Analyzing Control-IQ Technology Data

Our t:connect web application makes it easy to view and analyze Control-IQ technology reports

Dashboard

The Dashboard on the t:connect web application provides a general overview of overall glycemic control including percentage of time above, within, and below the target range. It also summarizes average daily insulin use and data from Control-IQ technology.

A The average continuous glucose monitoring (CGM) value when Control-IQ technology is <u>in use</u>. This may differ from the average CGM reading on the dashboard.

B The amount of time Control-IQ technology was in closed loop

C The amount of time Control-IQ technology was turned off

D The amount of time CGM is inactive due to loss of signal, sensor errors, warm up time, or the sensor session is inactive

E The amount of time the t:slim X2 insulin pump is inactive due to a cartridge change, manual suspension, or alarm suspension

F The average duration the Sleep Activity setting was in use

G The number of times that the Exercise Activity was started

Logbook

The Logbook displays the total basal delivered within each hour (**H**) and the programmed Basal Profile Setting (**I**). With Control-IQ technology these basal rates may differ.

	12AM	1	2	3	4	5	6	7	8	9	10	11	12PM	1	2	3	4	5	6	7	8	9	10	11
Feb 14																								
Glucose (mg/dL)							121	126			136			110	161		164		160 165		196			
Carbs (g)														20					25 45					
Bolus (u)							0.28	0.40			0.25			1.00	1.00	1.00	1.00		3.36 5.00		0.14			
H Basal Total Delivered (u)	0.033	0.473	1.365	1.062	0.828	0.715	0.847	0.722	1.020	1.249	1.098	1.028	0.955	0.694	0.850	1.191	0.850	1.223	1.001	0.900	1.675	1.620	1.480	0.695
I Basal Profile Setting (u/hr)	→ 1.100	→	→	→	→ 1.000	→	→ 0.950	→	→	→	→	→	→ 0.850	→	→	→	→	→	→ 0.900	→	→	→ 1.050	→	→
Avg. CGM (mg/dL)	71	90	117	119	111	107	114	114	113	126	135	136	128	117	137	157	161	157	169	186	190	188	168	120

Printed Therapy Timeline

The printed Therapy Timeline displays seven days of data across two pages including glucose readings, basal rates, and Control-IQ technology events (e.g., Activity settings and correction boluses). A therapy summary box will also show pertinent CGM, insulin, and carbohydrate data.

A Automatic Correction Bolus

B Exercise Activity

C Control-IQ Technology Suspensions

D Sleep Activity

E Programmed Basal Rate

F Override Bolus

G Control-IQ Technology Basal Rate

TANDEM Diabetes Care

Teresa Tandem
Born: Jul 29, 1978

Therapy Timeline | Feb 10 - Feb 16

Feb 14

BG Thresholds: — High: ≥ 181   Target Range: 70-180   — Low: ≤ 69

Feb 15
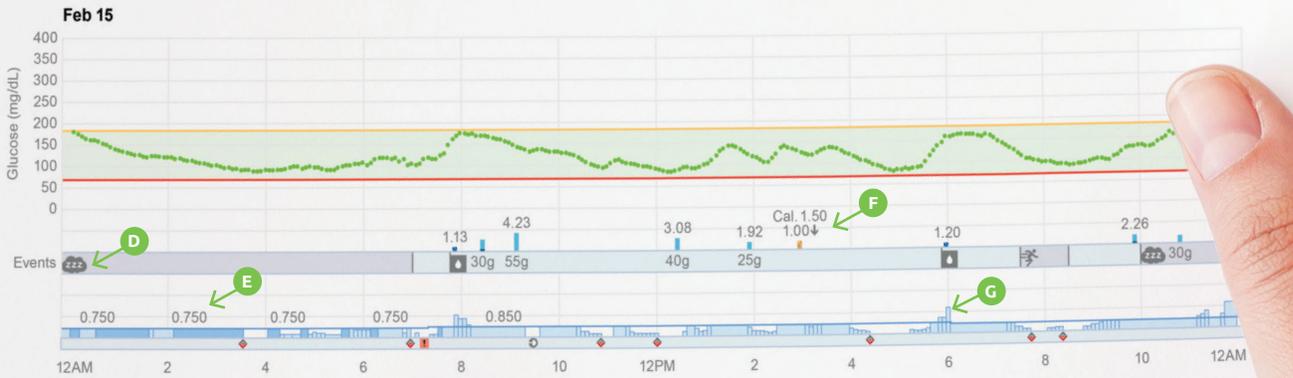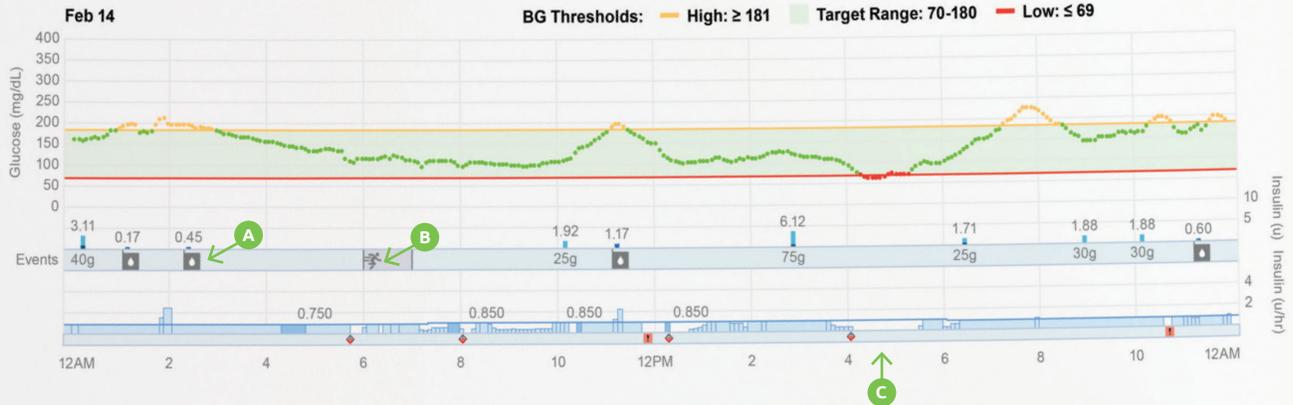
THERAPY SUMMARY: WEEK 2

