

RAPID Response

to questions from readers

Electronic Interference Between the Blink Twitchview™ and Medtronic Situate™ Detection System X

by Jerome Lax, MD

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Recently at our institution, toward the end of a laparotomy, a puzzling event occurred. As a radiofrequency detection wand (Medtronic Situate™ Detection System X, New Haven, CT) was waved over the abdomen, an electronic interference alert was triggered. Subsequent assessment of the operating room environment revealed that the source of this interference was the Twitchview™ train of four monitoring device (Blink® Device Company, Seattle, WA). We ascertained that the Medtronic detection

system display will read “SCAN OBSTRUCTION” if the wand is positioned within 4 feet of Twitchview™. We also discovered that this interference is eliminated by disconnecting the Twitchview™ device from its AC power source. This is achieved either by unplugging its power cord from the wall socket or removing the device from its cradle. While the actions mentioned above may be a temporary fix to this issue, we have approached both manufactur-

ers with an eye toward implementing a more definitive technological solution to this incompatibility.

Jerome Lax, MD, is a clinical professor of anesthesiology in the Department of Anesthesiology, Perioperative Care, and Pain Medicine at NYU Langone Health, New York, NY, USA.

Jerome Lax, MD, has no conflicts of interest.

Blink Device Company Response: Electronic Interference Between the Blink Twitchview™ and Medtronic Situate™ Detection System X

Dear APSF Rapid Response,

We would like to thank Dr. Lax and the APSF for bringing this issue to our attention. For readers who may not be familiar with these devices, the TwitchView® train of four monitor is used throughout the surgery like other vital signs monitoring equipment, while the Situate™ device is typically used at the conclusion of surgery to ensure that surgical sponges have not been left behind. The TwitchView monitor uses a Qi-certified wireless battery charging system. Qi is a wireless charging standard developed by the Wireless Power Consortium that operates between 110–205 kHz and is used in the iPhone and many other commercial wireless

charging systems. The Medtronic Situate™ System device uses Low Frequency RFID which operates in this same frequency band. We were able to confirm that the “SCAN OBSTRUCTION” on the Situate was caused by the TwitchView® wireless charging system and replicated the same “SCAN OBSTRUCTION” message using a wireless iPhone charger. Of note, the TwitchView System continues to function normally in the presence of the Situate device.

We confirm that the approach described by Jerome Lax, MD, (unplugging TwitchView or unseating the TwitchView monitor from the charging base to pause the wireless charging) during a Situate scan will eliminate the interfer-

ence and still enable functional use of the Twitchview (TwitchView can operate on battery power). Blink is investigating alternate Qi-certified charging systems in an effort to find one that is less prone to trigger a “SCAN OBSTRUCTION” on the Situate device and is collaborating with Medtronic to identify additional solutions. Given the increasing use of wireless battery charging systems, we encourage our industry partners to consider the potential for device interaction when designing devices that operate in these frequency bands.

*Justin Hulvershorn, MD, PhD
CEO
Blink Device Company*

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