Medtronic

Report Reference Guide

CareLink® Pro

THERAPY MANAGEMENT SOFTWARE FOR DIABETES

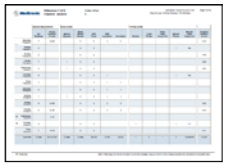
How to use this guide

Each type of CareLink® Pro report and its components are described in the following sections. Report data used to generate the sample reports was from a fictitious patient.

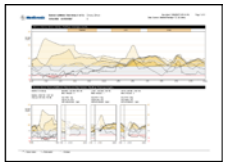
This guide shows samples of the reports. Your reports may look slightly different.

If there are fewer than five days of sensor glucose readings in the selected period, the Dashboard and Episode Summary report will not be available.

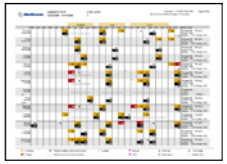
p.2 Dashboard and Episode Summary Report: This report provides a summary of the patient's glucose, carbohydrate, and insulin data for the selected period. It provides an overview of a patient's glycemic control (daily, overnight, and at meal times) and comprehensive statistical data. The report also provides a summary of hypoglycemic and hyperglycemic patterns and details of these episodes, including a description of events preceding episodes of low and high glucose.



p.11 Adherence Report This report presents patient behavior data for a selected period. It provides a review of a patient's adherence according to the indices of glucose measurements, bolus events, and insulin pump activities.



p.13 Sensor and Meter Overview Report This report summarizes meter glucose (and sensor glucose, if applicable), carbohydrate, and insulin data for a selected period. It provides an overview of a patient's glycemic control (daily, overnight, and at meal times) and comprehensive statistical data.



p.22 Logbook Report This report presents meter glucose, carbohydrate, and insulin data for each hour of a selected period. It provides a diary of events recorded hourly, as well as daily averages and totals.

p.25 Device Settings Report This report presents the settings of a patient's insulin pump or Guardian® monitor at the time of a selected upload. It can be used to help interpret other reports or simply to document a patient's device settings.

p.27 Daily Detail Report This report presents glucose, carbohydrate, and insulin data for a selected day. It provides the details of a patient's glycemic control, bolus events, basal activity, and comprehensive statistical data.

Therapy Management Dashboard

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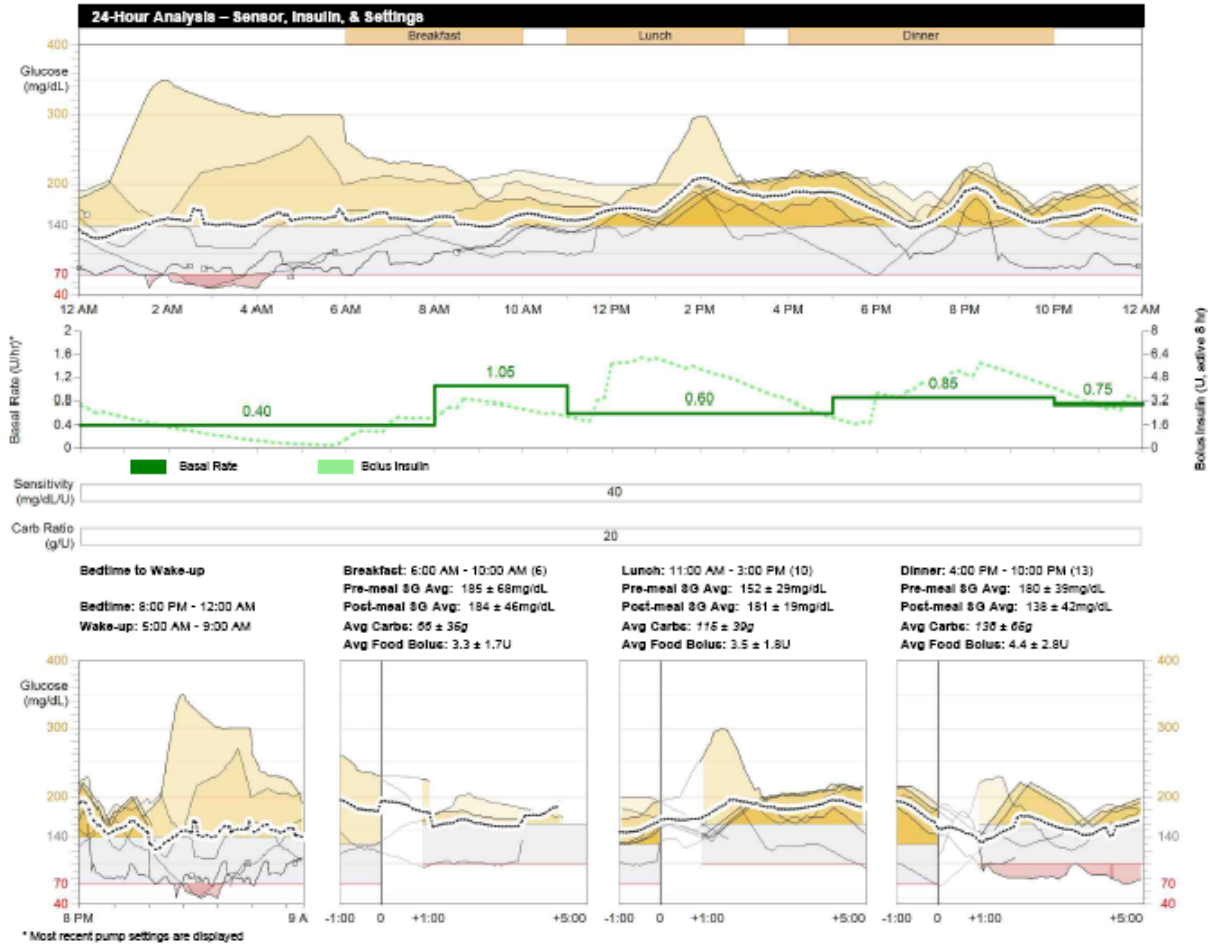
Therapy Management Dashboard Drake, Ethan
8/10/2010 - 9/6/2010 0

Generated: 4/22/2010 10:53:13 AM Page 1 of 11
Data Sources: MiniMed Paradigm 722 (E.Drake)



* Most recent pump settings are displayed

Statistics	
Avg BG	153 ± 56mg/dL
Estimated A1C	7.2%
BG Readings	5.3 per day
Carbs Entered	332± 87g per day

Hypoglycemic Patterns (1)	
	1:20 AM-4:20 AM (5)
Time Period	

Hyperglycemic Patterns (7)**	
	1:15 PM-6:45 PM
Time Period	11:30 AM-1:05 PM
	7:10 PM-12:00 AM

Pump Use	Per Day
Insulin TDD	36.5 ± 5.4U
Basal/Bolus Ratio	48 / 52
Manual Boluses	0.7U (0.2 boluses)
Bolus Wizard	18.1U (3.3 boluses)
Food	13.9U (3.3 boluses)
Correction	1.1U (1.2 boluses)
Override (+)	1.2U (0.9 boluses)
Override (-)	0.0U (0.0 boluses)
Suspend Duration	7m per day
Res./Site Change	Every 5.2 days / Never

Sensor Use	
Avg SG	159 ± 59 mg/dL
Wear Duration	2d 12h per week
Low SG Alarms	0.0 per day
High SG Alarms	0.0 per day

** Only highest priority shown.

Action Plan

Reviewed By

Date Time

Episode Summary

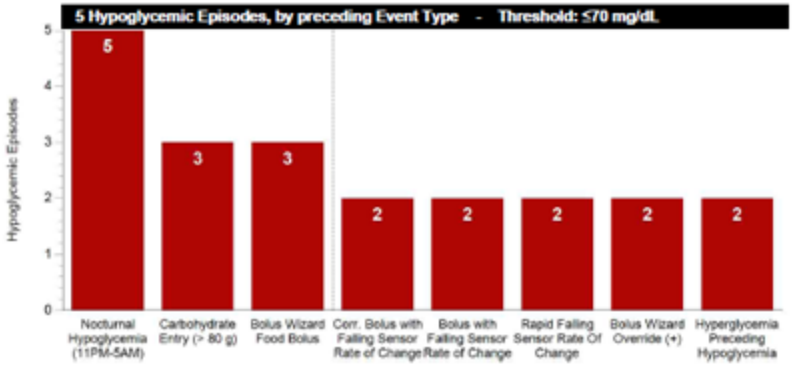
Medtronic

Episode Summary
8/10/2010 - 9/6/2010

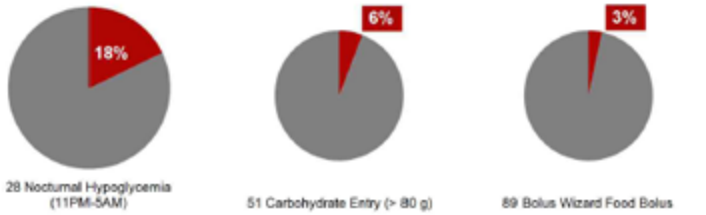
Drake, Ethan
0

Generated: 2/15/2011 3:07:21 PM
Data Sources: MiniMed Paradigm 722 (E.Drake)

5 Hypoglycemic Episodes, by preceding Event Type - Threshold: ≤70 mg/dL



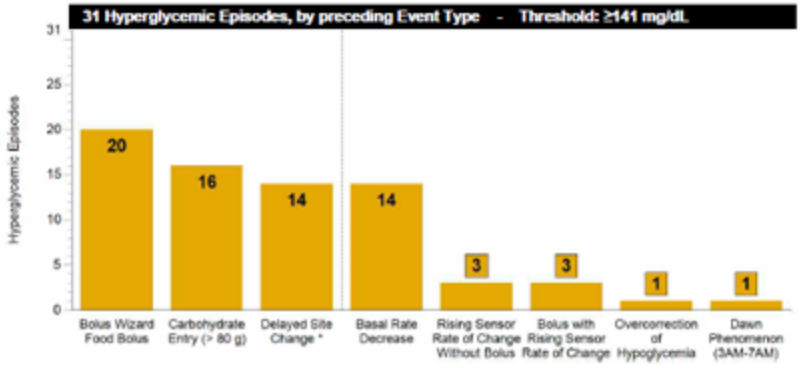
Most Common Event Types preceding Hypoglycemia



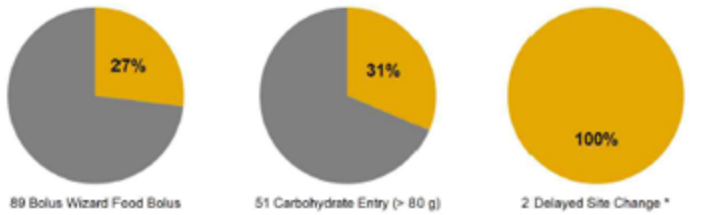
Event Type Descriptions

Event Types	%	Description
Nocturnal Hypoglycemia (11PM-5AM)	100	Consider assessing overnight basal rates and counseling your patient on evening boluses.
Carbohydrate Entry (> 80 g)	60	Consider counseling your patient on the effect of high carbohydrate intake.
Bolus Wizard Food Bolus	60	Consider assessing the Bolus Wizard settings, counseling your patient on accurate carbohydrate counting, and/or the timing of insulin delivery with respect to carbohydrate intake.

31 Hyperglycemic Episodes, by preceding Event Type - Threshold: ≥141 mg/dL



Most Common Event Types preceding Hyperglycemia



Event Type Descriptions

Event Types	%	Description
Bolus Wizard Food Bolus	65	Consider assessing the Bolus Wizard settings, counseling your patient on accurate carbohydrate counting, and/or the timing of insulin delivery with respect to carbohydrate intake.
Carbohydrate Entry (> 80 g)	52	Consider counseling your patient on the effect of high carbohydrate intake.
Delayed Site Change *	58	Consider counseling your patient on the proper frequency of infusion site changes and to use fixed primes / cannula fills when changing sites.

* Delayed Site Change based on (24) 90+ minute Hyperglycemic Episodes

Other Observations

Infusion Site Change	Consider counseling your patient on changing infusion sites a minimum of every three days or review the correct way to change an infusion site with the patient.
Sensor Wear	Consider counseling your patient on the benefits of more frequent sensor use.

Dashboard and Episode Summary at a glance

The Dashboard and Episode Summary is a two-page report that provides a summary of a patient's glucose, carbohydrate, and insulin data for a selected time period. It provides an overview of the patient's glycemic control (daily, overnight, and at meal times) and comprehensive statistical data. The report also provides a summary of hypoglycemic and hyperglycemic patterns and details of these episodes, including a description of events preceding episodes of low and high glucose.

The report is intended to provide a comprehensive summary to help you determine the level and quality of control your patient has achieved. The report provides detailed information of glycemic patterns throughout the day and data related to meals and basal/bolus insulin delivery.

By viewing the different graphs and tables, you can examine periods of hypoglycemia and hyperglycemia. The report also shows events that may have preceded these excursions.

The Episode Summary also describes events that preceded hypoglycemia and hyperglycemia and provides a section called Other Considerations that may be important factors in achieving optimal glucose control.

NOTE: If there are fewer than five days of sensor glucose readings in the selected period, the Dashboard and Episode Summary report will not be available.

Symbol	Meaning
	Sensor trace: Continuous tracing recorded by a glucose sensor
	Interrupted: Interrupted communication between the sensor transmitter and the insulin pump
	Average: Average of all sensor glucose tracings
	Basal: Continuous insulin delivery by insulin pump
	Bolus: Insulin delivery by the pump used to prevent or treat a high glucose level

Therapy Management Dashboard

The Therapy Management Dashboard provides an overview of the patient's glycemic control (daily, overnight, and at meal times) and comprehensive statistical data for the selected time period.

