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Image Guided Therapy

Heart Rhythm Management

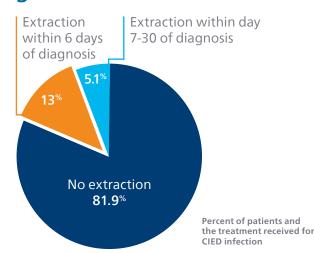
New 2023 JAMA cardiology data

>8 in 10 patients are not receiving guideline-driven care¹

"This study highlights the life-threatening nature of device infections and the significant opportunities to improve care in these complex patients. The findings also emphasize the importance of timely diagnosis and complete treatment. Making things better for patients tomorrow will require working with clinicians across various specialties to advance education to help diagnose CIED infections and deliver timely care. The opportunity to ensure all patients have access to guideline recommended care is not only imperative, but life-saving for patients across the world."

- Jonathan Piccini, MD, MHS, Duke Director of Cardiac Electrophysiology

Low rates of HRS/EHRA Class I quideline care^{2,3}



Significant decrease in 1-year mortality with timely extraction¹

32.5%

23.4%

1-year mortality without extraction

1-year mortality without extraction

1-year mortality with extraction 18.6% "I-year mortancy with a days of diagnosis

42.8% lower risk of deall with extraction within 6 days of infection diagnosis vs. no extraction

Largest ever real-world analysis of CIED infection treatment included:1

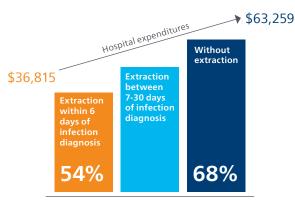


75-year-old median age

1.1% infection rate

Female and black patients were less likely to have extraction within 30 days of CIED infection

Significantly lower healthcare utilization with timely extraction⁴



Cumulative 1-year hospitalizations

CIED infection is an HRS/EHRA Class I indication for referral and for full system removal^{2,3}

Among patients with CIED infection, there is a lack of guideline adherence and a need to improve guideline-directed care. Extraction for CIED infection is potentially life-saving. Follow the guidelines.

Suspected CIED infection: pocket or systemic Negative blood cultures Blood cultures Infectious disease consultation Transesophageal echocardiography if concern for systemic infection Positive blood cultures or prior antibiotic treatment Negative -- Positive Transesophageal echocardiography Evidence of pocket infection or erosion** No Valve vegetation Lead vegetation **Negative TEE** CIED removal **Close observation** • Antibiotics 2 weeks* • Consider CIED removal CIED removal **CIED** removal Antibiotics Antibiotics Reimplant CIED[†] with specific timing dependent on clinical depending on 4-6 weeks* 2-4 weeks* scenario, and if CIED remains indicated microbiology Antibiotics 2 weeks* *Refer to text and table for specific recommendations depending on microbiology. Antimicrobial therapy should be at least 4-6 weeks for endocarditis (4 weeks for native valve, 6 weeks for prosthetic valve or staphylococcal valvular endocarditis). If lead vegetation is present in the absence of a valve vegetation, 4 weeks of antibiotics for Staphylococcus Reimplant CIED† when blood cultures are negative for at aureus and 2 weeks for other pathogens is recommended. least 72 hours (duration can be longer depending on clinical **2010 AHA CIED Infection Update distinguishes between pocket infection scenario), and CIED remains indicated and erosion (Baddour et al. Circulation 2010;121:458-477).

Infection diagnosis decision trees from 2017 HRS guidelines²

This information is directly from the 2017 HRS Consensus Statement.²

†Usually the contralateral side; a subcutaneous ICD may also be considered.



Learn more and download a pocket guide of the HRS 2017 guidelines Philips.com/deviceinfection

- 1. Pokorney SD, Zepel L, Greiner MA, et al. Lead Extraction and Mortality Among Patients With Cardiac Implanted Electronic Device Infection. JAMA Cardiol. Published online October 18, 2023. doi:10.1001/jamacardio.2023.3379
- 2. Kusumoto, F. M., et al. (2017, Dec). 2017 HRS expert consensus statement on cardiovascular implantable electronic device lead management and extraction. Heart Rhythm, 14(12), e503-e551.
- 3. Blomström-Lundqvist, C., et al. (2020, Jun 1). European Heart Rhythm Association (EHRA) international consensus document on how to prevent, diagnose, and treat cardiac implantable electronic device infections-endorsed by HRS, APHRS, LAHRS, ISCVID, ESCMID in collaboration with EACTS. Eur Heart J, 41(21), 2012-2032. https://doi.org/10.1093/eurheartj/ehaa010.
- 4. Pokorney, Sean D., et al. "Healthcare Utilization and Healthcare Expenditures in Patients With Infections of Pacemakers and Implantable Cardioverter Defibrillators" ACC 2023 Poster Session. April 6, 2023.

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