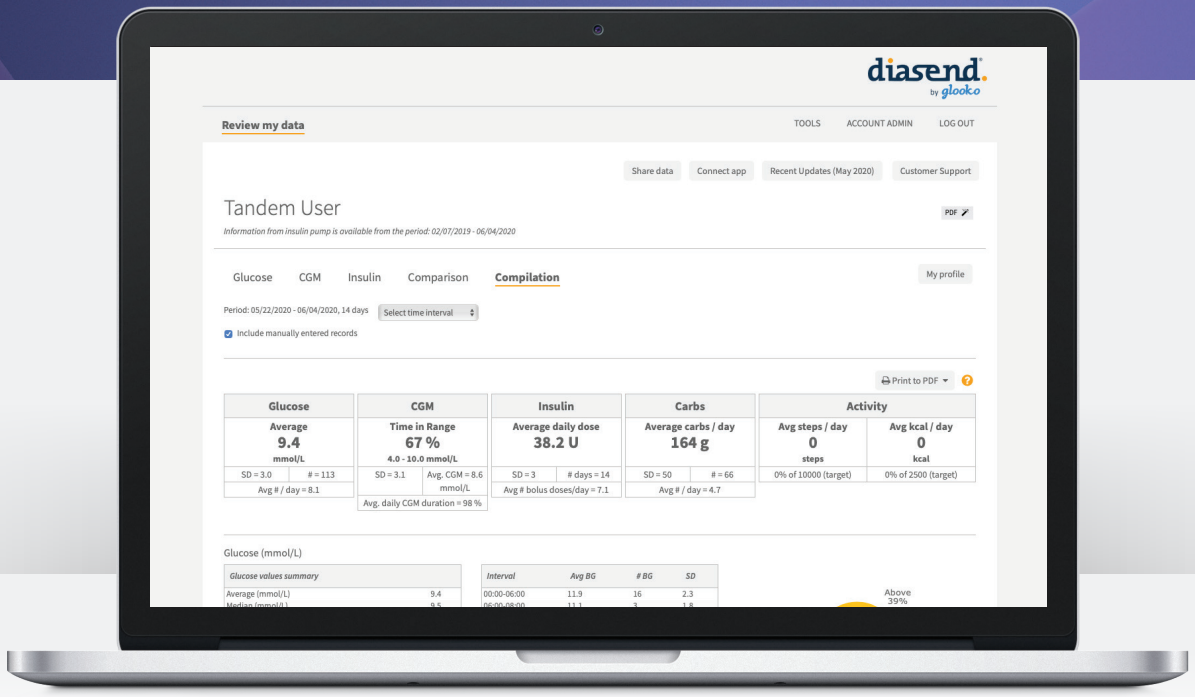
Analyzing Diasend Reports

A Step-by-Step Approach for the t:slim X2 Insulin Pump with Basal-IQ Technology

TANDEM DIABETES CARE

For Healthcare Providers

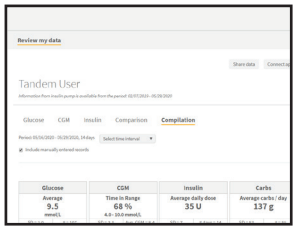


Identifying Patterns Using Diasend Reports

This document is designed to help pump trainers use diasend reports to spot trends and analyze data. While it does not include all diasend reports, it identifies and explores the most common reports used for analysis.

Run Compilation Report

This report provides insight into the person with diabetes (PWD) and their current management.



Continuous Glucose Monitoring (CGM)	Time in Range (TIR) %: Aim for 70%.[1]
Average Daily Dose	Compare this with the individual's body weight to gauge their insulin sensitivity.
Average of Carbs/Day	Assess carbohydrate intake in relationship to energy requirements. This may also shed light on the PWD's understanding of carb counting.
CGM Pie Chart	% in target and % below target. Remember that 1% = 15 minutes per day.
Basal/Bolus Pie Chart	% of basal/bolus.
Insulin Doses Summary Average days between cannula fills	View how often the infusion set is being changed. Note that the TruSteel™ infusion set does not have a cannula fill.
LGS/PLGS Summary: Basal-IQ™ technology summary	Average time (hours/minutes) suspended per day and average of suspended events per day. In the Real-World Data Analysis,[2] the average time suspended per day was 106 minutes and the average number of suspended events per day was six.

