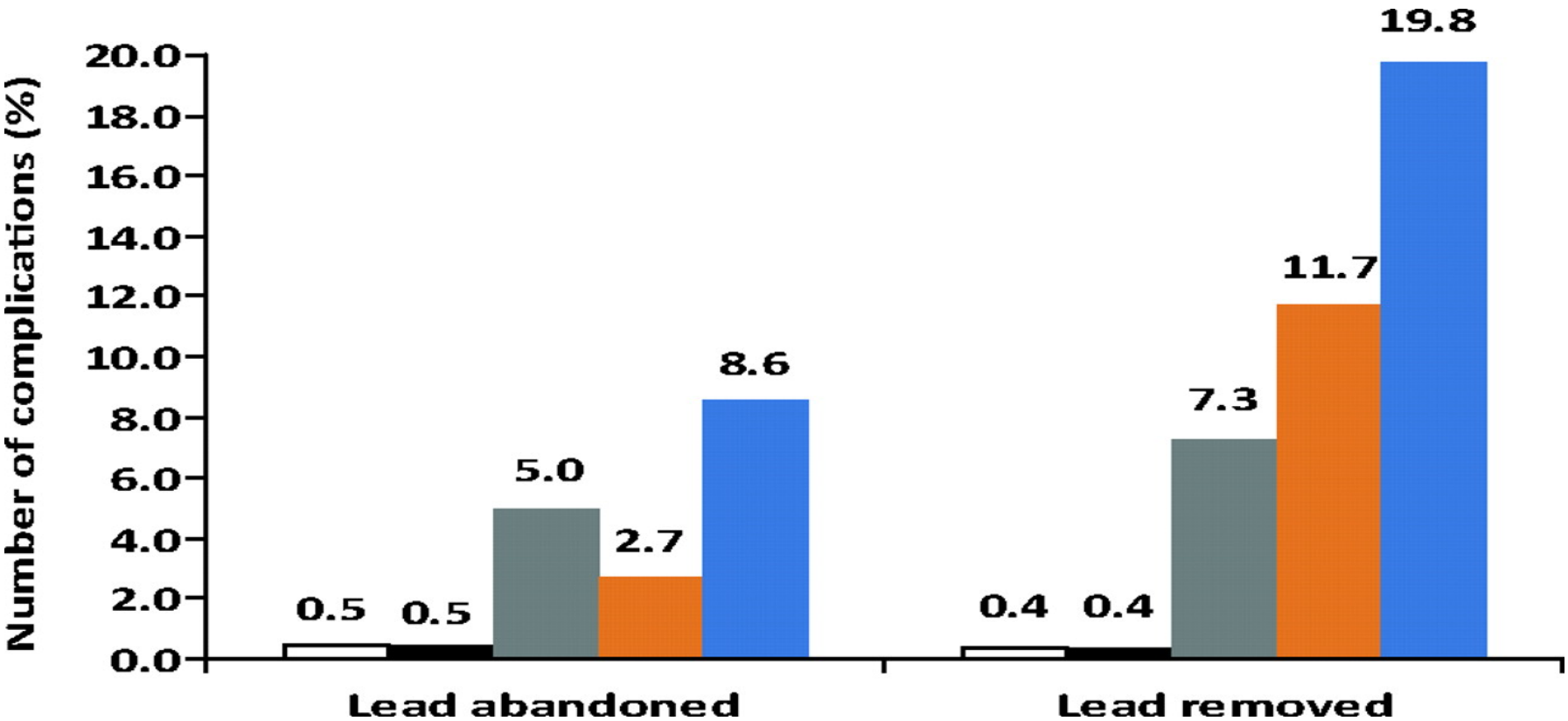
RESEARCH ARTICLE | Originally Published 24 May 2010 | 

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Complications Associated With Revision of Sprint Fidelis Leads: Report From the Canadian Heart Rhythm Society Device Advisory Committee

Ratika Parkash, MD, MSc, Eugene Crystal, MD, Jamil Bashir, MD, Christopher Simpson, MD, David Birnie, MD, Laurence Sterns, MD, Derek Exner, MD, ... [SHOW ALL](#) ... , and Andrew Krahn, MD | [AUTHOR INFO & AFFILIATIONS](#)

Circulation • Volume 121, Number 22 • <https://doi-org.bvssp.idm.oclc.org/10.1161/CIRCULATIONAHA.109.924357>



The overall risk of complications (19.8%) was greater in those who underwent lead removal at the time of revision than in those whose leads were abandoned (8.6%; $P=0.0008$).

