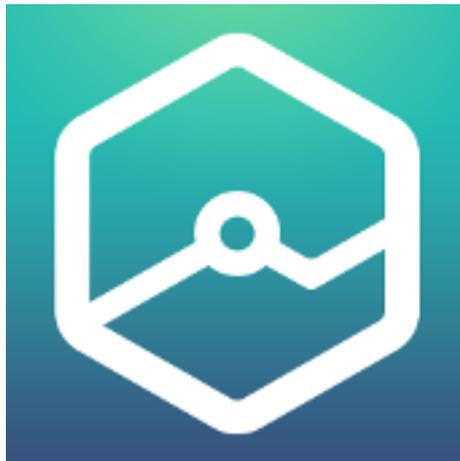


PredictBGL

User Manual



PredictBGL App

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For Users

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1.1 Feedback

We're always working to make our Apps, website and documentation better. If you have suggestions or better ways to present information, please let us know!

support@PredictBGL.com

We'd love to hear from you!

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2 Regulatory Statement

PredictBGL is a bolus calculator intended to help people with diabetes

- calculate doses,
- track patterns,
- detect trends,
- reduce the incidence of hypoglycaemia, and
- help improve doses.

2.1 Intended Use

The system is intended for use in individual patients, with Type 1 diabetes, or those who use insulin as part of a diabetes regimen such as Type 2 diabetes, LADA/Type 1.5 and gestational diabetes.

During use, PredictBGL is customized to one patient's dose regime. It should never be used to calculate doses for another patient.

PredictBGL should be used to log blood sugars, carbohydrates and insulin 3 or more times per day.

2.2 Identification

This manual accompanies the version of PredictBGL identified on the front page.

To identify the version of PredictBGL you have, go to Settings\About\Version.

2.3 Warnings

PredictBGL is primarily intended for PWD (People With Diabetes) who use insulin as part of their treatment regime. However, it can also be useful for those not on insulin.

PredictBGL is intended for use by a single PWD. Do not share an account with another PWD.

Guessing or using the wrong settings can be dangerous! Ask your healthcare professional for assistance in setting up PredictBGL, and in making any future changes.

If you give PredictBGL the wrong data, the information it gives you can be misleading or wrong. And just like when managing diabetes without PredictBGL, you must decide if PredictBGL's advice is relevant and appropriate to you.

Do not allow young children to play with your device or with PredictBGL's settings. We advise using a password lock, PIN lock or fingerprint lock to safeguard your device. If your settings become altered inadvertently or you are concerned about apparent changes to your doses, you can restore them to an earlier time using the history of each setting via the PredictBGL website.

We urge you to use a unique password with PredictBGL, different to other accounts you use online. If your account or password is compromised, simply logging in and changing your password will logout all active users on devices.

Do not use the wireless features of your device when in an environment sensitive to radio interference, such as on aeroplanes or in medical environments. Once logged in and setup, PredictBGL can be used without an internet connection.

The PredictBGL bolus calculator is designed to be used with Humalog, NovoRapid/NovoLog and Apidra insulins. Doses for other insulins will be set by your doctor.

PredictBGL should not be used by those who are not mentally capable of understanding its outputs and advice.

If your device is stolen, lost or broken, you can use the web-based interface of PredictBGL.com to continue. PredictBGL will also send you an email of any dose change that you make within 5 minutes of your last dose changes. The emails should be filed in case of future need.

To ensure that PredictBGL is ready for use, ensure there are no setup steps missing from the Profile Screen (a number in a red badge at the top left of the Dashboard).

3 Welcome!

Thank you for choosing PredictBGL to help you gain better control of your diabetes. PredictBGL is a bolus calculator and blood glucose prediction system designed for tracking blood glucose patterns and trends in people with diabetes. The system is intended for use in individual patients.

PredictBGL aids in the detection of episodes of hyperglycemia and hypoglycemia. It alerts you to these so that you can adjust your therapy- both in the short-term, and for the future. By doing this it can help you to reduce the number of times that your blood sugar levels are too high or too low.

It is important that PredictBGL is set up correctly. Its calculations are based on your personal settings and the information that you put into it. The more accurate your settings are, the more accurate the suggestions will be. It will take you time to tweak your settings and get your ratios right – but don’t give up, it’s worth it!

3.1 Notes about this Manual

This manual has been written for the diabetes community world-wide. As such, both mmol/L and mg/dL units are used for Blood Glucose levels in both screen displays and in this text. PredictBGL adjusts its display depending on what your preferences are.

Similarly for carbohydrates – PredictBGL supports grams, Exchanges, Portions, KE, CC and BE measures. PredictBGL will display the one you prefer.

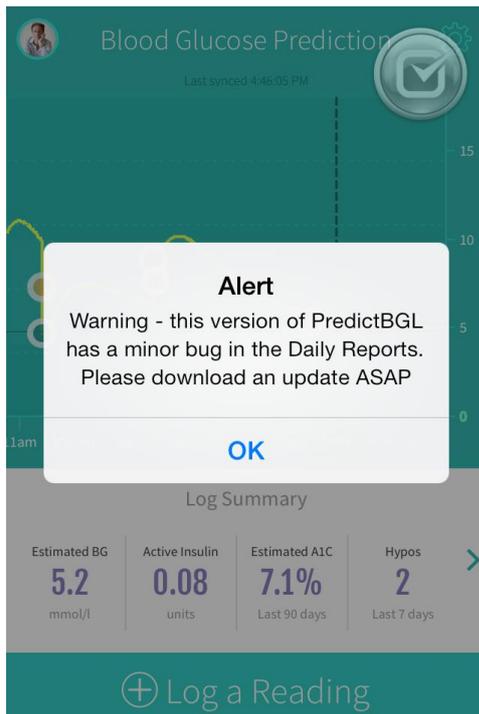
The screen displays may differ slightly from what you see in this manual due to your choice of settings.

3.2 Acronyms and Definitions

Active Insulin Time	The amount of time your short acting insulin acts for.
Basal insulin	The insulin that controls blood glucose levels between meals and overnight. It controls glucose in the fasting state ie when you are not eating.
BGL/BSL	Blood Glucose Level/Blood Sugar Level
Bolus insulin	The insulin that is injected at the time of eating and/or correct for a high blood glucose level.
Carbohydrate counting	A meal planning method commonly used by people with diabetes to plan their food and meal choices. Carbohydrate counting helps achieve a balance between the amount of carbohydrate eaten and the insulin required.
Carbohydrate ratio	A method of determining how much rapid-acting insulin is needed to cover the carbohydrate eaten at a meal or snack. This is used as part of a more advanced level of carbohydrate counting.
CGM(S)	Continuous Glucose Monitor (ing System). A device that measures blood sugar every five minutes through a sensor inserted under the skin.
Dawn phenomenon	A rise in blood glucose levels that occurs in the early morning hours
Diabetes educator	A healthcare person who has the skill and knowledge to teach a person with diabetes how to manage the condition. Diabetes educators may be doctors, nurses, dieticians, mental health or fitness clinicians. Some also have the credential CDE (Certified

	Diabetes Educator)
Endogenous	From within- for example, insulin from the pancreas, which may be functioning in some capacity.
GI	Glycaemic Index - how fast the carbohydrate content of food hits the blood stream. High GI foods are absorbed quickly and cause a 'spike' in blood sugars. Spikes in blood sugar cause progressive damage to fine blood vessels in the eyes, hands, feet, heart and kidneys.
HCP	Health Care Provider e.g. doctor, endocrinologist, educator, dietician, nurse etc.
Honeymoon period	After diagnosis of Type 1 diabetes, a period of time when the body initially returns to producing some insulin. Some Type 1s do not require insulin during this period, others require far less.
Hyperglycaemia or 'hyper' or 'high'	A high blood sugar level.
Hypoglycaemia or 'hypo' or 'low'	A low blood sugar level.
Hypoglycaemic unawareness	A condition where a person no longer recognizes the symptoms of low blood glucose.
Insulin pen	An insulin delivery method that looks like a writing pen.
Insulin pump	An insulin delivery system; a small mechanical device, typically the size of a beeper or small cell phone, that releases insulin into the tissues of the body by way of tubing and a needle. The pump still requires BG readings to be taken, for carbohydrates to be counted and both types into the pump.
Correction ratio	(also called the Insulin sensitivity factor/ISF/supplemental factor) - The amount of blood glucose that is lowered by 1 unit of rapid-acting or regular insulin. The correction ratio is used to calculate the amount of insulin you need to return blood glucose to within the target blood glucose range.
IOB (Insulin on Board)	Insulin on Board – the amount of bolus insulin remaining to be absorbed- calculated using the time it was injected, the Active Insulin time and the size of the dose. Note: IOB never includes basal insulin (nor should it).
PHI	Personal Health Information
Pumper	A person using an insulin pump.
PWD	Person or People With Diabetes

3.3 Recall



If we identify an issue in the PredictBGL App version that you have, you may see a message similar to that shown.

We advise you to update your version of PredictBGL whenever you see one of these messages.

Note that we do not force you to download an update straight away, because it is possible that downloading at that time may not be convenient eg. about to get on a plane.

4 Quick Start – MDI or Pumper

If you use MDI (Multiple Daily Injections) or use an insulin pump, you can setup PredictBGL quickly by setting the following:

Item	Menu
Insulin Therapy	Settings \ General \ Medications – page 47
Use Dose Calculator	Settings \ General \ Enable insulin calculator - page 47
BG units (mmol or mg)	Settings \ General \ Blood glucose units - page 47
Carb units (grams, portions, exchanges, etc)	Settings \ General \ Carb units - page 47
Carb ratio	Settings \ Carbs \ Carb Ratio – page 49
Bolus Insulin	Settings \ Insulin \ Bolus (fast acting) insulin – page 53
Correction Ratio	Settings \ Insulin \ Correction Ratio – page 49
BG targets	Settings \ Blood Glucose \ BG targets – page 49

Please remember to setup the other items as you go, or return to them in the first few days!

5 Getting PredictBGL

You can download the PredictBGL App from the Apple App Store or Google Play (for Android).

- iTunes - <http://itunes.apple.com/app/id980437930>
- Google Play - <https://play.google.com/store/apps/details?id=com.managebgl.predictbgl2>

If your device is damaged, lost or stolen, you can also access PredictBGL directly from the PredictBGL.com website with the same login information.

5.1 App Requirements

PredictBGL requires a valid email address so that we can notify you of any issues with the service or with your settings.

5.2 Device Requirements

PredictBGL runs on any web browser on a PC, Mac, iPhone, iPad, iPod or Android smart phone or tablet.

5.3 Location

PredictBGL reads your device settings to determine the time zone. Your device should be set to update the time zone automatically, so that if you move between time zones (e.g. fly on a plane), the time zone will update automatically.

E.g. if you fly from New York to London, PredictBGL will display all data and suggests meals for London's time zone. PredictBGL uses the time zone to choose which blood glucose target, carb ratio and correction ratio is used for dose calculations.

Any insulin you injected during the flight will still be tracked perfectly, as internally all times are stored in UTC/GMT.

When you fly back to New York, PredictBGL will update the time zone when you land.

5.4 Internationalization

On first run, the App will detect the most appropriate language from phone settings. English is chosen if no sensible default is available. The language can be overridden – see page 47.

The App includes translations for

- English
- Russian
- Chinese (simplified)
- German
- Spanish (Spain)
- French

Additional languages are being added over time, and existing translations refined.

6 Sign Up

Before you can use PredictBGL, you need to create an account using your email address and password.

6.1 Website or App Setup

PredictBGL can be setup either via the PredictBGL app, or via the PredictBGL website.

The PredictBGL website may be easier to setup for some people as you have use of a full keyboard, larger screen and mouse.

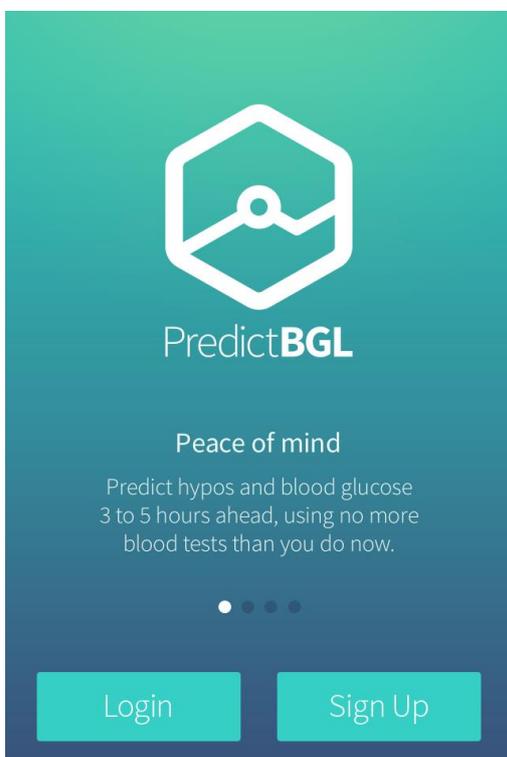
The PredictBGL website can also enter items not available in the App user interface, such as your avatar (image/photo), and recording of extra data such as eye tests. Future development of the App will allow this.

6.2 Synchronization

The App and the website have been designed to work together and synchronize data between them automatically. Data entered in the App should normally appear on the website within 2.5 minutes, and on other Apps within 5 minutes. If there are events that may disrupt power and phone connections (storms, fire) this may take longer. You can always check the time that the data was last synchronised, on the second line of the Dashboard.

Synchronization enables you to use the website on your computer at work or home, and on your smart phone or tablet when you are out and about.

6.3 Welcome Screen



When PredictBGL starts, you will see the welcome screen.

If you already have an account, press the [Login] button.

If you need an account, press the [Sign Up] button.

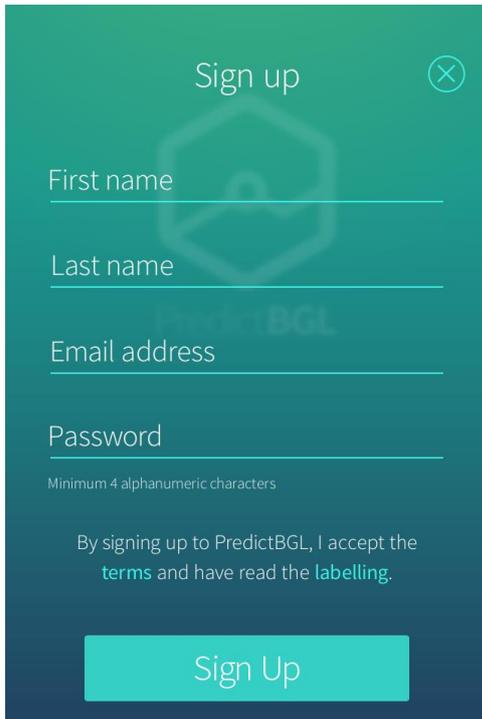
6.4 Login

Enter your email address and password on the login screen.

The App will remember your email address for 2 weeks.

If you have forgotten your password, press the 'I forgot my password' link and follow the instructions.

6.5 Sign Up and Initial Settings



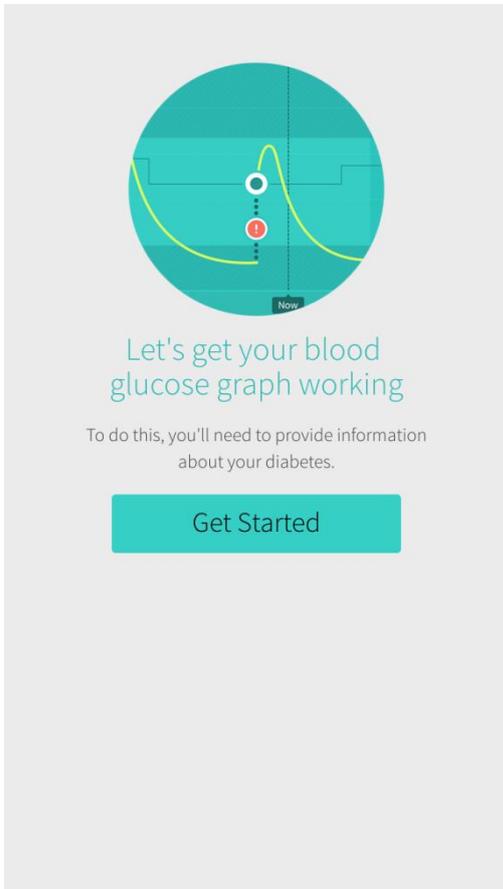
To sign up, enter your first name, last name, email address and password.

The password must have a mixture of at least 4 letters and/or numbers.