24-Hour Analysis — Sensor, Insulin, and Settings

The upper graph overlays the sensor glucose tracings from each day during which a glucose sensor was worn. The patient's meal periods are shown in gold blocks above the graph. The patient's glucose target range is shaded gray.

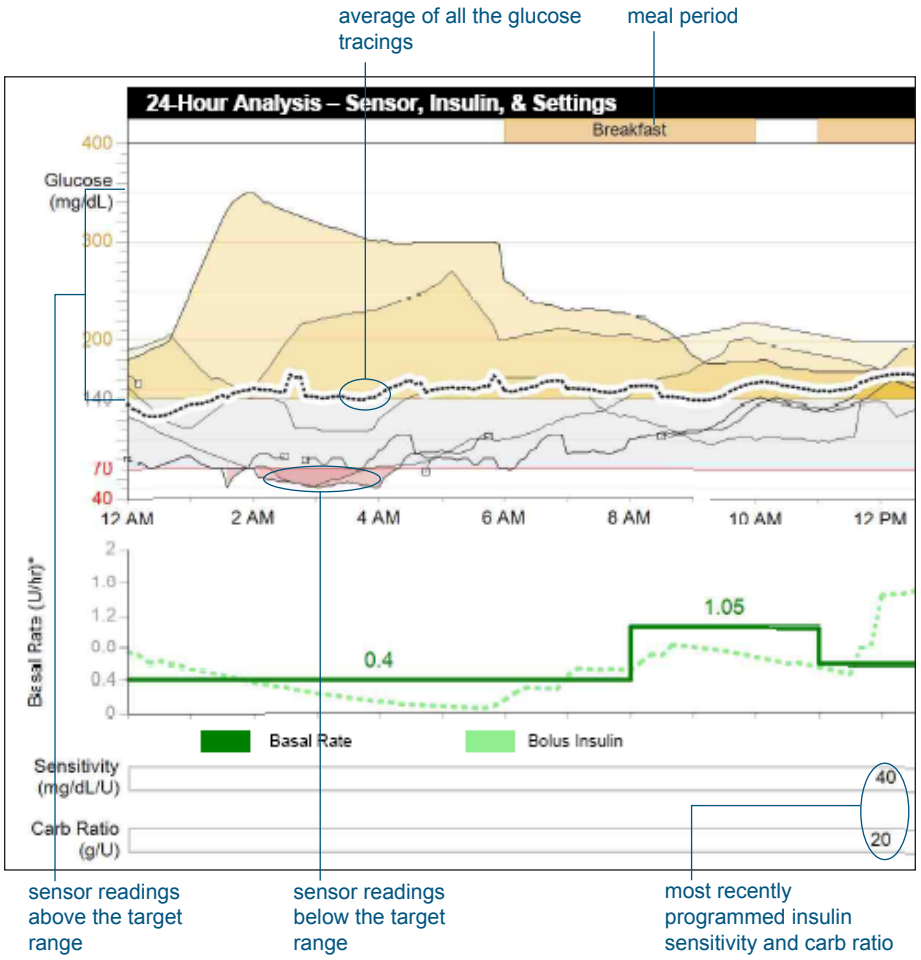
NOTE: You set the meal periods and target range during the report generation process.

- When the sensor glucose tracing is above the target, the area above the target range is shaded pale gold.
- When the sensor glucose tracing is below the target, the area below the target is shaded pale red.
- The dotted line shows the average of sensor glucose tracings.
- The intensity of shading on this graph corresponds to the number of high or low excursions that occurred in this time period.

The lower graph shows insulin delivery information.

- The solid green line represents the basal profile at the end of the reporting period.
- The dashed green line shows the average daily bolus insulin data. To generate the line, each bolus is converted to its pharmacodynamic insulin action profile. The pharmacodynamic curve is determined by the most recently selected active insulin setting.

The most recently programmed insulin sensitivity factors and carbohydrate ratio profiles are shown below the graph.



Glucose Sensor Overlay—Bedtime to Wake-up and Meal Periods—Readings and Averages

The following conventions are used in the Bedtime to Wake-up and Meal Periods graphs:

- The patient's glucose target range is shaded gray.
- When the sensor glucose tracing is above the target, the area between the tracing and the target range is shaded pale gold.
- When the sensor glucose tracing is below the target, the area between the tracing and the target is shaded pale red.
- The intensity of shading on the graph corresponds to the number of high or low excursions that occurred in the time period.
- The dotted line signifies the average of sensor glucose tracings for the time period.

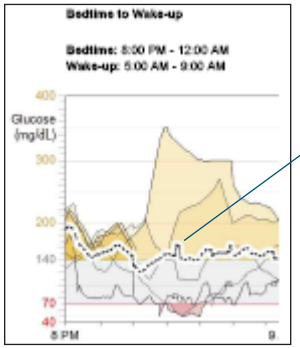
NOTE: You set the meal periods and target range during the report generation process.

Bedtime to Wake-Up

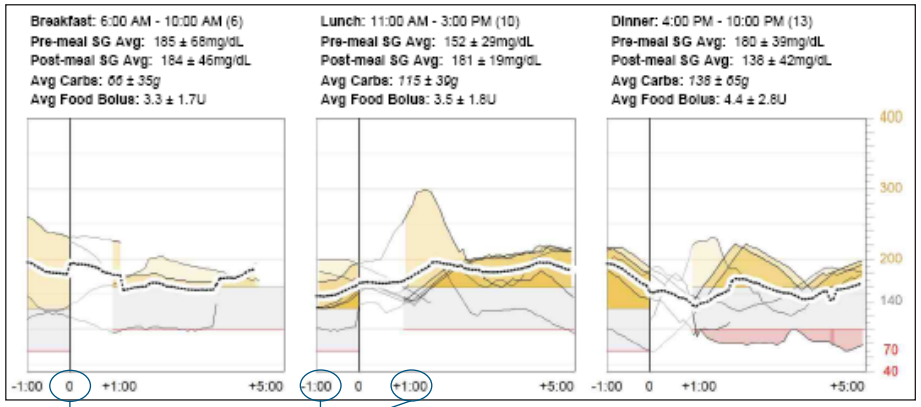
This graph combines the sensor glucose tracing recorded between bedtime and wake-up from each day on which a glucose sensor was worn during the reporting period. Bedtime and wake-up times are based upon the patient's customized settings shown above the graph.

Meal Periods

These graphs combine pre-meal and post-meal sensor glucose tracings. The meal tracings are aligned by the time of carbohydrate entry into the Bolus Wizard®. The time frame, pre- and post-meal averages and standard deviation, average carbohydrate intake, and average size of food bolus for each meal are listed above the graphs.



average of all tracings for the reporting period



time is shown relative to carbohydrate entries, instead of the actual time

sensor tracings are shifted so that meals are aligned according to the time of carbohydrate entry

Statistics

Avg BG: Average of all meter glucose values obtained and the standard deviation in mg/dL (or mmol/L).

Estimated A1C: The estimated A1C value based upon the average sensor glucose using this formula[1]:

Estimated A1C = (Avg SG + 46.7)/28.7

The estimated A1C is based on the data available during the reporting period and may not represent a laboratory-derived A1C. This estimated A1C formula is derived from the referenced publication. The formula was originally designed to derive an average glucose for a laboratory-measured A1C. It did not validate a derived A1C from average glucose data. The equation has been reversed to show an estimated A1C for the mean glucose values from the sensor during the reporting period.

BG Readings: Average number of meter glucose values obtained per day.

Carbs Entered: Average daily carbohydrate intake and the standard deviation either in grams or exchanges.

Statistics	
Avg BG	153 ± 56 mg/dL
Estimated A1C	7.2%
BG Readings	5.3 per day
Carbs Entered	332± 87g per day

Hypoglycemic and Hyperglycemic Patterns

Each table provides the number and time periods over which hypoglycemia and hyperglycemia occurred. An episode must be at least 30 minutes in duration to be reported.

- Hypoglycemic patterns
  - If there are 14 days of sensor data or more, there must be at least two episodes for a hypoglycemic pattern to be reported.
  - If there are fewer than 14 days of sensor data, one episode is reported as a hypoglycemic pattern.
  - The top three hypoglycemic patterns are listed, based on frequency.
- Hyperglycemic patterns
  - For a hyperglycemic pattern to be reported, the average sensor glucose as represented by the heavy dotted line (not individual episodes) in a time period must be above the target range.
  - The top three hyperglycemic patterns are listed, based on the magnitude of AUC (Area Under the Curve).

Hypoglycemic Patterns (1)	
	1:20 AM-4:20 AM (5)
Time Period	

number of hypoglycemic patterns during the reporting period

number of episodes that occurred within the hypoglycemic pattern

Hyperglycemic Patterns (7)**	
	1:15 PM-6:45 PM
Time Period	11:30 AM-1:05 PM
	7:10 PM-12:00 AM

number of hyperglycemic patterns during the reporting period; two asterisks (**) indicate that there are more than three patterns

top three patterns are shown

[1] David M. Nathan, MD, et al., "Translating the A1C Assay Into Estimated Average Glucose Values," Diabetes Care 31 (2008).

Pump Use

Insulin TDD: Average total daily dose of insulin and the standard deviation.

Basal/Bolus Ratio: The ratio of basal to bolus insulin delivered (percentage of total for each).

Manual Boluses: The average daily amount of insulin delivered using manual boluses, and the average number of manual boluses delivered per day.

Bolus Wizard: The average daily amount of insulin delivered using the Bolus Wizard, and the average number of boluses delivered per day using the Bolus Wizard.

Food: The average daily amount of insulin recommended for food, and the average number of boluses delivered for food each day.

Correction: The average daily amount of insulin recommended for correction boluses, and the average number of correction boluses delivered each day.

Override (+): The average daily amount of insulin increased over the recommended amount, and the average number of positive overrides programmed each day.

Override (-): The average daily amount of insulin reduced below the recommended amount, and the average number of negative overrides programmed each day.

Suspend Duration: The average daily time in minutes spent with insulin delivery suspended manually by the user.

Low Glucose Suspend (LGS) Events: The average daily number of Low Glucose Suspend events (only on LGS-enabled pump reports).

Pump Use	Per Day
Insulin TDD	36.5 ± 5.4U
Basal/Bolus Ratio	48 / 52
Manual Boluses	0.7U (0.2 boluses)
Bolus Wizard	18.1U (3.3 boluses)
Food	13.9U (3.3 boluses)
Correction	1.1U (1.2 boluses)
Override (+)	1.2U (0.9 boluses)
Override (-)	0.0U (0.0 boluses)
Suspend Duration	7m per day
Res./Site Change	Every 5.2 days / Never

Low Glucose Suspend (LGS) Time: The average daily time in minutes spent with insulin delivery suspended by the Low Glucsoe Suspend feature (only on LGS-enabled pump reports).

Res./Site Change: The average time in days between reservoir changes based upon rewind events and the average time between infusion set changes based upon fixed prime (cannula fill) events.

Sensor Use

Avg SG: Average of all sensor glucose values obtained and the standard deviation.

Wear Duration: The average amount of time per week with sensor glucose data.

Low SG Alarms: The average number of low sensor glucose threshold and predictive alarms per day.

High SG Alarms: The average number of high sensor glucose threshold and predictive alarms per day.

Sensor Use	
Avg SG	159 ± 59 mg/dL
Wear Duration	2d 12h per week
Low SG Alarms	0.0 per day
High SG Alarms	0.0 per day

Episode Summary

The Episode Summary report provides a summary of the hypoglycemic and hyperglycemic episodes and events preceding these episodes. The hypoglycemic data is shown in red on the left side of the report, and the hyperglycemia data is shown in gold on the right side of the report.

- A hypoglycemic episode is identified when the sensor glucose was at or below the target range for at least 30 minutes within a time period.
- A hyperglycemic episode is identified when the sensor glucose was at or above the target range for at least 30 minutes within a time period.

For a complete description of all possible event types and observations, see the “Appendix” on p.32.

Hypoglycemic (or Hyperglycemic) Episodes, by preceding Event Type

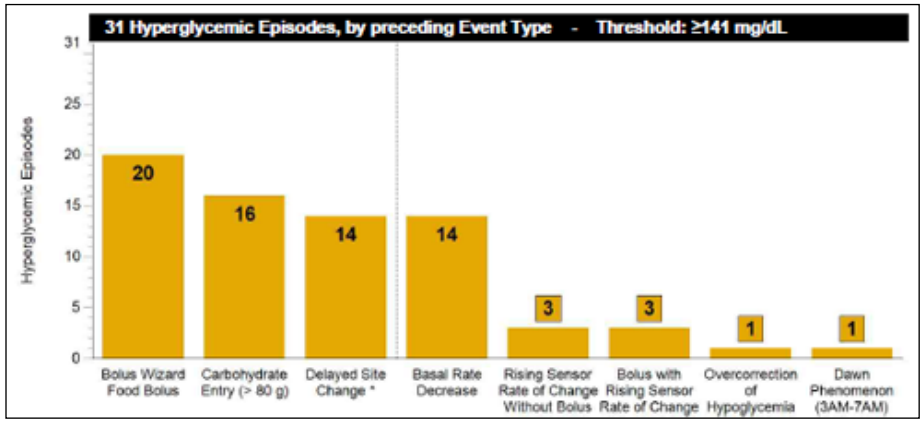
The heading of this section provides the number of hypoglycemic and hyperglycemic episodes and the threshold (target sensor glucose) at which an episode is captured. The bar chart shows the number of episodes that are preceded by a particular event type.