**The
strongest
factors
influencing
the decision.**

Patient age

Presence of damaged
leads

Dwell time

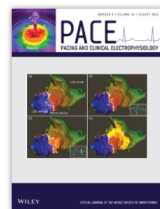
Outcomes of transvenous lead extraction in octogenarians using bidirectional rotational mechanical sheaths

Federico Migliore MD, PhD  Raimondo Pittorru MD, Pietro Bernardo Dall'Aglio MD, Manuel De Lazzari MD, PhD, Pasquale Valerio Falzone MD, Simone Sottini MD, Alessia Dentico CCP, Alessandra Ferrieri CCP, Nicola Pradegan MD, Emanuele Bertaglia MD, PhD, Sabino Iliceto MD, Gino Gerosa MD, Vincenzo Tarzia MD, PhD, Domenico Carretta MD

First published: 23 March 2023 | <https://doi-org.bvsp.idm.oclc.org/10.1111/pace.14696>

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Federico Migliore and Raimondo Pittorru share first authorship.
Vincenzo Tarzia and Domenico Carretta share senior authorship.



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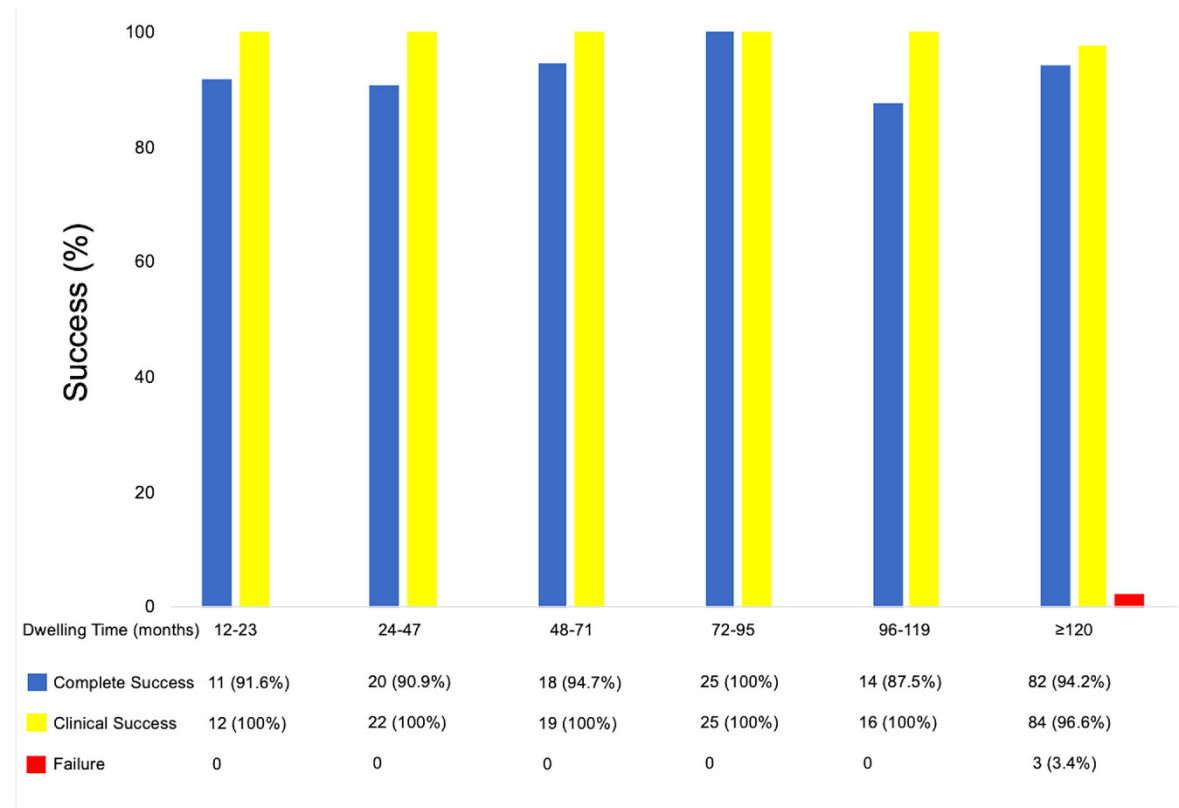
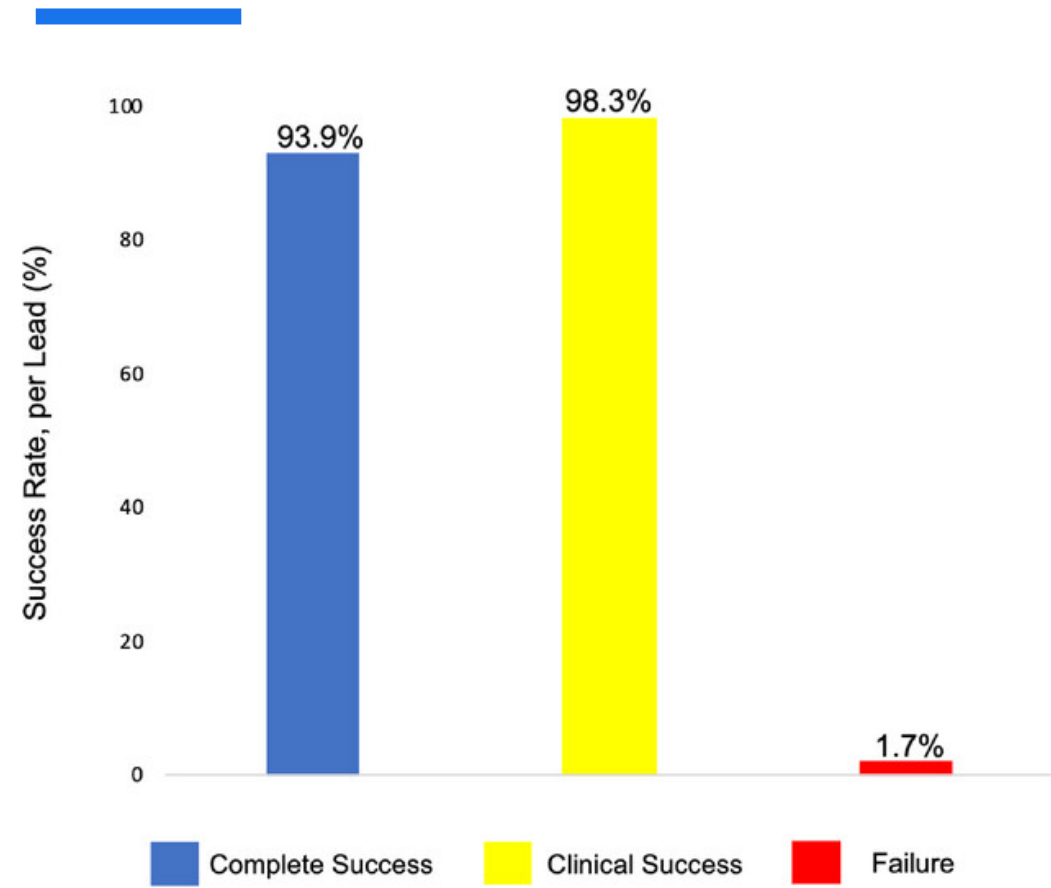
Methods

The study population comprised 83 patients (78.3% male; mean age 85 ± 3 years; [range 80–94 years]) with 181 target leads. All the leads (mean implant duration 112 ± 77 months [range 12–377]) were extracted exclusively using the Evolution RL sheaths (Cook Medical, Bloomington, IN, USA).

