Diagnostics

Check alarms

To verify that your PDM and Pod's alarms and vibration functions are working properly, you can test them as follows:

1. Navigate to: Settings icon (⚙) > PDM Device > Check Alarms.

2. If you have an active Pod, tap SUSPEND INSULIN and tap YES.

3. Tap CHECK ALARMS to initiate the alarm check.

4. Listen and feel: The PDM beeps and vibrates three times. Then, if you are wearing a Pod, the Pod beeps several times and sounds the alarm tone for several seconds.

5. If the Pod alarms did not work properly, tap NO. Then either tap CHECK AGAIN to retry testing the alarms, or tap DONE and activate a new Pod.

6. If the PDM alarms did not work properly, tap NO. Then either tap CHECK AGAIN to retry testing the alarms or call Customer Care.

7. If the beeps and vibrations worked properly, tap YES. If you suspended insulin to check the alarms, tap YES to resume insulin delivery.

> **Warning:** If the PDM fails to beep, call Customer Care immediately. If an activated Pod fails to beep, change the Pod immediately. Continuing to use the Omnipod DASH™ System in these situations may put your health and safety at risk.

Reset PDM

Reset PDM is a rarely-used function that erases many of your personal settings.

Caution: Resetting the PDM deletes your Basal Programs, temp basal presets, bolus presets, and all Bolus Calculator settings. Before using this feature, check with your healthcare provider and be sure you have a written record of your current information so that you can reprogram your PDM. You will also need to activate a new Pod after resetting your PDM.

Caution: Resetting the PDM resets your IOB to zero; however, the Bolus Calculator is not disabled.

Note: The Reset PDM option does not delete history records.

9 Adjusting Settings

To reset your PDM:

1. Prepare a list of your personalized settings so you can re-enter them after you reset your PDM. Consult with your healthcare provider to ensure that the settings are appropriate for you.

   Tip: *Record your current settings on the pages at the end of this User Guide.*

2. Navigate to: Settings icon (⚙) > PDM Device > Reset PDM.

3. If you have an active Pod, tap DEACTIVATE POD, then tap DEACTIVATE POD again.

4. Tap RESET PDM, and then tap RESET PDM again.

   This deletes your current user settings.

5. Follow the PDM setup directions in "Initial PDM Setup" on page 21 to re-enter your personalized information or call Customer Care for assistance.

Software update (Wireless update)

It is important to make sure that your PDM software is kept up to date. When a software update is available, you will receive a notification on the Lock screen, as long as your PDM is connected to Wi-Fi.

Caution: Be sure to connect to Wi-Fi periodically to check for software updates.

Caution: Do not attempt to install other software or alter the software in any way.

Caution: The upper right corner of the Wireless Update screen has an Options icon (⋮). The options in this Options menu have not been integrated into the Omnipod DASH™ System. Do not change any of the options found in this Options menu.

Before you begin

Before you begin downloading and installing a software update, make sure the following requirements are met:

- No active Pod. If you have an active Pod, deactivate it.

- Wi-Fi is ON. If your Wi-Fi is OFF, turn it ON and connect to a Wi-Fi network. (See "Wi-Fi" on page 100.)

- PDM battery charge is at least 30%. If below 30%, plug in the PDM until the charge is above 30%.

After you confirm meeting these requirements, proceed to the following steps.

Downloading and installing a software update

To download and install a software update:

1. Navigate to: Settings icon (⚙) > PDM Device.

   The screen shows the current software version.

2. Tap Software Update.

3. Tap CHECK FOR UPDATES, then tap OK, I UNDERSTAND.

   The Wireless Update screen appears. If an update has been detected, the screen will display a Download button. If an update has not been detected, the screen will display a Check for Updates button.

4. To download the available update, tap Download.

   Note: While you can pause or cancel the download, it is recommended that you allow the download to finish. The update has finished downloading when the circle in the middle of the screen says "100%."

   Note: If an update has not been detected, tap Check for updates to trigger a check. If the screen tells you that the software is up-to-date, tap the triangular (back) button below the PDM screen to exit.

