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Page: 1/2

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ProMRI Technology

MRI scans can be used to detect stroke, cancer, neurological and orthopedic conditions. It is the preferred diagnostic tool in many clinical cases, as it shows soft tissue organs in detail without exposing patients to radiation.¹ [ProMRI® technology](#) enables cardiac device patients to access this tool.

The number of MRI scans globally is forecast to increase by five percent per year until at least 2022.² Up to three in four cardiac device patients will be indicated for an MRI over their device's lifetime.³

How does ProMRI work?

ProMRI technology allows cardiac device patients to safely undergo MRI examinations under certain conditions. BIOTRONIK offers ProMRI pacemakers, implantable cardioverter defibrillators (ICDs), cardiac resynchronization therapy (CRT) devices and the BioMonitor 2 heart monitor.

ProMRI devices can safely undergo scans due to fewer ferromagnetic (highly magnetic) components, protection circuits and a predefined MRI mode. Physicians set the device to MRI mode (with limited device therapy) before the scan, and reset it to full therapy mode after the scan.

Newer BIOTRONIK pacemakers, ICDs and CRT devices feature MRI AutoDetect, which automatically recognizes an MRI environment. Physicians program a timeframe of up to two weeks for when AutoDetect is turned on. During this period, MRI mode automatically activates when the device detects an MRI environment. Immediately following the scan, the device automatically switches back to its full therapy mode. In keeping with BIOTRONIK's commitment to uncompromised safety, MRI AutoDetect ensures patients receive the full benefits of their devices for the maximum amount of time possible, while helping to ease workflows between cardiologists and radiologists.

Which devices are ProMRI? What scans are approved?

BIOTRONIK has a broad portfolio of cardiac devices approved for use with MRIs on the market, including full-body scans for pacemaker, ICD, CRT and BioMonitor 2 patients. The online tool [ProMRI Check](#) makes it easy to check which BIOTRONIK systems are safe for MRIs.

Some BIOTRONIK ICDs can undergo ultra-high field MRI. While 1.5 Tesla (T) machines remain the clinical standard, 3T scanners improve image quality and reduce scan time.

References:

¹ Salerno M et al. *Circ Cardiovasc Imaging*. 2017, June 10(6).

² Prescient & Strategic Intelligence, MRI Systems Market, 2013–2023.

³ Roguin A et al. *Europace*. 2008, 10(3).