**Date: 2025 November 12**

**Canadian Heart Rhythm Society - Device Committee**

---

# RE: Medtronic Aurora EV-ICD – Potential for Suspension of Dynamic Sensing Algorithm

---

**Nature of the Advisory:**

A potential delay in the time to high-voltage (HV) therapy may occur with Medtronic Aurora EV-ICD devices (DVEA3E4 and DVEX3E4) if a rare, specific combination of events were to occur. This delay in HV therapy may result in reduction of defibrillation efficacy.

The EV-ICD utilizes a unique dynamic sensing algorithm that alters the sensitivity of the device on a beat-by-beat basis based on the measured R-wave amplitude. To minimize oversensing, the sensitivity is initially set at 53% of the R wave amplitude for 360 msec after the R wave, followed by a programmable decay to 25% for 1500 msec, then to the programmed sensitivity level.

During a non-committed EV-ICD shock (cardioversion in VT and FVT zones, and first shock in the VF zone), this process can be disrupted if the end of charging ("charge-end") coincides within 128.75 msec of the last-sensed R wave. This results in the sensitivity plateau becoming fixed at 53% without further decay during the arrhythmia confirmation phase. As long as a subsequent R wave occurs that exceeds this 53% level, then normal synchronized therapy will occur. However, if subsequent R waves fail to meet this level, then delay in HV therapy deliver may occur.

A device software update that resolves this behaviour will be available via SmartSync on November 12, 2025.

**Scope of the problem:**

As of October 2, 2025, there have been a total of six events out of 4,900 implanted devices identified (~0.12%). Five of these events occurred during defibrillation threshold testing (DFT). The remaining event occurred while the patient was asleep, and as a result the delay in therapy did not result in any reported symptoms. The range of HV therapy delay was 2 – 17 seconds. There have been **zero** reports of permanent harm or death due to this behaviour.

**Response of the CHRS Device Committee:**

- As part of this formal advisory, we recommend that patients be notified about this issue.
- Prophylactic device replacement is **NOT** recommended.
- Patients with affected devices should be seen in-clinic within 6 months to have the software update applied via SmartSync.
    - New devices with the software update pre-installed will not be susceptible to this behaviour.
    - Updated devices can be identified by the line "Device Configuration 7-3-0" on interrogation printouts.

- Contact Medtronic Technical Services or your local representative if the above behaviour is suspected.

The CHRS device committee may update these recommendations should more data become available

**CHRS Device Committee**

Clarence Khoo, MD (Chair, Device Committee)
Jason Andrade, MD (Past chair, Device Committee)
Derek Chew, MD
Jaimie Manlucu, MD
François Philippon, MD
Calum Redpath, MBChB
Larry Sterns, MD