CGM		Insulin	
Avg. Daily Glucose	128	Avg. Daily Basal	45% | 16 u
Avg. Readings Per Day	333	Avg. Daily Bolus	55% | 20u
Standard Deviation	40	Insulin Duration	5 hrs
% Above Target	10%		
% In Target	88%	**Food**	
% Below Target	2%	Avg. Daily Carbs	320

NOTES:

Above Target   ● Target   ● Below Target   CGM   **Bolus:** ▌Correction ▌Food ▌Quick ▌Override ▌Extended ▌Control-IQ Auto

Control-IQ ▌Profile ▌Temp. — Profile Setting   **Events:** Control-IQ Auto Bolus Exercise Sleep 25g Carbs

Basal Rate: ▌Manual Alarm ☐ Profile ▌Temp. Cartridge / Site ◇ Control-IQ

Stepwise Approach to Analyzing Control-IQ Technology

The following section addresses two topics: The suggested order for reviewing reports and some items to look for within each reporting segment. Before printing reports, verify glycemic thresholds are set appropriately in the t:connect web application.

1 Dashboard: Overview

	CGM Summary	Goal is <25% for Above Target Range (>180 mg/dL) with <5% Time above 250mg/dL [1]
		Goal is >70% for Target Range (70-180 mg/dL)[1]
		Goal is <4% for Below Target Range (<70 mg/dL)[1]
	Control-IQ Technology	If Time in Use is <90%, assess reason for pump or CGM inactivity
		Check if Sleep Activity is programmed and being used
		Check if Exercise Activity is being used for physical activity
	Average Daily Insulin Summary	Assess ratio of basal to bolus delivery
		Update total daily insulin as needed
	Change Frequency	Check if infusion set is changed every two to three days

2 CGM Hourly Report: Glycemic Patterns

	Box-and-Whisker CGM Graph	Shorter boxes = Less glycemic variability, consider possible insulin adjustments
		Taller boxes = Greater glycemic variability, consider conversations with patients
	Time of Day Boxes	Assess and identify glycemic trends throughout the morning, afternoon, evening, and overnight

3 Therapy Timeline: Glycemic Trends

	CGM Tracing	Assess CGM tracing and identify if there are patterns (e.g., overnight, hypoglycemia, pre-prandial, and post-prandial)
	Bolus Delivery	Assess cause and effect relationships of bolus deliveries and Control-IQ technology events (i.e., Sleep Activity and Exercise Activity)
	Basal Rates	Assess differences between profile and Control-IQ technology basal rates
		Identify patterns associated with hypoglycemia or hyperglycemia
	Diabetes Self-Management Education	Determine if the patient needs additional self-management education (see Control-IQ technology therapy tips on back page) and/or their pump settings need adjustment (see step 4)

④ Device Settings
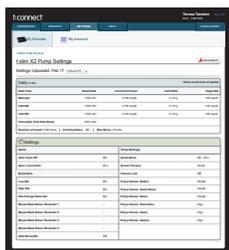
	Personal Profile Settings	Review pump settings. If necessary, the following Personal Profile settings can be modified: • Basal rate • Correction factor • Insulin to carbohydrate ratio ⚑ **Note:** Target blood glucose (110 mg/dL) and active insulin duration (5 hours) <u>cannot</u> be modified when using Control-IQ technology.

Control-IQ Technology Therapy Tips

✓ Pre-meal boluses are still required

✓ Consider programming a separate Personal Profile (e.g., weekday, weekend, exercise, hormones)

✓ Consider treating hypoglycemia with 5-10 grams of carbohydrate, especially if basal delivery has been stopped

✓ Use caution when overriding boluses. Extra insulin may already be on board from increased basal rates and automatic correction boluses.

✓ Continue to give manual correction boluses as needed

✓ Utilize the Sleep Activity and program Sleep Schedules for at least five hours

✓ Utilize the Exercise Activity to set a higher range of treatment values

References: 1. Battelino T, Danne T, Bergenstal RM, et al. Clinical targets for continuous glucose monitoring data interpretation: Recommendations from the international consensus on time in range. *Diabetes Care*. 2019;42(8):1593-1603.

Important Safety Information: RX ONLY. 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 U-100 insulin only. <u>t:slim X2 insulin pump</u>: 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 six years of age and greater. <u>Control-IQ technology</u>: 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 six 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. Do not use Control-IQ technology if using hydroxyurea. 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, and the CGM transmitter and sensor must be removed before MRI, CT, or diathermy treatment. Visit tandemdiabetes.com/safetyinfo for additional important safety information.

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