Caution: Do not turn your PDM off or remove its battery during the software installation.

5. Tap Install Now.

   Note: If a message appears saying that the battery charge is less than 30%, tap OK and recharge the battery.

   Note: To install at a later time, (not recommended) tap Install Later. Then select a delay of 1 hour, 4 hours, or 8 hours, and tap OK. If you do not select a delay, the default delay of 4 hours is used. The Lock screen shows a "Wireless Update" reminder until you have installed the update. If you are using your PDM after the delay period has elapsed, a reminder message appears.

6. Read the message about battery power and PDM use during the software installation, and plug in your PDM if the charge is below 30%. Once above 30%, tap OK.

> **Warning:** The software update process will take a few minutes. Please refrain from excessive operations during the update and make sure your device is plugged into a power source or has more than a 30% charge before starting the installation process.

7. Wait for several minutes while the software update is installed.

   As installation proceeds, several screens appear, including an image of a green robot. When installation is complete, the Lock screen appears.

   The PDM remembers your personal settings and history records.

   After the software installation is complete, the PDM will restart and display a message.

8. Tap OK on the message saying that the update was successful.

   It is now okay to activate a new Pod.

Pod Sites Setting

The Pod Sites setting controls whether a diagram of the body is available when you activate a new Pod. You can use this body diagram during Pod activation to review where you placed your recent Pods and to mark where you place the new Pod.

To turn the Pod Sites setting on or off:

1. Navigate to: Settings icon (⚙) > Pod Sites.

2. Tap the toggle to turn the Pod Sites setting on or off. If you want the ability to record your Pod site on the diagram, turn Pod Sites on. If you do not want to use this diagram, turn it off.

3. Tap SAVE.

Reminder Settings

Reminders and notifications bring items related to PDM and Pod function to your attention (see "Notifications List" on page 129 and "Informational Signals List" on page 131).

Pod expiration

The Pod expiration notification tells you when the Pod is nearing its expiration so you can plan to change your Pod at a convenient time. You can set this notification to appear from 1 to 24 hours before the Pod expiration advisory alarm. At the selected time, the Pod and PDM vibrate or beep and the PDM displays a message.

To set the timing of the Pod expiration notification:

1. Navigate to: Settings icon (⚙) > Reminders > Pod Expiration.

2. Tap the Pod Expiration field and select how long before your Pod expires that you would like to be notified.

3. Tap SAVE.

Low reservoir level

The Pod and PDM sound an advisory alarm when the insulin level in your Pod reaches the low reservoir setting. This setting can range from 10 to 50 units.

To set the insulin level for the low reservoir advisory alarm:

1. Navigate to: Settings icon (⚙) > Reminders > Low Reservoir Level.

2. Tap the Low Reservoir Level field and select the level of Pod insulin at which you would like to be notified.

3. Tap SAVE.

Pod Auto-off

Consult your healthcare provider prior to changing the Auto-off setting. This feature requires active participation on your part. See "Auto-off" on page 148 for a description of how this feature works.

To enable or disable Auto-off:

1. Navigate to: Settings icon (⚙) > Reminders > Pod Auto-Off.

2. Tap the Pod Auto-Off toggle to enable or disable the Auto-off feature.

3.   If Auto-off is enabled, tap the Inactivity Timer field and select the length of time for the countdown timer. This setting can range from 1 to 24 hours.

Example: If you choose 10 hours, you must wake up your PDM and unlock it at least once every 10 hours, day and night, to prevent the Auto-off alarm.

4.   Tap SAVE.

Warning: You must use the PDM within 15 minutes of the onset of the Auto-off advisory alarm. If you do not, the PDM and Pod sound a hazard alarm and your Pod stops delivering insulin.

Check BG after Bolus reminders

Turn on Check BG after Bolus reminders if you want a reminder to check your blood glucose after you deliver a bolus. If BG reminders are on, you can define the timing of the BG reminder at the time that you give a bolus.