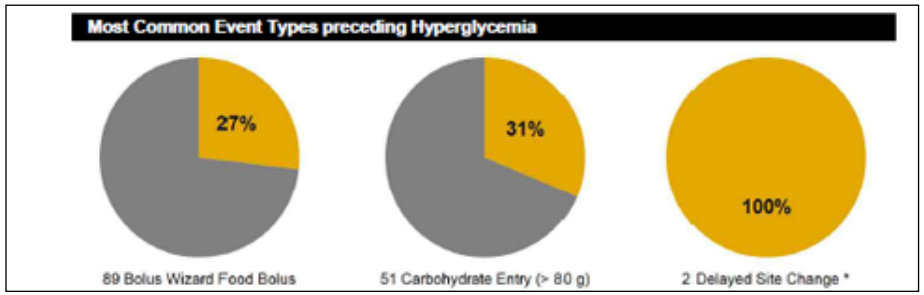
- There are 12 possible event types which may precede hypoglycemic episodes.
- There are 10 possible event types which may precede hyperglycemic episodes.
- It is possible that none of the event types precedes an episode.
- More than one event may precede a single hypoglycemic or hyperglycemic episode.

For a complete description of all possible event types, see the “Appendix” on p.32.

Most Common Event Types preceding Hypoglycemia (or Hyperglycemia)

The pie charts show the percentage of time an event type was followed by hypoglycemia or hyperglycemia. The total number of occurrences of each type of event is shown beneath each pie chart.





Event Type Descriptions

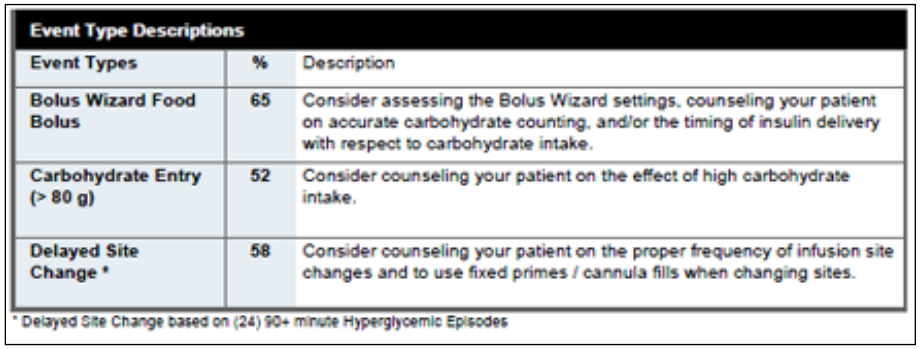
The Event Type Descriptions table shows the percent of the total number of hypoglycemic and hyperglycemic episodes which are preceded by the listed event type. It also provides possible considerations to avoid future occurrences of these episodes.

For a list of event types, as well as information on how CareLink Pro identifies events, see the “Appendix” on p.32.

Other Observations

This table lists observations regarding key behavioral/compliance measures related to insulin pump, CGM, and BG meter usage. There are six possible messages coupled with a description of considerations to resolve the issue. These observations may not be episode related.

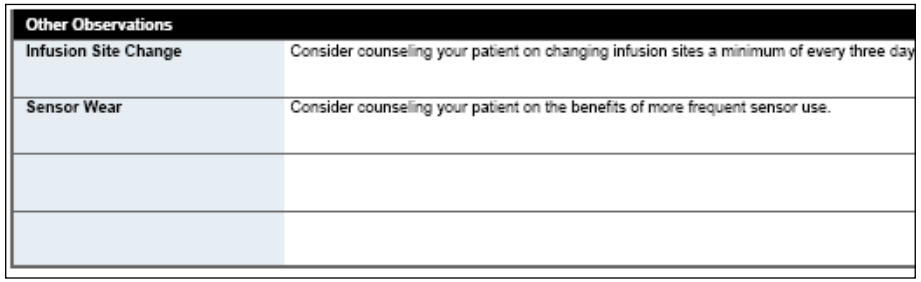
For a list of all possible observations, see the “Appendix” on p.32.



Event Type Descriptions

Event Types	%	Description
Bolus Wizard Food Bolus	65	Consider assessing the Bolus Wizard settings, counseling your patient on accurate carbohydrate counting, and/or the timing of insulin delivery with respect to carbohydrate intake.
Carbohydrate Entry (> 80 g)	52	Consider counseling your patient on the effect of high carbohydrate intake.
Delayed Site Change *	58	Consider counseling your patient on the proper frequency of infusion site changes and to use fixed primes / cannula fills when changing sites.

* Delayed Site Change based on (24) 90+ minute Hyperglycemic Episodes



Other Observations

Infusion Site Change	Consider counseling your patient on changing infusion sites a minimum of every three day
Sensor Wear	Consider counseling your patient on the benefits of more frequent sensor use.

Adherence Report

Medtronic

Adherence (1 of 1)
11/1/2007 - 11/14/2007

Drake, Ethan
0

Generated: 11/15/2007 1:38:19 PM
Data Sources: MiniMed Paradigm 722 (E.Drake)

	Glucose Measurements		Bolus Events					Priming Events					
	BG Readings	Sensor Duration (d:hh:mm)	Manual Boluses	Bolus Wizard Events	With Food	With Correction	Overridden	Rewind	Fixed Primes	Fixed Prime Volume (U)	Manual Primes	Manual Prime Volume (U)	Suspend Duration (h:mm)
Thursday 11/1/2007	3			3	3	1	1						
Friday 11/2/2007	7		1	3	3	1	1						
Saturday 11/3/2007	6	24:00		3	3	3	3						0:02
Sunday 11/4/2007	6	21:05		3	3	3	3						0:15
◔ Monday 11/5/2007		0:15											
◔ Tuesday 11/6/2007	4			3	3			1			1	3.1	
Wednesday 11/7/2007	7	19:15		3	3								0:11
Thursday 11/8/2007	5	24:00		3	3	1					1	0.5	0:15
Friday 11/9/2007	8	24:00		5	5	3	1						
Saturday 11/10/2007	5	24:00		3	3	2							
Sunday 11/11/2007	7	24:00		5	5	3	2						0:15
Monday 11/12/2007	3			3	3						1	0.9	
Tuesday 11/13/2007	4			4	4								0:30
Wednesday 11/14/2007	7		1	3	3								0:05
Summary	5.7/day	6d 16h 35m	0.2/day	3.4/day	100.0%	41.5%	26.8%	1	0	--	3	0.7U/prime	1:33

◔ Partial day

Note: Partial days will not be included in summary averages. Days on which a time change occured are considered to be partial days.

Adherence Report at a glance

The Adherence Report presents data from a patient's insulin pump, blood glucose meter, and glucose sensor (if used). It can provide insight into the patient's glucose management behavior. The Adherence Report summarizes up to two weeks of data. The sections of the report are described below.

Date column

The Partial day symbol may appear in this column to indicate that only partial data for the day was obtained. This can occur when a time change was made on the pump or Guardian.

Glucose measurements

The Glucose Measurements section contains columns for the number of meter readings and the duration of glucose sensor use.

Bolus events

The Bolus Events section consists of five columns that present total numbers for the following: (1) manual boluses, (2) Bolus Wizard events, (3) Bolus Wizard boluses with a food component, (4) Bolus Wizard boluses with a correction component, and (5) Bolus Wizard calculator overrides.

Priming events (fill events)

The Priming Events (or Fill Events) section includes columns for events related to priming (or filling) the pump cannula and tubing, including the number of events that occurred, and the volume of insulin used. The terminology in this section of the report differs depending on the pump model.

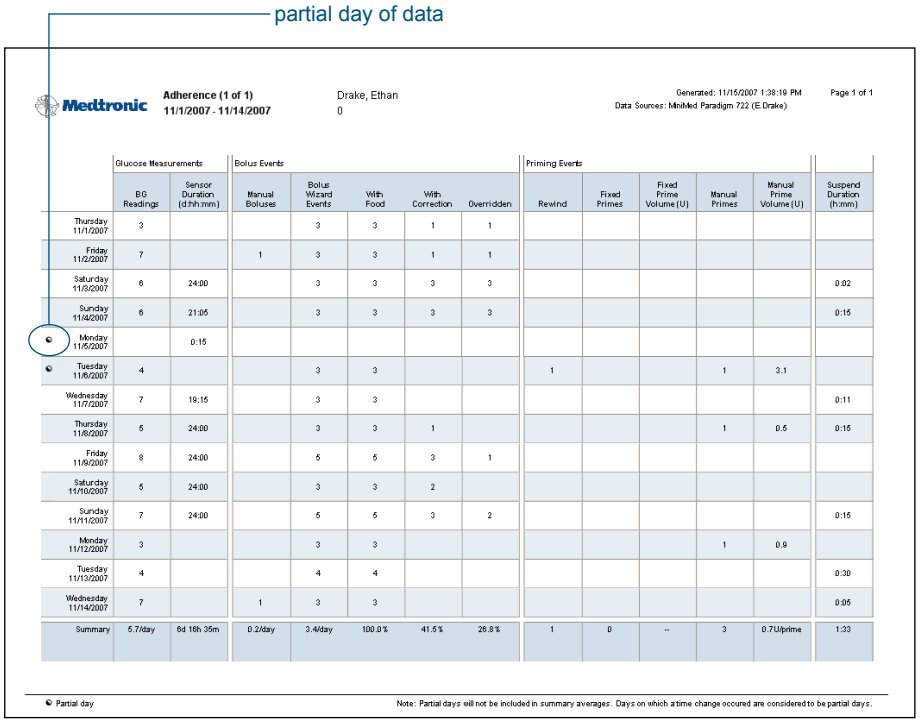
Pump suspends

The last column in the table shows the duration (hours and minutes) for which the insulin pump was suspended.

Summary row

The averages, totals, or percentages are listed at the bottom of each column.

Symbol	Meaning
◔	Partial day: Day contains partial data; this data is shown in graphs and totals, but is not in summary averages or standard deviations
🔻	Low suspend: Pump-initiated suspension of all insulin delivery

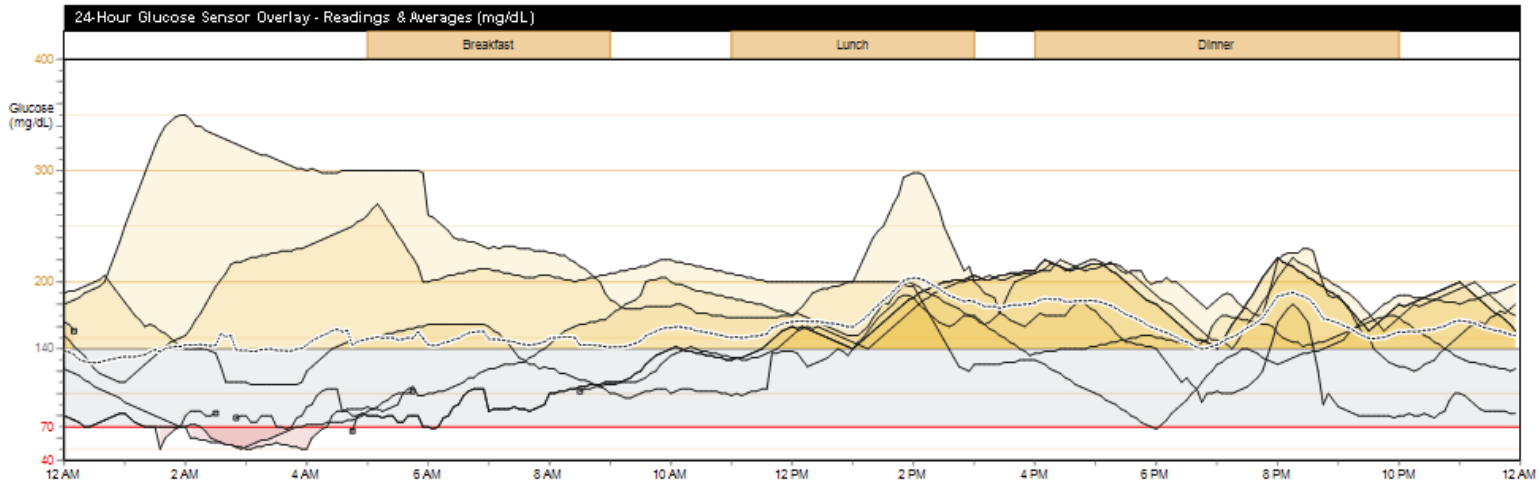


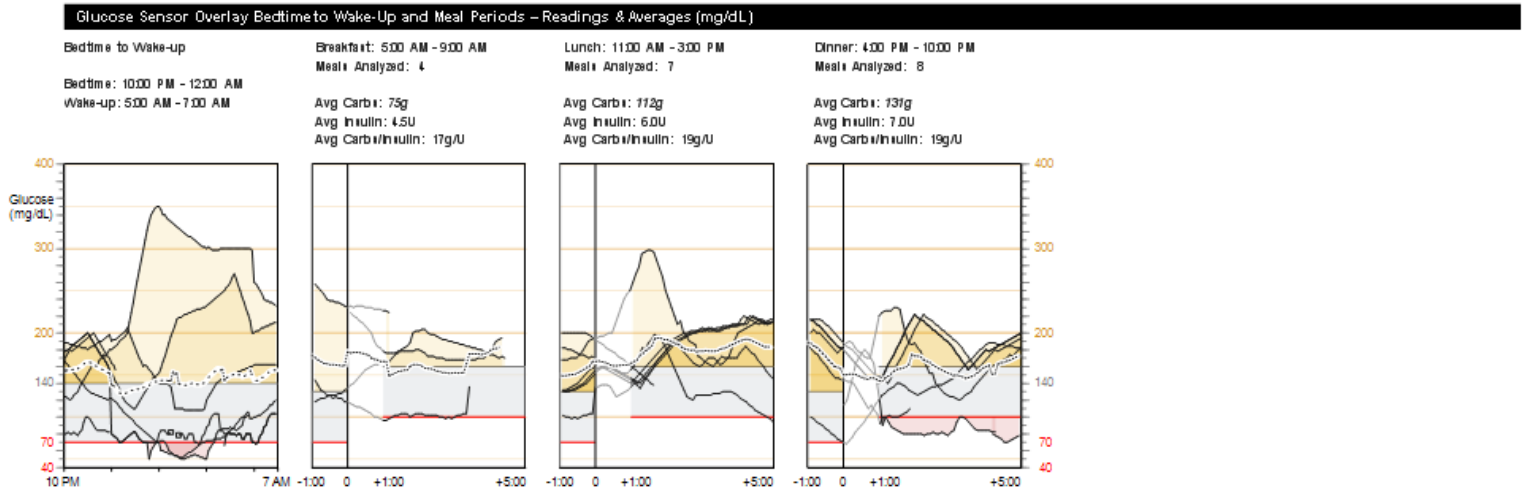
Sensor and Meter Overview Report

Medtronic

Sensor & Meter Overview (1 of 3) Drake, Ethan
12/6/2007 - 12/19/2007 0

Generated: 12/20/2007 9:36:44 AM Page 1 of 3
Data Sources: MiniMed Paradigm 722 (E.Drake)





Sensor trace Interrupted Average

NOTE: This page displays only when you have sensor data.

