1 View Reports at **source.tandemdiabetes.com**. User needs to pair their pump to the t:connect mobile app to enable auto-uploads to Source

2 Set target range to 70-180 mg/dL and view a. Overview; b. Daily Timeline; c. Pump Settings

3 Follow this worksheet for step-by-step guidance on clinical assessment, user education and insulin dose adjustments.
STEP 1 **BIG PICTURE** (PATTERNS) → STEP 2 **SMALL PICTURE** (REASONS) → STEP 3 **PLAN** (SOLUTIONS)

4 Give the After Visit Summary to the Control-IQ user after visit

PANTHERTOOL® for

CONTROL-IQ

t:slim X2 and Mobi insulin pumps

OVERVIEW using C|A|R|E|S Framework

C | How it CALCULATES

• Adjusts basal insulin delivery every 5 min. by increasing, decreasing, or suspending programmed basal rates; aiming for a target glucose range of 112.5-160 mg/dL. Uses 30-min. predicted glucose in all calculations.

• Delivers automated correction boluses (Max. 1/hour) if glucose is predicted to rise above 180 mg/dL; uses 60% of the correction factor when calculating automated correction boluses

A | What you can ADJUST

• Can change basal rates, I:C ratios, correction factors

• Cannot change active insulin time (5 hours) or correction bolus target (110 mg/dL)

• "Exercise Activity" targets glucose 140-160 mg/dL (to reduce insulin delivery)

• "Sleep Activity" narrows glucose target to 112.5-120 mg/dL to strengthen basal adjustments and disables automated correction boluses

R | When it REVERTS to manual mode

When the pump has not received CGM data for 20 minutes, it will revert to manual mode and deliver programmed basal rates without any adjustments to the doses. When CGM data resumes, Control-IQ will resume insulin automation automatically.

E | How to EDUCATE

• Pre-bolus for all meals, ideally 10-15 minutes before eating

• Treat mild hypoglycemia with 5-10g carbs to avoid rebound hyperglycemia and WAIT 15 minutes before re-treating to give glucose time to rise

• Follow the dose recommended by the pump to avoid the risk of hypoglycemia

• Program the sleep schedule for each day

S | SENSOR/SHARE characteristics

• t:slim= Dexcom G6, G7 & Libre 2 Plus

• Mobi= Dexcom G6 & G7

• No remote CGM data sharing options with Libre 2 Plus

PANTHERPOINTERS® FOR CLINICIANS

1 Focus on behavior: wearing the CGM consistently, giving all boluses, etc.

2 Set the Sleep Schedule for every day.

3 Encourage users to bolus for all meals and snacks.

4 Focus on the correction factor when adjusting pump settings. Ensure correction factor is set to at least 1700/TDI for optimal system performance.

(A) Is the person using CGM and Control-IQ?
The goal is to use Control-IQ as much as possible.

CGM Use: [ ]
Aim for > 90% time in use/ <10% CGM inactive

Control-IQ (how often Control-IQ active): [ ]
Aim for > 90%. If less, ASSESS why.

Sleep Activity (for tighter glucose targets)
Does the average duration and weekly use reflect the user's typical sleep schedule? (Ideally 6-9 hours duration and 7 days per week)

→ If not, check pump settings to turn on "Sleep Schedule" and select all days

• Skin problems or difficulty wearing sensor on body?

→ Rotate sensor insertion sites (arms, hips, buttocks, abdomen)

→ Use barrier preps, tackifiers, overtapes, or adhesive remover wipes as necessary

SCAN TO VIEW:
pantherprogram.org/
skin-solutions

• Problems with CGM connection with pump?

→ Wear pump on same side of body as CGM transmitter (to improve line of sight of Bluetooth)

→ If t:slim: Carry pump with screen facing outward (away from body)

(B) Is the user giving meal boluses?