Before touching [Sign Up], you must accept the terms and ensure that PredictBGL is appropriate for you.

After Sign Up, the next screen is the initial settings.

7 Initial Settings



If unsure about any of these settings, please contact your Health Care Professional.

Press [Get Started] to continue.

7.1 Step 1. Type, Diagnosis, Therapy etc

The screenshot shows the 'Setup 1 of 3' screen in the PredictBGL app. At the top left is a 'Cancel' button and at the top right is 'Setup 1 of 3'. The screen is divided into two main sections: 'DIABETES INFORMATION' and 'UNIT PREFERENCES'. Under 'DIABETES INFORMATION', there are dropdown menus for 'Diabetes type' (set to '-- Select --') and 'Medications' (set to '-- Select --'). Below these are radio buttons for 'Gender', with 'Undecided' selected. The 'UNIT PREFERENCES' section includes 'Blood glucose units' with 'mg/dl' selected over 'mmol/l', 'Carb units' set to 'Grams', and 'Dimensional units' with 'Imperial - inches, pounds' selected over 'Metric - kg, cm'. At the bottom, there are 'Previous' and 'Next' navigation buttons.

PredictBGL tailors displays and coaching advice based on the settings you give it. Please do not skip any settings.

Additional settings will appear on this screen depending on your choices.

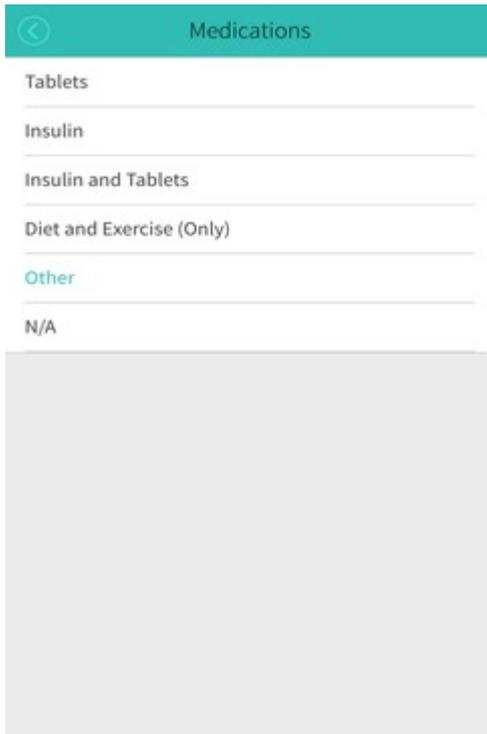
7.1.1 Diabetes Type

The screenshot shows the 'Diabetes Type' selection screen. It features a list of options: 'Type 1', 'Type 1.5 / LADA', 'Type 2', 'Gestational', 'Prediabetes', 'Other', and 'None - I do not have diabetes'. A back arrow is visible at the top left of the screen.

Select your diabetes type.

(*) If you are in the “honeymoon period” of Type 1 diabetes, then, use the Natural Pancreas setting (see page 56) to predict blood sugars better.

7.1.2 Medications



Setting the Medication type controls what information you will be required to enter on following screens. E.g. if you choose 'Insulin', the Insulin Types settings will appear.

7.1.3 Gender

Undecided	Menstruation(*) is available as a factor.
Male	Menstruation is not available as a factor.
Female	Menstruation is available as a factor.

(*) During Menstruation, more insulin is needed compared to normal. By personalising the Menstruation factor (see page 50), and then ticking the menstruation factor during a dose calculation (see page 32), insulin doses are magnified accordingly.

7.1.4 Insulin pump

⬅
Insulin Pumps

- None ✓
- Other
- Animas
- Animas 2020
- Animas IR 1200
- Animas IR 1250
- Animas Ping
- Animas Vibe
- Asante
- Asante Snap
- Deltec
- Deltec Cozmo
- Insulet
- Insulet OmniPod
- Medtronic MiniMed

This setting appears if you chose a Medication of 'Insulin' earlier.

Choose 'None' if you do not use an insulin pump, or select the insulin pump you use.

7.1.5 Bolus (fast acting) insulin

⬅
Bolus (Fast Acting) Insulin 1

-
- Actrapid
- Afreeza
- Apidra
- Fiasp
- Humalog ✓
- Humulin 30/70
- Humulin R
- Humalog mix 25
- Humalog mix 50
- Insulatard
- Mixtard 30/70
- Mixtard 50/50
- Monotard

Insulin missing?

This setting appears if you chose a Medication of 'Insulin' earlier.

Only fast acting / bolus insulins will appear in this list.

7.1.6 Minimum Dose

This setting appears if you chose a Medication of 'Insulin' earlier.

This refers to the minimum amount of fast acting insulin your delivery device can accurately provide. PredictBGL will round its insulin calculations to suit.

Device	Suggestion
Syringe	0.2 unit - 1 unit, depending on your eyesight and how steady your hand is
Insulin pen	0.5 units or 1 unit.
Pump	0.03 to 0.1 unit.

7.1.7 Basal (slow acting) insulin

This setting appears if you chose a Medication of 'Insulin' earlier.

If you are using a pump, you may see options here for setting the Basal Rate.

For non-pump users, specify here your slow acting insulin. Typically Lantus, Levemir, Tresiba.

7.1.8 Enable Insulin Calculator

This setting appears if you chose a Medication of 'Insulin' earlier.

Disable the Insulin Calculator if you DO NOT use Humalog, NovoLog, NovoRapid or Apidra.

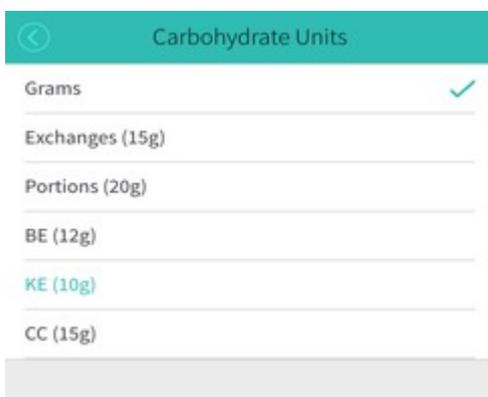
Enable the Insulin Calculator if you use Humalog, NovoLog, NovoRapid or Apidra with Lantus or Levemir and vary your Insulin amount according to the size of each meal and your current blood sugar.

7.1.9 Blood Glucose Units

Used for logging Blood Glucose data.

mg/dL	USA, Parts of Europe
mmol/L	Australia, UK, Parts of Europe

7.1.10 Carb Units



Used to determine what measurement units are used for counting carbohydrates.

7.1.11 Dimensional Units

Used for logging weight, height and display of food choices. Choose from:

Metric	Kg, cm
Imperial	Pounds, feet/inches

7.1.12 A1C Units

Used for reporting HbA1C. Choose from:

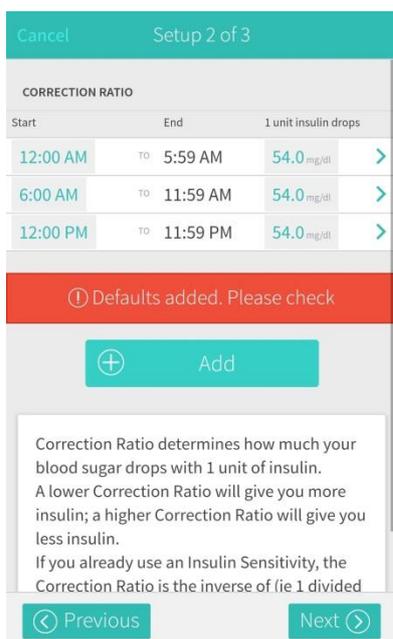
NGSP	%	These are the 'old style' units
eAG	mg/dL	
IFCC	mmol/mol	These are the new international units

7.2 Step 2. Weight (for non-insulin users only)

Enter your current weight. PredictBGL uses this to assist with predictions.

This step completes the setup process for non-insulin users.

7.3 Step 3. Correction ratio



Your Correction ratio determines how much your blood sugar drops in response to 1 unit of insulin. It is also known as an 'Insulin sensitivity' or ISF.

Your Correction ratio can vary throughout the day. Normally more insulin is needed in the morning compared to the middle or end of the day to achieve the same drop in blood sugar level.

e.g. at breakfast, you may need 3 extra units to drop your blood sugar from 10 mmol/L to 5 mmol/L (180 mg/dL to 90 mg/dL), but at dinner time you might only need 2 extra units for the same drop.

Correction ratio is normally between 1.1-5.6 mmol/l (20-100 mg/dL).

When you first setup PredictBGL, three common time periods are shown with a default value of 1 unit of insulin drops 3.0 mmol/L (54 mg/dL).

You must personalise these values to reflect your own diabetes management. See your Health Care Professional if you need assistance.

You may also find a worksheet helpful – <https://www.PredictBGL.com/scenarios/calculating-insulin-sensitivity-factor-ISF>

7.3.1 Determining your initial Correction ratio

If you use Humalog, Novolog or NovoRapid, the '100 Rule' (*) provides a rule of thumb for determining your initial correction ratio.

If you measure blood sugar in mg/dL:

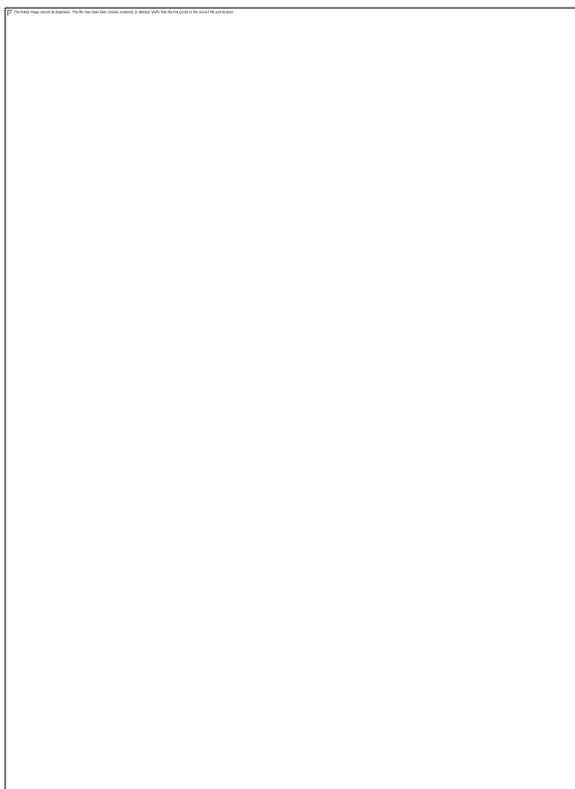
CORRECTION RATIO = 1800 divided by your TDD (total daily dose)

If you measure blood sugar in mmol/L:

CORRECTION RATIO = 100 divided by your TDD (total daily dose)

(*) Note: This rules gives a good starting point, but you must be prepared to adjust your sensitivity if it is wrong for you. Also remember that your sensitivity can change throughout the day.

7.4 Step 4. Carbohydrate Ratio



**** The Carbohydrate Ratio determines how much carbohydrate is covered by one unit of insulin. It is also known as the 'Carb ratio'.

Your Carbohydrate Ratio can vary throughout the day. Normally more insulin is needed in the morning compared to the middle or end of the day to cover the same amount of carbs.

e.g. at breakfast, you may need 6 units of insulin for 45 grams carbs, but at dinner time you might only need 4 units for 45 grams.

Example: If you had 30 grams of carbohydrate, and you gave yourself 1 units to cover it, and when the insulin has finished acting 2.5-3 hours later your BGL was similar to before eating, then your Insulin To Carb ratio is: 30 ie 30 grams of carbohydrate is covered by 1 Unit of Insulin, and the ratio is 30 grams per unit.

Example 2: If you had 60 grams of carbohydrate, and you gave yourself 4 units to cover it, and if 2.5-3 hours later your BGL was similar to before eating, then your Insulin To Carb ratio is 60/4 = 15 grams per unit, ie 60 grams of carbohydrate is covered by 4 Units of Insulin.

When you first set up PredictBGL, three common time periods are shown with a default value of *1 unit of insulin covers 10 grams.*

You must personalise these values to reflect your own diabetes management. See your Health Care Professional if you need assistance.

You may also find a worksheet helpful <https://www.PredictBGL.com/scenarios/calculating-carbohydrate-ratio>

7.4.1 Determining your initial Carbohydrate Ratio

If you use Humalog, Novolog or NovoRapid, the '500 Rule' (*) provides a rule of thumb for determining your initial carb ratio.

If you measure food in grams:

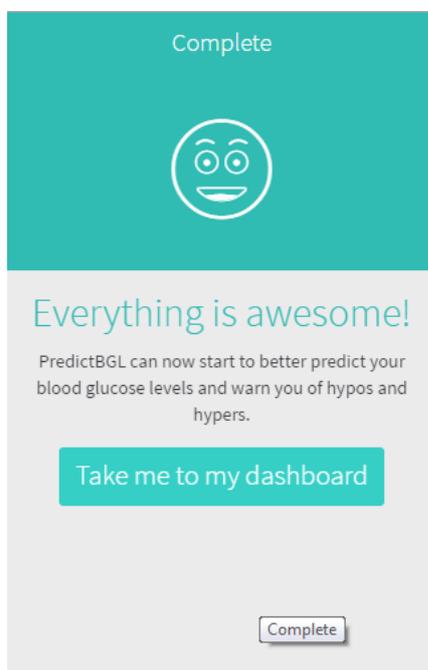
Carb ratio = 500 divided by your TDD (total daily dose)

If you measure food in Exchanges:

Carb ratio = 33 divided by your TDD (total daily dose)

(*) Note: This rules gives a good starting point, but you must be prepared to adjust your carb ratio if it is wrong for you. Also remember that your carb ratio can change throughout the day.

7.5 Initial Setup complete

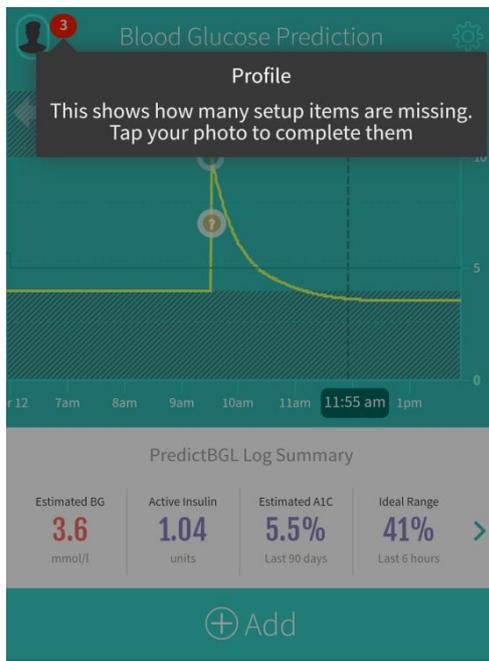


After initial setup, you are taken to the dashboard.

Over time, the App will prompt you for additional information that it needs. But for now, you're all set!

There are some items that currently cannot be setup within the App, see Chapter 8

8 Tutorial



When you use PredictBGL, tips will be shown on the main screens. These tips guide you through the main elements on the screen. Please read these carefully! Tap anywhere on the screen to go to the next tip. When all the tips have been shown you may continue using the app as normal.

If you would like to view the tutorial tips again you can navigate to Settings -> Help -> Show Tips Again.

9 Dashboard

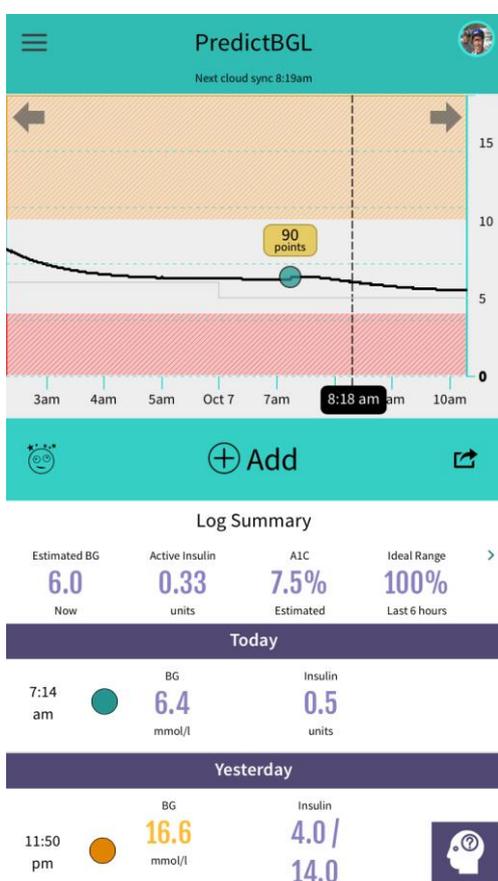
In the top left corner is your avatar (if you have set this up via the PredictBGL website).