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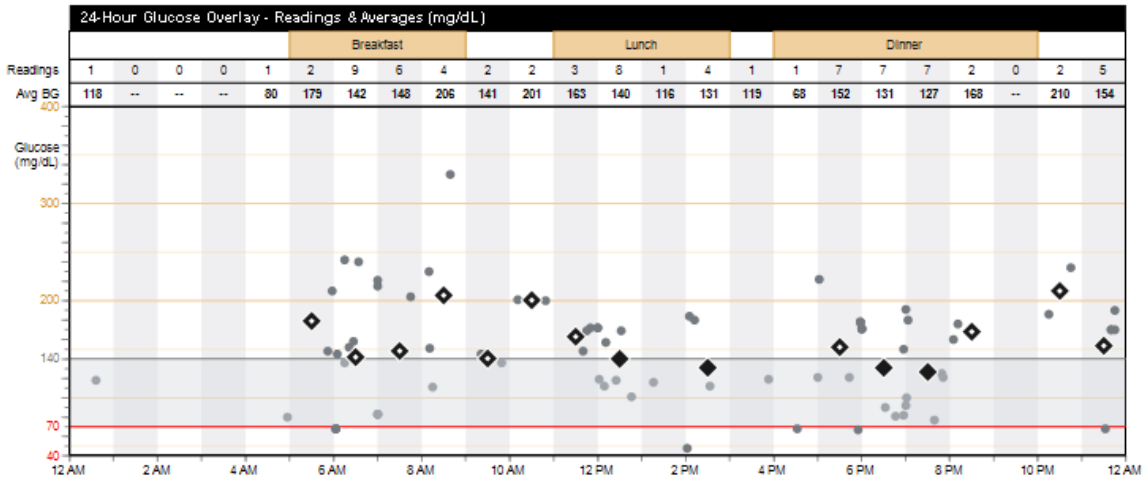
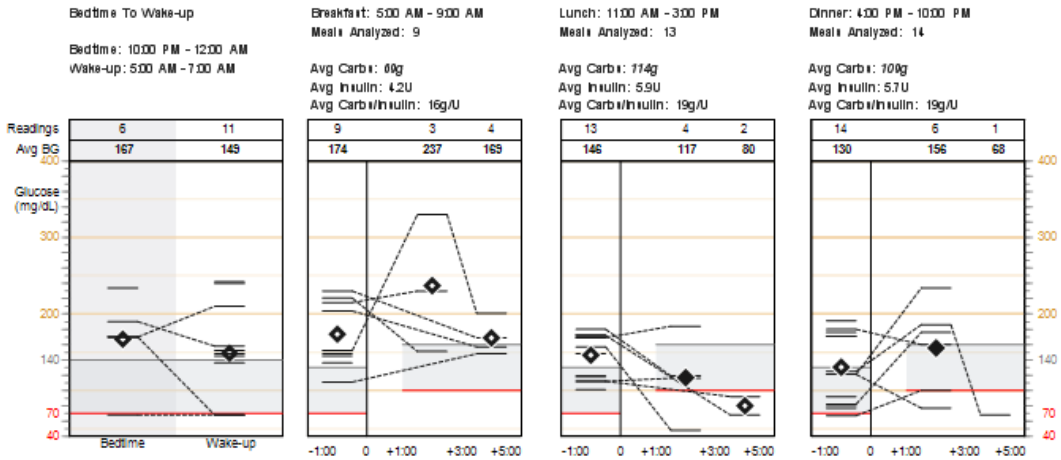
Sensor & Meter Overview (2 of 3) Drake, Ethan
12/6/2007 - 12/19/2007 0

Generated: 12/20/2007 9:36:44 AM Page 2 of 3
Data Sources: MiniMed Paradigm 722 (E.Drake)

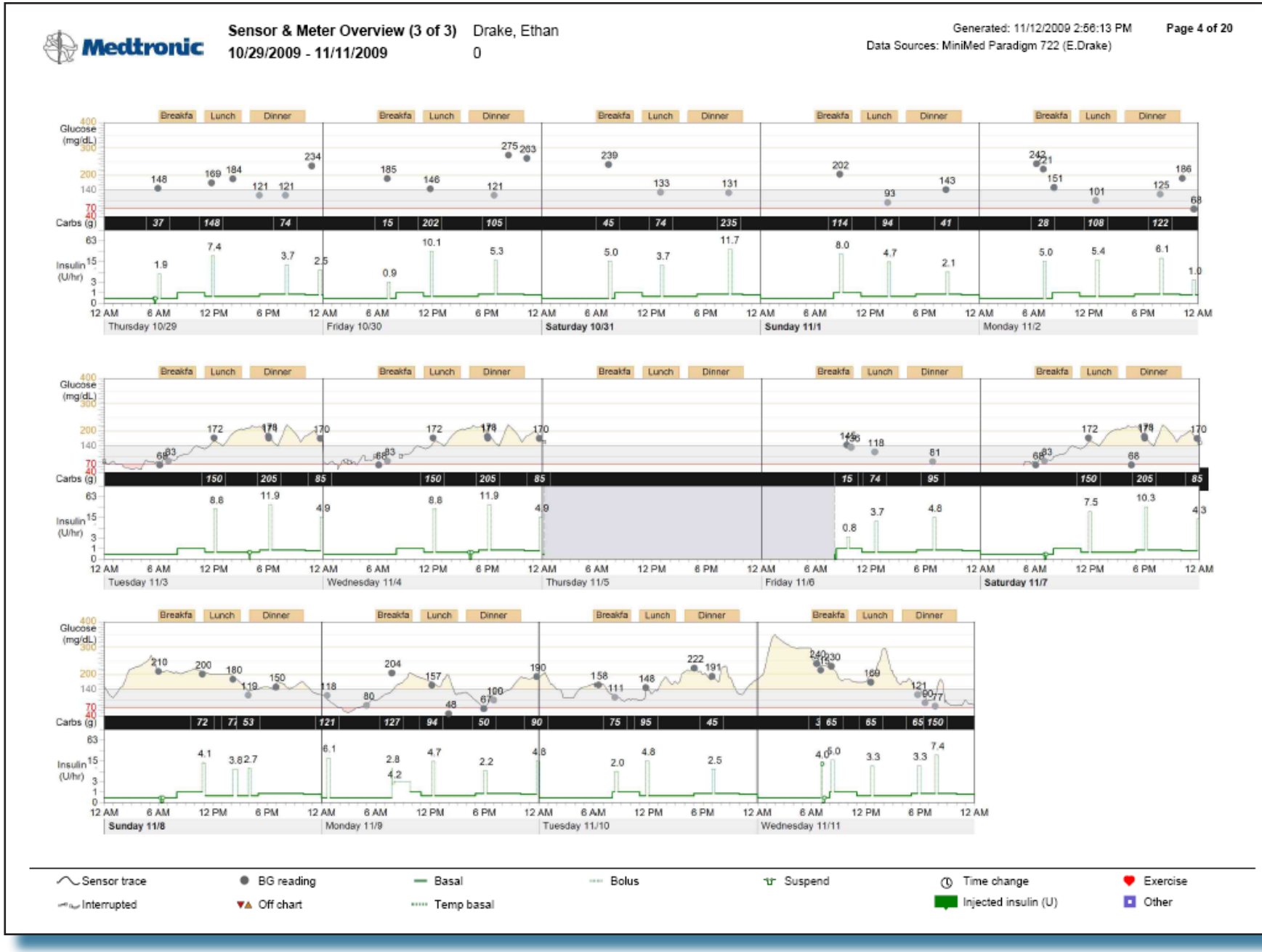


Statistics	12/6 - 12/19	
Avg BG (mg/dL)	147 ± 54	
BG Readings	75	5.9/day
Readings Above Target	43	57%
Readings Below Target	7	9%
Sensor Avg (mg/dL)	158 ± 55	
Avg AUC > 140 (mg/dL)	32.5	6d 17h
Avg AUC < 70 (mg/dL)	0.3	6d 17h
Avg Daily Carbs (g)	338 ± 104	
Carbs/Bolus Insulin (g/U)	18	
Avg Total Daily Insulin (U)	36.7 ±6.3	
Avg Daily Basal (U)	17.7	48%
Avg Daily Bolus (U)	18.9	52%

Glucose Overlay Bedtime to Wake-Up and Meal Periods – Readings & Averages (mg/dL)



BG reading | BG reading | Off chart | Average within target range | Average outside target range


Medtronic
Sensor & Meter Overview (3 of 3)
10/29/2009 - 11/11/2009
Drake, Ethan
0
Generated: 11/12/2009 2:56:13 PM
Data Sources: MiniMed Paradigm 722 (E.Drake)
Page 4 of 20
Glucose (mg/dL)
Carbs (g)
Insulin (U/hr)
Breakfa
Lunch
Dinner
12 AM
6 AM
12 PM
6 PM
Thursday 10/29
Friday 10/30
Saturday 10/31
Sunday 11/1
Monday 11/2
Tuesday 11/3
Wednesday 11/4
Thursday 11/5
Friday 11/6
Saturday 11/7
Sunday 11/8
Monday 11/9
Tuesday 11/10
Wednesday 11/11
Sensor trace
BG reading
Basal
Bolus
Suspend
Time change
Exercise
Interrupted
Off chart
Temp basal
Injected insulin (U)
Other

Sensor and Meter Overview Report at a glance

The Sensor and Meter Overview Report presents data from a patient's insulin pump, glucose meter, and glucose sensor. It highlights areas of interest for further investigation. This report can span multiple pages.

The report provides data to help you determine the level and quality of control your patient has over his or her diabetes. By viewing the different charts and graphs, you can identify where the quality of control varies within a typical day and across the reporting period.

Symbol	Meaning
— or ●	BG reading: Glucose values reported by the pump or meter
	Off chart: Meter glucose value >400 mg/dL (22.22 mmol/L) or <40 mg/dL (2.22 mmol/L)
	Average within target range: The average of all glucose values falls within the patient's target range
	Average outside target range: The average of all glucose values falls above or below the patient's target range
	Sensor trace: Continuous tracing recorded by a glucose sensor
	Interrupted: Interrupted communication between the sensor transmitter and the insulin pump
	Average: Average of all sensor glucose tracings
	Basal: Continuous insulin delivery by insulin pump
	Temp basal: Temporary change in the rate of basal insulin delivery
	Bolus: Insulin delivery by the pump used to prevent or treat a high glucose level
	Suspend: User-initiated suspension of all insulin delivery from the pump
	Time change: A time change occurred on the insulin pump or Guardian clock; a time change is considered a partial day
	Injected insulin (U): A user-entered event marker, indicating an insulin injection
	Low suspend: Pump-initiated suspension of all insulin delivery
	Exercise: A user-entered event marker, indicating physical activity
	Other: A user-defined event marker, indicating such things as taking medications, feeling ill, stress, and so on

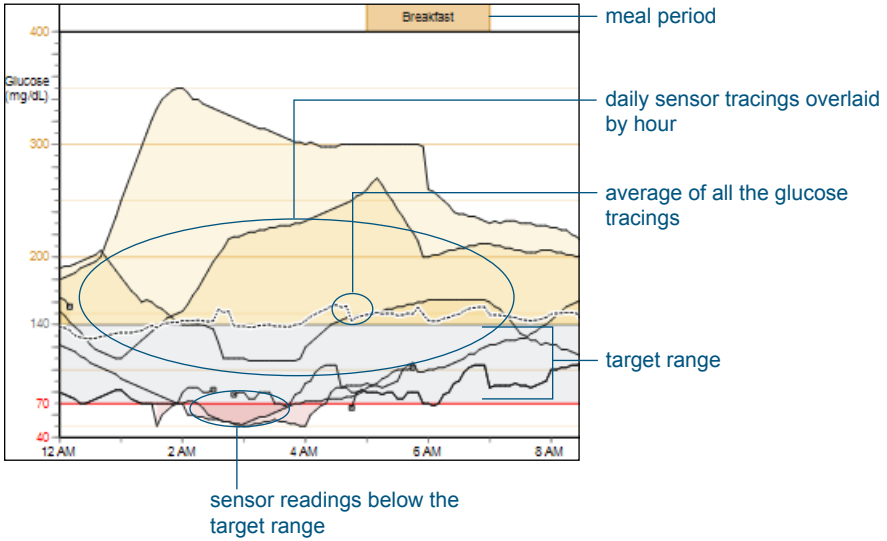
Sensor Overlay Charts and Graphs

NOTE: Sensor overlay charts and graphs display only when you have sensor data. These are the same graphs that appear on the Therapy Management Dashboard.

