



## Urgent Field Safety Notice Update

### SynchroMed® II Implantable Drug Infusion Pump

Update to the March 2014 Communication on Overinfusion

October 2016

Medtronic reference: FA596 Phase II

Dear Healthcare Professional,

This communication is an update to Medtronic's March 2014 notification regarding the potential for SynchroMed II pump overinfusion. This notification provides updated information related to contributing causes, occurrence rate and patient management recommendations. Consistent with the March 2014 communication, Medtronic is not recommending prophylactic replacement of the pumps. Please share the enclosed recommendations and this update with personnel responsible for the management of patients implanted with a SynchroMed II pump.

#### **Explanation of the Issue:**

"Overinfusion" is defined as the delivery of more drug volume than the programmed rate, exceeding the pump's flow rate accuracy specification. Pump reservoir contents aspirated during a refill procedure that are less than expected may indicate that the pump has overinfused. Overinfusion may or may not be associated with clinically relevant symptoms. When the pump delivers more drug volume than the programmed rate, patients may experience overdose symptoms, and the pump reservoir will deplete more quickly than expected. Patients may experience underdose or withdrawal symptoms if the drug is depleted prior to the scheduled refill date from an overinfusing pump.

The low reservoir alarm of an overinfusing pump will not sound if the pump reservoir is prematurely depleted. The low reservoir alarm is calculated from the pump's programmed delivery rate and is not a direct measurement of the actual drug volume in the pump reservoir. Therefore, it is important to follow the enclosed recommendations.

#### **Investigation Results:**

Medtronic's investigation has not identified any single factor that results in overinfusion; rather the interaction of several variables increases the likelihood that a given pump will overinfuse. Some risk factors are associated with normal variability with pump components and manufacturing processes, while other factors are associated with clinical use conditions. Examples of clinical use conditions that have been shown to increase the likelihood of overinfusion are the use of non-indicated drug formulations, overfilling of the pump reservoir, operation of the pump with no fluid in the reservoir, catheter occlusion, and pump stops or motor stalls lasting more than 48 hours.

#### **Occurrence Rate Based on Registry Data:**

Five occurrences of overinfusion have been identified in Medtronic's prospective, long-term multi-center registry study (Product Surveillance Registry) as of January 2016, resulting in a rate estimate of less than 0,14%<sup>1</sup> (approximately 1-in-700). All 5 occurrences of overinfusion noted in the Registry were associated with pumps used to infuse drug formulations that are not indicated for use with the SynchroMed II pump.

#### **Reports of Adverse Events:**

Since commercial release of the SynchroMed II pump, over 238.000 pumps have been implanted. During Medtronic's investigation of overinfusion, complaint data and returned product analysis were assessed, resulting in 103 pumps with related adverse events through 5 July 2016. Medtronic has been unable to establish a definitive

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<sup>1</sup> Through 31 January 2016, there have been five reports of overinfusion in 7.505 SynchroMed II pumps included in Medtronic's prospective, long-term multi-center registry study (PSR, formerly ISPR), providing an upper 95% confidence bound on the occurrence rate of 0.0014 (0,14%). Based on investigation results, this rate is not significantly changed from the 0,16% upper 95% confidence bound reported in the March 2014 communication.



causal relationship between the adverse events and overinfusion due to potential contributing factors. However, it is reasonable to conclude that overinfusion was a contributing factor in these cases. Other factors that may have contributed to an adverse event are: infused drug dosage, the patient's medical history, and the concomitant use of other drugs, such as oral opioids and other central nervous system (CNS) depressants.

Reported patient outcomes associated with these adverse events ranged from temporary discomfort to life threatening overdose and/or withdrawal as well as two reports of death. While the full drug history of these pumps is unknown, 99 of the 103 pumps were associated with non-indicated drug formulations in use at the time of the pump's last refill. The estimated implant duration for the 103 pumps is 3.7 years (with a range of 0.4 – 6.4 years).

**Recommendations:** See the enclosed Recommendations and Guidelines.

The Competent Authority of your country has been notified of this updated communication.

We are committed to continuing to improve our product performance and services to enable you to manage your patients in a safe and effective manner. If you have questions, please contact your Medtronic Representative at <0096656007774>.