If your Profile is incomplete, a badge (a red circle with the number of missing items) appears next to the Avatar. Press the Avatar to find out what items are missing (see page 45).

The triple bar icon (formerly a gear wheel) takes you to settings (see page 46).

The 'Updated 20 mins ago' text below the heading shows the date and time of last synchronisation. Touching this text causes a sync to occur, if a sync has not occurred in the last 30 seconds. You can use this to check that your most recent entries have been synchronised before you lock your phone.

9.1 Blood Glucose Chart



The dashboard shows your blood glucose chart. The black line represents your blood glucose predictions over a 6 hour period. Swipe the chart (or press the left/right arrows) to move forwards/backwards in time.

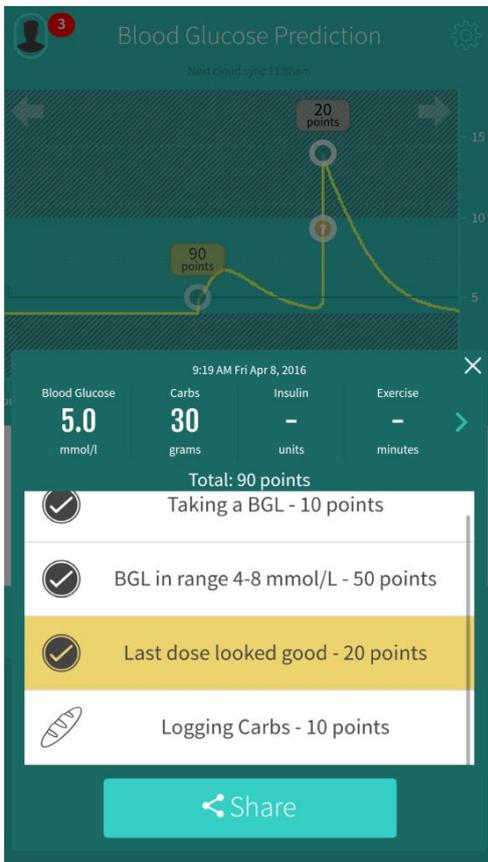
- Your normal zone (see page 62) is shaded white in the centre of the chart.
- The red zone shows hypoglycaemia.
- The orange zone show hyperglycaemia.
- Your BGL target is shown as a light gray line (see page 49).
- The current time is shown as a dashed vertical black br.
- See below for the information color key
- If you have Dexcom Share, live Dexcom data will also appear, see page 65.

9.2 Blood Glucose Chart Color Key

	<p>Green, orange or red dots represent fingerstick blood tests, color-coded according to which zone they appear in. Press the dots to see a summary of the actual BG reading, time, carbs, exercise and points. From this summary you can press the readings to move to the edit screen.</p> <p>Dots also have points associated with them.</p> <ul style="list-style-type: none"> - Gold points indicate a good prediction from good doses or good logging of data.
--	---

	<ul style="list-style-type: none"> - Silver points indicate a poor prediction from poor doses or poor logging of data.
	<p>Purple coaching dots represent discrepancies between predictions and your actual blood tests –Press the coaching dot for suggestions as to why this might have occurred, with links to just-in time education on a variety of factors.</p> <p>Coaching dots always appear between the prediction and the dot of an actual fingerstick blood test. If the difference is within range, the coaching dot will not appear.</p>
	<p>Pulsing red alert dots (with a ! inside) represent a predicted hypo/hyper warning in the future. They also show an expected time.</p> <p>Don't ignore these! Press the red dot to find out what is predicted, and what you can do about it.</p>
	<p>Green dots indicate CGM data from a linked devices such as a Dexcom CGM. See page 56.</p>
<p>1.1 19 Hypo</p> <p>4.8 86 Ok</p> <p>18 324 Hyper</p>	<p>Your blood sugar level is colored depending on its level.</p>

9.3 Green, Orange or Red Dots – Fingerstick BGLs



When you press a green, orange or red dot, or actual BGL, PredictBGL shows you the measurements taken at that time, with a summary of BG, carbs, insulin, exercise and points.

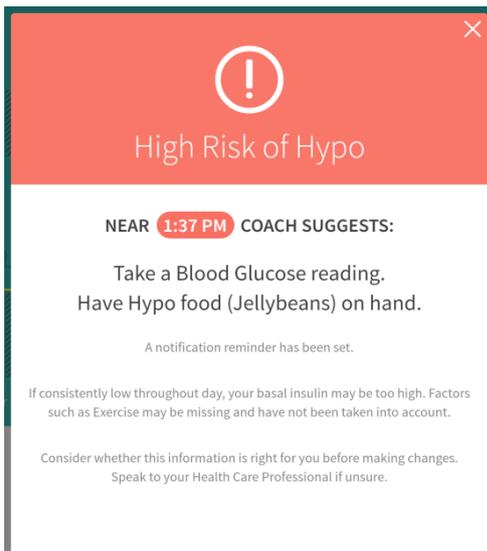
To clear this box, press anywhere outside the green box.

By touching the summary row, you can move quickly to the Edit screen.

The rows below show how the points total has been calculated.

The points can be shared with your friends using the Share button. Compete with your friends!

9.4 Pulsing red dots – future Hypo or Hyper warnings

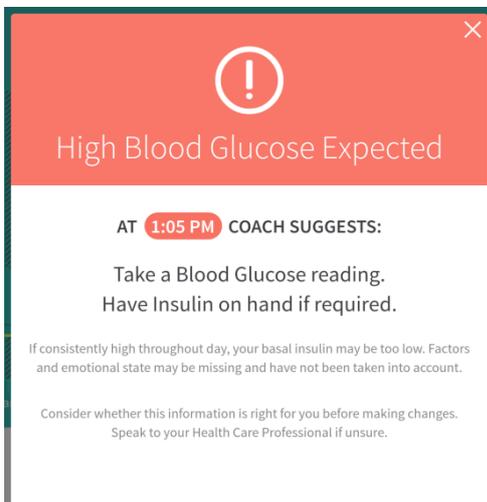


When you press a red dot, or warning, PredictBGL shows you a prediction of future Hypos or Hypers.

PredictBGL recommends that you perform a BG test at the indicated time.

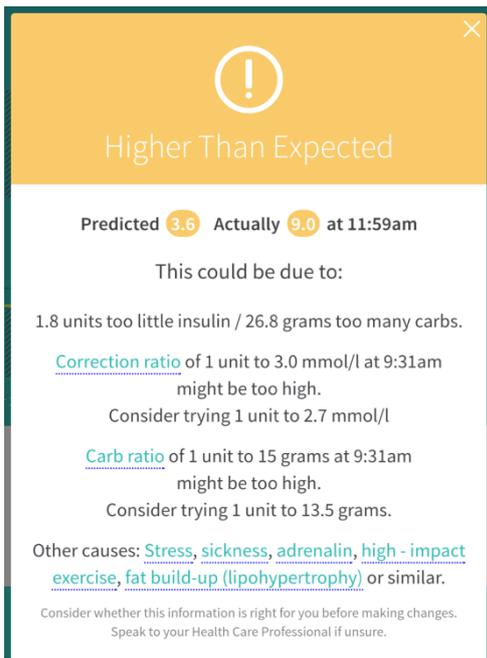
Even if your ratios are correct, it is possible for the predictions and actual blood sugars to not line up. If this happens repeatedly, you need to consider the suggestions and if they are right for you.

To clear this box, press anywhere in the upper red title section.



PredictBGL also shows warnings for expected High Blood Sugars.

9.5 Purple dots – Coaching Suggestions



If your blood sugar is higher or lower than expected, PredictBGL will mark the difference with an orange dot.

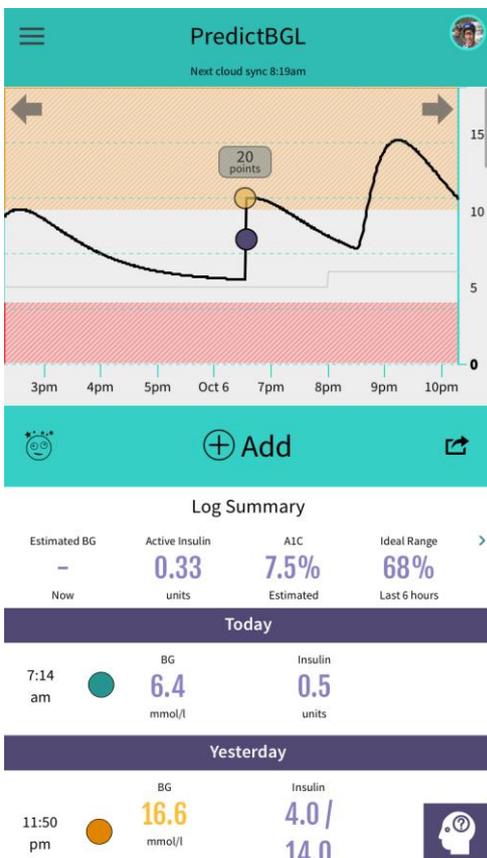
When you press an orange dot, or coaching suggestion, PredictBGL shows you the difference between its predictions and your BGLs, and the reasons for this. You must decide for yourself if the suggestions make sense to you.

You can read just-in time education about each point by touching the underlined links.

Even if your ratios are correct, it is possible for the predictions and actual blood sugars to not line up. If this happens repeatedly, you need to consider the suggestions and if they are right for you. You can press the underlined links to change your carb or correction ratios.

To clear this box, press anywhere in the upper orange title section.

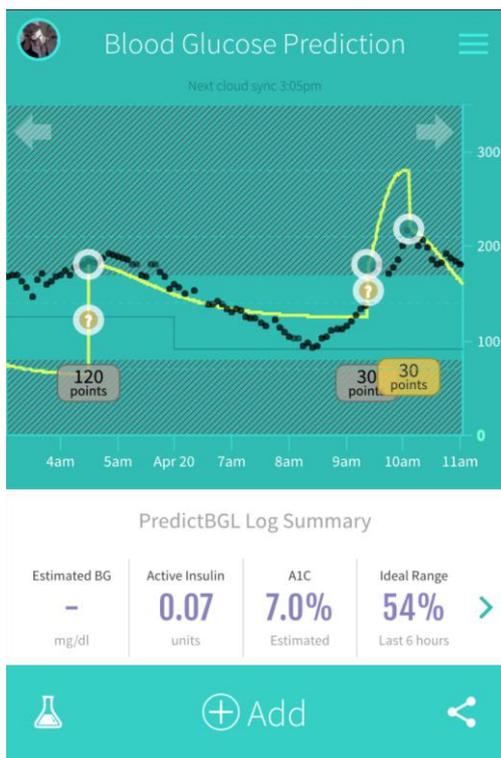
9.5.1 Higher or Lower than Expected



The example chart shows a blood sugar that is higher than expected. At 6:30pm a blood sugar was higher than expected. The actual blood sugar was 11.0, while the expected blood sugar was 5.5. The purple coaching dot appears mid-way between the two.

Not enough insulin was given, and the coaching tips reflect this when the orange ? is pressed.

9.6 Green Dots - Sensor / CGM Data

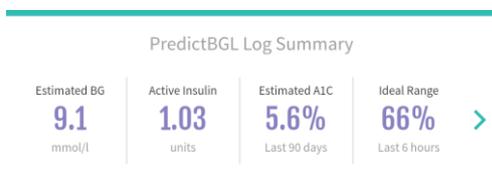


If you use a CGM and link it to the PredictBGL website, your CGM data is shared live and is plotted on the chart against predictions.

You can also dose directly off CGM data if it is recent (sensor dropout can occur).

See page 65.

9.7 Log Summary



The log summary below the chart shows you several useful numbers. To modify previous log entries, press anywhere on the log summary line, or the > to the right of the line.

To access the Log Statistics, touch anywhere on this panel.

9.7.1 Estimated Blood Glucose

This shows what your estimated blood glucose is right now.

If this shows 'Do BGL' or '-', it means that PredictBGL does not have enough information to estimate your Blood Glucose, and you need to do a blood test.

The BGL is color-coded according to its level -, Green, Orange or Red.

If your Blood Glucose is too high, it may not appear on the chart, and the estimated blood glucose display will show '> 22.0' or '> 396', where '>' indicates 'greater than'.

9.7.2 Active Insulin

This shows the amount of insulin still active. It counts down by itself as your insulin is absorbed.

If this shows 'Settings!' this means that the active insulin time has not yet been set.

9.7.3 Estimated A1C %

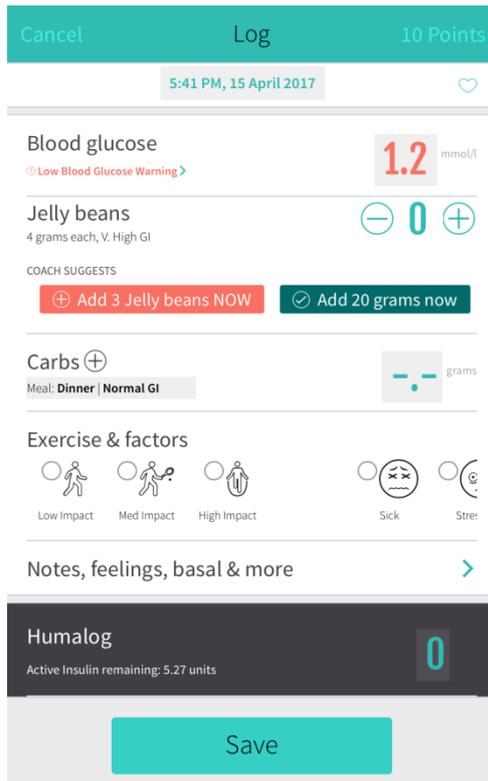
This shows an estimate of your A1C based on your previous 90 days readings (if available).

9.7.4 Ideal Range

This shows the amount of time that has been spent in the ideal range in the last 6 hours, based on the predictions.

9.8 Hypo Button

The jelly bean icon at the left of the Add button can be used when you have a Hypo.



The Hypo Button moves to the Add Log screen with a low blood sugar already entered, and with instructions on the number of hypo recovery foods and Normal GI carbs to take to offset active insulin.

Mental capacity is impaired during Hypos – this button helps answer the question of 'I'm low – what do I do about it!'

9.9 + Add

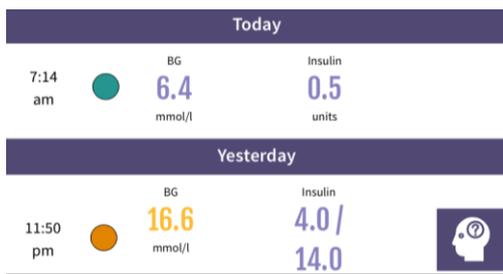
Touching '+ Add' takes you to the log screen (see the next section).

9.10 Sharing – Share icon

The points can be shared with your friends using the Share button.

Motivate yourself and your friends to better results by sharing your success!

9.11 Log History



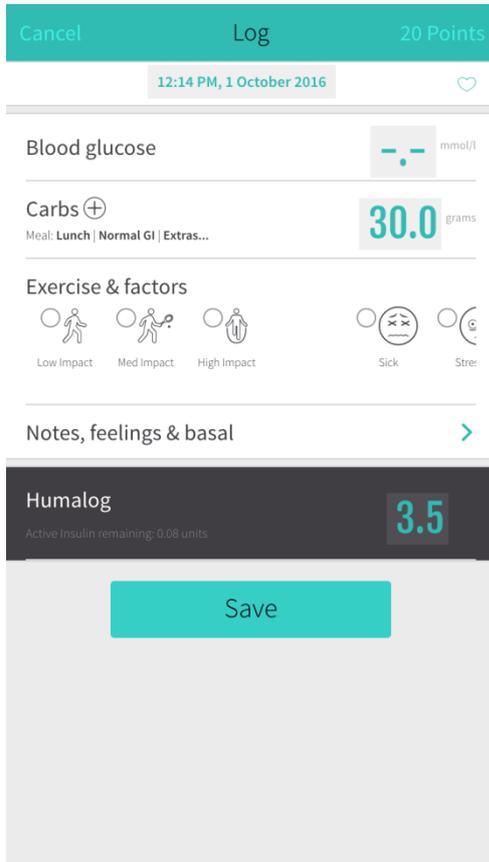
Below the buttons is the log history, showing a list of recently entered logs.

