IMPLANTABLE CARDIOVERTER DEFIBRILLATOR (ICD) Patient Leaflet

You and your doctor may decide that an implantable cardioverter defibrillator (ICD) is the right option for you to continuously monitor and help regulate potentially fast and life-threatening electrical problems with your heart.

- The device with an internal battery will be placed under your skin, just below your collarbone and one or more electrodes will be threaded through a vein and into your heart.
- The electrode(s) can detect how fast your heart is beating and carry that information to the device. They also carry electrical impulses from the device to your heart when needed.
- When the device detects a potentially life-threatening heart rhythm, it will first attempt to rapidly pace your heart back to normal. When rapid pacing is not successful, the defibrillator will send a large electrical impulse to your heart. This is called "defibrillation" and it is designed to save your life.



The evidence that helps us decide when an ICD is needed comes from many clinical trials performed in the last 30+ years¹. When indicated, an ICD reduces the overall risk of death by 23%¹. Following the best possible medication regimen, without an ICD, may be helpful; but, combining an ICD with the best possible regimen is 24% more effective at reducing the risk of death compared to taking medications alone¹.

Medicare outlines four "Primary Prevention" indications for an ICD¹. These indications are for patients who are at increased risk of sudden cardiac death but have not experienced sudden cardiac death or a life-threatening abnormal heart rhythm.

- A prior heart attack resulting in the main pumping chamber not working at normal capacity, that is a left ventricular ejection fraction (LVEF) less than or equal to 30% (50 70% is normal).
- 2. Severe ischemic dilated cardiomyopathy, that is coronary artery disease that has resulted in the main pumping chamber being damaged resulting in moderate to severe symptoms of heart failure (Class 2 or 3) and a LVEF less than or equal to 35%.
- 3. Severe non-ischemic dilated cardiomyopathy, similar to #2 but the main pumping chamber is not damaged by coronary disease but because of a problem directly with the heart muscle. Also, Class 2 or 3 heart failure and a LVEF less than or equal to 35% after receiving optimal medical therapy for at least 3 months⁴.
- 4. Hereditary or genetic problems that put you at high risk for a life-threatening heart rhythm.

Reduced function of the main pumping chamber of the heart may improve after certain procedures are performed on the heart, known as angioplasty, atherectomy, stent, or coronary artery bypass grafting. If you've had one of these procedures, you may need to wait 3 months to have a defibrillator implanted². Also, you may need to wait for 40 days after a heart attack or myocardial infarction prior to having your ICD implanted³.

There are risks associated with defibrillator implants. Your physician will explain the potential complications from having the defibrillator procedure and the risk of doing nothing.

In addition to providing a safety-net, your defibrillator may improve your quality of life with its' pacemaker function, detection of other abnormal heart rhythms, remotely monitor your heart failure, and alert your physician when appropriate^{4,5}.

Only you and your physician can decide if a defibrillator is appropriate for you. You may take your time to make the best decision for yourself.

Please sign below to confirm that this evidence-based tool was reviewed as a part of the shared decision-making process.

Patient signature

Healthcare provider signature

Date

References

- Centers for Medicare & Medicaid Services. *Decision Memo for Implantable Cardioverter Defibrillators (CAG-00157R4)*. <u>https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=288</u>.
 Published February 15, 2018. Accessed July 14, 2021. Evidence used by Medicare includes: MADIT, CABG Patch, MADIT II, DINAMIT, IRIS, COMPANION, SCD-HEFT, CAT, AMIOVIRT, DEFINITE, & DANISH clinical trials.
- 2. DeFilippis, E.M., Butler, J. and Vaduganathan, M. (2017). Waiting Period Before Implantable Cardioverter-Defibrillator Implantation in Newly Diagnosed Heart Failure With Reduced Ejection Fraction. *Circulation: Heart Failure*, 2017;10: e004478
- Steinbeck.G, Andresen D, Seidl K, et al. IRIS Investigators. Defibrillator implantation early after myocardial infarction. N Engl J Med. 2009. 8;361(15):1427-36.
- 4. Francis, J., Johnson, B., & Niehaus, M. (2006). Quality of life in patients with implantable cardioverter defibrillators. *Indian pacing and electrophysiology journal*, 6(3), 173–181.
- Living With Your Implantable Cardioverter Defibrillator (ICD). [online] Available at: <u>https://www.heart.org/en/health-topics/arrhythmia/prevention--treatment-of-arrhythmia/living-with-your-implantable-cardioverter-defibrillator-icd</u>. Accessed July 14, 2021.

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