

## Diagnostics and Monitoring—Syncope and the Reveal Plus

a report by

**Medtronic**

Syncope, a brief self-limited transient loss of consciousness, is a relatively common occurrence in the general population with a variety of underlying causes. It is associated with:

- 1% to 6% of hospital medical admissions;<sup>1</sup>
- 3% of emergency room visits each year;<sup>2</sup>
  - 740,000 Emergency Department syncope cases per year in the US;<sup>3</sup>
  - overall admissions rate of 32%;<sup>3</sup> and
- US\$700 million in secondary trauma, including approximately 10% of falls in the elderly.<sup>4</sup>

### Syncope

While the underlying cause of syncope can often be determined and appropriate treatment chosen, as many as 47% of all cases of syncope episodes are unexplained.<sup>5</sup>

Findings from the Framingham Heart Study population suggest additional diagnostic testing and evaluation of unexplained syncope may be advised. A review of over 7,800 patients showed that those with unexplained and cardiac syncope were at increased risk of death.<sup>6</sup>

In fact, those with cardiac syncope had:

- a six-month mortality rate of greater than 10%;<sup>6</sup> and
- double the risk of death.<sup>6</sup>

The evaluation of syncope is based on many factors including the patient's account of the syncopal episode, clinical presentation, and history of prior events. Long-term electrocardiogram (ECG) monitoring with an insertable loop recorder (ILR) can provide a symptom-rhythm correlation that may help rule in and rule out cardiac arrhythmias in those with recurrent but infrequent syncope.

Reveal Plus ILR is the first and only implantable patient- and automatically activated cardiac monitoring system. Reveal Plus can record an ECG at the time of a syncopal episode that may rule in or rule out life-threatening arrhythmias.

### Who Could Benefit from Reveal Plus?

Patients with clinical syndromes or situations at increased risk for arrhythmias, including patients with:<sup>7,8</sup>

- unexplained syncope;
- near syncope;
- episodic, recurrent palpitations; and
- drug-refractory epilepsy, seizure-like events, and convulsions.

### Improved Diagnosis

Reveal Plus may diagnose where other tests fail:

- studies show that rhythm captured during a spontaneous syncopal event may not correlate to the rhythm recorded during tilt-table-induced syncopal events.<sup>9-11</sup>
- the American College of Cardiology Foundation (ACCF)/American Heart Association (AHA) and the European Society of Cardiology (ESC)<sup>12</sup> advise the use of Reveal Plus in the management of syncope.

### Cost-effectiveness

Early use of Reveal Plus may reduce syncope diagnosis costs:

- The cost of a primary ILR strategy is 26% less than that of conventional testing in the diagnosis of recurrent, unexplained syncope.<sup>13</sup>
- Reveal Plus-based treatments may lead to fewer hospitalization days when compared with conventional testing-based treatments.<sup>14</sup>

**Simplicity**

Reveal Plus is simple to implant and follow up:

- it can be implanted in a short, minimally invasive out-patient procedure.
- no restrictions due to external wires or recording

pads, it is designed to improve patient compliance.

- during a syncopal episode, the ECG is captured via the one-touch patient activator or the pre-programmed automatic activation option.
- data are easily retrieved and analyzed via the Medtronic programmer. ■

**References**

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