24-Hour Glucose Sensor Overlay—Readings and Averages

This graph combines the sensor glucose tracings from each day during which a glucose sensor was worn. The patient's meal periods are shown in gold blocks above the graph. The patient's glucose target range is shaded gray.

- When the sensor glucose tracing is above the target, the area between the tracing and the target range is shaded pale gold.
- When the sensor glucose tracing is below the target, the area between the tracing and the target is shaded pale red.
- The dotted line shows the average of sensor glucose tracings.
- The intensity of shading on this graph corresponds to the number of high or low excursions that occurred in this time period.

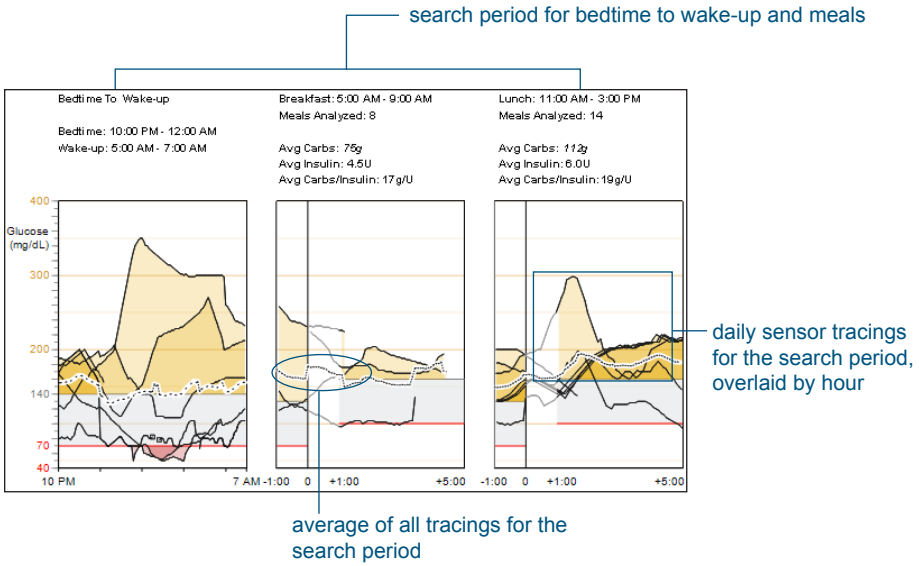


Glucose Sensor Overlay—Bedtime to Wake-up and Meal Periods—Readings and Averages

The following conventions are used in the Bedtime to Wake-Up and Meal Periods graphs:

- The patient's glucose target range is shaded gray.
- When the sensor glucose tracing is above the target, the area between the tracing and the target range is shaded pale gold.
- When the sensor glucose tracing is below the target, the area between the tracing and the target is shaded pale red.
- The intensity of shading on the graphs correspond to the number of high or low excursions that occurred in the time period.
- The dotted line signifies the average of sensor glucose tracings for the time period.

NOTE: You set the meal periods and target range during the report generation process.



Bedtime to Wake-Up

This graph combines the sensor glucose tracing recorded between bedtime and wake-up from each day on which a glucose sensor was worn during the reporting period. Bedtime and wake-up times are customized to the patient and listed above the graph.

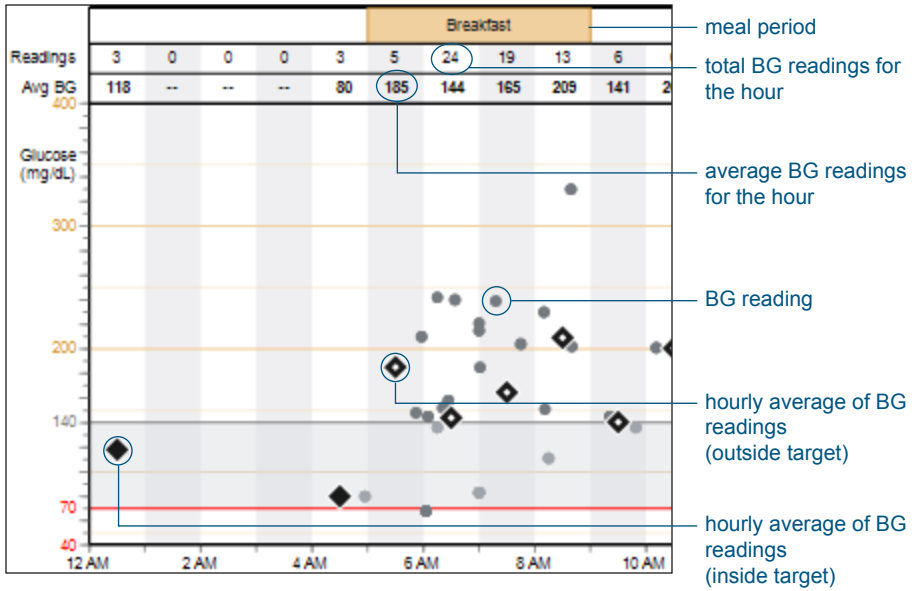
Meal Periods

These graphs combine pre-meal and post-meal sensor glucose tracings. The time frame, number of meals analyzed, carbohydrate intake, insulin averages, and average carbohydrate per unit of bolus insulin for each meal are listed above the graphs. The meal tracings are aligned by the time of carbohydrate entry into the Bolus Wizard.

Meter Overlay Charts and Graphs

24-Hour Glucose Overlay—Readings and Averages

This graph displays hourly meter glucose values recorded during the reporting period. The pooled data helps to identify daily patterns in a patient's glucose management. The band at the top of the graph reports the number of blood glucose readings taken each hour and the average blood glucose reading. The blood glucose data is plotted below the band.



Statistics

The statistics table provides a summary of the measures described below.

Definitions

Avg BG (mg/dL or mmol/L): Average of all meter glucose values obtained and the standard deviation

BG Readings: Number of meter glucose values (total and daily average)

Readings Above Target: Number of meter glucose values above target (total and daily average)

Readings Below Target: Number of meter glucose values below target (total and daily average)

Sensor Avg (mg/dL or mmol/L): Average of all sensor glucose values obtained and the standard deviation

Avg AUC > 140 (mg/dL) or Avg AUC > 7.8 (mmol/L): Average exposure to hyperglycemia, with the high target shown based on patient's settings

Avg AUC < 70 (mg/dL) or Avg AUC < 3.9 (mmol/L): Average exposure to hypoglycemia, with the low target shown based on patient's settings

Avg Daily Carbs (g): Average daily carbohydrate intake and the standard deviation

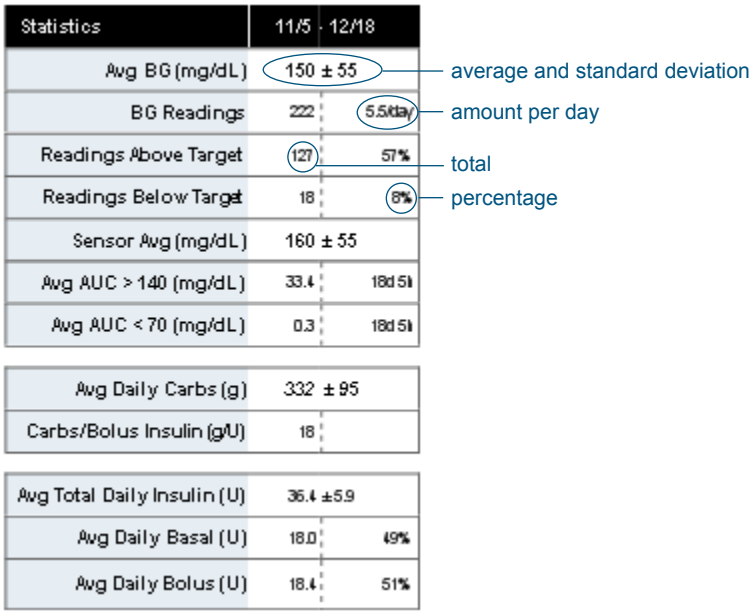
Carbs/Bolus Insulin (g/U): Average carbohydrate intake per unit of bolus insulin delivered

Avg Total Daily Insulin (U): Average basal and bolus insulin and the standard deviation

Avg Daily Basal (U): Average daily basal insulin (U and percentage of total)

Avg Daily Bolus (U): Average daily bolus insulin (U and percentage of total)

NOTE: Daily averages and standard deviations only reflect days containing 24 hours of continuous and complete device data. Days where time change events occurred or days containing partial data will be excluded from these calculations but will still be shown in graphs and totals.

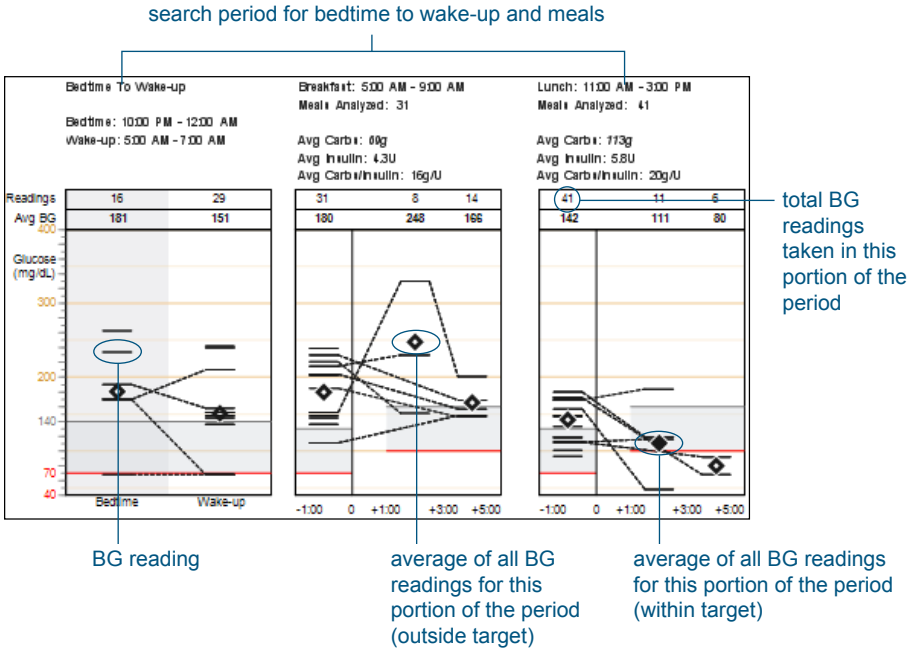


Glucose Overlay Bedtime to Wake-up and Meal Periods—Readings and Averages

The Bedtime to Wake-up Glucose Readings and Averages graph displays the last meter glucose value recorded during the defined Bedtime period and the first meter glucose value recorded during the defined Wake-up period from each day within the reporting period. Corresponding bedtime to wake-up glucose values are connected by a dotted line.

The Meal Period graphs (Breakfast, Lunch, and Dinner) combine pre–meal and post–meal meter glucose values from each day of the reporting period. The meter glucose values shown on these graphs are associated with a meal bolus.

If more than one meter glucose value was obtained in a given period, the graph is generated using the meter glucose value that was most proximate to the bolus event. The graphs help to identify daily patterns in a patient's pre– and post– meal glucose values from up to two hours before and up to five hours after a meal.

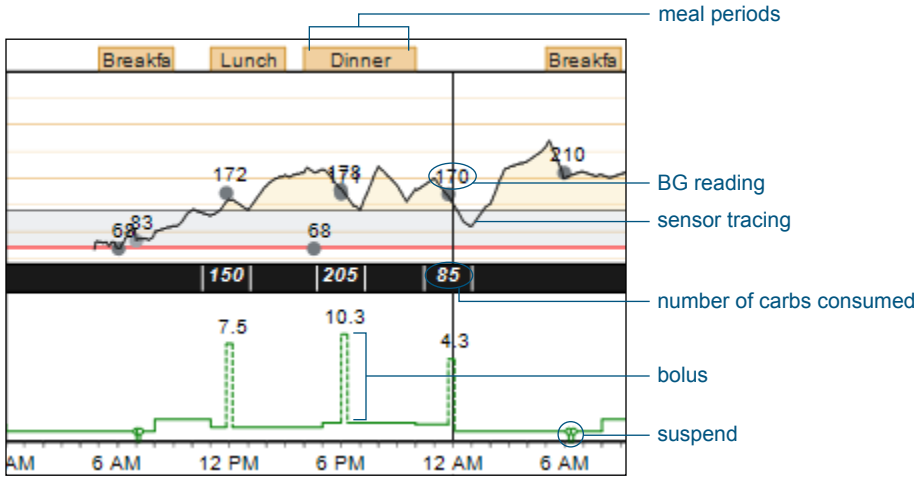


Glucose, Carbohydrates, Insulin

This graph includes sensor glucose values, meter glucose values recorded for calibration and as confirmatory fingersticks, carbohydrate intake recorded in the Bolus Wizard® calculator, basal and bolus insulin delivered, and injected insulin.