Results

The main indication for TLE was infection in 84.3% of cases. Complete procedural success rate, clinical success rate, per lead were 93.9% and 98.3%, respectively. Failure of lead extraction was seen in 1.7% of leads. The additional use of a snare was required in 8.4% of patients. Major complications occurred in one patient (1.2%). **Thirty-day mortality after TLE was 6%. During a mean time follow-up of 22 ± 21 months, 24 patients (29%) died.** No procedure-related mortality occurred. Predictors of mortality included ischemic cardiomyopathy (HR 4.35; 95% CI 1.87–10.13; $p = .001$), left ventricular ejection fraction $\leq 35\%$ (HR 7.89; 95% CI 3.20–19.48; $p < .001$), and TLE for systemic infection (HR 4.24; 95% CI 1.69–10.66; $p = .002$).

Outcomes of transvenous lead extraction in octogenarians using bidirectional rotational mechanical sheaths

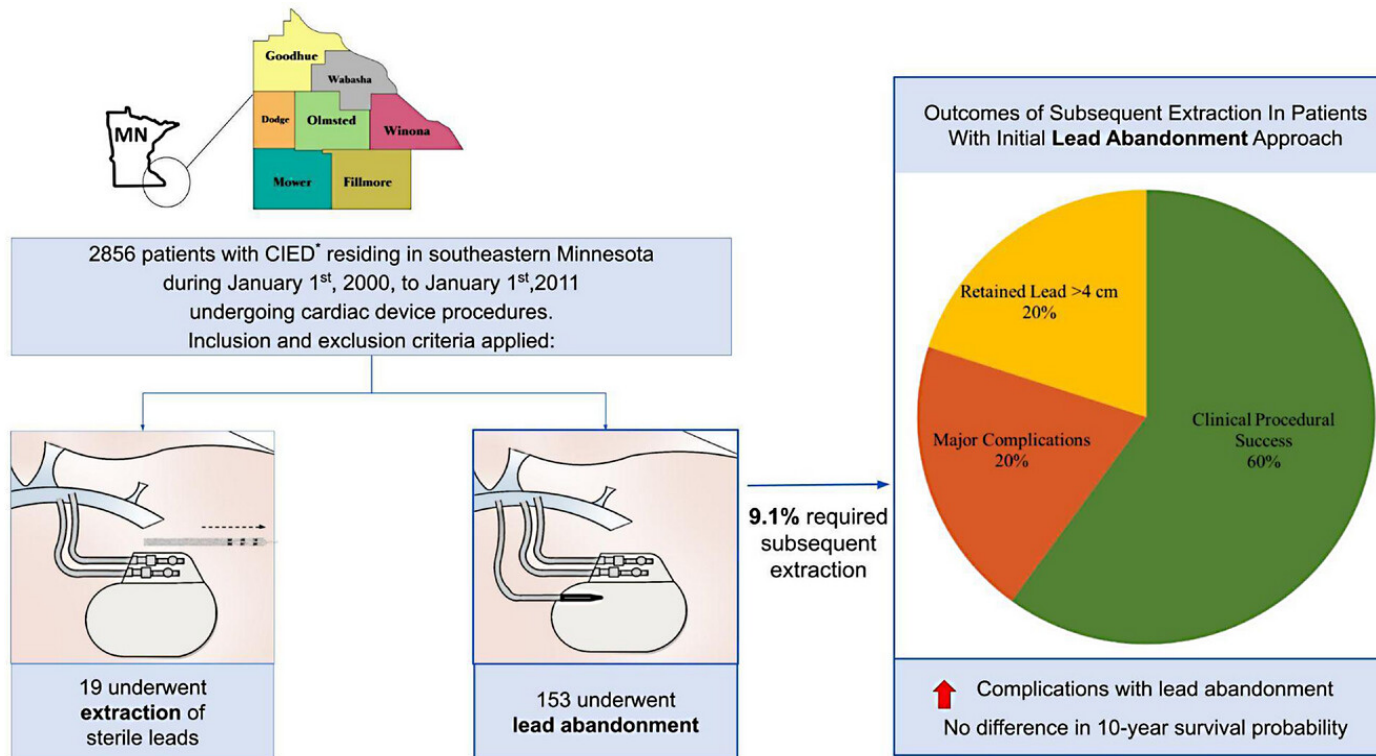


DEVICES |  **Full Access**

Long-term outcomes with abandoning versus extracting sterile leads: A 10-year population-based study

