## **Technical Insight**

March 2015

## **Magnet Use for SJM Pacemakers**

St. Jude Medical cardiac pacemakers have a battery test mode which can be initiated by placing a magnet over the device. The minimum static magnetic field density required to initiate magnet response is approximately 8-10 gauss directly over the pacemaker. During magnet mode the pacemaker will pace asynchronously for the duration of magnet placement. The clinician must ensure that the Magnet Mode parameter has been enabled (for example programmed to "Battery Test" and not "Off") in order for the device to respond to magnet placement. Removal of the magnet will automatically restore the device to its previously programmed settings. Any typical "pacemaker" magnet, either rectangular or "donut" shaped can be used.

Magnets are often used for prevention of inhibition during surgery, transtelephonic monitoring (TTM) battery test, or patient collection of stored electrograms or snapshots. With patient triggered SEGMs enabled, placing a magnet for 2-3 seconds will record a SEGM.

Accent, Anthem, Assurity, Endurity, and Allure pacemakers respond to magnet placement by pacing asynchronously at a rate from 100 ppm at BOL to less than 85 ppm at ERI, depending upon the battery voltage. Devices programmed to a dual chamber mode (DDD, DDDR, DDI, DDIR) pace with an AV delay of 120 ms.

The Affinity, Integrity, Identity, ADx, Victory and Zephyr pacemakers respond to magnet placement by pacing asynchronously at a rate from 98.6 ppm to less than 86.3 ppm at ERI, depending on the battery voltage. Devices programmed to a dual chamber mode (DDD, DDDR, DDIR, DDIR) pace with an AV delay of 120 ms.

If AutoCapture is enabled the device will go to high output mode for the duration of magnet placement. Once the magnet is removed, AutoCapture will begin a threshold search.

The Trilogy, Synchrony, Solus, Paragon, and Phoenix pacemakers respond to magnet placement by pacing asynchronously at the programmed rate. Devices programmed to a dual chamber mode (DDD, DDDR, DDI, DDIR) pace with an AV delay of 120 ms. The Microny and Regency family of pacemakers will pace asynchronously at a rate between 100 and 85 ppm.

If you have any questions concerning the use of magnets for St. Jude Medical pacemakers, please feel free to contact CRM Technical Services.