To enable BG reminders:

1.   Navigate to: Settings icon (⚙) > Reminders.

2.   Tap the Check BG after Bolus toggle to enable or disable the Check BG after Bolus reminders.

Missed bolus reminders

If the Omnipod DASH™ System does not deliver a meal bolus or a manually-calculated bolus during the missed bolus time period, the PDM vibrates or beeps and displays a reminder. You can set time intervals from 30 minutes to 4 hours. You can set up to six missed bolus reminders per day.

Note: To add, edit, or delete missed bolus reminders, the missed bolus reminders toggle must be set to on.

Enable or disable all missed bolus reminders

To enable or disable the ability to use missed bolus reminders:

1.   Navigate to: Settings icon (⚙) > Reminders.

2.   Tap the Missed Bolus toggle to enable or disable all missed bolus reminders.

If you disable these reminders, the PDM saves any previously set reminders for later use.

Enable or disable a single missed bolus reminder

To turn an individual missed bolus reminder on or off:

1.   Navigate to: Settings icon (⚙) > Reminders > Missed Bolus.

2.   Tap the toggle next to an individual missed bolus reminder to turn it on or off.

Add a new missed bolus reminder

To add a new missed bolus reminder:

1.   Navigate to: Settings icon (⚙) > Reminders > Missed Bolus.

2.   Tap Add Reminder.

   The Add Reminder button does not appear if missed bolus reminders are disabled.

3.   Tap the toggle to select Single Reminder or Recurring Reminder.

   • For single reminders, tap the Reminder date field and select the date for the reminder.

   • For recurring reminders, specify the days of the week for the reminder by tapping the boxes next to the desired days. A selected box has a checkmark in it.

4.   Tap the No bolus between field and select the start of the missed bolus time interval.

5.   Tap the next field and select the end of the time interval.

6.   Tap SAVE.

Edit a missed bolus reminder

To edit a missed bolus reminder:

1.   Navigate to: Settings icon (⚙) > Reminders > Missed Bolus.

2.   Tap the name of the reminder you would like to edit.

3.   Make the desired changes to the frequency, day(s), or interval start or end time.

4.   Tap SAVE.

Delete a missed bolus reminder

To delete a missed bolus reminder:

1.   Navigate to: Settings icon (⚙) > Reminders > Missed Bolus.

2.   Tap the name of the reminder you would like to delete.

3.   Tap DELETE.

4.   Tap YES to confirm deletion.

9 Adjusting Settings

Confidence reminders

When confidence reminders are on, you will hear a tone at the start and end of a bolus, extended bolus, or temp basal:

- The PDM beeps at the start.

- The Pod beeps at the end.

Confidence reminders are especially useful when you are getting familiar with your PDM and Pod. To turn confidence reminders on or off:

1. Navigate to: Settings icon (⚙) > Reminders.

2. Tap the Confidence Reminders toggle to turn confidence reminders on or off.

Note: You cannot turn off beeps that occur at the start of a temp basal set to deliver no (zero) insulin.

Program reminders

When program reminders are on, the Pod beeps every 60 minutes while a temp basal or extended bolus is in progress. To turn program reminders on or off:

1. Navigate to: Settings icon (⚙) > Reminders.

2. Scroll down and tap the Program Reminders toggle to turn program reminders on or off.

Note: You cannot turn off beeps that occur during a temp basal set to deliver no (zero) insulin.

Custom reminders

A custom reminder consists of a name and a time of day. You can set a one-time custom reminder or have the reminder repeat daily. Custom reminders repeat every 15 minutes until acknowledged. You can set up to 4 custom reminders.

Enable or disable all custom reminders

To enable or disable the ability to display custom reminders:

1. Navigate to: Settings icon (⚙) > Reminders.

2. Scroll down and tap the Custom Reminders toggle to enable or disable all custom reminders.

If you disable these reminders, the PDM saves any previously set reminders for later use.

Note: To add, edit, or delete custom reminders, the custom reminders toggle must be set to on.

