

The Potential Use of Radio Frequency Identification Devices for Active Monitoring of Blood Glucose Levels

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Abstract

Imagine a diabetes patient receiving a text message on his mobile phone warning him that his blood glucose level is too low or a patient's mobile phone calling an emergency number when the patient goes into diabetic shock.

Both scenarios depend on automatic, continuous monitoring of blood glucose levels and transmission of that information to a phone. The development of advanced biological sensors and integration with passive radio frequency identification technologies are the key to this. These hold the promise of being able to free patients from finger stick sampling or externally worn devices while providing continuous blood glucose monitoring that allows patients to manage their health more actively. To achieve this promise, however, a number of technical issues need to be addressed.

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Abbreviations: (FDA) Food and Drug Administration, (HF) high frequency, (LF) low frequency, (NFC) near field communication, (PDAs) personal digital assistants, (RFID) radio frequency identification, (UHF) ultrahigh frequency

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