Number of Manual Boluses/Day? [ ]
Total number of boluses given by the user, on average, each day
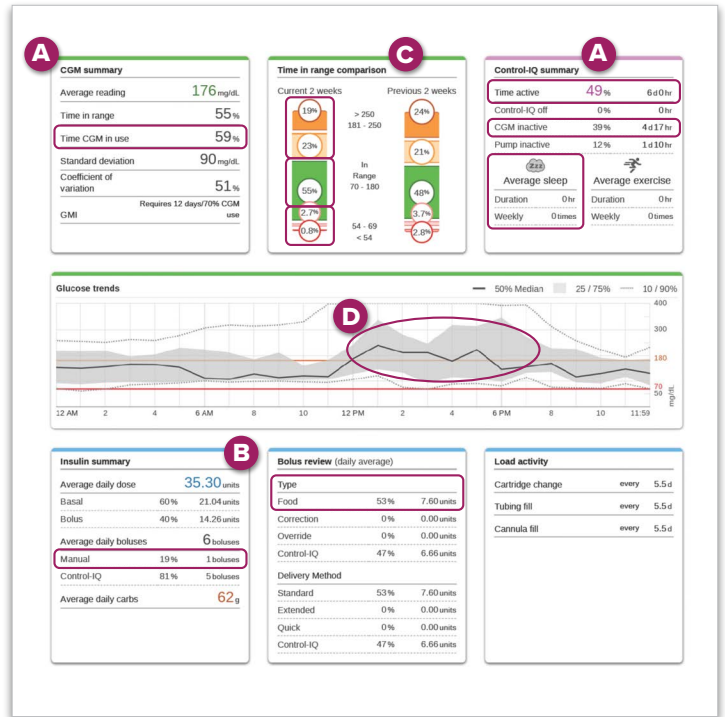
Review Bolus Type, % Food Boluses [ ]
% of total boluses that include carb grams

(C) Is the user meeting Glycemic Targets?

Time in Range (TIR) [ ]   Goal is >70%
70-180 mg/dL (3.9-10.0 mmol/L)

Time Below Range (TBR) [ ]   Goal is <4%
<70 mg/dL (< 3.9 mmol/L)

Time Above Range (TAR) [ ]   Goal is <25%
>180 mg/dL (>10.0 mmol/L)

(D) What are their patterns of hyperglycemia and/or hypoglycemia?

