Blog Post

# Valentine's Day: Listen to Your Heart, But Not On a Cell Phone

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Physicians at Henry Ford Hospital in Detroit made a "stunning" heart-altering discovery. New and improved magnets in the iPhone 12 ("12") may cause heart defibrillators and pacemakers to malfunction, particularly when carried in a breast pocket (See publication).

The 12 contains MagSafe technology – built-in magnets that enable faster charging than prior models (see Apple Event). In a follow-up study, researchers compared the interactions of the 12 and the iPhone XS ("XS"), which does not have MagSafe technology, to cardiovascular implantable electronic devices (CIEDs). The phones were each placed less than 2 cm to CIEDs for 30 seconds.

No interaction was detected between the XS and the CIEDs. When the 12 was placed in close proximity to the CIEDs; however, potentially fatal problems arose. The 12 caused the suspension of detection and, therefore, inhibition of therapies in defibrillators. In addition, the 12 caused a pacemaker to temporarily reprogram its pacing capabilities. These dual findings suggest that the 12 "has the ability to suspend detection or result in temporary reprogramming to asynchronous mode in some CIEDs when within 2 cm of the device."

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While the U.S. Food and Drug Administration is reviewing this phenomenon, Apple has already reacted. It posted a warning on its website informing users that the 12 contains more magnets than prior models. The warning stated that implanted pacemakers and defibrillators may have sensors which could respond to magnets when in close contact. “To avoid any potential interactions with these devices, keep your iPhone and MagSafe accessories a safe distance away from your device (more than 6 inches / 15 cm apart or more than 12 inches / 30 cm apart if wirelessly charging).”

As clinical research studies are performed, it will be interesting to see the outcomes. It may cause changes in the design of the 12, or even a recall of the model. In the meantime, providers need to keep apprised of this research and warn their patients of the potential dangers. Consumers need to be proactive by asking about these potential harms and following any guidance provided. As we discussed in a recent blog post, COVID-19 has intensified these concerns due to the increased use of remote monitoring devices during the pandemic. Asking these questions and heeding these warnings is essential.

This Valentine’s Day is certain to be different from prior years. Perhaps, in addition to staying more than 6 feet apart from others, we need to remember to stay more than 6 inches away from our new 12’s.

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