Medtronic Engineering the extraordinary

Electrosurgery

CRM Technical Services Standard Letter

The guidance provided in this letter is for healthcare providers and Medtronic representatives and applies to the following Medtronic device models:

MRI Conditional Device Model Number, Model Name, Description
MC1AVR1 Micra™ AV MR Conditional dual chamber transcatheter pacing system with SureScan™ technology (VDD)
MC1VR01 Micra™ MR Conditional single chamber transcatheter pacing system with SureScan™ technology (VVIR)
MC2AVR1 Micra™ AV2 MR Conditional dual chamber transcatheter pacing system with SureScan™ technology (VDD)
MC2VR01 Micra™ VR2 MR Conditional single chamber transcatheter pacing system with SureScan™ technology (VVIR)

This Standard Letter addresses Electrosurgery:
Electrosurgery (including electrocautery, argon plasma coagulation, electrosurgical cautery, advanced energy surgical technology, and hyfrecator) uses an electric probe is used to control bleeding, cut tissue, or remove unwanted tissue. Electrosurgery used on cardiac device patients may result in, but is not limited to, potential pacing interruption during and up to 5 s immediately after exposure to electrosurgery, oversensing, unintended tissue damage, tachyarrhythmias, device damage, or device malfunction. If electrosurgery is required, consider the following precautions:

- Ensure that temporary pacing and defibrillation equipment is immediately available.
- Use a bipolar electrosurgery system or advanced energy surgical technology. If a unipolar electrosurgery system is used, position the return electrode patch so that the electrical current pathway passes no closer than 15 cm (6 in) of the device. Contact Medtronic Technical Services for further guidance with unipolar electrosurgery.
- Do not apply unipolar electrosurgery within 15 cm (6 in) of the device.
- Use short, intermittent, and irregular bursts at the lowest clinically appropriate energy levels.
- Always monitor the patient during electrosurgery. If the ECG tracing is not clear due to interference, manually monitor the patient's rhythm (take pulse); alternatively, monitor the patient by some other means such as ear or finger pulse oximetry, Doppler pulse detection, or arterial pressure display.

To avoid or mitigate the effects of oversensing, if appropriate for the patient, consider programming to an asynchronous pacing mode. After completing electrosurgery, restore the device parameters.

PATIENT MANAGEMENT GUIDANCE
This document is useful to health care professionals who perform medical procedures on patients with Medtronic implanted cardiac device systems and who consult with the patients' cardiologists.

Labeling
***Micra™ AV MC1AVR1 MR Conditional Device Manual*.** Manual Document Number: M042501C001 REV. A, www.medtronic.com/manuals

Micra™ MC1VR01 MR Conditional Clinician Manual. Manual Document Number: M042502C001 REV. A, www.medtronic.com/manuals

***Micra™ AV2 MC2AVR1 MR Conditional Device Manual*.** Manual Document Number: M019277C001 REV. E, www.medtronic.com/manuals

***Micra™ VR2 MC2VR01 MR Conditional Device Manual*.** Manual Document Number: M019292C001 REV. E, www.medtronic.com/manuals

Additional comments

For further information please contact the following:

Technical questions: Medtronic Technical Services can answer additional questions regarding these device operations.

Device labeling: For additional device-specific guidance**,** consult the labeling associated with the device available on the Medtronic Manual Library website at www.medtronic.com/manuals

How to contact U.S. CRM Technical Services: Email: tshelp@medtronic.com
Pacemakers: (800) 505-4636, ICDs: (800) 723-4636, Programmer Support: (800) 638-1991

This information is verified for devices approved in the U.S. and may differ by country. For product-specific information on device operation and indications for use, reference the appropriate product labeling.