Longevity of Implantable Cardioverter Defibrillators: A Comparison Among Manufacturers and Over Time

KEY TAKEAWAYS
First, a new independent study conducted with data from two large European centers confirms Boston Scientific as the longevity leader across VR, DR, and CRT ICDs. Second, this is the largest study to investigate multiple manufacturer ICD longevity to date and the first study showing our advantage across the ICD platform. Third, this is the eighth study supporting our longevity advantage in CRT-Ds.

STUDY DESIGN
• 3,436 patients, a total of nearly 5,000 devices (4,881) with a fairly equal distribution across the four largest manufacturers: St Jude Medical 31.5%; Biotronik 25.0%; Boston Scientific 19.4%; Medtronic 18.4%; Sorin 3.2%; Cameron Health 2.0%; Intermedics 0.4%
• Devices implanted over nearly 20 years, March 1994 to January 2014, with a median follow-up of 53 months
• 1,339 ICDs were replaced for ERI
• Study includes representation of both early and modern devices—cutoff of 2006

PRIMARY ENDPOINTS
• Time from implant to ERI
• All other reasons for device removal were excluded (upgrade, infection, advisory) from this analysis

DESCRIPTION
Study aim: Determine device longevity using very large databases of two teaching hospitals with a high number of implants and replacements and a homogeneous distribution among manufacturers.
• St. Jude Medical: 1,539 devices (31.5%) with 295 replacements
• Biotronik: 1,219 devices (25%) with 298 replacements
• Boston Scientific: 947 devices (19.4%) with 311 replacements
• Medtronic: 898 devices (18.4%) with 356 replacements

IMPORTANT OUTCOMES
• Post-2006, Boston Scientific was the overall leader in VR, DR, and CRT-D device longevity—lasting significantly longer than all other manufacturers
• Boston Scientific device survival at 6 years was 100% for VR, 93.3% for DR and 97.6% for CRT-Ds, compared to Medtronic device survival which was 85.9% for VR, 76.5% for DR and 46.3% for CRT-D

Get the facts and cut the risk.
Boston Scientific offers ICDs and CRT-Ds designed to be the world's longest lasting—with up to 80% more battery capacity than other available models. Better CRT-D longevity could mean a reduced risk of exposure to complications and infections for your patients.

For more information, visit www.devicelongevity.com.
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INCLUSION CRITERIA
• Replacement due to battery depletion was performed for 1,339 ICDs. Patient survival at 5 years was 80.1%

EXCLUSION CRITERIA
• Replacements due to upgrade, advisory, or removal for infection were censored at the date of the procedure
• Devices out of service due to patient death or transplant were censored at the date of these events

PRINCIPLE INVESTIGATORS
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POTENTIAL ADVERSE EVENTS
Precautionary information. Advise patients to avoid sources of EMI because EMI may cause the pulse generator to deliver inappropriate therapy or inhibit appropriate therapy.

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