The purple ‘thought heads’ are coaching tips and lead to the same information as touching the purple coaching dots on the chart.

You can press any log entry to edit or review it.

Note that Sensor (CGMS) BGLs and other log types are not shown in the Log History, only BGLs, Carbs, Insulin and Exercise. Other log types may be shown as an empty row. For full data, see the website <https://PredictBGL.com/logs>, or edit the log in question

10 Log Screen



The Log Screen is accessed by touching '+ Add' from the dashboard.

The Log screen is where BGL and/or Carbs are added.

If insulin calculation is enabled, the logging screen will automatically calculate a dose based on the data you enter.

If calculation is not enabled (see page 20), you must enter the insulin amount yourself by touching the insulin row.

This screen contains advanced predictive analytics. It's worthwhile reading this section in detail to learn how it can make living with diabetes easier.

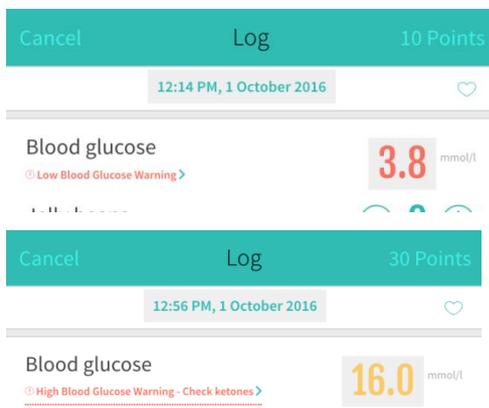
10.1 Blood Glucose

Enter your BGL here by touching it. To clear a BGL, just enter '0'. To fix a BGL, just enter the new value.

If Dexcom (see page 56) or HealthKit (see page 64) are enabled, the current BG will be defaulted automatically from sensor data or connected glucometers.

If your BGL target has been set (see page 49), a message shows what the target is.

The BGL is colour coded according to its level, Green, Orange or Red.

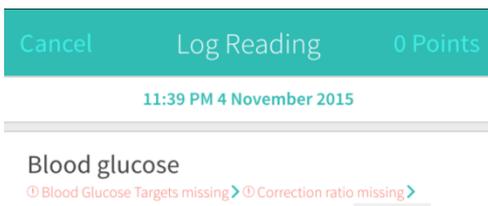


Low BGLs show a Hypo Warning.

Touching the warning leads to an education page.

High BGLs show a ketone warning.

Touching the warning leads to an education page.

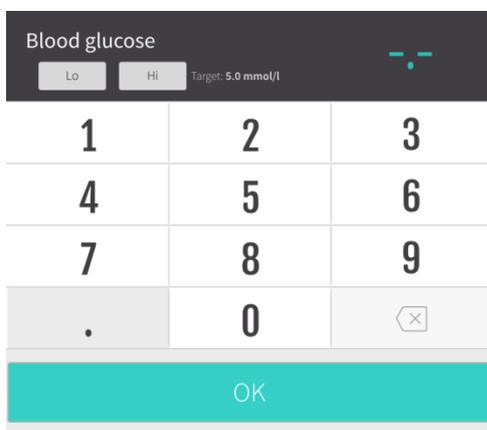


A warning is shown if the BGL target is not set. Touching the warning leads to the BGL Target settings screen.

If BG has been entered, an insulin stacking warning is shown if there is enough insulin on board to cause a low blood sugar if a dose is rounded up,

10.1.1 If your meter shows Lo or High

Most meters show ‘Lo’ or similar if the BGL is too low for it to measure accurately, or ‘Hi’ or similar if it is too high to measure accurately. If this happens, press the BGL field, and then press either the Lo or High button instead of typing a number:



10.2 Carbohydrates

Enter your Carbs here by touching it. To clear the Carbs, just enter ‘0’.

If your default meal times have been set, PredictBGL shows the meal time selected, and the carbs for this meal time will be pre-set in the carbs field (so you don’t have to enter them each time).

If HealthKit is enabled (see page 64) and you use a food App, carbs, protein, fat and fiber will be tallied (if there is more than one entry) and added in to the log screen automatically. If the food App you use does not put data into HealthKit immediately, press the tiny Heart icon at top right of the Log screen to retrieve data from HealthKit again. Note that not all food apps are reliable – you can check the HealthKit app to determine what has actually been put into HealthKit.

It also shows what GI factor has been chosen for this food. This is most important for fatty foods such as pizza and lasagne, and can be set on the Carbohydrate Details screen by touching ‘+’.

A warning message if the meal times have not been set.

For the Carbohydrate Details screen, see page 40.

10.2.1 Food Database

When you press the Carbs field to edit it, the numeric keypad has a Foods button to access a comprehensive food database. This option allows you to lookup a food’s carbohydrates, protein, fat and fibre.

This option is only accessible when you have an internet connection.

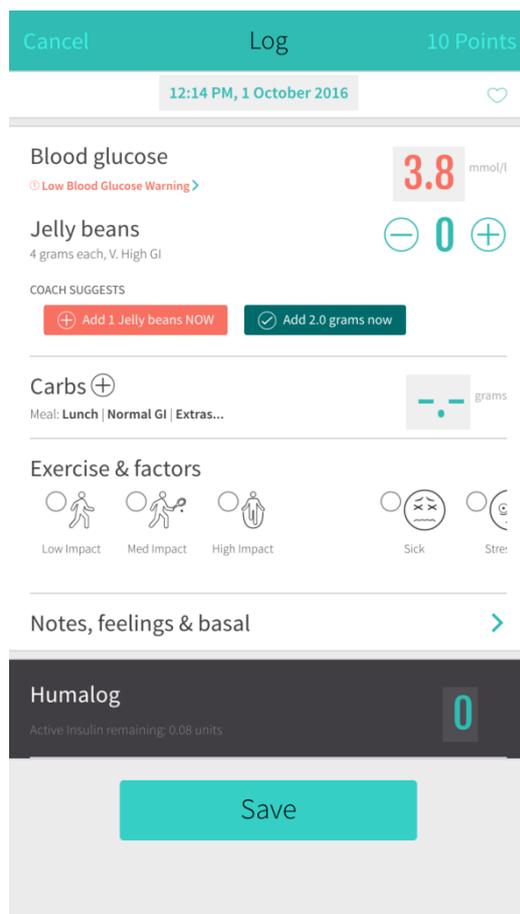
10.2.2 Estimate – Personal Hand Size

You can estimate the amount of carbs you are eating using your hand size. Unlike other estimation methods that assume hand sizes are the same, PredictBGL lets you set your hand size. Hand size and carb amount calculations are then derived from your more accurate measurements.

10.2.3 Apps

A range of Apps can be used with PredictBGL to record food intake. Foods are shared via HealthKit. Touching the Apps button takes you to a web page where you can choose from a range of App to work with.

10.2.4 Low BG Suggestions



If your BGL is below 4 mmol/L (72 mg/dL), PredictBGL uses a Red button to tell you how many of your Hypo recovery food items (page 58) are needed to return to a normal BGL. If you agree to follow the suggestion, press the Red button to add this to the log. PredictBGL will alert you to retest in 10 minutes.

If you will still need extra food, a Green button will show how much extra food is needed to counteract active insulin. If you agree to follow the suggestion, press the green button to add this to the Carbohydrates.

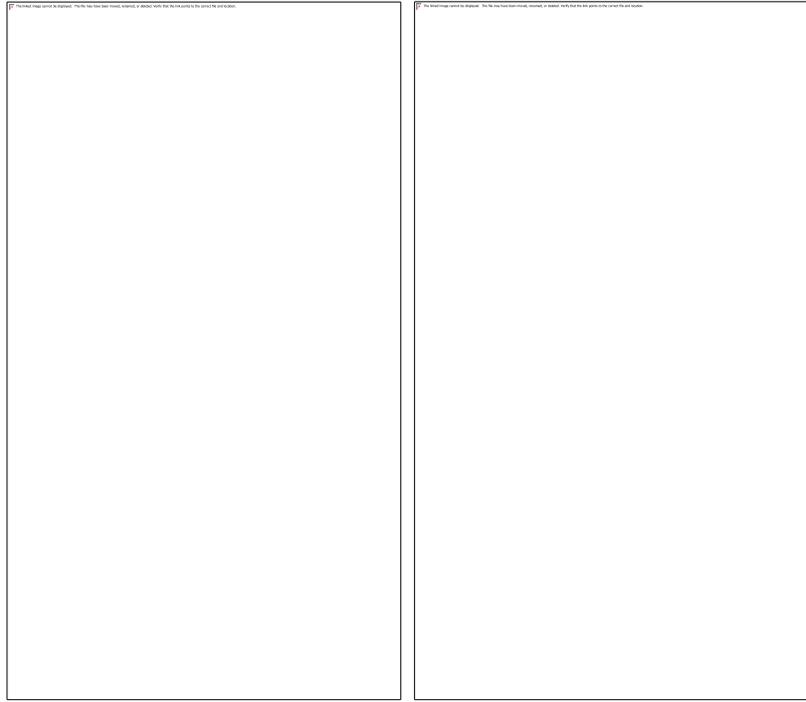
10.2.5 Too much insulin

If the food you are eating is not enough to counteract the insulin that you have already injected, PredictBGL shows a Green button showing how many extra carbs you **may** need to eat to offset

insulin. In addition, if you have entered a BGL, it tells you when is the best time to eat these extra carbs to avoid BGL spikes. This allows your BGL to drop first, rather than having a high BGL for longer, which has long term health consequences and increases your A1C.

If you agree to follow the suggestion, press the Green button.

Depending on how low your BGL is, the suggestion may be to eat straight away, or to eat later to avoid BG spikes.



10.2.6 Delayed Eating Suggestions

The screenshot shows the PredictBGL app interface. At the top, there are buttons for 'Cancel', 'Log', and '30 Points'. Below this is a date and time indicator: '8:21 AM, 7 October 2017'. The main display shows 'Blood glucose' at 15.0 mmol/l and 'Carbs' at 20.0 grams. A section titled 'COACH RECOMMENDS TO DELAY EATING' contains two green buttons: '33 Minutes to reach Normal Range of 10.0 mmol/l' and '59 Minutes to reach BGL Target of 5.0 mmol/l'. Below this is a 'Delay eating' section with a counter set to 0 minutes and a note 'Don't wait more than 64 Minutes (9:25 AM)'. The 'Exercise & factors' section includes icons for Low, Med, and High Impact, Sick, and Strenuous. At the bottom, there is a 'Notes, feelings, basal & more' section with a right arrow. A dark grey bar at the very bottom shows 'Humalog' with 8.5 units and 'Active Insulin remaining: 0.32 units'.

If your BGL is above your High Range (page 62) and you are eating, PredictBGL suggests that you inject and then delay eating. This allows your BGL to drop first, rather than spiking. Spiking blood sugars have long term health consequences and increases your A1C.

The suggested times are *conservative* for safety, and therefore will not correlate exactly to the prediction charts.

See

<https://www.PredictBGL.com/resources/delay-eating>

10.3 Exercise & factors

10.3.1 Exercise

Exercise modifies the dose calculation, in accordance with your settings (page 59), generally by reducing your insulin.

Only one exercise factor can be chosen.

When you select an exercise factor, the exercise duration field appears.

To cancel a running exercise factor, log a new entry, and uncheck the factor. The factor will then be turned off at that point in time. This makes it easy to start and stop an exercise factor when you're unsure of the exact duration.

Exercise is divided into 3 intensities:

Exercise Intensity	Use for	Default Duration	Default %
Low Impact	Walking	60 minutes	-10%
Medium Impact	Tennis, swimming, light aerobics	60 minutes	-20%
High Impact	High impact aerobics, bike classes, karate, body pump and very high aerobic output exercise	60 minutes	-40%

See Exercise Settings, page 59.

10.3.2 Factors



Factors modify the dose calculation, in accordance with your settings.

More than one factor can be chosen at the same time.

Factors modify the dose calculation, in accordance with your settings.

More than one factor can be chosen at the same time.

When you select a factor (and save), the factor starts running for a predefined length of time. To cancel a running factor, log a new entry, and uncheck the factor. The factor will then be turned off at that point in time.

The most common factors are shown first. To see extra factors, you may have to scroll right by dragging the icons.

The Factors are Sickness, Stress, Excited (adrenaline), Menstruation, Pain and Alcohol.

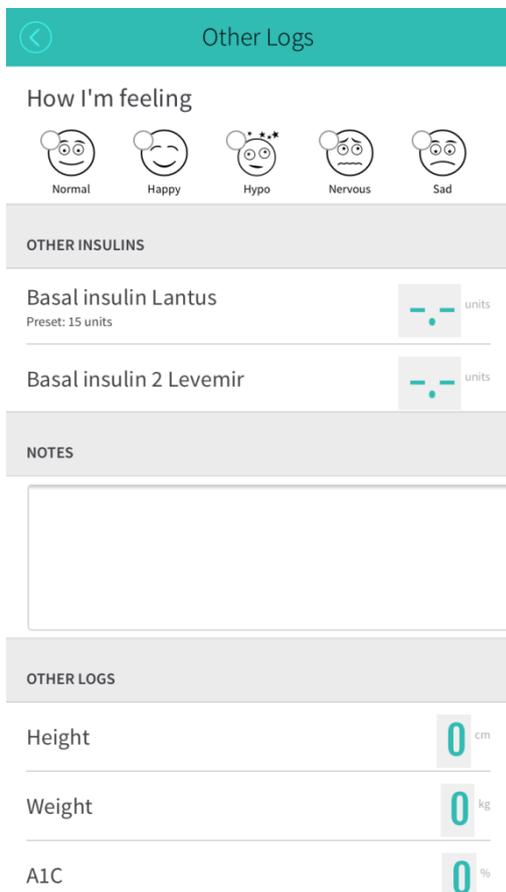
Factor	Use for	Default Duration	Default %
Sickness	Add extra Insulin when sick	2 hours	+30%
Stress	Add extra Insulin when stressed	1 hour	+20%
Excited	High-impact sport, or other activities that produce adrenaline.	3 hours	+30%
Menstruation	Add extra insulin during Menstruation. Only shown to females!	5 hours	+5%

Pain	Pain	2 hours	+30%
Custom 1	e.g. MS episodes.	1 hour	0 %
Custom 2		1 hour	0 %
Alcohol	A pseudo-factor –it does not modify the dose calculation, but the prediction model uses it to ‘shut off’ the background-insulin production. Note: Alcohol is only shown to those 16 and older	2 standard drinks	n/a

See Standard Drinks, page 70.

See also: Exercise, page 36 , Factor Settings, page 50, alcohol amounts (page 70).

10.4 Notes, feelings, basal and more



Feelings do not modify the dose calculation, but can be used to track how you feel. Your doctor may ask you to log this.

Only one feeling can be chosen at a time.

The most common feelings are shown first. To see extra feelings, you may have to scroll right by dragging the icons.

Happy
Hypo
Nervous
Normal
Sad

10.4.1 Option A. Basal Insulin(s)

If you have set up Basal Insulin, you can record the amount here.

If you have set up Basal Insulin Times (see page 54), simply press the default (e.g. 17) and it will be copied to the basal insulin field.

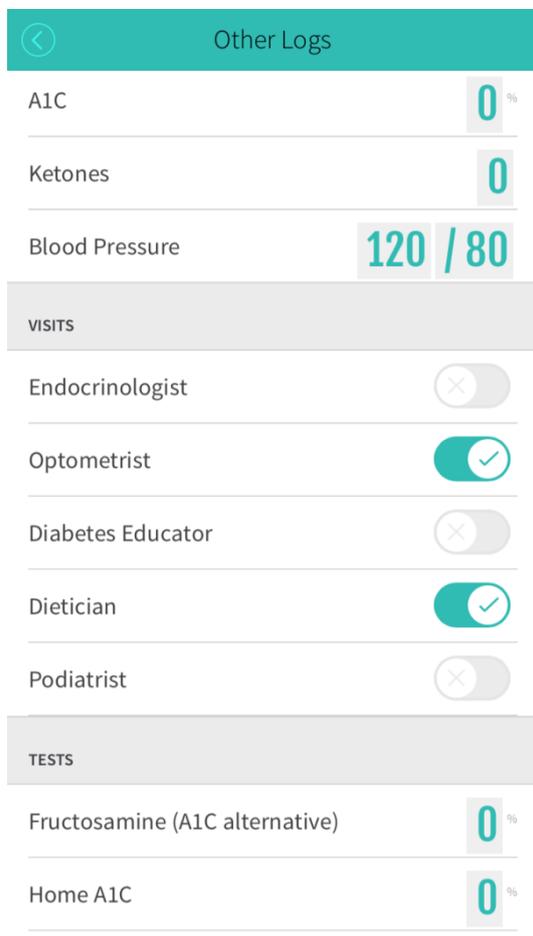
10.4.2 Option B. Temporary Basal Rate

If you are using a pump, you can enter a temporary basal rate here. Enter the rate and duration in minutes.