[Justin Z Lee MD](#) , [Fahimeh Talaei MD](#), [Min-Choon Tan MD](#), [Komandoor Srivathsan MD](#), [Dan Sorajja MD](#), [Arturo Valverde MD](#), [Luis Scott MD](#), [Samuel J Asirvatham MD](#), [Fred Kusumoto MD](#), [Siva K Mulpuru MD](#), [Yong-Mei Cha MD](#)

First published: 15 March 2024 | <https://doi-org.bvsp.idm.oclc.org/10.1111/pace.14940>



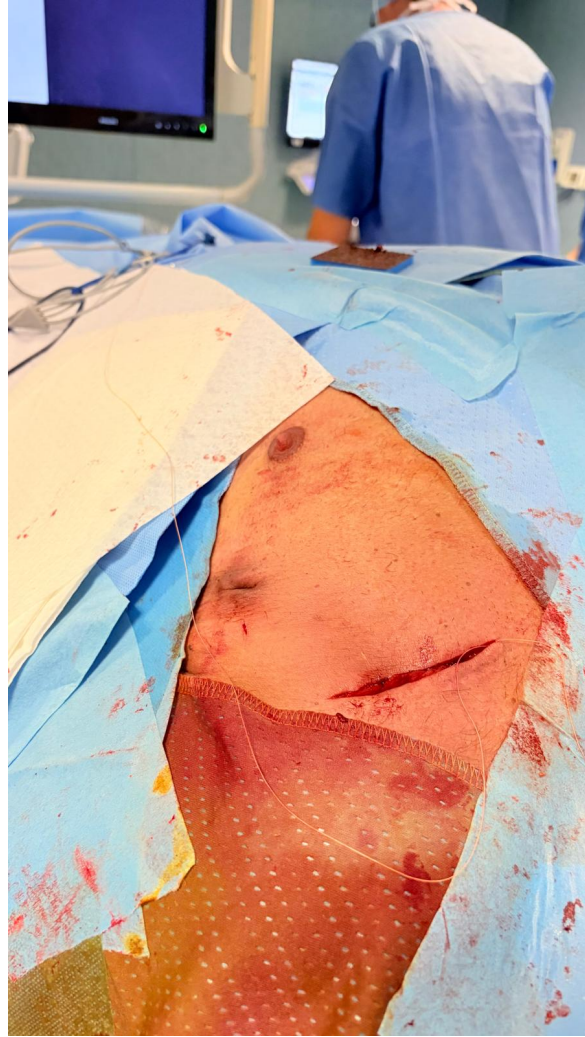
* CIED: Cardiac implantable electronic devices