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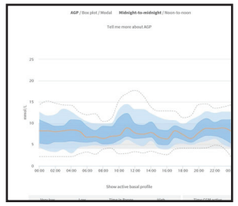
Analyzing Diasend Reports

Review CGM/Standard Day Tab (AGP)

This report helps to assess overall glycemia and identify patterns/trends of hypoglycemia or hyperglycemia.



To easily look for overnight trends, change the view to "Noon-to-noon."

Show active profile. Note: if you clicked on "Noon-to-noon" the active profile will still show "Midnight-to-midnight."

Look at the dark blue graph area because this is where 50% of the CGM values lie.

Dotted lines are only the outliers.

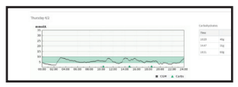
Very low, Low, TIR, High. Note: Make sure to add "Very low" and "Low" to know the total % below 3.9 mmol/L.

According to Battelino & Associates in 2019[1], target percentages are:

- Time Above Range: <5% above 13.9 mmol/L
- Time Above Range: <25% above 10 mmol/L
- Time in Range: >70% between 3.9-10.0 mmol/L
- Time Below Range: <4% below 3.9 mmol/L
- Time Below Range: <1% below 3 mmol/L

View CGM/Day by Day

This report may be useful if you suspect a pattern and would like to have a "clean" vision of the daily CGM trending.



View of day by day CGM tracing to identify if a pattern/trend emerges. Carb intake is also available for review.

Review Comparison Day by Day

This report helps explore the potential reasons for the patterns/trends identified in the CGM/Day by Day.

Consider the CGM graph and analyze bolus timing and carbs (green triangles) to match the CGM graph. If it does not match, review the bolus timing with the PWD.

Recording Carbs to Treat Hypoglycemia: diasend will report carbohydrate grams entered into the bolus calculator when a bolus was not actually completed.

Steps:

- Tap "Bolus"
- Enter Grams of Carb
- Tap the blue check mark in the upper right corner
- Tap the white arrow in the upper left corner to exit the bolus calculator and avoid an incomplete bolus alert

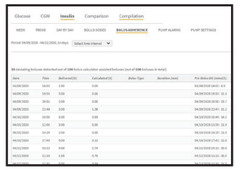
This will record the grams of carbohydrate, but the bolus will not be delivered.
Note: When extra carbohydrates are entered without a bolus given this may be an example of hypoglycemia treatment given or extra carbohydrate taken for activity.

In the "Bolus" tab, look at: Meal, Correction, and Insulin on Board (IOB) to assess if the bolus calculation overrides.

If you require more information, simply click the "pump alarm icon" and/or the "events icon" on the left side of the graph.

View Insulin/Bolus Adherence

This report will show all the deviating boluses (overrides) detected in the bolus calculator.



It is useful to review this report before thinking about changing Correction Factor and Insulin-to-Carb (I:C) ratios.

Review Insulin/Pump Settings

This can also be viewed as a PDF BEFORE and AFTER your assessment.

Confirm the most used Personal Profile (name).

Note: the Insulin Duration is in minutes, not hours.

You can look for a comparison of the pump settings from the last eight downloads.
The changes will appear highlighted in yellow.

Reminder:

- The Connect app tab can be used to link the Dexcom G5 Mobile, Dexcom G6 or Abbott receiver.
- Customize the PDF wizard in order to print the desired diasend report in one click.
- The last two weeks of data are shown as default. Reports can be customized in colors or black and white.

Basal-IQ technology and related content

Assess the Basal-IQ technology suspensions by looking at the red bars:

- ✓ Look for patterns — are the suspensions happening frequently at the same time of the day?
- ✓ Look at the length of time of the suspensions.
- ✓ Short suspensions are 5-30 minutes.
- ✓ Long suspensions are more than 30-45 minutes.