The patient's meal time periods are noted above the graph. When the sensor glucose tracing is above the target, the area between the tracing and the target range is shaded pale gold. When the sensor glucose tracing is below the target, the area between the tracing and the target is shaded pale red.

If there are more than 14 days of data for the reporting period, this graph will span multiple pages.



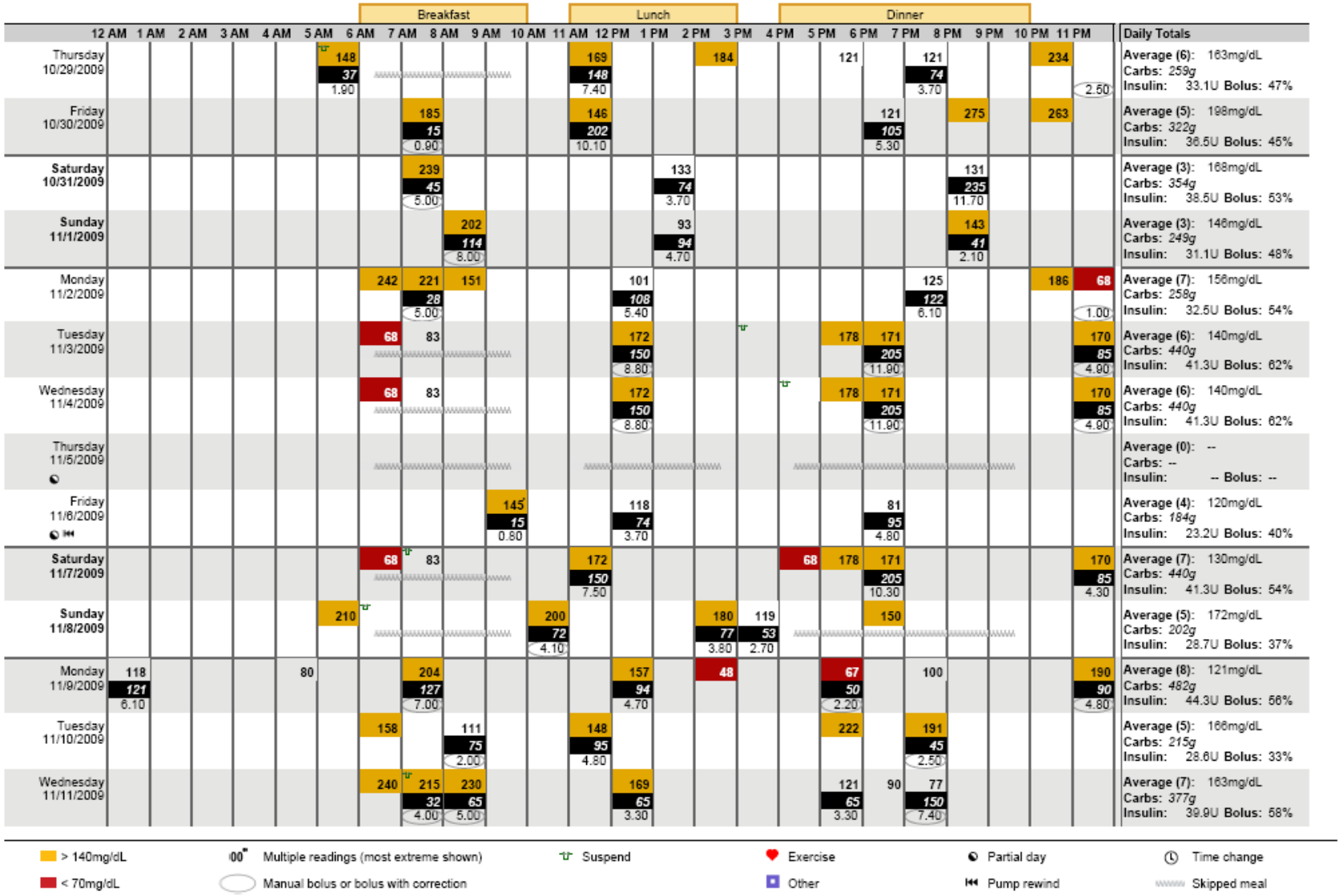
Logbook Report

Medtronic

Logbook (1 of 1)
10/29/2009 - 11/11/2009

Drake, Ethan
0

Generated: 11/12/2009 2:56:13 PM
Data Sources: MiniMed Paradigm 722 (E.Drake)



Logbook Report at a glance

The Logbook Report presents two weeks of data from a patient's insulin pump and blood glucose meter in a tabular format. The table shows the reported days in rows and each hour in columns, creating data cells. This report does not provide any sensor data.

Data cells

Each data cell in the reporting period corresponds to an hour within a day and can contain up to three values: (1) meter, (2) grams of carbohydrates, and (3) units of insulin delivered as a bolus. Time frames that correspond to meals are highlighted at the top of the report. The next sections describe each data cell element.

Symbol	Meaning
	Glucose <70 mg/dL (<3.9 mmol/L): Glucose value is below the patient's target low
	Glucose >140 mg/dL (>7.8 mmol/L): Glucose value is above the patient's target high
	Carbohydrate value: Total carbohydrate value; value shown is the total carbs consumed within the given hour on a given day
	Multiple readings: The most extreme value if multiple glucose values are obtained within an hour; priority is given to hypoglycemic values
	Pump rewind: Insulin pump rewind occurred (usually for a reservoir change, but also to fix occlusions)
	Suspend: User-initiated suspension of all insulin delivery from the insulin pump
	Manual bolus or bolus with correction: Delivered manual bolus or bolus calculated with the Bolus Wizard feature when the glucose meter reading is outside the patient's target range
	Skipped meal: No carbohydrates recorded during a meal time frame
	Time change: A time change occurred on the insulin pump or Guardian clock; a time change is considered a partial day
	Partial day: Day contains partial data; this data is shown in graphs and totals, but is not in summary averages or standard deviations
	Low suspend: Pump-initiated suspension of all insulin delivery
	Exercise: A user-entered event marker, indicating physical activity
	Other: A user-defined event marker, indicating such things as taking medications, feeling ill, stress, and so on

Glucose values

Blood glucose values show in the top portion of a data cell. Glucose values above or below the patient's target range are highlighted. If multiple values were obtained for a single hour, it is indicated with a dot in the upper right corner of the glucose value, and the value considered most extreme is shown based on these priorities:

- The lowest of any values below the patient's target is shown.
- If there are no lows, but there are values above the patient's target, the highest of these is shown.
- If there are no lows or highs, the value farthest from the center of the patient's target range is shown.

Bolus

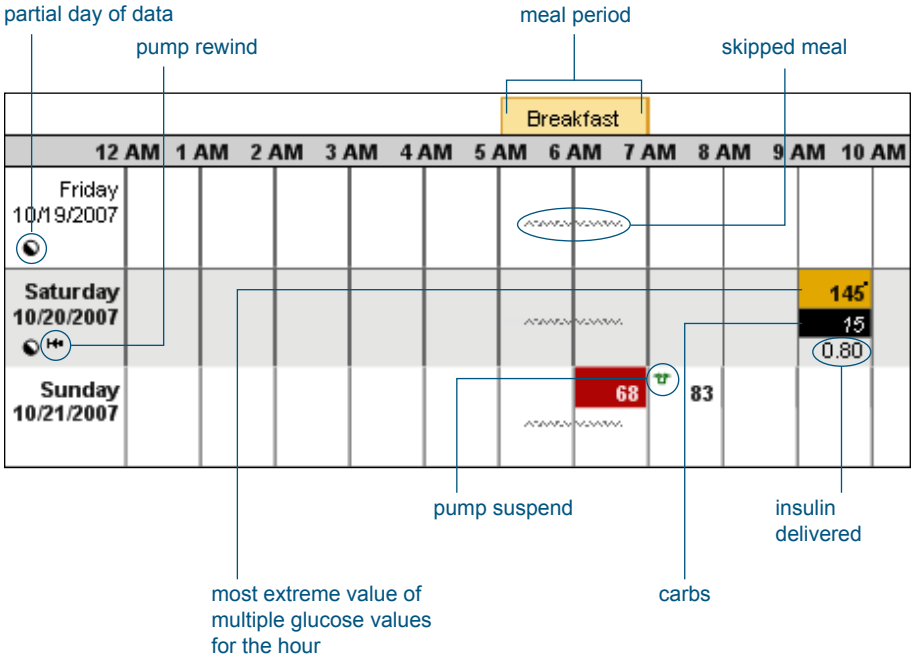
Boluses programmed within an hour are shown in the bottom portion of a data cell. If the bolus insulin value is from a manual bolus or Bolus Wizard correction, the value is circled.

Suspends and time changes

If the patient's insulin pump was suspended or a time change occurred on the pump clock, the corresponding symbol is shown in the upper left portion of each data cell for the hour in which the event was recorded.

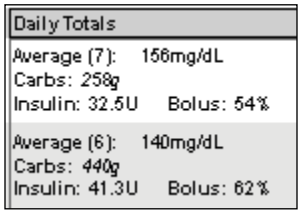
Meals

Meal time frames correspond to the patient's specified meal periods and are called out at the top of the report. Carbohydrate values recorded from Bolus Wizard calculations are totaled for each hour in a meal period and are shown in a black box in the middle portion of the data cell. If there are no carbohydrate values recorded for an hour within a meal period, the Skipped meal symbol is shown.

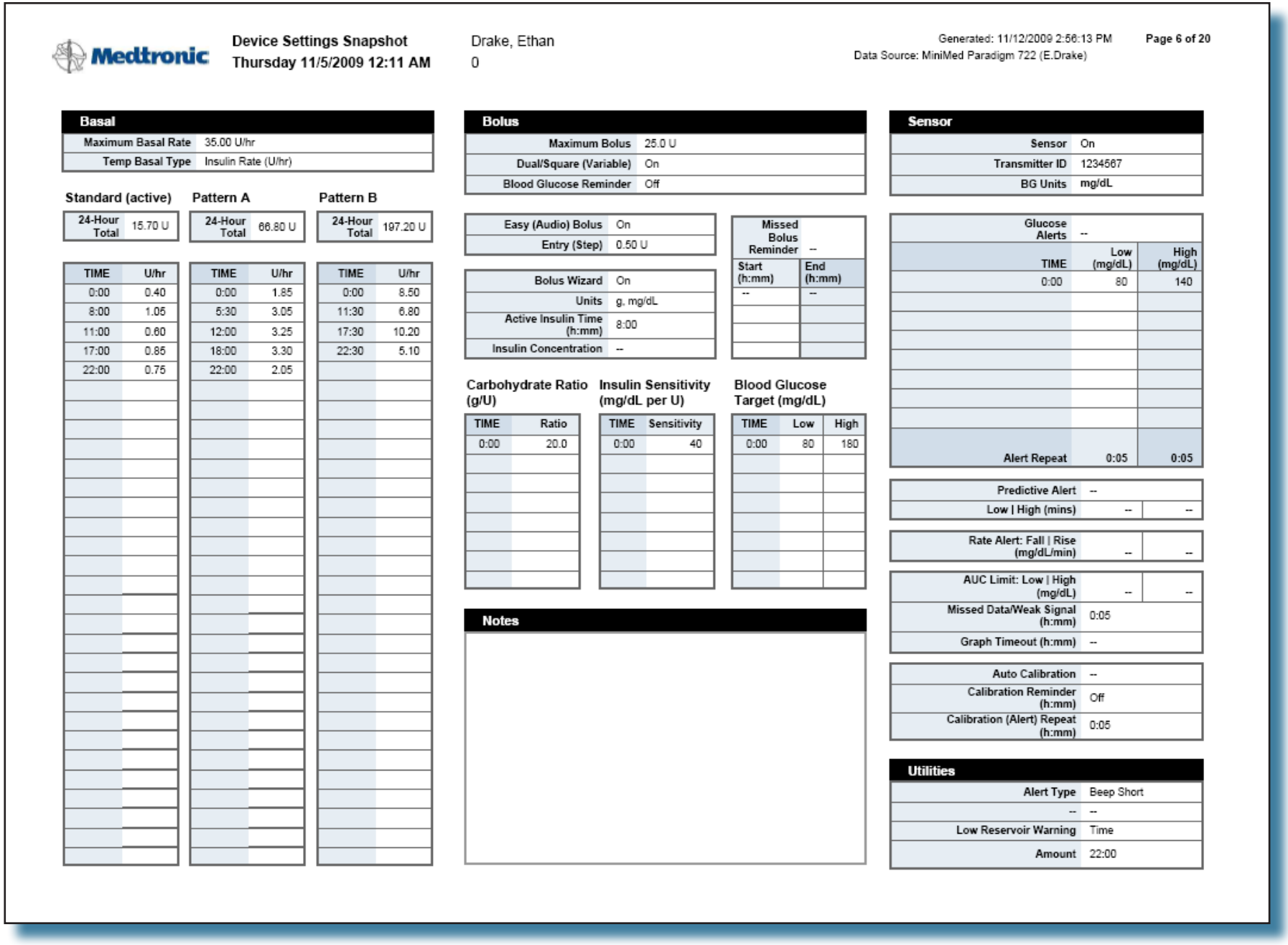


Daily Totals column

The Daily Totals column summarizes information from each day of the reporting period. The first line reports the daily meter glucose average and total meter readings taken. Total daily carbohydrate intake, based on the Bolus Wizard carbohydrate component, is listed on the second line. Finally, the total amount of insulin delivered, as well as that portion of the amount of insulin delivered as a bolus is expressed as a percentage on the third line.