Ambulatory Glucose Profile compiles all data from reporting period into one day; shows median glucose with the black line, and variability around the median with the shaded ribbons. Wider ribbon = more glycemic variability. Dotted gray lines are outliers. Identify the overall patterns by primarily focusing on the gray shaded area.
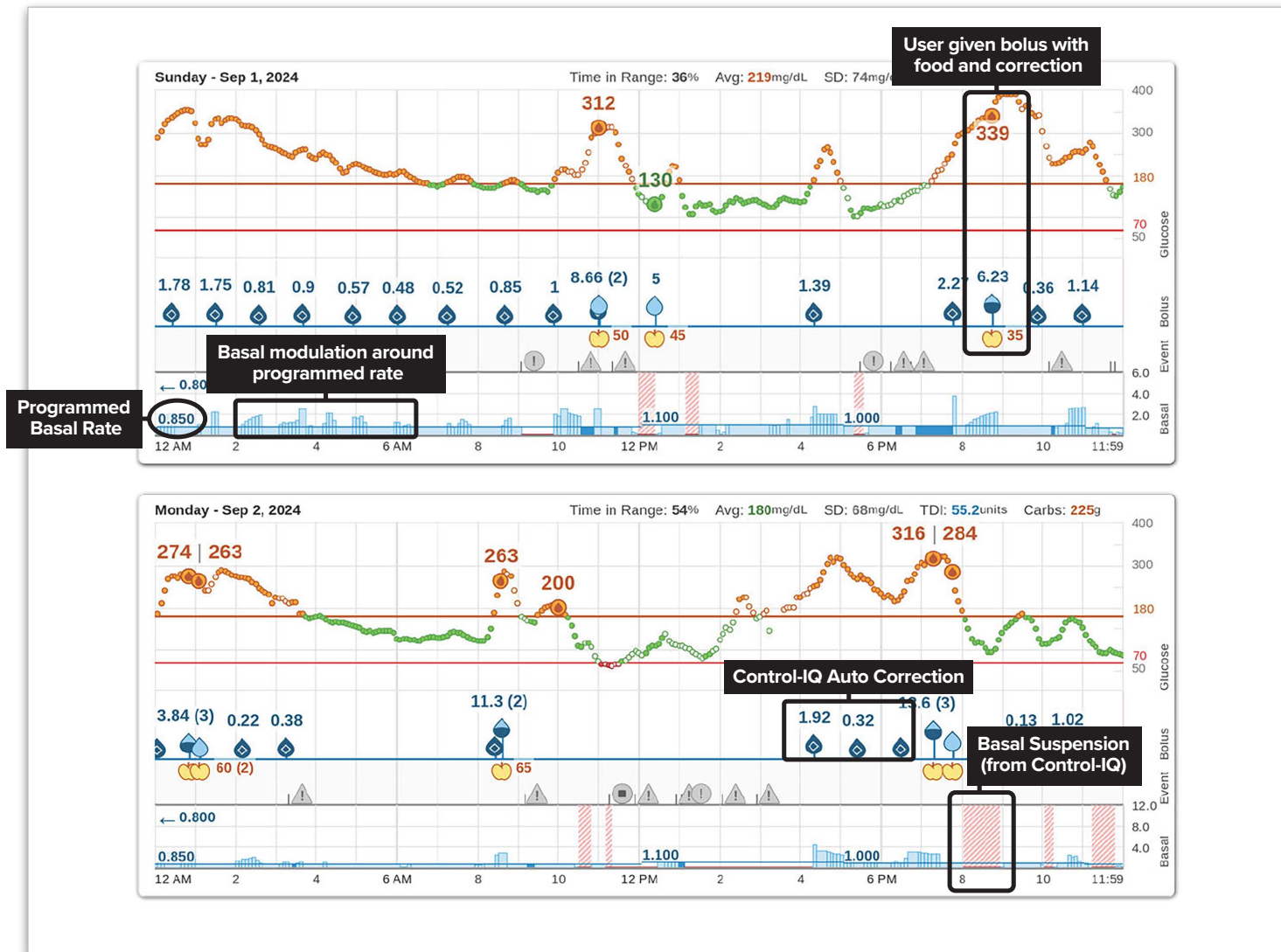
Hyperglycemia patterns: (eg: high glycemia at bedtime)
_____
_____

Hypoglycemia patterns:
_____
_____

PANTHER**POINTERS**®
FOR CLINICIANS

1 The goal of this therapy review is to increase Time in Range (70-180 mg/dL; or 3.9–10.0 mmol/L) while minimizing Time Below Range (<70 mg/dL; <3.9 mmol/L)

2 Is the Time Below Range **more** than 4%?
If **YES**, focus on reducing patterns of **hypoglycemia**
If **NO**, focus on reducing patterns of **hyperglycemia**

Use the **Daily Timeline** and discussion with the user to identify causes of the glycemic patterns identified in STEP 1 (hypoglycemia or hyperglycemia).

Identify the predominant 1-2 causes of the hypo- or hyperglycemia pattern.