10.4.3 Notes

Add any text notes that you wish to associate with this log, e.g. feeling tired, etc.

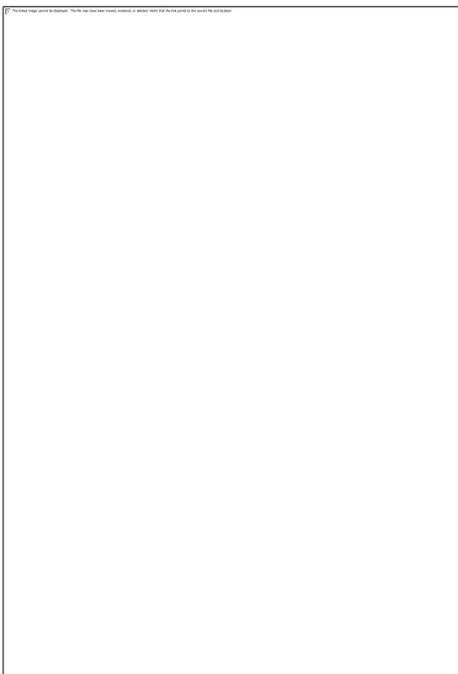
10.4.4 A1C, Blood Pressure, Ketones, Doctor visits and more



Additional log entries such as A1C, Ketones, Blood pressure, visits to various Health Care Professionals, and many other blood tests can be tracked and recorded.

If you use an insulin pump, temporary basal durations and % will also show here.

10.5 Insulin



The insulin section will show a calculated dose if the dose calculator is on (page 19). You can override this dose by touching the Insulin amount. To clear the Insulin, just enter '0'.

If the dose calculator is turned off, just enter the insulin amount.

If the time is within an hour of your basal time, an additional basal insulin panel will display – provided you have not recently logged basal insulin. The value will not be set but the 'Preset' text can be touched to add the value easily.

If the time is close to the basal time and no basal dose has recently been entered, the basal amount will automatically be set.

10.5.1 Active Insulin Remaining

The insulin section also shows the amount of insulin remaining. This helps to avoid hypos by preventing overdosing. The Active Insulin is only taken into account when a BGL is entered.

The Active Insulin depends on your Active Insulin Time (page 21) and the previous doses of insulin you have injected within this timeframe, and their timing.

10.6 Save

When the data has been entered, press [Save] to log it.

10.7 Speech to Text

The microphone icon (Android only) is an experimental feature to allow blood sugars only at this stage, to be entered using voice commands.

Available phrases are currently:

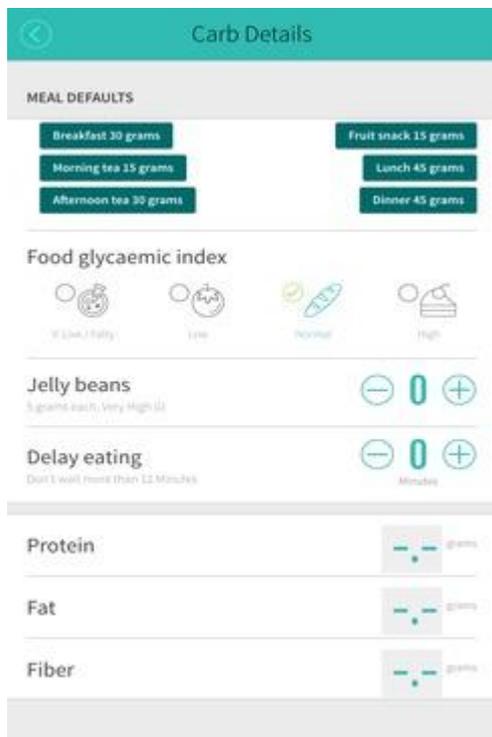
- Blood sugar XX
- blood glucose XX
- sugar XX
- glucose XX
- bgl XX
- bg XX

If this feature works for you, please feel free to provide feedback on new phrases to add!

10.8 Delete

If you are editing an existing reading, a [Delete] will also be shown that can be used to remove the reading.

10.9 Carbohydrate Details



Touching the + to the right of the Carbs heading takes you to the Carbohydrate Details screen.

When done, press < at the top left to return to the main screen.

10.9.1 Meal Presets

To override the carbohydrate amount that has been pre-selected, you can simply press on the meal pre-set you want (e.g. if you have a late breakfast). You can also modify the carbohydrate amount just by touching on it on the main Log screen. See page 40.

Note that PredictBGL does not care if a BG is before eating (preprandial) or after eating (postprandial), because it already knows this from the times of each log entry. This means that high blood sugars that follow eating are not automatically considered bad. PredictBGL understands the context without you marking them as pre- or post-prandial.

10.9.2 GI Factor

The GI factor for the food can be selected. This does not modify the dose calculation, but affects the way the prediction model estimates how quickly the food will be absorbed, and makes Hypo prediction more accurate.

You can change the default GI factor - this is pre-selected for every meal, see page 57. You cannot choose Very High GI as a GI factor, as this type of food is entered in the Hypo Treatment field, below.

GI Factor	Usage
Very Low / Fatty	Fatty foods such as pizza and lasagne.
Low	Vegetables (not corn, pumpkin, potato)

Normal	Breads, Rice, Pasta
High	Cake
Very High	Jelly beans, glucose tablets

10.9.3 Hypo Treatment

The Hypo Treatment is a Very High GI food that you only eat to recover from hypos e.g. jelly beans or glucose tablets, see page 58.

The calculator will recommend how many of these are required to offset a Hypo and return your BGL to the normal zone.

The Hypo Treatment count can be increased or decreased by touching the + or – buttons on either side of it.

10.9.4 Protein

Enter Protein here by touching it. To clear the Protein, just enter '0'.

If HealthKit is enabled (see page 64) and you use a food App, protein will be entered automatically.

A percentage of the Protein that you eat is converted to Carbohydrates by Gluconeogenesis.

The percentage can be set by you, see page 58. The carbohydrate equivalent is taken into account by the dose calculation.

You must adjust this percentage to suit your own body.

We suggest a starting Protein Conversion percentage of 40%.

10.9.5 Fat

Enter Fat here by touching it. To clear the Fat, just enter '0'.

If HealthKit is enabled (see page 64) and you use a food App, fat will be entered automatically.

A percentage of the Fat that you eat is converted to Carbohydrates by Gluconeogenesis.

The percentage can be set by you, see page 58. The carbohydrate equivalent is taken into account by the dose calculation.

Fat is converted to carbs at a lower rate than protein.

You must adjust this percentage to suit your own body.

We suggest a starting Fat Conversion percentage of 10%.

10.9.6 Fiber

Enter Fiber here by touching it. To clear the Fiber, just enter '0'.

If HealthKit is enabled (see page 64) and you use a food App, fiber will be entered automatically.

Fiber offsets carbohydrates by preventing it from being absorbed.

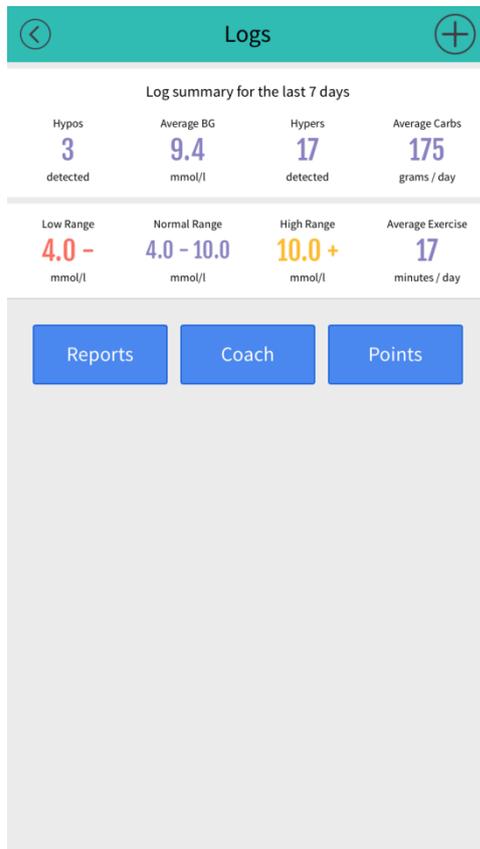
The latest medical information is that 100% of the fiber should offset carbohydrates eaten (in the past this was fiber above 10g).

Eg. Eating 30g with 10g fiber, give 20g effective carbs for dosing purposes.

Note: Australian food databases give effective carbohydrates ie the fiber has already been offset. USA food databases gives total carbohydrates, from which fiber should be subtracted.

If using the HealthKit integration, and working with a food database that uses effective carbohydrates, disable the reading and writing of Fiber data from HealthKit to PredictBGL.

11 Log History Display



The log history shows a summary of recent statistics.

To return to the charts screen, press the < in the top left hand corner. You can also press + in the top right corner to log a new entry.

11.1 Reports

This option shows a range of reports that help to summarize and identify issues with your results.

This option is only accessible when you have an internet connection.

11.2 Coach

This option analyses your results, and gives a range of suggestions on how you can improve for next month.

This option is only accessible when you have an internet connection.

11.3 Points

This option shows your points for last month, and links to the global, country, state and city leader boards.

This option is only accessible when you have an internet connection.

11.4 Hypos

This shows the number of Hypos detected in the last 7 days.

11.5 Average BG

This shows the average BG in the last 7 days.

11.6 Hypers

This shows the number of Hypers detected in the last 7 days.

11.7 Average Carbs

This shows the average carbs eaten per day in the last 7 days.

11.8 Low Range

This shows the chart low range, below which a BG is considered a Hypo.

11.9 Normal Range

This shows the chart normal range

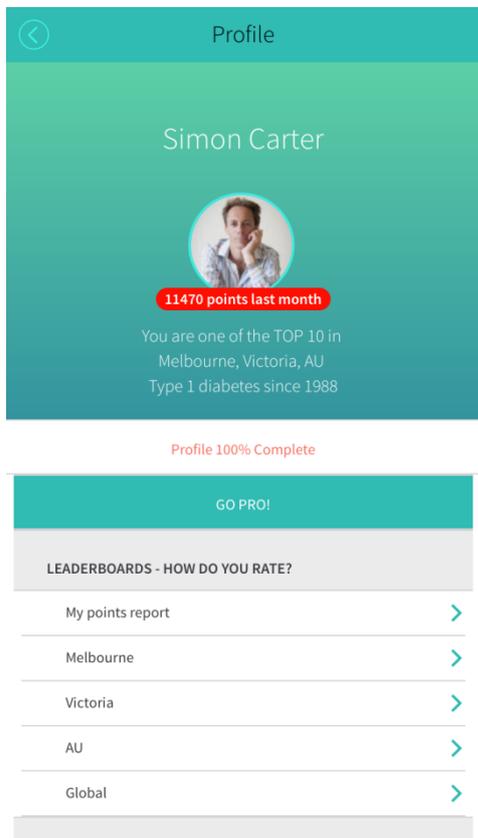
11.10 High Range

This shows the chart high range, above which a BG is considered a Hyper.

11.11 Average Exercise

This shows the average exercise – over the last 7 days.

12 Profile



If your profile is incomplete, a red circle is shown at the upper left of the Dashboard with a number inside it, indicating the number of settings incomplete.

Press the circle or your avatar (can be set via the website) to see which settings you need to fix.

To fix the issue, press on the row to be taken to the appropriate settings screen.

Press the < button to return to the dashboard.

The Profile steps will only update if you have an internet connection.

From this screen you can also see how many points you have, and can see where you sit on the Global, Country, State and City leader boards.

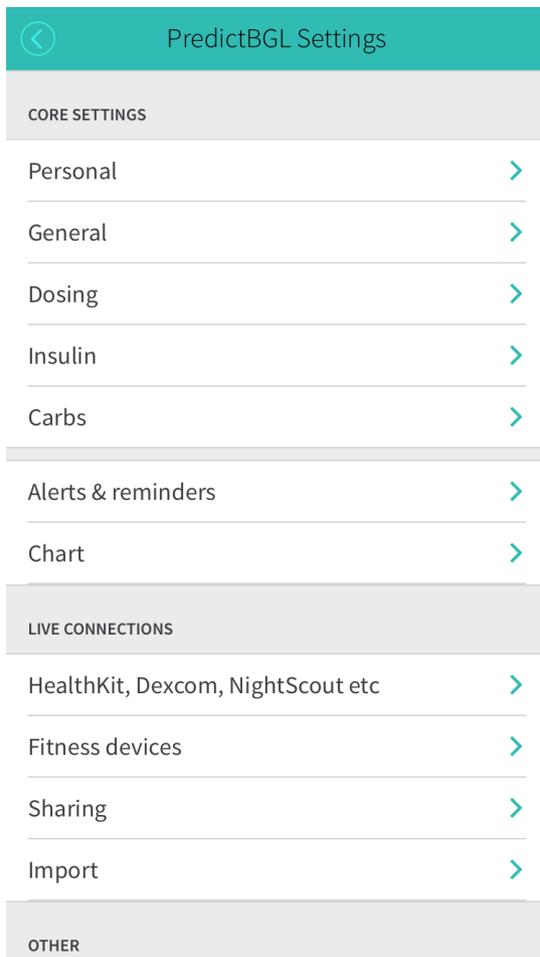
Compete with your friends!

12.1 Did we do well? Rate us!

If you think we're awesome, please rate us via social media!

If not, please provide feedback so we can improve.

13 Settings



We strongly recommend that you work closely with your Health Care Professional for a safe and complete start with PredictBGL. If required, training material for Health Care Professional's is available on the PredictBGL website.

The best results are seen when readings and other information are consistently and continuously added to PredictBGL as they occur.

13.1 Personal

Personal Settings

First: Simon

Last: Carter

Email: datamystic@gmail.com
Email verified

Avatar: >

Gender: Used to include/exclude menstruation as a factor
 Male Female Undecided

Date of Birth: Used for health checks
21 February 1973

LOCATION (FOR POINTS AND LEADERBOARDS)

City: Mount Waverley

State: Victoria

Country: Australia >

On this screen you enter your name, gender and date of birth, which is used to recommend various health checks depending on your age.

It also specifies your location, used for the Leader boards found on the Profile screen (see page 45).

13.2 General

General

Language: English >

DIABETES INFORMATION

Diabetes type: Type 1 >

Medications: Insulin and Tablets >

Year of diagnosis: 1988 >

UNIT PREFERENCES

Blood glucose units: mg/dl - normal BG is 72 | **mmol/l - normal BG is 4.0**

Carb units: Grams >

Dimensional units: pounds, inches, fl oz | **kg, cm, mls**

A1C Units: NGSP - % | IFCC - mmol/mol | **eAG - mg/dL**

This screen is in addition to the Initial Settings described on page 17.

Here you can override the auto-detected language, set your year of diagnosis (used to recommend various health checks depending on your number of years with diabetes), and turn off the points shows on the chart.

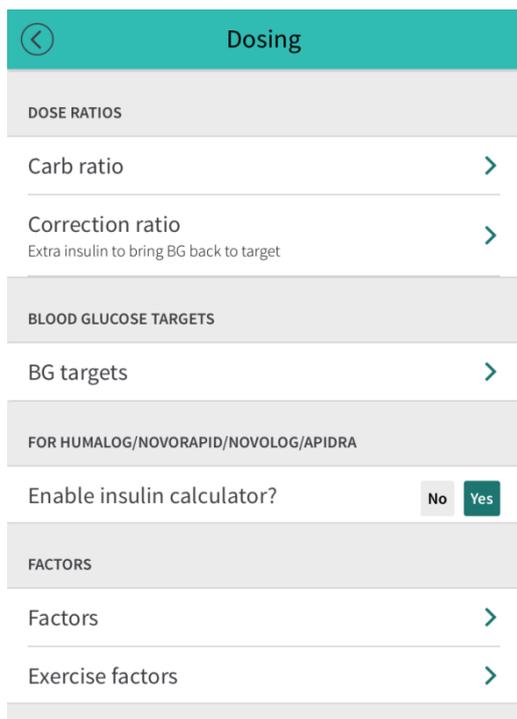
13.2.1 Year of Diagnosis

In what year were you diagnosed? PredictBGL uses this to prompt you for eye checks and other tests. These tests are initiated after a period of time with diabetes, and pickup early warning signs of larger problems, such as kidney failure, blindness, heart disease and eye damage.