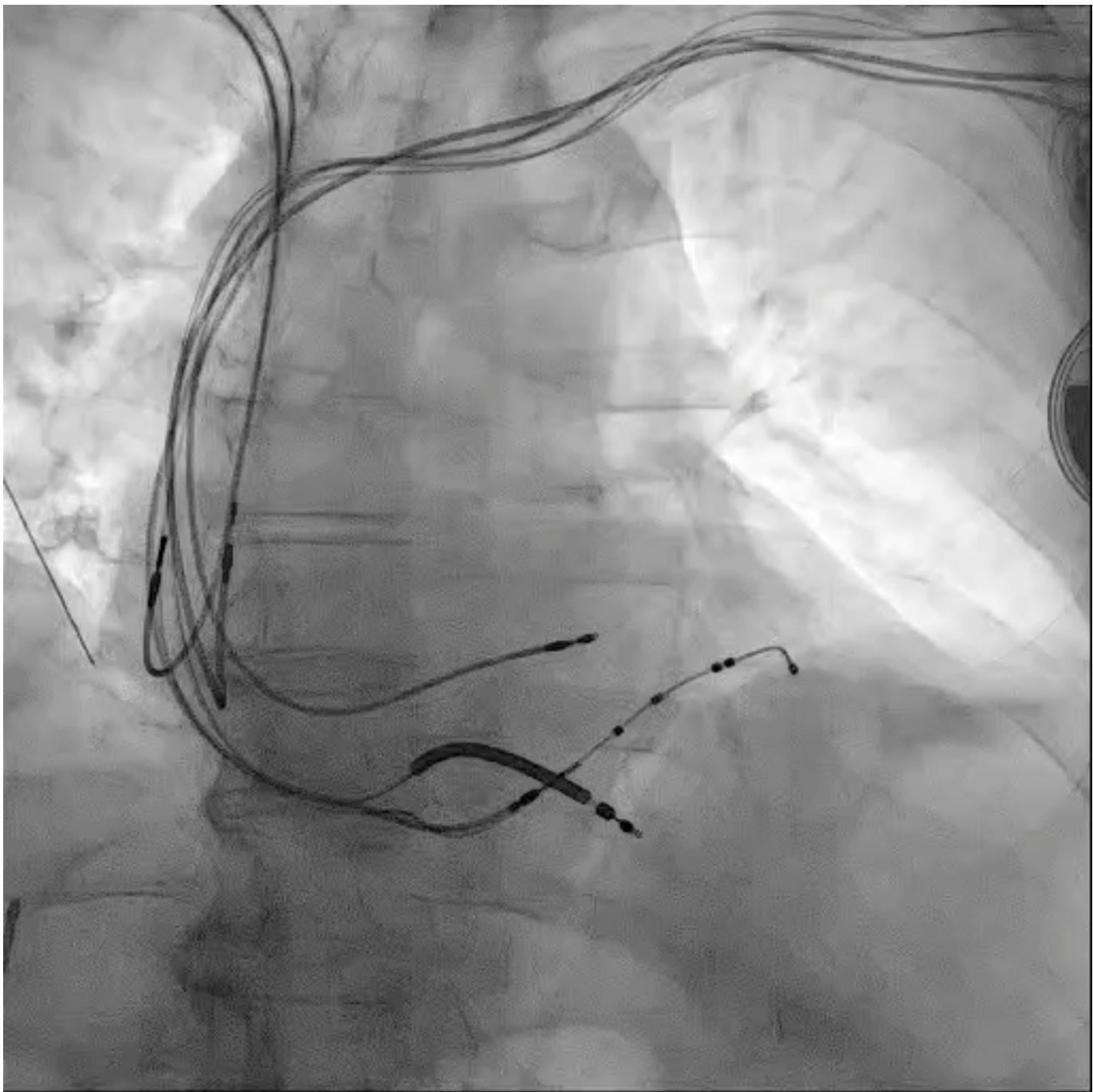


Late complications after lead extraction

Some complications may become clinically manifested only late after the extraction procedure:

- Venous occlusion after laser lead extraction.
- Tricuspid regurgitation has been reported by several authors in 2.5% to 11.5% of patients after lead extraction. Damage to the tricuspid valve has been reported to result in heart failure and mortality.
- Collateral damage of active leads has been noticed in 7 of 22 nontargeted leads in pediatric patients and between 2.7% and 3.8% in adult populations.





Quando NON estrarre i cateteri (Controindicazioni)

- Aspettativa di vita limitata: Pazienti con gravi patologie terminali o un'aspettativa di vita inferiore a 12 mesi, per i quali un intervento invasivo non migliorerebbe la qualità della vita.
- Mancanza di un team dedicato: In assenza di un'unità di terapia intensiva e di una cardiocirurgia di supporto immediatamente disponibile per gestire eventuali emergenze.
- Gravi patologie della coagulazione: Stati emorragici intrattabili o impossibilità di sospendere la terapia anticoagulante in pazienti ad altissimo rischio trombotico.
- Endocarditi complicate o infezioni fungine massive: In casi eccezionali e molto specifici, se il rischio di mobilizzare grandi vegetazioni infette è catastrofico, si valutano strategie alternative (terapia medica conservativa).



L'estrazione degli elettrocateteri di un pacemaker non deve essere eseguita se i rischi procedurali superano i benefici clinici, ovvero in presenza di aspettativa di vita inferiore a un anno o di gravi comorbidità non reversibili.

L'intervento è inoltre controindicato se vi sono infezioni sistemiche incontrollate, coagulopatie intrattabili o trombosi massicce non trattabili che impediscono l'accesso sicuro.

Le linee guida internazionali, Heart Rhythm Society (HRS) e European Heart Rhythm Association (EHRA), indicano quando è sconsigliato procedere.

