

Automated Insulin Delivery Systems: Are They Right for You?

What is an automated insulin delivery system and how does it work?

- Also known as an artificial pancreas, a hybrid closed-loop system, or a smart pump and sensor
- Consists of an insulin pump, continuous glucose monitor (CGM), and algorithm (the "brain" that determines the best insulin dose to help keep you in range")
- Senses glucose and adjusts insulin automatically; "gives less if blood sugar is low and gives more if blood sugar is high"

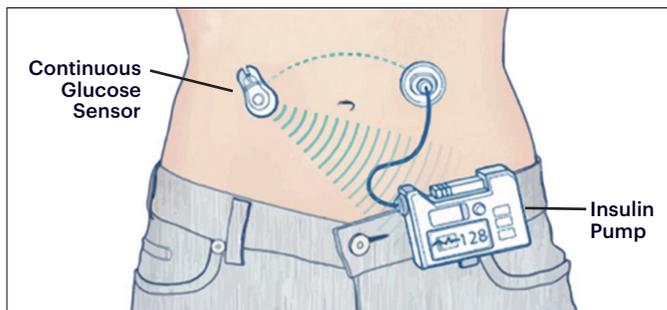


Image from Aathira R, Jain V. Advances in management of type 1 diabetes mellitus. World J Diabetes. 2014;5(5):689-696.

What are potential benefits of using an automated insulin delivery system?

 Requires you to make fewer decisions/calculations because the system does it for you

 Helps you spend more time in your target glucose range with fewer highs and lows

 Fewer needles: requires less fingersticks and injections

What are other things to consider about using an automated insulin delivery system?

- You need to wear two devices at all times
- You still need to practice daily T1D management (count carbs, bolus, adjust for exercise, etc.)
- It can provide more alerts and alarms, which can cause "alarm fatigue" in some people
- The system is not perfect (but each generation is getting better)

Types of Automated Insulin Delivery Systems



Medtronic MiniMed 670G System

First automated insulin delivery system approved for use in the United States (since 2016); can be used in people with type 1 diabetes aged 7 years and older



DIY Automated Delivery Systems

What is it? Sometimes people make their own automated insulin delivery systems and then offer the instructions as a Do-It-Yourself (DIY) approach to others for free (also called open source). It is usually done with an extra small, specialized device, a CGM, a smartphone app, and an older compatible insulin pump. These systems are not FDA-approved but many patients use DIY systems like OpenAPS and Loop.

Coming soon

Tandem Control-IQ Hybrid Closed-Loop System

(FDA approved December 2019 - requires no finger sticks)

Omnipod HORIZON Automated Glucose Control System

(expected in late 2020)

How do I get an automated insulin delivery system?

If you think an automated insulin delivery system is right for you, visit DiabetesWise.org for more information about:

- Other people's experiences using FDA-approved and DIY automated insulin delivery systems
- Key questions to ask your diabetes care team
- Insurance coverage and costs
- Support resources