13.2.2 Blood Glucose Units, Carb Units, Dimensional Units, A1C Units

Please see page 20.

13.3 Dosing



These settings control how PredictBGL calculates doses.

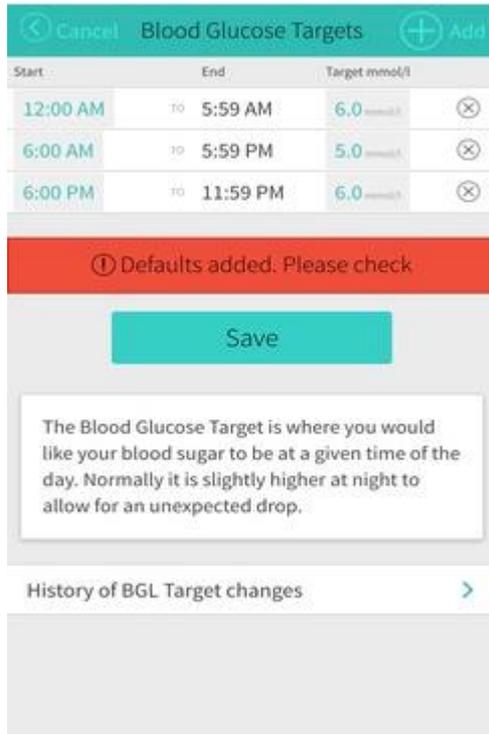
13.3.1 Enable Insulin Calculator

This setting appears if you chose a Medication of 'Insulin'.

Disable the Insulin Calculator if you DO NOT use Humalog, NovoLog, NovoRapid or Apidra.

Enable the Insulin Calculator if you use Humalog, NovoLog, NovoRapid or Apidra with Lantus or Levemir and vary your Insulin amount according to the size of each meal and your current blood sugar.

13.3.2 Blood Glucose Targets



The Glucose Targets work with the Correction ratio (see page 22) to determine how much extra insulin to add if your BG is above the Glucose Target, and how much insulin to subtract (or swap for carbs) when you are below the Glucose Target.

Normally the Glucose Target is set lower during the day and higher at night when you are asleep to help prevent overnight hypos.

To edit a target, press the number to the right of the time period.

13.3.3 Carb Ratio

Please see page 22.

13.3.4 Correction Ratio

Please refer to page 21.

13.3.5 Factors



Factors control changes to insulin requirements. Also available are Custom Factors 1 and 2.

Factor	Use for	Default Duration	Default %
Stress	Add extra Insulin when stressed	1 hour	+20%
Illness	Add extra Insulin when sick	2 hours	+30%
Menstruation	Add extra insulin during Menstruation. Only shown to females!	5 hours	+5%
Adrenalin	High-impact sport, or other activities that produce adrenaline.	3 hours	+30%
Pain	e.g. MS episodes.	2 hours	+30%
Alcohol	A pseudo-factor –it does not modify the dose calculation, but the prediction model uses it to ‘shut off’ the background-insulin production. Note: Alcohol is only shown to those 16 and older	2 standard drinks	n/a

See Standard Drinks, page 14.

13.3.6 Exercise Factors



This section allows you to specify how exercise reduces your insulin requirements.

As your diabetes varies compared to other people, you must adjust the percentages if they do not work for you.

Exercise is divided into 3 intensities:

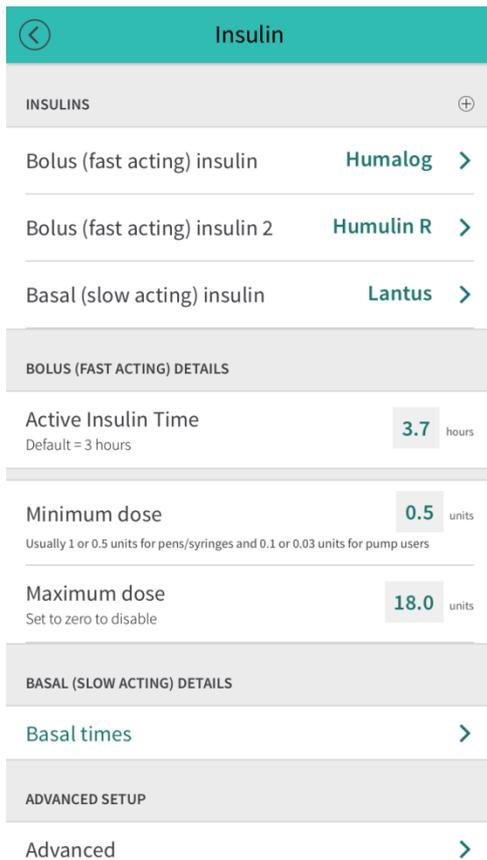
Exercise Intensity	Use for	Default Duration	Default reduction %
Low Impact	Walking	4 hours	20%
Medium Impact	Tennis, swimming, light aerobics	4 hours	40%
High impact exercise requires EXTRA insulin.			
High Impact	High impact aerobics, bike classes, karate, body pump and very high aerobic output exercise	4 hours	-40%

13.3.7 Basal Sugar

High impact exercise can also increase your background glucose production.

This setting allows you to control how much it is magnified by.

13.4 Insulin



These settings control which insulins you use and what times they are expected.

You can add a second bolus insulin and a second basal insulin by touching the (+) sign to the right of the Insulins heading.

Both Bolus 1 and Bolus 2 contribute to Active Insulin, but only Bolus 1 is calculated.

13.4.1 Bolus (fast acting) insulin

← Bolus (Fast Acting) Insulin 1
 -
 Actrapid
 Afrezza
 Apidra
 Fiasp
 Humalog ✓
 Humulin 30/70
 Humulin R
 Humalog mix 25
 Humalog mix 50
 Insulatard
 Mixtard 30/70
 Mixtard 50/50
 Monotard
 Insulin missing?

This setting appears if you chose a Medication of 'Insulin'.

Choose your fast (or rapid) acting insulin from the list. Typically Humalog, NovoRapid/Novolog, Apidra.

If you do not remember what it is, check the packaging or ask your Health Care Professional as different insulins have very different action times and curves.

13.4.2 Basal (slow acting) insulin

This setting appears if you chose a Medication of 'Insulin'.

Specify here your slow acting insulin. Typically Lantus, Levemir, Tresiba.

13.4.3 Active Insulin Time

If you DO NOT use a bolus insulin such as Humalog, NovoLog, NovoRapid or Apidra then use a setting of 3 hours, and do not use the Insulin Calculator.

Active Insulin is the amount of time your fast acting insulin acts for.

This setting tells PredictBGL how much insulin to subtract (Insulin on Board or IOB) before calculating a dose. Your healthcare professional can advise you on a starting value (typically 3 hours), but you must adjust it yourself based on trial and error.

PredictBGL nominally uses 3 hours for a fast acting insulin profile (Humalog, NovoLog, NovoRapid, Apidra). The valid range is 2-8 hours.

Insulin action time can vary from person to person. PredictBGL allows you to alter this 3 hour active insulin time if needed.

If you use an insulin pump, then you may have to set PredictBGL's Active Insulin time to a lower value than your pump, as PredictBGL tracks insulin more accurately than your pump, and does not ignore remaining insulin when it drops below 5% like a pump does.

Note: IOB never includes basal insulin (nor should it).

13.4.4 Minimum Dose

This refers to the minimum amount of bolus insulin your delivery device can provide. PredictBGL will round its insulin calculations to suit.

Device	Suggestion
Syringe	0.2 unit - 1 unit, depending on your eyesight and how steady your hand is
Insulin pen	0.5 units or 1 unit.
Pump	0.03 to 0.1 unit.

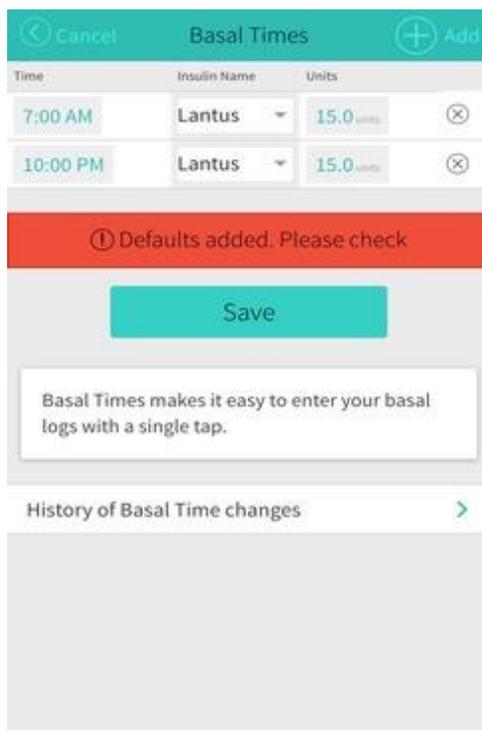
13.4.5 Maximum Dose

This refers to the maximum dose of fast acting insulin that you are ever likely to take. For safety, PredictBGL will not let you add a dose larger than this, as this often indicates carbs put into the BG field or vice versa. You must split insulin manually into two doses, or adjust this setting.

To disable this feature, set the Maximum Dose to zero.

13.4.6 Basal Times

If you do not use a pump, you will be shown the basal times option.



Set the time, insulin and dose of basal insulin that you normally take.

13.4.7 Basal Rate

If you use a pump, you will be shown the basal rate option instead of the basal times option.

Cancel Basal Rate Add

Start	End	Insulin
12:00 AM	TO 11:59 PM	0.583 units/hour

Save

The Basal Rate is the background insulin delivered by an insulin pump. PredictBGL uses the basal rate to show the effect of exercise, stress and alcohol.

The basal rate can also be used by non-pumpers. Ensure that 'Model basals?' is checked, and that you log all basal doses. Then PredictBGL can (in addition to exercise, stress, alcohol) show the effect of accidentally missing a basal dose, doubling or overlapping basal doses. Just divide your total basal dose by 24 and set this value as the hourly Basal Rate.

History of Basal Rate changes >

Set the time, and rate of basal insulin as used by your pump.

PredictBGL will automatically include basal rate insulin as part of its prediction model.

13.5 Insulin – Advanced

The settings control advanced settings that relate to insulin.

Don't modify these settings until you have used PredictBGL for 7 days.

13.5.1 Log Basal Insulin Manually?

This option is shown to non-pumpers.

PredictBGL can model your basal insulin as well as your fast acting insulin.

If Basal Modelling is turned on, then you **MUST** enter each basal dose for PredictBGL's charts to make sense. Skipping a basal dose will show a steadily-rising Blood Glucose. Double-entering a basal dose will show a steadily falling Blood Glucose.

The purpose of turning on Basal Modelling is

1. To provide more accurate modelling of exercise and stress
2. To provide modelling of alcohol
3. To detect effects from basal insulin overlap (e.g. 9am on day 1, but 8am on day 2 can give 1 hour of double-effect).

13.5.2 Model Basals?

This option is shown to pumpers.

When enabled, basal rate data is also included in the prediction model, making exercise, stress, sickness and alcohol more accurate.

13.5.3 Natural Insulin Production

If you still produce insulin, the model can optionally allow for this in the prediction model.

Diabetes Type	Suggested value
Type 1 (not in honeymoon period)	0
Type 1 (in honeymoon period)	0.3
Type 2	0.7
Gestational	0.8
Other	0.8

13.5.4 Renal Threshold

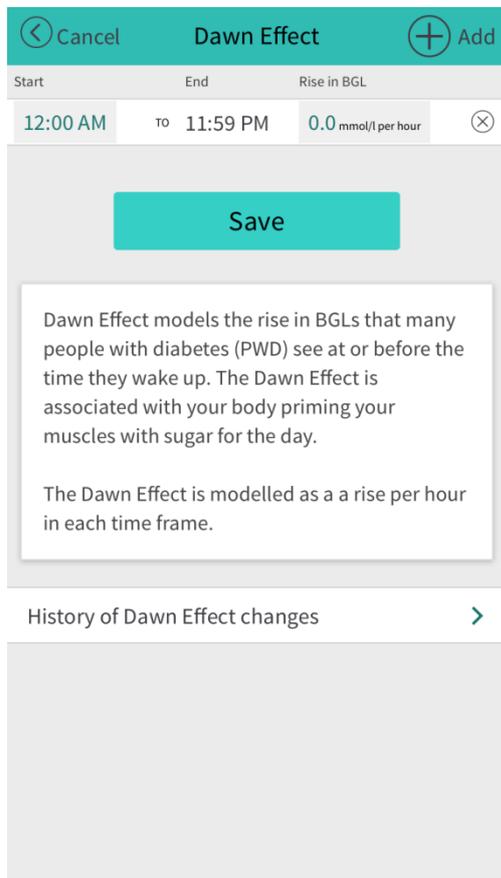
Your body dumps excess sugar to the kidneys once the BG gets too high. This allows the body to remove excess sugar via urination (pee to US folks...).

When blood sugars exceed the Renal Threshold, they get reduced by the Renal Rate.

13.5.5 Renal Rate

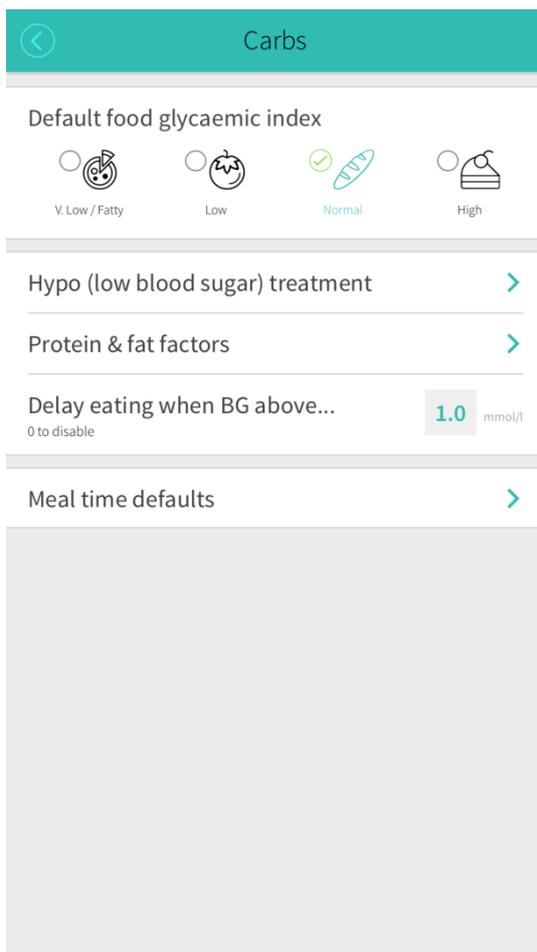
Blood sugars above the Renal Threshold get reduced by the Renal Rate per hour.

13.5.6 Dawn Effect



The dawn effect models a rise in blood sugars that occurs prior to waking.

13.6 Carbs

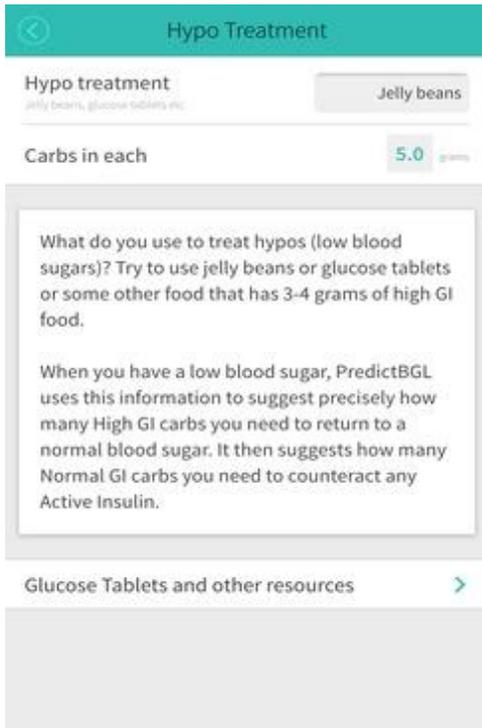


These settings control carb entry.

13.6.1 Default GI Factor

If you eat low-GI food (low carb), then you can set the default GI factor to be used by the calculator. If you have gastroparesis, you can also set the default GI factor to low-GI to simulate the longer food absorption time as it empties from your stomach.

