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”

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

<table>
<thead>
<tr>
<th>System</th>
<th>Description</th>
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<tr>
<td>Medtronic MiniMed 670G System</td>
<td>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</td>
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<tr>
<td>DIY Automated Delivery Systems</td>
<td>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.</td>
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<tr>
<td>Tandem Control-IQ Hybrid Closed-Loop System</td>
<td>(FDA approved December 2019 - requires no finger sticks)</td>
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<tr>
<td>Omnipod HORIZON Automated Glucose Control System</td>
<td>(expected in late 2020)</td>
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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

Developed by Med-IQ in collaboration with JDRF.