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The artificial pancreas

From logic to life

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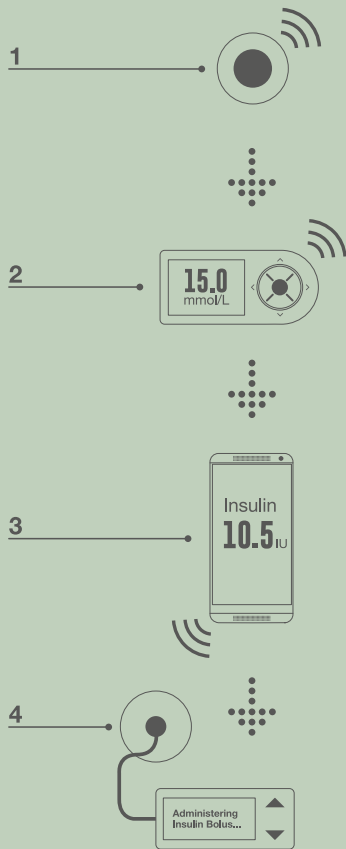
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THE ARTIFICIAL PANCREAS

FROM LOGIC TO LIFE

J. Kropff

THE ARTIFICIAL PANCREAS



1. CGM Sensor

A sensor is inserted under the skin to continuously measure glucose.

2. CGM Receiver

A CGM receiver displays the glucose readings minute by minute as values, graph and trend.

3. Control algorithm device

Readings are sent to a control algorithm device (CAD) – e.g. a smartphone – where an algorithm analyses them and calculates the most appropriate insulin dose.

4. Insulin pump

The CAD communicates with a body-worn insulin pump that administers the correct insulin dose via a cannula inserted under the skin. Items 2 and 3 can be integrated with the insulin pump.

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THE ARTIFICIAL PANCREAS
FROM LOGIC TO LIFE

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Universiteit van Amsterdam
op gezag van de Rector Magnificus
prof. dr. ir. K.I.J. Maex
ten overstaan van een door het College voor Promoties ingestelde commissie,
in het openbaar te verdedigen in de Agnietenkapel
op vrijdag 31 maart 2017, te 14.00 uur

door

Jort Kropff

geboren te Enkhuzen

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