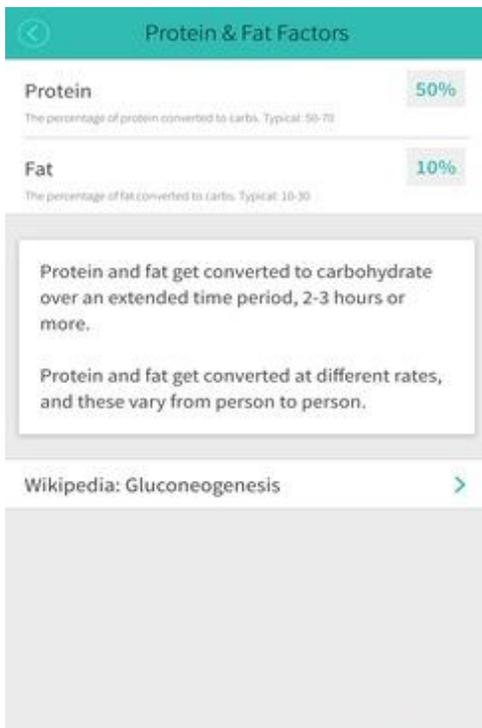
13.6.2 Hypo (Low Blood Sugar) Treatment



PredictBGL uses this information to tell you exactly how many grams of carbohydrate to take when you get low.

We recommend foods with 3 to 7 grams each, as more than this makes your BGL rise higher than necessary, causing damage.

13.6.3 Protein and Fat Factors



If data is available, protein and fat should be included as part of dose calculations.

Protein and fat get converted to carbohydrate – but not 100% of protein or fat get converted to carbs.

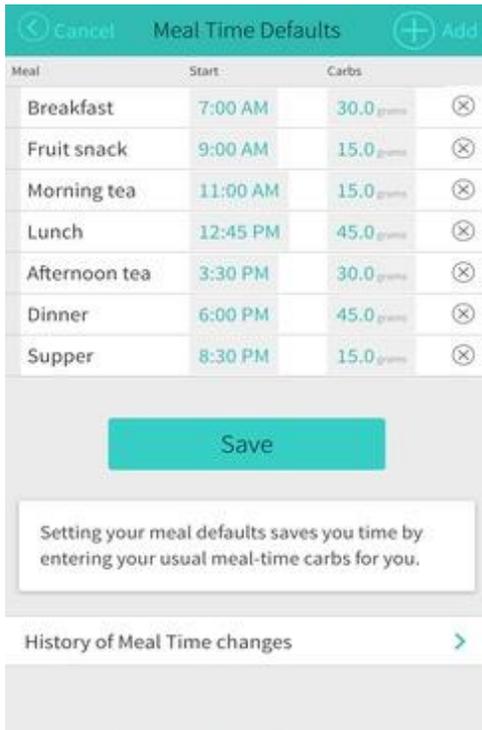
We use the TAG system of estimation to determine what percentage of protein and fat get converted to carbohydrate. You can tailor these settings as needed.

13.6.4 Delay eating when BG above...

A delayed eating suggestion can be provided when you are eating and your blood sugar is higher than this value.

Set to zero to disable delayed eating suggestions.

13.6.5 Meal Time Defaults

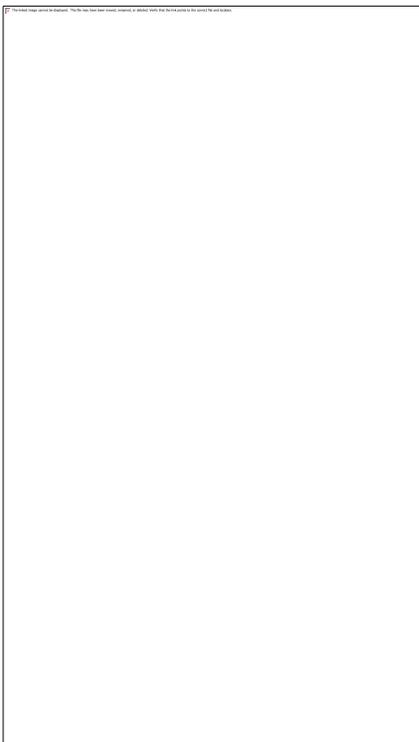


This screen defines your usual meal times and the carbohydrates you usually have for each. This makes it far quicker to enter your carbohydrates, as PredictBGL fills in the expected carbs for the current time, which you can still adjust up or down if required.

13.6.6 Gastroparesis

This is a new feature coming in the next release of PredictBGL!

13.7 Alerts & reminders

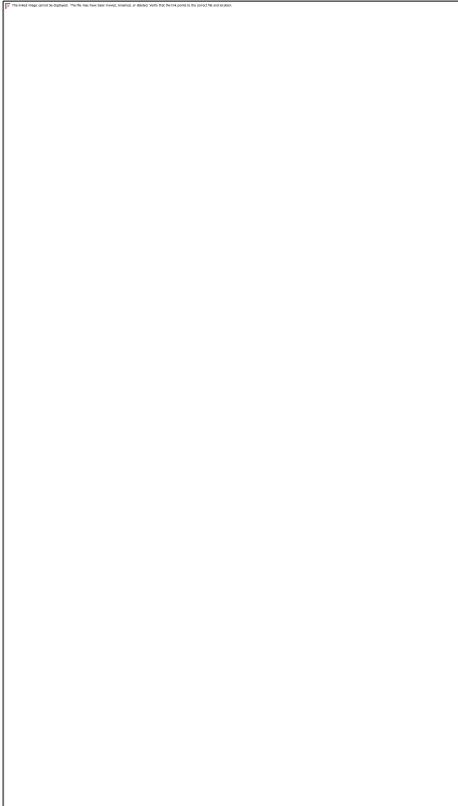


These settings allow you to control which alerts and reminders PredictBGL shows.

13.7.1 Basal Reminders

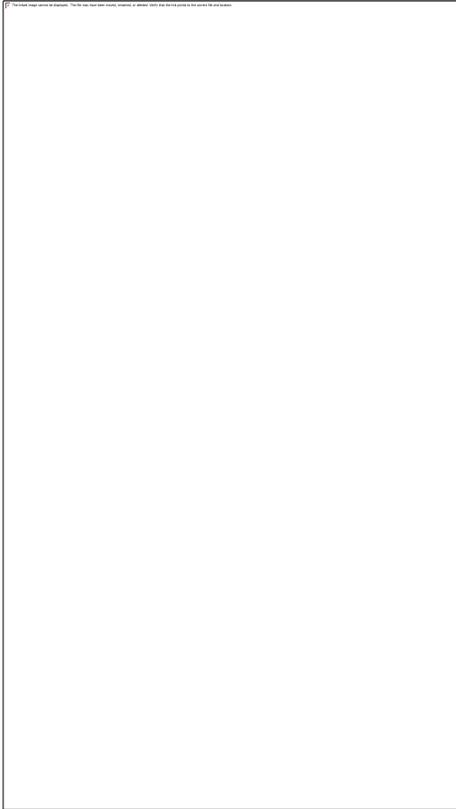
If you do not use a pump, you have the option of an alert at the time of your basal dose(s).

13.7.2 Meal Reminders



PredictBGL can remind you to blood test at each meal time.

13.7.3 BGL Reminder After Meals



PredictBGL can remind you to blood test at a set time after eating, this can be very useful to check if your doses are working as expected.

If required, you can override this setting on the secondary Carbs detail screen of the logged, for example, if you eat a late snack and don't want to be woken by an alert.

13.7.4 Sound Effects

PredictBGL provides cute sound effects to enhance your experience.

13.7.5 CGM Alarm

The CGM alarm can be used to echo the native alarm of your CGM e.g. if your Dexcom speaker has not been recalled yet (for not making a noise every time).

The Low and High Alarm thresholds can be set, and the alarm enabled and disabled.

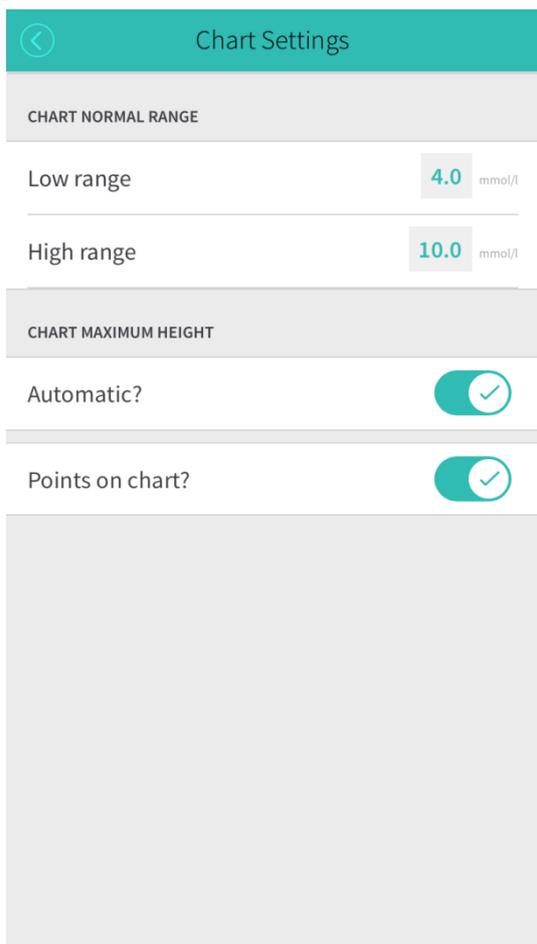
13.7.6 Bi-weekly Points Report

This controls whether you receive a fortnightly report with your points and all the activities you need to do to improve your diabetes care.

13.7.7 Newsletter

This control if you wish to receive notifications of new releases.

13.8 Chart



These screens control settings that relate to the BG chart.

13.8.1 Chart Low and High Range

The Low and High Range is the ideal range (or clinically preferred range) where you would like your blood sugar to be. Below the Low mark is considered Hypo, and above the High mark is considered Hyper.

In addition, the delayed eating suggestions (page) use the High mark and Glucose Target as suggested points at which to start eating if Hyper.

13.8.2 Chart Maximum Height

The chart can auto-scale, but this can be confusing as you flick forward and backwards through time.

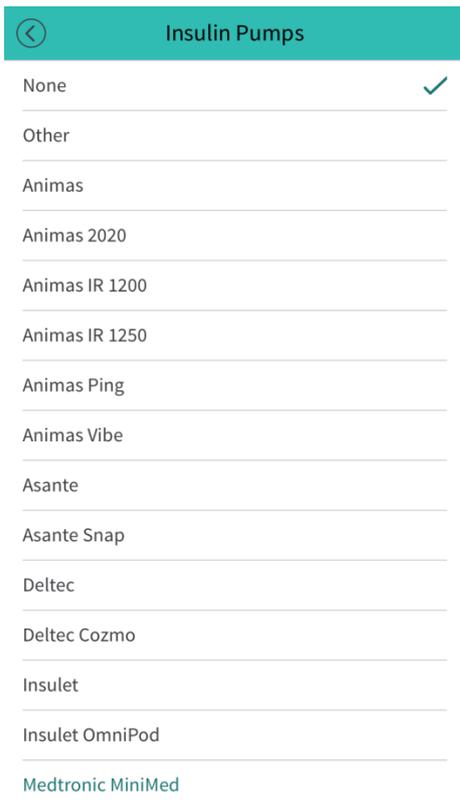
13.8.3 Maximum Height

If chart auto-scaling is disabled, this setting controls the maximum height.

13.8.4 Points on chart?

Controls is points are shown next to blood sugars on the chart.

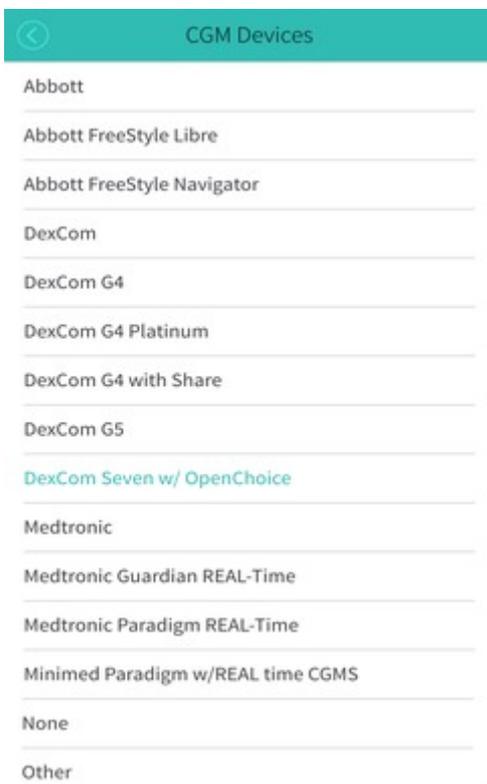
13.9 Insulin pump



If you use an insulin pump, specify it here. Choose 'None' if you do not use an insulin pump.

If your insulin pump data can be retrieved from a NightScout site, you can connect PredictBGL live your pump data stream via NightScout (see page 66).

13.10 CGM



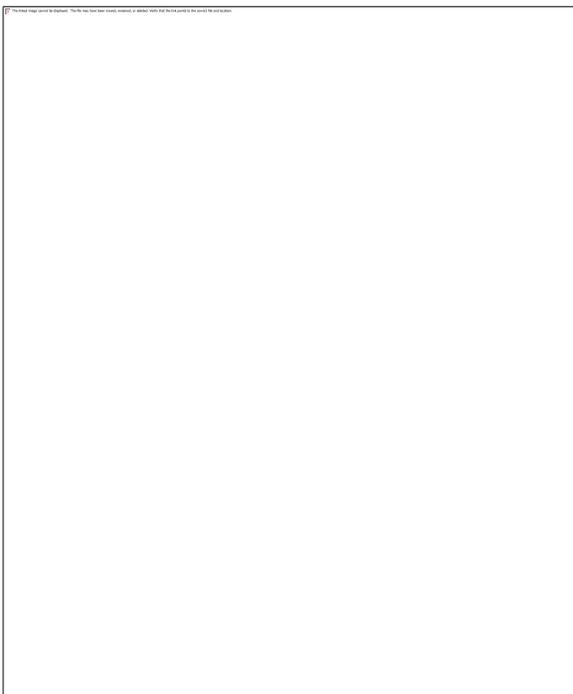
If you use a CGM, specify it here. Choose 'None' if you do not use a CGM. Adding your CGM allows you to manually enter CGM data points if required.

Linking CGM data provides a profound difference to the way you calculate and adjust insulin doses.

- Live CGM data can be dosed off without double-entry or mistakes.
- CGM trends can be compared to prediction trends, and dose changes made within 3 hours of a dose when the predictions do not align with CGM data.

If your insulin pump can be retrieved from Dexcom Share or a NightScout site, you can connect PredictBGL live your pump data stream (see page 66).

13.11 Health, Dexcom, NightScout



Live Connections provide live data from sensor devices such as Dexcom, Minimed pumps, HealthKit and BG meters that put data into HealthKit on the iPhone.

PredictBGL is the only system in the world that allows LIVE data from Dexcom – all other services have at least a 3 hour delay!

Live data makes a profound difference to your diabetes management.

13.11.1 Health

HealthKit with PredictBGL makes dosing from hyper-accurate food data a cinch!

No more double-entry!

If HealthKit is enabled and you use a food App, carbs, protein, fat and fiber will be tallied over the last 15 minutes (if there is more than one entry) and defaulted automatically every time you open the Add Log screen.

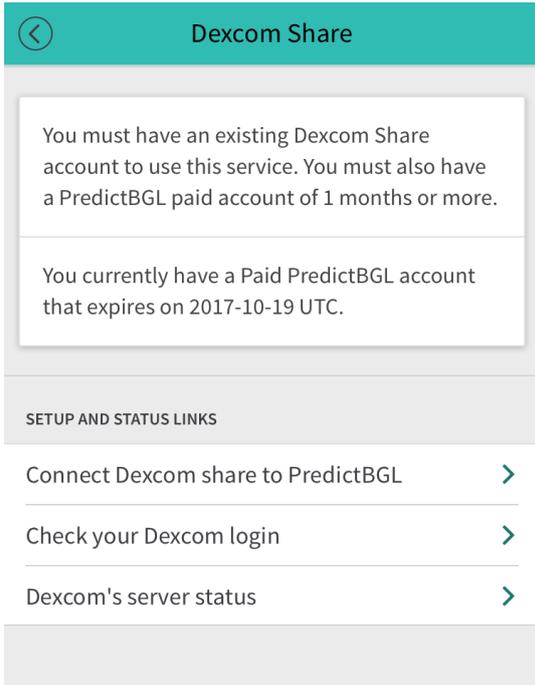
If the food App you use does not put data into HealthKit immediately, you can press the small Heart icon at top right of the Add Log screen to retrieve data from HealthKit again.

