Inappropriate therapy can negatively impact ICD patients through increased anxiety and depression, decreased quality of life and increased risk of death.\(^1\) Oversensing due to RV lead noise is responsible for up to 10% of inappropriate shocks.\(^2\) The ability to detect and discriminate lead noise from true VT or VF is key to the reduction of inappropriate shocks. This is also important to help decrease healthcare utilisation costs associated with unplanned follow-up visits due to shock.

The SecureSense RV Lead Noise Discrimination algorithm introduced in Ellipse™ ICDs is designed to further reduce inappropriate therapies. The algorithm discriminates lead noise from true VT/VF episodes and provides the ability to automatically withhold tachycardia therapy in the presence of lead noise. The algorithm operates across both VT and VF therapy zones, and is also capable of detecting short bursts of noise that do not reach VT/VF detection thresholds. Lead surveillance alerts can be programmed to notify the patient and/or physician if lead noise is detected so immediate action can be taken to investigate the source of the issue.

**Performance**

- 100% detection of clinical VF (detected 853 out of 853 true VF episodes)\(^3\)
- 97.1% detection of sustained RV lead noise (detected 231 out of 238 sustained lead noise EGM clips)\(^3\)
- 90.4% detection of non-sustained RV lead noise (detected 47 out 52 non-sustained lead noise EGM clips)\(^3\)
How It Works
- The SecureSense™ algorithm compares the near-field channel (V Sense Amp or RV tip to RV ring) to the far-field ("Discrimination") channel (RV coil to Can/RV tip to Can).
- If fast events are present on near-field channel and not far-field channel, therapy is withheld.
- If binned events are similar on both channels, therapy is delivered.
- Automatic EGM storage of lead noise episodes.
- Self checks prior to discrimination.

Programming SecureSense™
RV Lead Noise Discrimination
Mode: On (nominal), Off or Passive.
Programmable secondary vector configuration: RV coil to can (nominal), RV tip to can.
Non-sustained Lead Noise number of episodes to alert: 1 – 5 (nominal: 2).
SEGM Storage Priority / Non-sustained Lead Noise: High (nominal), Low.
Therapy Time-out: Off (nominal), 15, 30, 45, 60, 90, 120.
Lead Noise Episode Patient Notifier: On (nominal), Off.
Non-sustained Lead Noise Patient Notifier: On (nominal), Off.

KEY CLINICAL BENEFITS
Minimises the risk of inappropriate therapies due to lead issues.
Simplifies set-up, alert reviews and clinical event interpretation.
In the rare event that lead noise occurs, physicians can be alerted to these episodes for prompt clinical assessment.


SJMprofessional.com