Is the **hypoglycemia** pattern occurring:	Is the **hyperglycemia** pattern occurring:
☐ Fasting / Overnight?	☐ Fasting / Overnight?
☐ Around mealtime? (1-3 hours after meals)	☐ Around mealtime? (1-3 hours after meals)
☐ Where low glucose levels follow high glucose levels?	☐ Where high glucose levels follow low glucose levels?
☐ Around or after exercise?	☐ After a correction bolus was given? (1-3 hours after correction bolus)

Hypoglycemia	PATTERN	Hyperglycemia
SOLUTION		SOLUTION
Reduce basal rates 10-20% in 1-2 hours prior to hypoglycemia	**Fasting / Overnight**	Make sure Sleep Schedule is turned on every night Increase basal rates 10-20% in 1-2 hours prior to hyperglycemia
Weaken I:C Ratios by 10-20% (e.g. if 1:10g, change to 1:12g)	**Around mealtime** (1-3 hours after meals)	Assess if meal bolus was missed. If yes, educate to give all meal boluses prior to eating. Strengthen I:C Ratios by 10-20% (e.g. from 1:10g to 1:8g)
If due to bolus calculator overrides: Educate user to follow the bolus calculator recommendation and avoid overriding to give a larger dose. The correction bolus dose may be smaller than expected due to IOB from Control-IQ automated corrections and/or increased basal insulin that user is not aware of. Weaken correction factor by 10-20% (e.g. if 50 mg/dL, change to 60 mg/dL) if hypoglycemia occurs 2-3 hours after correction bolus. This will impact both user-given and auto-correction boluses.	**Low glucose follows high glucose**	
	High glucose follows low glucose	Educate to treat mild hypoglycemia with fewer grams of carbs (5-10g) and wait 15 min to allow time for the glucose to rise before re-treating with more carbs
Use the Exercise Activity feature 1-2 hours before exercise begins. This will temporarily reduce insulin delivery aiming to reduce risk of hypoglycemia. To use Exercise Activity, go to: Main Menu → Activity → Exercise → start	**Around or after exercise**	
	After a correction bolus was given (1-3 hours after correction bolus)	Strengthen correction factor (e.g. from 50mg/dL to 40mg/dL). This will impact both user-given and auto-correction boluses

ADJUST insulin pump settings and EDUCATE.

Most impactful insulin dose settings to change:

1. **Correction Factor** – Will affect both user-given correction boluses and auto-correction boluses & also impacts the aggressiveness of the basal adjustments. Strong correction factors can help improve TIR.
2. **I:C Ratios** – It is common to need stronger I:C Ratios with AID
3. **Basal Rates** – Will affect fasting glucose levels

NOTE: Cannot change the correcion bolus target (fixed at 110 mg/dL) or Active Insulin time (fixed at 5 hrs) when Control-IQ is active

TIP: For optimal system performance, ensure correction factor is set to at least 1700/TDI

Pump Profile settings
✓ Active at upload

Time	Basal Rate (units/hr)	Correction Factor (units:mg/dL)	Carb Ratio (units:grams)	Target BG (mg/dL)
12:00 AM	1.200	1:40	1:11.0	110
3:00 AM	1.200	1:40	1:11.0	110
6:00 AM	1.000	1:35	1:8.0	110
10:00 AM	1.100	1:35	1:7.0	110
2:00 PM	1.100	1:35	1:8.0	110
5:00 PM	1.100	1:35	1:8.0	110
9:00 PM	1.100	1:35	1:9.0	110

Total Daily Basal: 26.600 units   Insulin Duration: 5 hr   Carbohydrates: On

General settings
Quick bolus	Off
Max bolus	10 units
Basal limit	3.000 units/hr

Update **"Weight"** and **"Total Daily Insulin"** on their insulin pump at each visit (used primarily to determine max and min insulin delivery constraints when using Control-IQ.)

Control-IQ settings
Control-IQ	On
Weight	150 lb
Total daily insulin	27 units
Sleep schedules	
-	Off
-	Off
Insulin duration	5 hr
Target BG	110 mg/dL

Program sleep schedule for each day to ensure sleep activity is used

CGM settings
High alert	On 200 mg/dL, never repeat
Low alert	On 80 mg/dL, never repeat
Rise alert	-
Fall alert	-
Out of range	On 20 min

Alerts & reminders
Alert: Low Insulin	20 units
Alert: Auto-Off	Off
Low BG	-
High BG	-
After bolus BG	-
Site change reminder	Off

AUTO-OFF

Consider setting "Auto-Off" to "OFF".