Food Apps that work well with PredictBGL are listed at: <http://www.predictbgl.com/apps-carb-counting.html>. Note that not all food apps are reliable – you can check the HealthKit app to determine what has actually been put into HealthKit.

When you manually add food data to PredictBGL, it automatically places it into HealthKit.

HealthKit is only available on iPhones.

13.11.2 Dexcom Share



PredictBGL is the only system in the world that allows LIVE data from Dexcom – all other services have at least a 3 hour delay!

Live CGM data allows for live dosing without double-entry or mistakes. PredictBGL also uses the most recent Dexcom data point as the starting point for predictions – giving you confidence about the hours ahead.

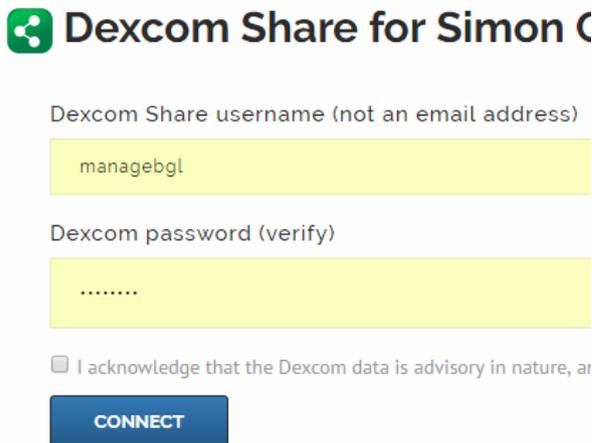
With live Dexcom data, you can also see immediately which doses are not having the effect you think they should. Discrepancies between Dexcom and PredictBGL indicate dosing errors that can very easily be rectified with PredictBGL’s live coaching tips (see page 28).

As doses improve, predictions and actuals (from Dexcom) will line up better.

On

Dexcom is configured using the PredictBGL.com website. The Dexcom service can be turned on and off.

13.11.2.1 Setup Process

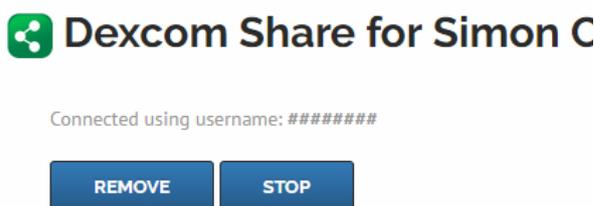


The first step in setting up Dexcom Share is to enter your Dexcom username (which is not an email address) and Dexcom password.

Check the confirmation box, then press [Connect].

If your login details are correct, your Dexcom login details will be securely saved.

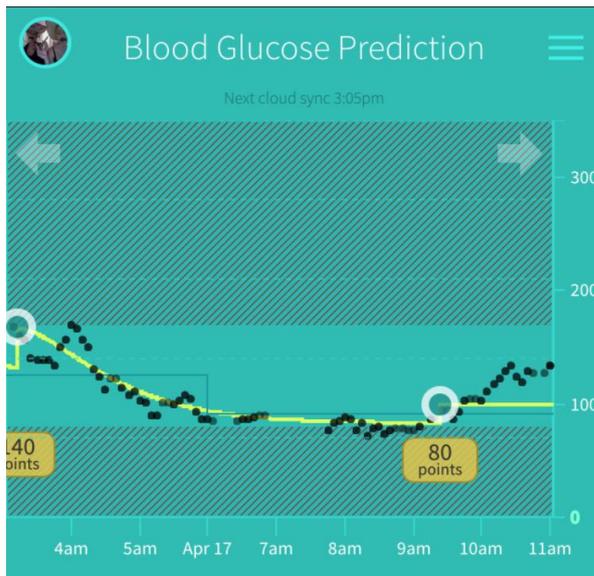
13.11.2.2 Starting and Stopping Dexcom Share



Once the login details are correct, you can Start and Stop the Dexcom integration.

You can also remove the Dexcom connection, but it must be stopped first.

13.11.2.3 Dashboard display with Dexcom data



Once Dexcom data is flowing, the Dashboard changes to display it.

The dose calculator will automatically default data from Dexcom if it is recent.

13.11.2.4 Troubleshooting Dexcom

The Dexcom system will not make data available for sharing unless you are sharing your Dexcom data to at least one email address. If you are not seeing any CGM data, this is the most likely cause. Use Dexcom's system to share to a secondary email address.

13.11.3 NightScout

NightScout is an open source system that can obtain data from Dexcom, Minimed Pumps, and other sources. PredictBGL can extract data from your NightScout site to make live dosing and prediction decisions with PredictBGL.

13.11.4 FreeStyle Libre

FreeStyle Libre data can be extracted from a NightScout site once you connect the Android Glimp App to it. The Glimp App takes over from the normal FreeStyle scanner.

On iOS you can purchase the LinkBluCon device, which fits over the Libre sensor and sends data directly to Health, from where PredictBGL can read it. See <https://www.ambrosiasys.com/>

Data includes all CGM data points.

13.11.5 Medtronic Minimed Pumps

Medtronic Minimed Pump data can be extracted from a NightScout site once you connect your Minimed to NightScout.

Data includes all CGM data points, insulin doses and carbohydrates – removing the need for any double entry of data in PredictBGL. Use PredictBGL for predictions and dose coaching advice.

Use the NightScout option to setup this service.

13.11.6 FitnessSyncer

FitnessSyncer (<https://www.fitnessyncer.com/>) is a third party service that takes data from 60+ fitness devices and automatically pushes them into PredictBGL's website and Apps. Includes :

- Atlas Wearables
- Cycling Analytics
- DailyMile
- Epson Pulsense
- Epson Runsense
- Fddb
- FatSecret
- FitBug
- Fitbit
- Garmin Connect (Sports)
- Garmin Connect (Wellness)
- Google Fit
- HealthPlanet
- HealthVault
- Hexoskin
- IHealth
- JawBone
- MapMyFitness
- Microsoft Health
- Misfit
- Moves
- Omron
- Ride with GPS
- RunKeeper
- Samsung S Health (Beta)
- Sleep as Android
- Smashrun
- Sony Lifelog
- SportTracks
- Strava
- TomTom MySports Cloud
- Training Peaks
- Velo Hero
- VitaDock
- Withings
- Amazon S3
- DropBox
- Google Drive
- OneDrive
- E-mail

13.11.7 HumanAPI

Pushes data from your HumanAPI-connected devices into PredictBGL.

13.11.8 Validic

Pushes data from your Validic-connected devices into PredictBGL.

13.12 **Sharing**

Connects to the website to setup sharing connections.

13.12.1 Health Care Team sharing

Add a member of your Health Care team by adding their email address. The Team member must login and approve the connection before they can see your data. The Team member can log data and modify settings.

13.12.2 EZsharing (temporary sharing)

Provides a quick access code for a tennis coach, temp teacher, other parent etc to log BG data via the website.

13.13 **Import**

Use the import menu to import data from over 60 diabetes data formats and hundreds of devices, including legacy applications.

The import process uses the PredictBGL.com website.

13.14 Help and Feedback

13.14.1 Help Manual (PDF)

Opens this manual in your document viewer.

13.14.2 User Forums

Allows you to share thoughts and experience and trade stories with other people with diabetes in the PredictBGL forums.

13.14.3 Show Tips Again

Turns back on the first time user tips.

13.14.4 Email Support

Opens your email client to send a support request.

13.14.5 TuDiabetes Forums

Opens your web browser at this useful reference site. You can ask for assistance with PredictBGL at this site.

13.14.6 Diabetes.co.uk

Opens your web browser at this useful reference site. You can ask for assistance with PredictBGL at this site.

13.14.7 DiabetesMine

Opens your web browser at this useful reference site. You can ask for assistance with PredictBGL at this site.

13.14.8 Book a Diabetes Educator

Allows you to book a diabetes educator for help with your ratios etc with PredictBGL.

13.14.9 Find a Local Diabetes Organisation

Helps you find a local organisation to support you.

13.14.10 Add Diabetes Organisation

Adds a diabetes organization – and provides them with PredictBGL discounts.

13.15 Website-only settings

This option allows you to log doctor visits, blood tests and more.

The following settings cannot be set in the App, and must be set via the website

- Avatar

- Sharing with Health Care Team, and others
- Third party application access
- Data Import
- Sub accounts
- Pattern detection
- Email monthly points email
- Newsletter

13.16 About / Legal

13.16.1 Labelling

This displays the legal labelling instructions as to whom the product is suitable for.

13.16.2 Terms of Service

This displays the current terms and conditions, see website for the most recently updated terms.

13.16.3 Regulatory

The regulatory documentation we're required to have.

13.16.4 Privacy

We won't spam you, here's our commitment to you.

13.16.5 Adverse Event Reporting

Something went wrong? Please tell us about it.

13.16.6 Version

The current version of the App.

13.16.7 Sync to Cloud

Start a sync.

13.16.8 Discard Local Data and Re-download

In the unlikely case of sync failure, this discards all locally cached logs and settings and downloads them fresh.

13.16.9 Sign out

This logs out of the App. There is no need to save data, as all data is saved constantly. Use this before giving the phone to someone else.

14 Alcohol and Standard Drinks

In the body, alcohol reduces the liver's constant production of glucose, meaning that basal insulin has nothing to act on, leading to unexpected Hypos.

A standard drink is one that contains 10 grams of alcohol. One standard drink is equal to:



Source: NDSS – Australian National Diabetes Supply Scheme, ndss.com.au

It is important to be familiar with how much is in a standard drink of each type of alcohol as it is easy to misjudge the amount consumed. In most regions, labels on every alcoholic drink has to show how many standard drinks it contains.

It's important to remember that some drinks served at restaurants, bars, clubs, and particularly at parties, can have more alcohol than a standard drink. As an example, an average serving of wine at a restaurant is 150ml making it 1.5 standard drinks. In addition, cocktails can contain many shots of different spirits, so even though they may look like one standard drink, they can actually contain a whole lot more.

14.1 How much is too much?

Research shows that people with diabetes can drink alcohol like everyone else, but it is advisable that they stick to the recommended 2 standard drinks limit / day. Most people with diabetes can safely drink alcohol in moderation, but it is always best to check with your doctor if you have any questions. For young people under 18 years of age, not drinking alcohol is the safest option.

Excessive drinking or 'binge drinking' can be dangerous for your health. Short term effects can include hangovers, headaches, nausea, vomiting, memory loss and injuries. There is also the risk of alcohol poisoning which can cause death. Other effects include changed behaviour such as aggression or depression.

Long term effects can include alcohol dependence which can lead to liver or brain damage over time.

14.2 How does alcohol affect a person with type 1 diabetes?

People with type 1 diabetes face more risks when drinking alcohol than people without diabetes. Alcohol can affect your blood glucose levels (BGLs), which may cause hypoglycaemia (a 'hypo').

When you drink alcohol, your liver thinks it is a toxin that needs to be processed. Until the alcohol is completely processed, your liver will not release a sufficient amount of glucose into your blood which means your BGLs are lower, and may lead to a hypo. Sometimes your BGLs are first raised by the sugar content in some alcoholic drinks (which are mixed with soft drink) and then lowered once your liver starts processing the alcohol. The risk of a hypo occurring is possible both during the time you are drinking, as well as for many hours after drinking.

Symptoms of a hypo can include shaking, sweating, dizziness, headaches, crying, grumpiness, hunger and numbness around the lips and fingers. So it is very important to treat a hypo if you feel any or all of these symptoms.

You should check your blood glucose level. If it is below 4mmol/L you should have:

- Glucose tablets equivalent to 15 grams carbohydrate OR
- 6-7 jellybeans OR
- ½ can of regular soft drink (not 'diet') OR
- 3 teaspoons sugar or honey OR
- ½ glass of fruit juice.

For more information on how to treat a hypo, see the Diabetes Australia fact sheet:

[http://www.ndss.com.au/Documents/NDSS/Resources/Diabetes Information Sheets/HYPOGLYCAEMIA-2009.pdf](http://www.ndss.com.au/Documents/NDSS/Resources/Diabetes%20Information%20Sheets/HYPOGLYCAEMIA-2009.pdf) or search the ndss.com.au site.

14.3 Alcohol and hypos

If you drink alcohol, you and your friends may not recognise the symptoms of a hypo because it may be assumed that you are drunk. This is dangerous because you may not get the right help fast enough.

Young people with type 1 diabetes need to plan ahead if they are drinking. Tips to reduce your risk of alcohol-related hypos:

- Never drink on an empty stomach. Always ensure you have some carbohydrate in a meal or snack prior to commencing drinking.
- Check your blood glucose just before going to bed to minimise the chances of hypoglycaemia while sleeping.
- Eat a snack before going to bed. Remember that the body continues to process alcohol even after drinking stops.
- Never drink alone. Identify a friend, who knows you have diabetes, to watch out for you if you decide to drink. Make sure they know how to recognise when you are having a hypo and that they know how to help you to treat it.

15 Troubleshooting

15.1 Charts

15.1.1 Rises – constant slope straight lines

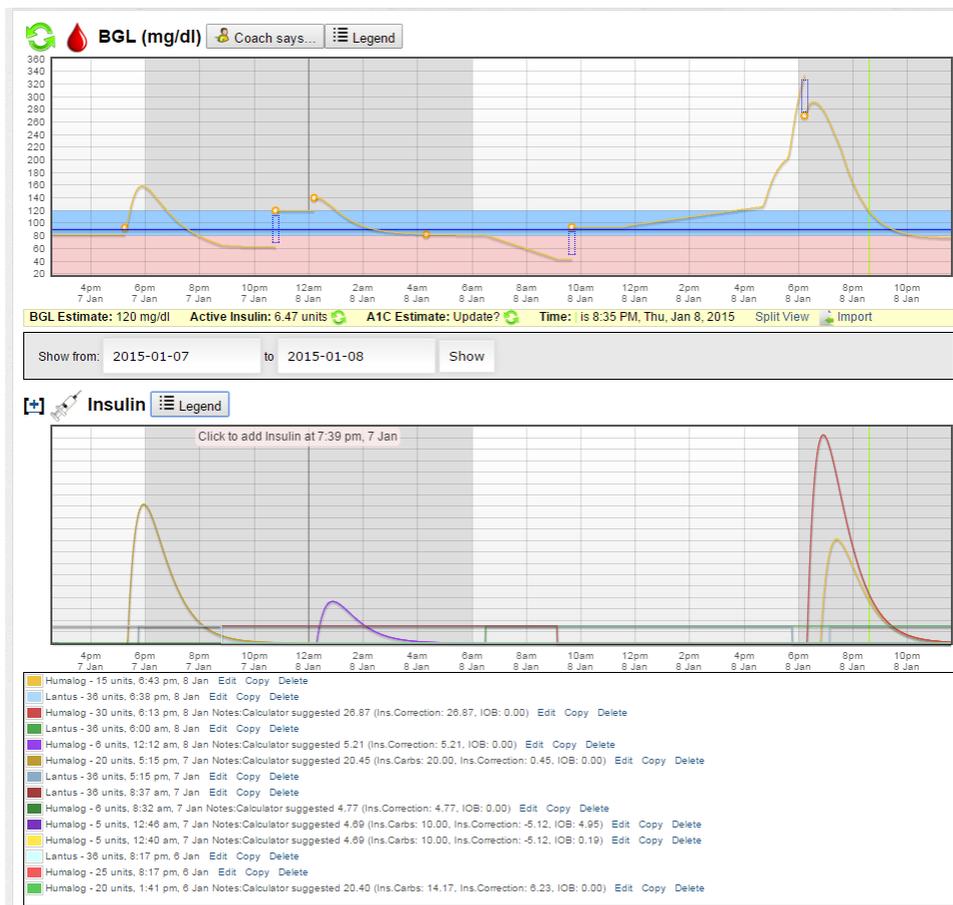
Missing basal insulin logs, for 12 hours prior (Levemir) or 24 hours prior (Lantus)

Dawn effect (only editable via website)

15.1.2 Drops – constant slope straight line

If the drop is a straight line, then most likely it comes from a basal insulin overlap.

e.g. having 10 units Lantus at 8am on Monday, but 6am on Tuesday – there are 2 hours of overlap.



15.2 Connectivity

If you are using the App, but no data appears on the website check the following:

1. You are using the same email address to log into both App and website
2. The App has a connection- on the iPhone, check Settings\Mobile\PredictBGL is enabled.