Edit or turn on or off an individual custom reminder

If custom reminders are enabled, you can edit or turn on or turn off an individual custom reminder:

1. Navigate to: Settings icon (⚙) > Reminders > Custom Reminders.

2. Tap the name of a custom reminder.

3. Tap the toggle next to Custom Reminder to turn this custom reminder on or off.

4. Make any desired changes to the frequency, day(s), time, name, and text.

5. Tap SAVE.

Add a new custom reminder

To add a new custom reminder:

1. Navigate to: Settings icon (⚙) > Reminders > Custom Reminders.

2. Tap Add Reminder.

3. Tap the toggle to select Single Reminder or Recurring Reminder.

    - For single reminders, tap the Reminder date field and select the date for the reminder.

    - For recurring reminders, specify the days of the week by tapping the boxes next to the days you want. A selected box has a checkmark in it.

4. Tap the Reminder time field and select the time for the reminder. The PDM will vibrate or beep one minute after this reminder time.

5. Tap the Reminder Name field and enter a descriptive name for the reminder. The name can have up to 32 characters.

6. Tap the Reminder Text field and enter a message to be displayed on the screen at the reminder time. The message can have up to 64 characters.

7. Tap SAVE.

Delete a custom reminder

To delete a custom reminder:

1. Navigate to: Settings icon (⚙) > Reminders > Custom Reminders.

2. Tap the name of the custom reminder that you would like to delete.

3. Tap DELETE.

4. Tap YES to confirm deletion.

9 Adjusting Settings

Blood Glucose Settings

The Blood Glucose settings allow you to change the BG Goal Range and to pair or unpair BG meters.

BG Goal Range

The goal of using the Omnipod DASH™ System is to keep your blood glucose within a certain range. This is called your BG Goal Range. You define this range by setting the upper and lower limits of your BG Goal Range. The history graphs and the Enter BG screens use the BG Goal Range to determine which blood glucose readings are within your goal and which are above or below your goal.

Note: The Bolus Calculator does not use the BG Goal Range values to calculate a bolus.

Caution: Check with your healthcare provider before adjusting these settings.

To set the upper and lower limit of your BG Goal Range:

1. Navigate to: Settings icon (⚙) > Blood Glucose > BG Goal Range.

2. Set the limits of the BG Goal Range:

    a. Tap the Upper Limit field and enter the desired value. You can also touch the upper (yellow) circle and slide it up or down to change the upper limit.

    b. Tap the Lower Limit field and enter the desired value. You can also touch the lower (red) circle and slide it up or down to change the lower limit.

3. Tap SAVE.

Pairing, unpairing, or renaming a BG meter

The PDM uses Bluetooth® wireless technology to communicate with CONTOUR® NEXT ONE BG meters. A paired BG meter can transmit your blood glucose readings wirelessly to the PDM. The PDM can pair to five BG meters.

To pair, unpair, or rename a BG meter:

1. Turn off your BG meter, and place it within six feet of your PDM.

2. Turn on the blue light on your BG meter. To do so, press and hold the OK button on the BG meter until its white light changes to a flashing blue light.

3. On your PDM, navigate to:

    Settings icon (⚙) > Blood Glucose > Pair BG Meter

    or

    Settings icon (⚙) > PDM Device > Bluetooth

The PDM scans for available CONTOUR® NEXT ONE BG meters, and then displays a list of paired and available BG meters.

4. Turn your BG meter over to find its seven digit serial number. Verify that this number matches the one on the PDM screen.

5. To pair to a new BG meter:

    a. Tap PAIR below your BG meter's serial number.

        Note: A CONTOUR® NEXT ONE BG meter can only be paired to one PDM at a time. If the BG meter is currently paired to another PDM, you must unpair it from the other PDM before you can pair it to your current PDM. Follow the on-screen instructions to unpair from a previous PDM.

    b. When you see the Successfully Paired message, tap OK.

    c. Verify that your BG meter is listed as paired.

