

Artificial Pancreas Systems: Are They Right for You?

Artificial pancreas systems and how they work

Also known as automated insulin delivery system, hybrid closed-loop system, or smart pump and sensor

Consists of insulin pump, continuous glucose monitor (CGM), and algorithm (the "brain" that determines the best insulin dose to help keep you in range")

Measures glucose and adjusts insulin automatically; "gives less when blood sugar low; gives more when blood sugar high"

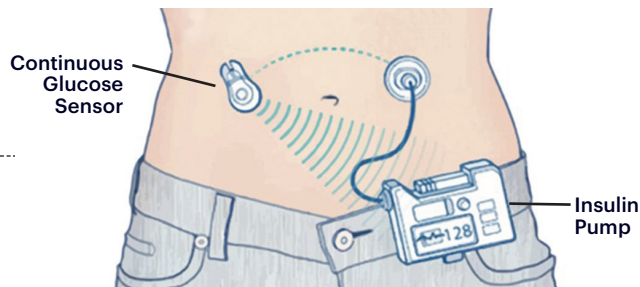


Image from Aathira R, Jain V. Advances in management of type 1 diabetes mellitus. *World J Diabetes*. 2014;5(5):689-696.

Potential Benefits



Requires fewer decisions/calculations as the system does much of it for you



More time in range with fewer highs and lows



Fewer finger sticks and injections

Other Things to Consider



Requires wearing two devices at all times



Daily T1D management still required (count carbs, mealtime boluses, adjust for exercise, etc.)



More alerts and alarms, can cause "alarm fatigue" for some

Artificial Pancreas/Automated Insulin Delivery Systems in the U.S.

	Insulet Omnipod® 5	Medtronic MiniMed™ 630G System	Medtronic MiniMed™ 770G System	Tandem Diabetes t:slim X2 with Basal-IQ /t:slim X2 with Control-IQ	DIY
FDA Approved	Yes	Yes	Yes	Yes	No
Ages	2+	14+ when used with Guardian™ Sensor 3; 16+ with Enlite™ sensor	2+	6+	N/A
CGM Pairing	Dexcom® G6	Medtronic Guardian™ 3	Medtronic Guardian™ 3	Dexcom® G6	N/A
Basal Automation?	Yes	Yes	Yes	Yes	N/A
Bolus automation?	No	No	No	Yes (Control-IQ only)	N/A
Smartphone Enabled	Yes	No	Yes	Yes	Yes (OpenAPS and Loop)
Software Updates	Yes	No	Yes	Yes	N/A

Getting an artificial pancreas system

If you think a CGM might be right for you, consult with your physician. Visit DiabetesWise.org for information about:

- Other people's experiences using insulin pumps
- Key questions to ask your diabetes care team
- Support resources

For more information about insurance coverage for CGMs, consult [JDRF's Health Insurance Guide](#).

Original Content developed by Med-IQ in collaboration with JDRF.