Device Settings Snapshot



Medtronic

Device Settings Snapshot
Thursday 11/5/2009 12:11 AM

Drake, Ethan
0

Generated: 11/12/2009 2:56:13 PM
Data Source: MiniMed Paradigm 722 (E.Drake)

Page 6 of 20

Basal

Maximum Basal Rate	35.00 U/hr
Temp Basal Type	Insulin Rate (U/hr)

Standard (active)		Pattern A		Pattern B	
24-Hour Total	15.70 U	24-Hour Total	66.80 U	24-Hour Total	197.20 U

TIME	U/hr
0:00	0.40
8:00	1.05
11:00	0.60
17:00	0.85
22:00	0.75

TIME	U/hr
0:00	1.85
5:30	3.05
12:00	3.25
18:00	3.30
22:00	2.05

TIME	U/hr
0:00	8.50
11:30	6.80
17:30	10.20
22:30	5.10

Bolus

Maximum Bolus	25.0 U
Dual/Square (Variable)	On
Blood Glucose Reminder	Off

Easy (Audio) Bolus	On
Entry (Step)	0.50 U

Bolus Wizard	On
Units	g, mg/dL
Active Insulin Time (h:mm)	8:00
Insulin Concentration	--

Missed Bolus Reminder	--
Start (h:mm)	End (h:mm)
--	--

Carbohydrate Ratio (g/U)

TIME	Ratio
0:00	20.0

Insulin Sensitivity (mg/dL per U)

TIME	Sensitivity
0:00	40

Blood Glucose Target (mg/dL)

TIME	Low	High
0:00	80	180

Notes

Sensor

Sensor	On
Transmitter ID	1234567
BG Units	mg/dL

Glucose Alerts	--	
TIME	Low (mg/dL)	High (mg/dL)
0:00	80	140
Alert Repeat	0:05	0:05

Predictive Alert	--	
Low | High (mins)	--	--

Rate Alert: Fall | Rise (mg/dL/min)	--	--

AUC Limit: Low | High (mg/dL)	--	--
Missed Data/Weak Signal (h:mm)	0:05	
Graph Timeout (h:mm)	--	

Auto Calibration	--
Calibration Reminder (h:mm)	Off
Calibration (Alert) Repeat (h:mm)	0:05

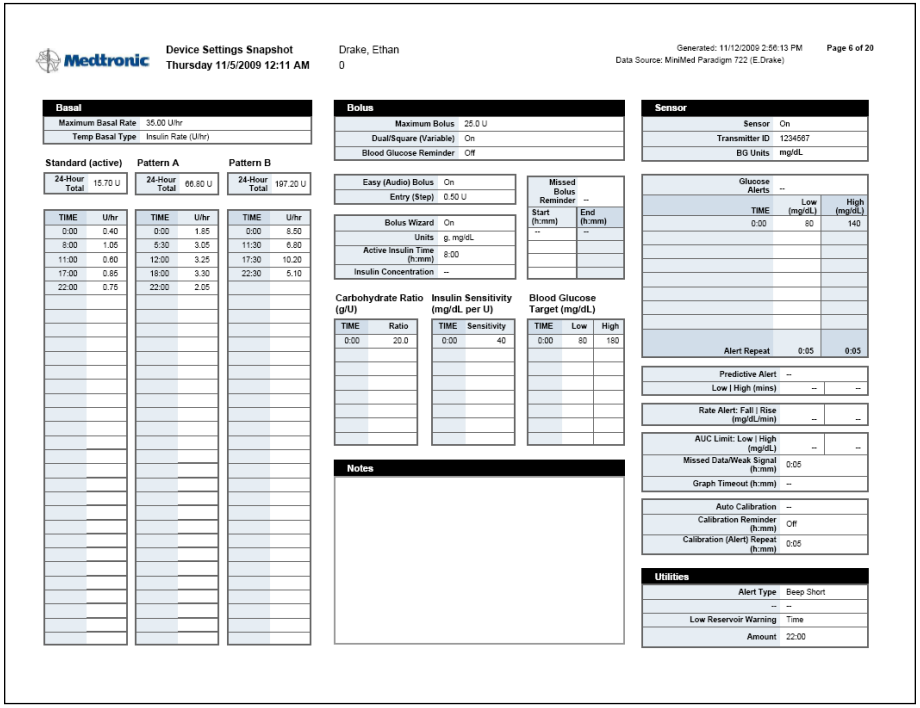
Utilities

Alert Type	Beep Short
--	--
Low Reservoir Warning	Time
Amount	22:00

Device Settings Snapshot at a glance

The Device Settings Snapshot report presents the customized settings of a patient's insulin pump or Guardian monitor that were active on the date and time when the patient's device was read.

The report presents tables of settings that correspond to the main menus on the device: Basal, Bolus, Sensor, and Utilities.



Medtronic

Device Settings Snapshot
Thursday 11/5/2009 12:11 AM

Drake, Ethan
0

Generated: 11/12/2009 2:56:13 PM
Data Source: MiniMed Paradigm 722 (E.Drake)

Page 6 of 20

Basal

Maximum Basal Rate	35.00 U/hr
Temp Basal Type	Insulin Rate (U/hr)

Standard (active)		Pattern A		Pattern B	
24-Hour Total	15.70 U	24-Hour Total	66.80 U	24-Hour Total	197.20 U

TIME	U/hr
0:00	0.40
8:00	1.05
11:00	0.60
17:00	0.85
22:00	0.75

TIME	U/hr
0:00	1.85
5:30	3.05
12:00	3.25
18:00	3.30
22:00	2.05

TIME	U/hr
0:00	8.50
11:30	6.80
17:30	10.20
22:30	5.10

Bolus

Maximum Bolus	25.0 U
Dual/Square (Variable)	On
Blood Glucose Reminder	Off
Easy (Audio) Bolus	On
Entry (Step)	0.50 U
Bolus Wizard	On
Units	g, mg/dL
Active Insulin Time (h:mm)	8:00
Insulin Concentration	--

Missed Bolus Reminder --

Start (h:mm)	End (h:mm)
--	--

Carbohydrate Ratio (g/U)

TIME	Ratio
0:00	20.0

Insulin Sensitivity (mg/dL per U)

TIME	Sensitivity
0:00	40

Blood Glucose Target (mg/dL)

TIME	Low	High
0:00	80	180

Notes

Sensor

Sensor	On
Transmitter ID	1234567
BG Units	mg/dL
Glucose Alerts	--

TIME	Low (mg/dL)	High (mg/dL)
0:00	80	140
Alert Repeat	0:05	0:05

Predictive Alert	--	
Low | High (mins)	--	--
Rate Alert: Fall | Rise (mg/dL/min)	--	--
AUC Limit: Low | High (mg/dL)	--	--
Missed Data/Weak Signal (h:mm)	0:05	
Graph Timeout (h:mm)	--	
Auto Calibration	--	
Calibration Reminder (h:mm)	Off	
Calibration (Alert) Repeat (h:mm)	0:05	

Utilities

Alert Type	Beep Short
--	--
Low Reservoir Warning	Time
Amount	22:00

Daily Detail Report

Medtronic

Daily Detail (10 of 14)
Saturday 11/7/2009

Drake, Ethan
0

Generated: 11/12/2009 2:56:14 PM
Data Sources: MiniMed Paradigm 722 (E.Drake)

Bolus Events

Bolus Event	1	2	3
Time	11:50 AM	6:00 PM	11:45 PM
Bolus Type	Normal	Normal	Normal
Delivered Bolus Norm (U)	7.5	10.3	4.3
+ Square Portion (U, h:mm)	--	--	--
Recommended Bolus (U)	7.5	10.3	4.3
Difference (U)	--	--	--
Carbs (g)	*150*	*205*	*85*
Carb Ratio Setting (g/U)	20.0	20.0	20.0
Food Bolus (U)	7.5	10.3	4.3
BG (mg/dL)	**172**	**171**	**170**
BG Target Setting (mg/dL)	80 - 180	80 - 180	80 - 180
Insulin Sensitivity Setting (mg/dL per U)	40	40	40
Correction Bolus (U)	--	--	--
Active Insulin (U)	--	--	--

Statistics	11/7		10/29 - 11/11	
Avg BG (mg/dL)	130		151 ± 54	
BG Readings	7		72	5.7/day
Readings Above Target	4	57%	43	60%
Readings Below Target	2	29%	7	10%
Sensor Avg (mg/dL)	155 ± 44		158 ± 55	
Avg AUC > 140 (mg/dL)	27.9	0d 19h	32.5	6d 17h
Avg AUC < 70 (mg/dL)	0.0	0d 19h	0.3	6d 17h

Daily Carbs (g)	*440*		*337 ± 99*	
Carbs/Bolus Insulin (g/U)	19.8		18.0	

Total Daily Insulin (U)	41.3		36.4 ± 5.4	
Daily Basal (U)	19.2	46%	17.6	48%
Daily Bolus (U)	22.1	54%	18.8	52%
Primes	--	--	3	4.5U

Sensor trace · BG reading · Linked BG · Basal · Bolus · Suspend · Time change · Exercise · Glucose alert
Interrupted · Off chart · Calibration BG · Temp basal · Pump rewind · Injected insulin (U) · Other · Alarm

Daily Detail Report at a glance

The Daily Detail Report presents data from a patient's insulin pump, blood glucose meter, and glucose sensor (if used) to provide insight into a patient's control, including response to carbohydrate intake and insulin use. This report covers one day of data and is divided into the three areas described in the next sections.

Symbol	Meaning
	Sensor trace: Continuous tracing recorded by a glucose sensor
	Interrupted: Interrupted communication between the sensor transmitter and the insulin pump
	BG reading: Glucose value reported by the pump or meter
	Off chart: Meter glucose value >400 mg/dL (22.22 mmol/L) or <40 mg/dL (2.22 mmol/L)
	Linked BG: Meter BG values automatically sent to the insulin pump from a wireless link meter
	Calibration BG: Meter glucose value used to calibrate a sensor
	Basal: Continuous insulin delivery by insulin pump
	Temp basal: Temporary change in the rate of basal insulin delivery
	Bolus: Insulin delivery by the pump used to prevent or treat a high glucose level
	Suspend: User-initiated suspension of all insulin delivery from the insulin pump
	Time change: A time change occurred on the insulin pump or Guardian clock; a time change is considered a partial day
	Alarm: Condition related to sensor functionality caused an alarm to be recorded on the pump; sensor alarms appear in the glucose band of the chart while pump alarms appear in the insulin band
	Injected insulin (U): A user-entered event marker, indicating an insulin injection
	Glucose alert: High or rising glucose alert reported; low or falling glucose alert reported; predictive alerts are also reported
	Low suspend: Pump-initiated suspension of all insulin delivery
	Exercise: A user-entered event marker, indicating physical activity
	Other: A user-defined event marker, indicating such things as taking medications, feeling ill, stress, and so on

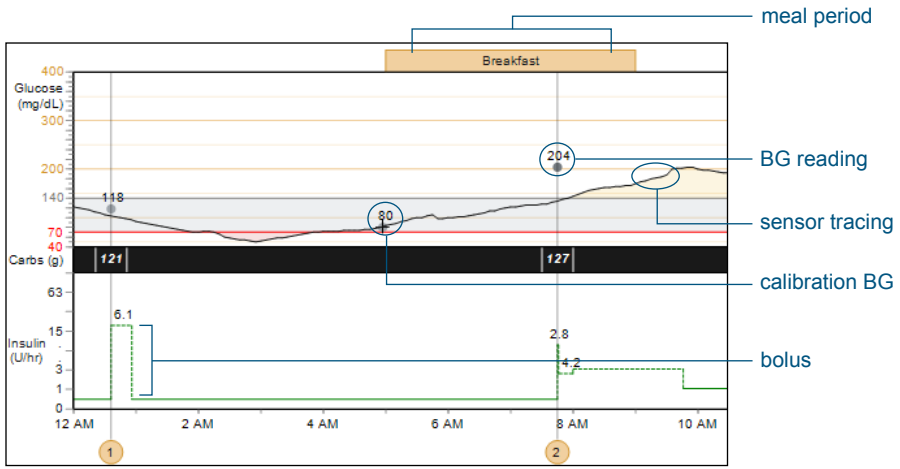
Glucose, Carbohydrates, and Insulin

This graph provides a review of the patient's glucose levels, carbohydrate intake, and insulin use during the selected day. The graph includes meter glucose values, sensor glucose values (if a sensor is used), carbohydrate intake (or meal markers from the Guardian) recorded in the Bolus Wizard calculator, basal and bolus insulin delivered, and injected insulin. Customized time frames that correspond to the patient's meal periods are noted in gold blocks above the graph.

Circled numbers at the bottom of the graph correspond to entries in the Bolus Events table (located at the bottom of the report). The patient's glucose target range is shaded gray. When the sensor glucose tracing is above the target, the area between the tracing and the target range is shaded pale gold. When the sensor glucose tracing is below the target, the area between the tracing and the target is shaded pale red.