6. To unpair a paired BG meter:

    a. Tap the Options icon (⋮) next to the BG meter's name.

    b. Tap Unpair Meter.

    c. If the BG meter is successfully unpaired, tap OK.

    d. If the BG meter is not successfully unpaired, check that the BG meter is turned on and tap TRY AGAIN to retry unpairing. Or tap REMOVE METER to remove the BG meter's name from the list of paired BG meters.

        Caution: The REMOVE METER option makes the CONTOUR® NEXT ONE BG meter unpairable to any other PDM.

        Caution: Do not let anyone else use your BG meter. Even if you unpair your BG meter from your PDM, the BG meter still contains all of your past blood glucose readings.

7. To rename a paired BG meter:

    a. Tap the Options icon (⋮) next to the paired BG meter's name.

    b. Tap Edit.

    c. Tap the Name field and enter the new name for the BG meter.

    d. Tap SAVE.

Note: If your paired BG meter does not appear on the list, move your PDM closer to your meter and tap SCAN AGAIN. If that doesn't work, tap RESET to turn Bluetooth® off and then on again.

9 Adjusting Settings

Basal and Temp Basal Settings

The following sections describe how to change settings that control basal insulin delivery: the Maximum Basal Rate and temp basal settings.

Maximum Basal Rate

The Maximum Basal Rate defines an upper limit for any basal rate used in your Basal Programs and temp basals. Consult your healthcare provider before changing this setting.

To change your Maximum Basal Rate:

1. Navigate to: Settings icon (⚙) > Basal & Temp Basal > Max Basal Rate.

2. Tap the Max Basal Rate field and enter the new value for your Maximum Basal Rate.

3. Tap SAVE.

Note: You cannot set a Maximum Basal Rate that is lower than the highest basal rate of an existing Basal Program, temp basal preset, or currently running temp basal.

Temp basal

To turn on or off the ability to set temp basals:

1. Navigate to: Settings icon (⚙) > Basal & Temp Basal.

2. To enable or disable the ability to set temporary basal rates (temp basals), tap the toggle on or off.

3. To change between using percent (%) or flat rate (U/hr) temp basals:

   a. Tap Temp Basal.

   b. Select the desired method for setting a temp basal:

      • Tap Percent (%) to modify the active Basal Program by a set percentage increase or decrease.

      • Tap Flat Rate (U/hr) to replace the active Basal Program with a fixed basal rate for the specified duration.

   c. Tap SAVE.

Bolus Delivery Settings

These settings allow you to change your Maximum Bolus, extended bolus, and Bolus Calculator settings.

Maximum Bolus

The Maximum Bolus defines the upper limit for a bolus. The Bolus Calculator informs you if it calculates a bolus that is over this amount. The largest allowed value of the Maximum Bolus is 30 units.

Caution: Check with your healthcare provider before adjusting this setting.

To change your Maximum Bolus:

1.   Navigate to: Settings icon (⚙) > Bolus > Maximum Bolus.

2.   Tap the Max Bolus field and enter the new Maximum Bolus value.

3.   Tap SAVE.

Extended bolus

An extended bolus is delivered over a prolonged period of time. Only the meal portion of a bolus can be extended. A correction bolus cannot be extended. To turn off the extended bolus feature or to change your extended bolus configuration:

1.   Navigate to: Settings icon (⚙) > Bolus.

2.   Tap the toggle next to Extended Bolus to turn on or off the ability to extend a bolus.

Bolus Calculator settings

This section describes how to adjust the settings used by the Bolus Calculator to calculate meal and correction boluses.

Warning: The Bolus Calculator displays a suggested bolus dose based on the personalized settings you have programmed into the PDM. Check with your healthcare provider before adjusting your Bolus Calculator settings. Giving too much insulin can cause hypoglycemia.

9 Adjusting Settings

Turn the Bolus Calculator on or off

To turn the Bolus Calculator on or off:

1. Navigate to: Settings icon (⚙) > Bolus.

2. Tap the toggle on the Bolus Calculator row to turn it on or off.

3. If this is the first time you have turned the Bolus Calculator on, follow the screen's instructions or see "Target BG and Correct Above values" on page 33. The following sections tell you how to edit these settings.