If set to "ON"— pump will suspend all insulin delivery IF the user has not pressed any buttons in the programmed time duration (i.e.,12 hours default). This may cause unnecessary/dangerous suspensions of insulin.
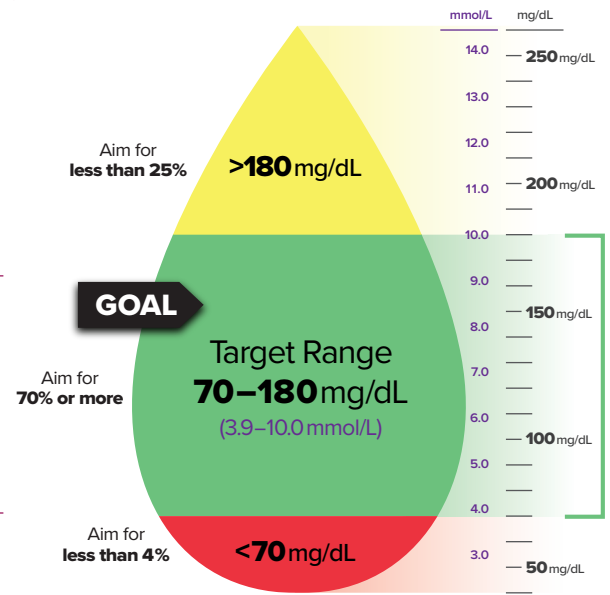
Great job using **Control-IQ!**

Using systems like this can help you achieve better glucose control.

Aim for more than **70%** of your CGM glucose levels to be between **70-180 mg/dL** (3.9–10.0 mmol/L). This is the goal for MOST people with type 1 diabetes. This is about the same as having an HbA1c level of 7%.

REMEMBER...

1 Wear the CGM consistently.

2 Set the Sleep Schedule for every night.

3 Bolus before all meals and snacks.

Aim for **less than 25%**
>180 mg/dL

GOAL
Target Range
70–180 mg/dL
(3.9–10.0 mmol/L)

Aim for **70% or more**

Aim for **less than 4%**
<70 mg/dL

mmol/L	mg/dL
14.0	— **250** mg/dL
13.0	
12.0	
11.0	— **200** mg/dL
10.0	
9.0	
8.0	— **150** mg/dL
7.0	
6.0	— **100** mg/dL
5.0	
4.0	
3.0	— **50** mg/dL

TIPS for using Control-IQ

- **HYPERGLYCEMIA >300 mg/dL (or >16.7 mmol/L) for 2 hours or more?** Check ketones first! If ketones are >1.0 mmol/L (mod/large on urine strip), give a <u>syringe</u> injection of insulin and change your infusion set.

- **Do not override boluses** to give more insulin than the pump recommends (may cause hypoglycemia if Control-IQ has been increasing insulin delivery).

- **Bolus before eating**. If bolusing after a meal, reduce the bolus dose by entering less carbs than you ate as Control-IQ will have already increased insulin delivery for hyperglycemia.

- **Try treating hypoglycemia with 5-10g carbs** since insulin may have been reduced/suspended for a while before hypoglycemia occurs. Treating hypoglycemia with more than 5-10g may result in rebound hyperglycemia.

- **Turn off the Auto Off setting** to prevent unnecessary insulin suspension.

- **Change your infusion set** every 3 days, or as needed for persistent hyperglycemia.

- **Set the Sleep Schedule** so you don't have to remember to turn Sleep Activity on each night.

v.11.2024

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Have questions about your insulin pump?

tandemdiabetes.com

Tandem customer and technical support
1-877-801-6901