Blood glucose meter readings are represented by dots with corresponding numerical values. Carbohydrate intake is shown in the black band below the glucose readings. The green tracing at the bottom of the graph outlines insulin delivery from the pump, including basal and temporary basal rates, boluses, and suspends.

NOTE: Insulin delivery is shown in units per hour on a logarithmic scale. This allows basal delivery changes, which are relatively small, to be visible so they can be shown in context with any boluses that were delivered.



Bolus Events Data

The Bolus Events data table shows a summary of measures and Bolus Wizard calculator settings for each bolus event. Bolus events numbered at the top of the data table correspond to the circled numbers along the X-axis of the Glucose, Carbohydrates, and Insulin graph at the top of the report. The table items are described below.

Bolus Event: Cross-reference to the Glucose, Carbohydrates, Insulin graph

Time: The time that the bolus event occurred

Delivered Bolus Norm (U) + Square Portion (U, h:mm): Actual delivered bolus broken down into normal and square amounts

Recommended Bolus (U): Bolus recommended by the Bolus Wizard calculator

Difference (U): Difference between the Delivered Bolus and the Recommended Bolus

Carbs (g): Carbohydrate intake

Carb Ratio Setting (g/U): Displays the setting used to calculate the food portion of the recommended bolus

Food Bolus (U): Insulin used to cover carbohydrate intake (Food Bolus + Correction Bolus = Recommended Bolus)

BG (mg/dL or mmol/L): Meter glucose value associated with the bolus event

BG Target Setting (mg/dL or mmol/L): Glucose target range (based on patient's settings)

Insulin Sensitivity Setting (mg/dL/U or mmol/L per U): The decrease in glucose caused by one unit of insulin (based on patient's settings)

Correction Bolus (U): Insulin used to correct a high glucose level (Food Bolus + Correction Bolus = Recommended Bolus)

Active Insulin (U): Bolus insulin that has been delivered by the pump and is still working to lower BG levels

Bolus Events	
Bolus Event	1
Time	5:52 AM
Bolus Type	Normal
Delivered Bolus Norm (U)	1.9
+ Square Portion (U, h:mm)	--
Recommended Bolus (U)	1.9
Difference (U)	--
Carbs (g)	37
Carb Ratio Setting (g/U)	20
Food Bolus (U)	1.9
BG (mg/dL)	148
BG Target Setting (mg/dL)	80 - 180
Insulin Sensitivity Setting (mg/dL/U)	40
Correction Bolus (U)	--
Active Insulin (U)	--

Statistics

The Statistics table information, combined with the other report items, provides a way to compare patient performance across different reporting periods and detect areas warranting further investigation.

The first two columns provide detailed statistics and averages for the specified day. The last two columns provide details for the entire reporting period.

The statistics table provides a summary of the measures described below.

Definitions

Avg BG (mg/dL or mmol/L): Average of all meter glucose values obtained

BG Readings: Total number of meter glucose values

Readings Above Target: Total number of meter glucose values above target

Readings Below Target: Total number of meter glucose values below target

Avg Sensor Gluc. (mg/dL or mmol/L): Average of all sensor glucose values and the standard deviation

Avg AUC > 140 (mg/dL) or Avg AUC > 7.8 (mmol/L): Average exposure to hyperglycemia (value based on patient's target range)

Avg AUC < 70 (mg/dL) or Avg AUC < 3.9 (mmol/L): Average exposure to hypoglycemia (value based on patient's target range)

Daily Carbs (g): Total daily carbohydrate intake

Carbs/Bolus Insulin (g/U): Average carbohydrate intake per unit of bolus insulin

Total Daily Insulin (U): Average of total basal and bolus insulin use

Daily Basal (U): Average of daily basal insulin (U and percentage of Total Daily Insulin)

Daily Bolus (U): Average of daily bolus insulin (U and percentage of Total Daily Insulin)

Primes (or Fills): Number of pump prime events (or, fill events) and units of insulin used. The terminology that is shown here differs depending on the pump model.

Statistics	11/15		11/15 - 12/12	
Avg BG (mg/dL)	163		152 ± 54	
BG Readings	6		138	5.4/day
Readings Above Target	4	67%	82	59%
Readings Below Target	–	0%	12	9%
Sensor Avg (mg/dL)	--		157 ± 53	
Avg AUC > 140 (mg/dL)	–	–	31.4	10d 9h
Avg AUC < 70 (mg/dL)	–	–	0.4	10d 9h
Daily Carbs (g)	259		331 ± 92	
Carbs/Bolus Insulin (g/U)	17		18	
Total Daily Insulin (U)	33.1		36.3 ±5.4	
Daily Basal (U)	17.6	53%	17.6	49%
Daily Bolus (U)	15.5	47%	18.6	51%
Primes	–	–	7	9.9U

NOTE: If a Bolus Wizard feature event occurred, but the resulting bolus was cancelled before delivery, this table will reflect the Bolus Wizard event but not the bolus.

Appendix

Hypoglycemic Episode Event Types			
Event Type	**Description (as shown in report)**	**How CareLink Pro identifies this Event Type**	
Basal Rate Increase	Consider assessing your patient's basal rate settings, including temporary basal rates.	Defined as a basal rate increase of 25% or more from the previous rate.	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the rate change.
Bolus with Falling Sensor Rate of Change	Consider counseling your patient to modify bolus amounts when sensor glucose values are falling (downward arrow is present).	Defined as a bolus that was delivered while sensor glucose was falling (at some point falling more than 1.5 mg/dL per minute/0.083 mmol/L per minute).	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the bolus.
Bolus Wizard Food Bolus	Consider assessing the Bolus Wizard settings, counseling your patient on accurate carbohydrate counting, and/or the timing of insulin delivery with respect to carbohydrate intake.	Defined as a Bolus Wizard event where carbohydrates were entered, resulting in an insulin recommendation where a portion is due to food.	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the bolus.
Bolus Wizard Override (+)	Consider counseling your patient to use the Bolus Wizard recommendations.	Defined as a Bolus Wizard bolus where the user delivered more than the recommended amount of insulin.	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the bolus.
Carbohydrate Entry (> 80 g)/ Carbohydrate Entry (> 5.3 ex)	Consider counseling your patient on the effect of high carbohydrate intake.	Defined as a carbohydrate entry greater than 80 grams/5.3 exchanges (a Bolus Wizard entry or event meal marker).	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the carbohydrate entry.
Corr. Bolus with Falling Sensor Rate of Change	Consider counseling your patient to modify correction bolus amounts when sensor glucose values are falling (downward arrow is present).	Defined as a correction bolus that was delivered while sensor glucose was falling (at some point falling more than 1.5 mg/dL per minute/0.083 mmol/L per minute).	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the bolus.
Hyperglycemia Preceding Hypoglycemia	Consider assessing your patient's insulin sensitivity factors. Consider counseling your patient on the management of hyperglycemia.	Defined as a sensor glucose excursion above the target range.	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the end of the high glucose excursion.
Manual Bolus	Consider counseling your patient to use the Bolus Wizard.	Defined as a manual bolus that delivered more than 2.5U of insulin.	Reported when it correlates with hypoglycemic episodes that start within 3 hours following the bolus.
Multiple Correction Boluses	Consider counseling your patient about the additive effect of multiple correction boluses and the time profile of insulin action.	When 2 or more correction boluses are delivered within 30 minutes of each other. A correction bolus is a Bolus Wizard event that results in an insulin recommendation even though no carbohydrates were entered.	Reported when it correlates with hypoglycemic episodes that start between the second bolus and up to 3 hours after the last bolus.

Hypoglycemic Episode Event Types			
Event Type	**Description (as shown in report)**	**How CareLink Pro identifies this Event Type**	
Multiple Manual Boluses	Consider counseling your patient to use the Bolus Wizard. Consider counseling your patient on the additive effect of multiple boluses and the time profile of insulin action.	When 2 or more manual boluses are delivered within 30 minutes of each other.	Reported when it correlates with hypoglycemic episodes that start between the second bolus and up to 3 hours after the last bolus.
Nocturnal Hypoglycemia (11PM-5AM)	Consider assessing overnight basal rates and counseling your patient on evening boluses.	Defined as a period between 11:00 p.m. and 5:00 a.m. with device data.	Reported when it correlates with hypoglycemic episodes that start between 11:00 p.m. and 5:00 a.m.
Rapid Falling Sensor Rate Of Change	Consider counseling your patient to take action to avoid hypoglycemia.	Defined as a period of continuously falling sensor glucose (at some point falling more than 2.0 mg/dL per minute/0.11 mmol/L per minute).	Reported when it correlates with hypoglycemic episodes that start within 3 hours of the end of the period.

Hyperglycemic Episode Event Types			
Event Type	**Description (as shown in report)**	**How CareLink Pro identifies this Event Type**	
Basal Rate Decrease	Consider assessing your patient's basal rate settings, including temporary basal rates and suspends.	Defined as a basal rate decrease of 25% or more from the previous rate.	Reported when it correlates with hyperglycemic episodes within 3 hours following the rate change.
Bolus with Rising Sensor Rate of Change	Consider counseling your patient to modify bolus amounts when sensor glucose values are rising (upward arrow is present).	Defined as a bolus that was delivered while sensor glucose was rising (at some point rising more than 1.5 mg/dL per minute/0.083 mmol/L per minute).	Reported when it correlates with hyperglycemic episodes that are still above the target range 2 hours after the bolus.
Bolus Wizard Food Bolus	Consider assessing the Bolus Wizard settings, counseling your patient on accurate carbohydrate counting, and/or the timing of insulin delivery with respect to carbohydrate intake.	Defined as a Bolus Wizard event where carbohydrates were entered, resulting in an insulin recommendation where a portion is due to food.	Reported when it correlates with hyperglycemic episodes that are still above the target range 2 hours following the bolus.
Bolus Wizard Override (-)	Consider counseling your patient to use the Bolus Wizard recommendations.	Defined as a Bolus Wizard bolus where the user delivered less than the recommended amount of insulin.	Reported when it correlates with hyperglycemic episodes that are still above the target range 2 hours following the bolus.
Carbohydrate Entry (> 80 g)/ Carbohydrate Entry (> 5.3 ex)	Consider counseling your patient on the effect of high carbohydrate intake.	Defined as a carbohydrate entry greater than 80 grams/5.3 exchanges (a Bolus Wizard entry or event meal marker).	Reported when it correlates with hyperglycemic episodes that start within 3 hours following the carbohydrate entry.
Dawn Phenomenon (3AM-7AM)	Consider adjusting the overnight basal rates.	Defined as a period between 3:00 a.m. and 7:00 a.m. with device data.	Reported when it correlates with hyperglycemic episodes that start between 3:00 a.m. and 7:00 a.m.

Hyperglycemic Episode Event Types			
Event Type	**Description (as shown in report)**	**How CareLink Pro identifies this Event Type**	
Delayed Site Change	Consider counseling your patient on the proper frequency of infusion site changes and to use fixed primes/cannula fills when changing sites.	Defined as the period between two adjacent fixed primes (cannula fills) that are more than 3.5 days apart.	Reported when it correlates with hyperglycemic episodes that start more than 3.5 days after the most recent fixed prime (cannula fill). Only reported for episodes that are at least 90 minutes long.
Overcorrection of Hypoglycemia	Consider counseling your patient on the management of hypoglycemia.	Defined as a sensor glucose reading below the target range.	Reported when it correlates with hyperglycemic episodes that start within 3 hours following a low sensor reading.
Pump Suspends (> 60 minutes)	Consider counseling your patient on the use of pump suspends.	Defined as a pump suspend that is more than 60 minutes long.	Reported when it correlates with hyperglycemic episodes that start within 3 hours of the suspend.
Rising Sensor Rate of Change Without Bolus	Consider counseling your patient on bolus use with meals and/or correcting rapid glucose excursions.	Defined as a sensor glucose reading that was rising (at some point rising more than 1.5 mg/dL per minute/0.083 mmol/L per minute) without a bolus.	Reported when it correlates with hyperglycemic episodes that start within 3 hours of the event.

Other Observations			
Priority	**Observation**	**Description (as shown in report)**	**How CareLink Pro identifies this observation**
1	**Basal/Bolus Ratio**	Consider assessing basal/bolus ratio.	Message is displayed when the basal portion of the basal/bolus ratio is 55% or greater.
2	**Bolus Wizard Use**	Consider counseling your patient on use of Bolus Wizard for food and correction boluses.	Message is displayed when the Bolus Wizard is used for boluses less than 67% of the time.
3	**Correction Bolus Insulin**	Consider assessing the basal rates, Bolus Wizard settings, and/or carbohydrate counting to deliver more accurate food boluses to prevent the frequent need for correction boluses.	Message is displayed when more than 50% of all the insulin recommended by the Bolus Wizard is correction insulin.
4	**Infusion Site Change**	Consider counseling your patient on changing infusion sites a minimum of every three days or review the correct way to change an infusion site with the patient.	Message is displayed when there is an average of more than 3.5 days between fixed prime (cannula fill) events.
5	**Sensor Wear**	Consider counseling your patient on the benefits of more frequent sensor use.	Message is displayed when there are fewer than 5 days of sensor readings per week on average.
6	**BG Entry Frequency**	Discuss the frequency of fingerstick glucose testing with your patient.	Message is displayed when there are fewer than 4 BG readings per day on average.

Medtronic MiniMed
Northridge, CA 91325
USA
800 646 4633
818 576 5555
www.medtronicdiabetes.com

EC REP
Medtronic B.V.
Earl Bakkenstraat 10
6422 PJ Heerlen
The Netherlands

6025274-025_a