Target BG and Correct Above

When calculating a correction bolus, the Bolus Calculator aims to bring your blood glucose to your Target BG value. However, the Bolus Calculator only calculates a correction bolus if your blood glucose is above your Correct Above setting. To edit Target BG or Correct Above values:

1. Write a list of all of the desired Target BG and Correct Above segments to guide you through re-entering the values for each segment.

    Tip: *You can write this list on the pages at the end of this User Guide.*

2. Navigate to: Settings icon (⚙) > Bolus > Target BG & Correct Above.

3. Tap NEXT.

4. To edit a segment, tap the row containing the segment you want to edit.

    a. Tap the End Time field to enter a new end time.

    b. Tap the Target BG field to enter a new Target BG value.

    c. Tap the Correct Above field to enter a new Correct Above value.

    d. Tap NEXT.

5. Repeat the previous step as needed for the remaining segments.

6. After confirming that all segments are correct, tap SAVE.

Note: You can add and delete segments by editing the existing segments.

Minimum BG for Calcs

Minimum BG for Calcs is a threshold that you set. If your blood glucose reading is below your Minimum BG for Calcs, the Bolus Calculator is disabled and does not calculate a bolus. To edit this value:

1. Navigate to: Settings icon (⚙) > Bolus > Min BG for Calcs.

2. Tap the Min BG for Calcs field and enter the desired value. Alternatively, touch the blue circle and slide your finger up or down the slider to select the Min BG for Calcs value.

3. Tap SAVE.

Insulin to Carb Ratio (IC Ratio)

The insulin to carbohydrate ratio (IC Ratio) defines how many grams of carbohydrates are covered by one unit of insulin. The Bolus Calculator uses your IC Ratio to calculate a meal bolus when you are going to eat. To edit this value:

1. Write a list of all of the desired IC Ratio segments to guide you through re-entering the values for each segment.

   Tip: *You can write this list on the pages at the end of this User Guide.*

2. Navigate to: Settings icon ( ) > Bolus > Insulin to Carb Ratio.

3. Tap NEXT.

4. To edit a segment, tap the row containing the segment you want to edit.

   a. Tap the End Time field to enter a new end time.

   b. Tap the 1 Unit of Insulin Covers field and enter a new IC Ratio.

   c. Tap NEXT.

5. Repeat the previous step as needed for the remaining segments.

6. After confirming that all segments are correct, tap SAVE.

Note: You can add and delete segments by editing the existing segments.

Correction Factor

The Bolus Calculator uses your Correction Factor to calculate a correction bolus when your blood glucose value is above your Correct Above setting (see "The Bolus Calculator" on page 156). To edit this value:

1. Write a list of all of the desired Correction Factor segments to guide you through re-entering the values for each segment.

   Tip: *You can write this list on the pages at the end of this User Guide.*

2. Navigate to: Settings icon ( ) > Bolus > Correction Factor.

3. Tap NEXT.

4. To edit a segment, tap the row containing the segment you want to edit.

   a. Tap the End Time field to enter a new end time.

   b. Tap the 1 Unit of Insulin decreases BG by field and enter a new Correction Factor.

   c. Tap NEXT.

5. Repeat the previous step as needed for the remaining segments.

6. After confirming that all segments are correct, tap SAVE.

Note: You can add and delete segments by editing the existing segments.

Reverse Correction

The Reverse Correction setting determines how the Bolus Calculator handles meal boluses when your blood glucose value is below your Target BG (see "Reverse Correction" on page 158 for more details).

To turn Reverse Correction on or off:

1. Navigate to: Settings icon (⚙) > Bolus.

2. Tap the toggle on the Reverse Correction line to turn it on or off.

Duration of Insulin Action

The Bolus Calculator uses your Duration of Insulin Action setting to calculate the amount of insulin on board (IOB) from a previous bolus. To edit this value:

1. Navigate to: Settings icon (⚙) > Bolus > Duration of Insulin Action.

2. Tap the Duration of Insulin Action field and enter the new value.

3. Tap SAVE.

CHAPTER 10
Alarms, Notifications, and Communication Errors

Overview

> **Warnings:**
>
> Respond to hazard alarms as soon as possible. Pod hazard alarms indicate that insulin delivery has stopped. Failure to respond to a hazard alarm can result in hyperglycemia.
>
> If you need to return the PDM for replacement, contact your healthcare provider for instructions about using injections to ensure appropriate insulin delivery.

