

Feed Forward Automatic Insulin Delivery System

Published date: Dec. 8, 2015

Technology description

Summary:

Researchers at Iowa State University have developed a feedforward control system for Type 1 Diabetes management. Feedforward control systems, while requiring a more exhaustive model to be properly implemented, can provide better control than typical feedback systems. Moreover, the technology involves non-invasive techniques to manage insulin levels in the body, in contrast to feedback control systems which would require continuous monitoring of blood glucose concentration.

Description:

The technology aims to develop a feedforward control mechanism for Type 1 Diabetes treatment that utilizes a proprietary sensor approach for predicting blood glucose concentration using noninvasive inputs. The system is trained for each individual; the patient is monitored for a period of several weeks after which automatically collected data is analyzed and parameters are input into the model.

Application area

Blood glucose management

Advantages

- Feedforward control system anticipates changes in blood glucose
- Non-invasive monitoring
- Highly customizable for each individual patient
- Tighter control parameters than attainable with traditional monitoring

Institution

[Iowa State University](#)

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