APPROPRIATE ILR PROGRAMMING IMPROVES DETECTION AND REDUCES INAPPROPRIATE ALERTS.

Reduction in home monitoring workload for physiologists made possible

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BIOMONITOR 1 AND 2
THE NEED FOR SUCH AN AUDIT

- Number of implants of ILRs
  - UP
- Number of substantive physiologists in the workplace
  - DOWN!
- Individual Workload
  - UP
COHORT OF PATIENTS.....

- [https://goo.gl/images/jq1exj](https://goo.gl/images/jq1exj)
• Overall an increase of alerts from ILR’s

Figure 4: Percentage of remote transmissions from an implantable loop recorder (ILR) as a percentage of our total cardiac implantable electronic device (CIED) remote transmissions. Concomitant with the release of the Reveal LINQ® ILR (Medtronic Inc.) in early 2014, there has been a marked increase in remote transmissions emanating from these devices. As a result, 61% of our remote transmissions are currently generated from our patients with an ILR.
METHOD

- Biotronik Loop recorder
- 99 patients
- Counted, reviewed and categorised all the alerts

- 21,000
- 10hrs per patient
REASONS FOR ALERTS: AF

• 40%
• 73% of all AF alerts were false
REASONS FOR ALERTS: BRADYCARDIA

- 30%
- 78% were true.....at 40bpm
REASON FOR ALERTS: HVR

• 20%
• 65% were false
REASONS FOR ALERTS: AND THE REST

• 10%
• SRD – sudden rate drop
• Pt triggered
• Periodic EGM
• Asystole
OUT OF THE BOX SETTINGS

• AF = Medium
• Bradycardia = 40 bpm for 5 beats
• HVR – 180 bpm for 10 beats
• SRD – medium
• Asystole – 3 secs
OUT OF THE BOX

• AF – medium
• Bradycardia- 40bpm for 5 beats
• HVR – 180bpm for 10 beats
• SRD – medium
• Asystole – 3 sec

OPTIMISED SETTINGS

• AF – low
• Bradycardia – 30bpm for 5 beats
• HVR – 180bpm for 16 beats
• SRD – 40%
• Asystole – 4 secs
THE RESULTS

- Total number of alerts 3 months PRE changes:
  - 2134
- Total number of alerts 3 months POST changes:
  - 733
- 100% of patients saw a reduction of the number of alerts
**Biotronik Biomonitor Settings**

- **Known AF and on an anticoagulant**: Yes → AF OFF
  No → AF ON - Sensitivity -LOW

- **Brady** → Rate - 30bpm, Duration - 5 secs or Rate - 40bpm, Duration 10 secs

- **Asystole** → 4 secs

- **HVR** 
  Arrhythmia documented
  → Yes → Rate - approx. to documented rate, Duration - consultant's opinion
  No → Rate - 180bpm, Duration - 16 beats or Rate - 160bpm, Duration 32 beats

- **SRD** → If programmed on - set to 40%

- **Periodic EGM** → OFF

**Recordings**

- 55 episodes can be stored at 40 secs each. 30 secs pre event and 10 secs post. Maximum storage period for an individual episode is 60 secs.

- 4 triggered patient recordings are at least 7.5 mins can be stored. 7 mins pre, and 0.5 post event