The Omnipod DASH™ System generates the following types of alarms and messages:

⚠️ **Hazard alarms** are high priority alarms that indicate a serious problem has occurred and you should remove your Pod.

❗ **Advisory alarms** are lower priority alarms that indicate that a situation exists that needs your attention.

🕐 **Notifications**, also called reminders, remind you about an action that you may want to perform.

- **Informational signals** inform you that the Pod is following your insulin delivery instructions. No action is required.

- **Communication error** messages display when the PDM is unable to communicate with the Pod.

For how to view the alarms and notifications history, see page 89.

Responding to Alarms

To respond to a hazard alarm or advisory alarm:

1. Wake up your PDM. The Lock screen shows an alarm message along with the hazard alarm (⚠️) icon or advisory alarm (❗) icon.

2. Unlock your PDM. After you enter your PIN, a full-screen alarm message appears.

    Note: If you are using your PDM when an alarm occurs, the alarm message appears as a full-screen message.

3. Follow the on-screen instructions or see the individual alarm details starting on page 125.

Note: You can use your PDM even if you do not address the cause of an advisory alarm immediately. However, you must acknowledge a hazard alarm before you can use your PDM for anything else.

Tip: *If you follow the PDM's instructions and are still not able to silence a hazard alarm, see "Silencing an Alarm" on page 135.*

Note: If a temp basal or extended bolus is running when a Pod hazard alarm occurs, the PDM informs you that it was canceled.

Responding to Notifications

Notifications remind you about actions you may want to perform.

Finding out about notifications

To alert you to a notification, the Pod sounds a tone and the PDM either sounds a tone or vibrates (see "Sounds and Vibrations" on page 124). When you hear a sound or feel a vibration, check your PDM for a message.

Note: Program reminders, confidence reminders, and some informational signals do not have an accompanying message.

If your PDM is asleep when you hear or feel a notification, wake up the PDM. The Lock screen shows the notification icon (🕐) and the notification message.

*   If there are multiple messages, the most recent message is shown at the top of the list.

*   If there are more messages than can be displayed on the Lock screen, a banner beneath the messages shows the number of additional messages.

If you are using your PDM when a notification is triggered, the notification message appears at the top of the screen. To remove the message from the screen:

- Do nothing. The message disappears after several seconds and is saved as a new message.

- Swipe up to remove the message immediately and save it as a new message.

- Swipe right to remove the message immediately and save it as an acknowledged message.

Acknowledging notifications

Note: Waking up and using your PDM does not automatically acknowledge, or silence, notifications.

All new notifications are included in the Notifications & Alarms count ( ) in the red circle in the upper right of most screens.

To acknowledge the notification:

1. Wake up your PDM.

2. Tap the bell icon ( ) to bring up the Notifications & Alarms screen.

3. Read any messages with blue notification icons ( ). Scroll down the screen, if necessary, to see any additional notifications with blue icons ( ).

4. Tap the back arrow ( ) in the upper left of the screen to mark the notifications as acknowledged.

   Note: Putting the PDM to sleep by pressing the Power button does not mark the notifications as acknowledged. You must tap the back arrow ( ) to acknowledge the notification.

Priority and Predictability of Alarms and Notifications

Hazard alarms take priority over advisory alarms. In general, only one hazard alarm can occur at a time. In the unlikely event that a Pod and PDM hazard alarm occur simultaneously, the PDM hazard alarm is displayed first.

