How Does Control-IQ Technology Work?

Control-IQ™ technology is designed to help increase time in range (70—180 mg/dL) using Dexcom G6 continuous glucose monitoring (CGM) values to predict glucose levels 30 minutes ahead and adjust insulin delivery accordingly, including delivery of automatic correction boluses (up to one per hour).

Control-IQ Technology Pump Icons

**Symbol** | **Meaning** |
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Control-IQ technology is on but not actively increasing or decreasing basal insulin delivery. | | |
Control-IQ technology is increasing basal insulin delivery. | | |
Control-IQ technology is decreasing basal insulin delivery. | | |
Control-IQ technology has stopped basal insulin delivery. | | |
Control-IQ technology is delivering an automatic correction bolus (or an automatic bolus). | | |
The Sleep Activity is enabled. | | |
Control-IQ: 2.8 u | | |
BOLUS | | |
The Sleep Activity is enabled. | | |
The Sleep Activity is enabled. | | |
Control-IQ: 2.8 u | | |
BOLUS | | |
Control-IQ technology is delivering the normal Personal Profile basal rate. | | |
Control-IQ technology is increasing basal insulin delivery. | | |
Control-IQ technology is decreasing the basal insulin delivery. | | |
Basal insulin delivery is stopped and a basal rate of 0 u/hr is active. | | |
Control-IQ technology is delivering an automatic correction bolus. | | |
The Exercise Activity is enabled. | | |

Even with advanced systems such as the t:slim X2™ insulin pump with Control-IQ technology, patients are still responsible for actively managing their diabetes. Control-IQ technology does not prevent all high and low blood glucose events. The system is designed to help reduce glucose variability, but it requires that patients accurately input information, such as meals and periods of sleep or exercise. Control-IQ technology will not function as intended unless all system components, including CGM, infusion sets and pump cartridges, are used as instructed. Importantly, the system cannot adjust insulin dosing if the pump is not receiving CGM readings. Since there are situations and emergencies that the system may not be capable of identifying or addressing, patients should always pay attention to their symptoms and treat accordingly.
To turn Control-IQ technology On or Off:

1. From the Options menu, tap My Pump.
2. Tap Control-IQ.
3. From this screen, Control-IQ technology can be toggled on or off.
4. Next, enter the user’s weight in pounds and average daily insulin use in units. Total Daily Insulin should be a 24-hour estimate of total basal and bolus insulin use in units.
5. Tap  to save the settings.

NOTE: Patient must enter their weight, Total Daily Insulin (TDI), have an active Personal Profile with CARBS turned on, and an active CGM session, in order to turn Control-IQ technology on.

Control-IQ Technology
for the t:slim X2 Insulin Pump

The instructions below are provided as a reference tool for caregivers who are already familiar with the use of an insulin pump and with insulin therapy in general. Not all screens are shown. For more detailed information on the operation of the t:slim X2™ insulin pump, please refer to its user guide.

Important Safety Information: Caution: Federal (USA) law restricts the t:slim X2 insulin pump and Control-IQ technology to sale by or on the order of a physician. The t:slim X2 pump and Control-IQ technology are intended for single patient use. The t:slim X2 pump and Control-IQ technology are indicated for use with NovoLog or Humalog U-100 insulin. t:slim X2 insulin pump: The t:slim X2 insulin pump with interoperable technology is an alternate controller enabled (ACE) pump that is intended for the subcutaneous delivery of insulin, at set and variable rates, for the management of diabetes mellitus in people requiring insulin. The pump is able to reliably and securely communicate with compatible, digitally connected devices, including automated insulin dosing software, to receive, execute, and confirm commands from these devices. The t:slim X2 pump is indicated for use in individuals 6 years of age and greater. Control-IQ technology: Control-IQ technology is intended for use with a compatible integrated continuous glucose monitor (iCGM, sold separately) and ACE pump to automatically increase, decrease, and suspend delivery of basal insulin based on iCGM readings and predicted glucose values. It can also deliver correction boluses when the glucose value is predicted to exceed a predefined threshold. Control-IQ technology is intended for the management of Type 1 diabetes mellitus in persons 14 years of age and greater.

WARNING: Control-IQ technology should not be used by anyone under the age of six years old. It should also not be used in patients who require less than 10 units of insulin per day or who weigh less than 55 pounds.

Control-IQ technology is not indicated for use in pregnant women, people on dialysis, or critically ill patients. Users of the t:slim X2 pump and Control-IQ technology must: use the insulin pump, CGM, and all other system components in accordance with their respective instructions for use; test blood glucose levels as recommended by their healthcare provider; demonstrate adequate carb-counting skills; maintain sufficient diabetes self-care skills; see healthcare provider(s) regularly; and have adequate vision and/ or hearing to recognize all functions of the pump, including alerts, alarms, and reminders. The t:slim X2 pump, transmitter, and sensor must be removed before MRI, CT, or diathermy treatment. For additional important safety information, visit tandemdiabetes.com/safetyinfo.

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