Automated Insulin Delivery

CONTROL-IQ

What does Control-IQ do?

Automatically increases or decreases PROGRAMMED BASAL RATES to maintain glucose levels of 112.5-160 mg/dL.

Automatically delivers a 60% CORRECTION BOLUS up to 1/hour if glucose is predicted to be >180 mg/dL.

When will it revert to regular pump mode (manual mode)?

System will automate insulin as long as CGM data is available, If CGM data is not available (e.g. sensor warm up), system will deliver programmed pump doses (user will not have to start or stop Control-IQ).

User should revert to regular pump mode (turn Control-IQ to OFF) if ketones, or wanting to use temporary basal rates (e.g. illness).

Which CGM does it use?

DexCom G6: System is factory calibrated (no required calibrations) and CGM can be used for insulin dosing decisions.

How can I use it best?

You can still adjust your basal rates, I:C ratios, and sensitivities, but you cannot adjust active insulin time or correction target (set to 110 mg/dL).

Set sleep schedule everyday—during sleep setting, automatic targets are 110-120 mg/dL with no auto-corrections.

Give all meal boluses and plan on correction boluses too — auto corrections may not enough to prevent high glucose levels.

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TIPS FOR ALL AUTOMATED INSULIN DELIVERY SYSTEMS

1. Systems will work best if you use it as directed — tricking the system may lead to more high and low glucose levels.
2. Expect that glucose levels may not change as quickly as you expect. For example, it may take longer for high glucose levels to come down than if you would like. But system will overall improve glucose control if you let it work as intended.
3. Bolus for all carbohydrates and also give correction doses if having high glucose levels. Bolus before carbohydrates are eaten for the best blood sugar control around meals.
4. Consider treating low glucose with 5-10 grams of carbohydrate — the system will have likely been suspending insulin to prevent lows, so less carbs may be needed.
5. If persistent high glucose levels, CHECK ketones and suspect infusion set failure, just like a regular pump.

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