Effects of Therapeutic Ultrasound on St. Jude Medical Implantable Cardiac Rhythm Devices

Background
While the use of therapeutic ultrasound is not contraindicated in cardiac rhythm device recipients, its use can potentially affect pacemakers and implantable cardioverter defibrillators (ICDs).

In pacemakers, ultrasonic waves from this therapy can potentially cause single-beat inhibition of pacing as a result of inappropriate sensing. The possibility of such inhibition decreases as the distance between the therapy and the pacemaker increases. Inhibition of pacing is also less likely in ICDs and pacemakers programmed to a bipolar sensing configuration.

Component damage could occur if the ultrasonic waves are aimed directly at the implanted pacemaker or ICD.

For both types of devices, the likelihood of these effects is low, especially when care is taken to avoid aiming ultrasonic waves directly at the implant.

Potential Effects
• Single-beat inhibition of pacing
• Component damage (if ultrasonic waves are aimed directly at the implant)

Recommendations
• Ultrasound therapy should not be focused within six inches of the implanted device.
• Should the patient feel dizzy, light-headed or short of breath during an ultrasound treatment, the therapy should be discontinued immediately.

If you have any questions on this topic, please contact St. Jude Medical Technical Services at 800-722-3774.