Treatment of Hypoglycemia with Basal-IQ technology:

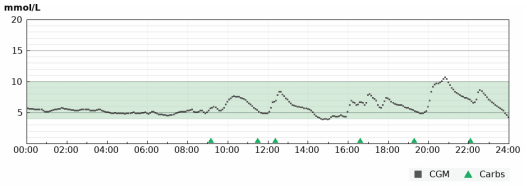
- ✓ Consider treating hypoglycemia with less carbohydrate when Basal-IQ technology is active in order to help prevent rebound hyperglycemia. The suggestion is to use 5-10 grams of carbohydrate and evaluate. As the patient has already experienced a suspension of basal insulin delivery, the full carbohydrate treatment may not be necessary.[3]

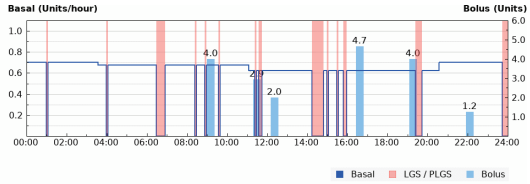
Responsible Use of Basal-IQ Technology

Basal-IQ technology is not a substitute for active diabetes management and does not prevent hypoglycemia in all scenarios. Basal-IQ technology will not be able to predict glucose levels and suspend insulin delivery if a patient's CGM is not working properly or is unable to communicate with their pump. Always pay attention to their symptoms and blood glucose levels and treat accordingly.

Analyzing Diasend Reports

Scenario #1:
Short suspensions with no hypoglycemia

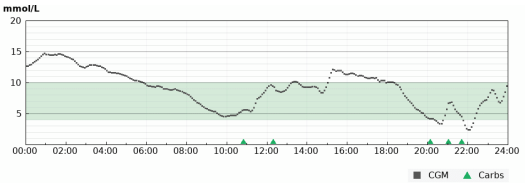


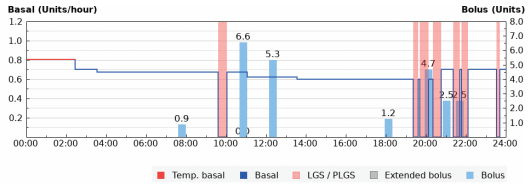


Short suspensions are happening throughout the day, but Basal-IQ technology is working as intended to predict and help prevent hypoglycemia.

Frequent suspensions do not necessarily indicate hypoglycemia or indicate a need for a change in therapy. What is relevant here is the pattern and/or duration of the suspensions as they relate to glucose outcomes.

Scenario #2:
Short suspensions with hypoglycemia

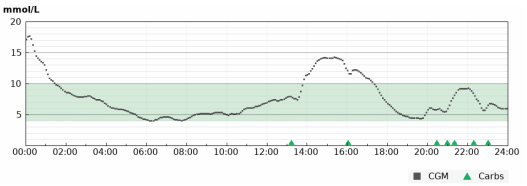


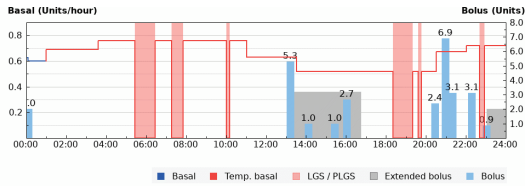


Discuss periods of hypoglycemia and review insulin-to-carb ratio(s) and bolus timing. Look for repeated patterns, and consider correction factor and target BG or if exercise contributed to events.

Only after considering these factors, adjustments to settings may help. In this example, the hypoglycemia periods were occurring mainly after meal (bolus).

Scenario #3:
Long suspensions with no hypoglycemia





In this example, the long suspensions did prevent hypoglycemia with no hyperglycemia rebound effect.

Remember to always look for patterns before insulin adjustment and pump education.

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. 2. Muller, L, Habif S, Leas S, Aronoff-Spencer E. Reducing hypoglycemia in the real world: A retrospective analysis of predictive low-glucose suspend technology in an ambulatory insulin-dependent cohort. *Diabetes Technol Ther.* 2019;21(9):478-484 3. Messer LH, Berget C, Forlenza GP. A clinical guide to advanced diabetes devices and closed-loop systems using the CARES paradigm. *Diabetes Technol Ther.* 2019;21(8):462-469.