

A guideline has been published by the American College of Cardiology Foundation (ACCF), American Heart Association (AHA), and Heart Rhythm Society (HRS) regarding 'off-label' use of implantable cardioverter-defibrillators (ICDs). Some patients who are not included or well represented in clinical trials and who, therefore, are not technically covered by formal practice guidelines may benefit from the devices:

Patients with Abnormal Troponin Unrelated to a Myocardial Infarction (MI)

Small troponin leaks sometimes occur in the context of demand ischemia (e.g., tachyarrhythmia, congestive heart failure, pulmonary embolism) or other conditions (renal failure, myocarditis) that are thought to be unrelated to MI. ICD implantation is only recommended in presence of standard primary- or secondary-prevention criteria.

Patients Who Are Still Within 40 Days after an MI

Generally, ICDs are not recommended within 40 days after an MI. However, some patients may still benefit from an ICD despite being within 40 days of an MI, if there is:

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An indication for permanent pacemaker (PPM) implantation and an LVEF that is unlikely to improve

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A hemodynamically significant ventricular arrhythmia more than 48 hours after MI

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Syncope more than 48 hours after MI that is likely to be attributable to a ventricular tachyarrhythmia

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A previously implanted ICD that requires elective replacement for battery depletion

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Significant LV dysfunction requiring heart transplantation or having a left ventricular assist device (LVAD)

Patients Who Are Within 90 Days after Revascularization

As a general rule, ICDs are not recommended within 90 days after revascularization because of the post-procedure potential for the LVEF to improve. However, some patients may still benefit from an ICD despite being within 90 days after revascularization, if there is:

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Known LV dysfunction and previously meeting LVEF criteria for a primary-prevention ICD

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Existence of criteria for a secondary-prevention ICD

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An indication for PPM implantation but also meeting LVEF criteria for an ICD

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A previously implanted ICD that requires elective replacement for battery depletion

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Significant LV dysfunction requiring heart transplantation or having an LVAD

Patients Who Are Within 9 Months of an Initial Nonischemic Cardiomyopathy (NICM) Diagnosis

As a general rule, ICDs are not recommended in recently diagnosed NICM because of the potential for medical therapy to improve the LVEF. However, some patients may still benefit from an ICD despite being within 9 months after an initial NICM diagnosis, if there is:

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Significant LV dysfunction and heart-failure symptoms more than 3 months after diagnosis, if recovery of LVEF is not expected

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An indication for PPM implantation but also meeting criteria for a primary-prevention ICD

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Susustained or hemodynamically significant ventricular tachyarrhythmias

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Syncope that is likely to be attributable to a ventricular tachyarrhythmia

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Significant LV dysfunction requiring heart transplantation or having an LVAD

Kusumoto FM, Calkins H, Boehmer J, et al. HRS/ACC/AHA Expert Consensus Statement on the Use of Implantable Cardioverter-Defibrillator Therapy in Patients Who Are Not Included or Not Well Represented in Clinical Trials. J Am Coll Cardiol. 2014 May 7. pii: S0735-1097(14)02054-3. doi: 10.1016/j.jacc.2014.04.008.