Advisory alarms take priority over notifications. If multiple advisory alarms occur, the PDM displays the most recent message first. The following advisory alarms always precede a hazard alarm:

Advisory alarm	Hazard alarm
Pod Expired →	Pod Expired
Low Reservoir →	Empty Reservoir
Auto-Off Alert →	Auto-Off

You can prevent these hazard alarms by responding to their advisory alarm in a timely manner.

Note: As an extra alert, a Pod Expiration (⏰) notification precedes the Pod Expired advisory alarm.

Sounds and Vibrations

The Omnipod DASH™ System uses sounds and vibrations to attract your attention to an alarm or notification.

Tip: *To test the sounds and vibrations, see "Check alarms" on page 105.*

Pod alarms

The Pod sounds an alarm tone when it detects a problem that can affect insulin delivery.

- Pod hazard alarm tones are continuous tones broken up periodically by a set of beeps.

- Pod advisory alarms and notifications tones are intermittent beeps, which repeat periodically until you acknowledge them.

PDM alarms

The PDM sounds an alarm tone in response to an internal problem or when it detects that a Pod alarm is occurring.

- PDM hazard alarms begin with a continuous vibration and, after approximately 1.5 minutes, add a continuous audible tone.

  For safety reasons, PDM alarms always progress to an audible alarm even if the Sound/vibrate mode is set to vibrate.

- PDM advisory alarms are intermittent tones, which repeat periodically until you acknowledge them.

- PDM notifications have intermittent vibrations or tones, which repeat periodically until you acknowledge them.

See "Timing of alarms originating in the Pod" on page 146 for more information.

The Sound/vibrate button

The PDM's Sound/vibrate button, located on the upper right edge of the PDM, controls whether the following reminders use vibrations or audible tones: Check BG after Pod change, Check BG after bolus, Missed bolus, No Pod, and Custom reminders.

- To turn vibrations on, press and hold the lower end of the Sound/vibrate button until the vibrate icon ( ) appears on the indicator.

- To turn sound on, press the upper end of the Sound/vibrate button until the bell icon ( ) appears on the indicator.

- To increase or decrease the volume, press the upper or lower end of the Sound/vibrate button to move the round indicator. Move the round indicator to the left to decrease the volume. Move it to the right to increase the volume.

Hazard Alarm List

Hazard alarms make you aware of serious situations. Always respond to a hazard alarm immediately. Some alarm messages give you a unique number called a reference number. Give that number to Customer Care when you call about that alarm.

The individual hazard alarms are summarized here.

⚠️ **Pod Expired**—The Pod has reached the end of its operating life and insulin delivery has stopped. Both the Pod and PDM sound the alarm.

> Message: Pod Expired. Insulin delivery stopped. Change Pod now.

> What to do: Tap OK, DEACTIVATE POD NOW. Change your Pod. Check your blood glucose.

⚠️ **Empty Reservoir**—The Pod's insulin reservoir is empty and insulin delivery has stopped. Both the Pod and PDM sound the alarm.

> Message: Empty Reservoir. Insulin delivery stopped. Change Pod now.

> What to do: Tap OK, DEACTIVATE POD NOW. Change your Pod. Check your blood glucose.

⚠ **Auto-Off**—The Pod has stopped delivering insulin because you did not respond to the Auto-off advisory alarm. Both the Pod and PDM sound the alarm. To change the Auto-off setting, see "Pod Auto-off" on page 109. For more information about how Auto-off works, see "Auto-off" on page 148.

Message: Auto-Off. Insulin delivery stopped. Your PDM and Pod have not communicated in the last <amount of time>. To resume insulin delivery, change your Pod.

What to do: Tap OK, DEACTIVATE POD NOW. Change your Pod. Check your blood glucose.

⚠ **Occlusion**—The Pod's cannula is blocked, which has stopped insulin delivery. Both the Pod and PDM sound the alarm.

Message: Occlusion Detected. Insulin delivery stopped. Change Pod now. Check your BG.

What to do: Tap OK, DEACTIVATE POD NOW. Change your Pod. Check your blood glucose.

⚠ **Pod Error**—The Pod detects an unexpected error. Both the Pod and PDM sound the alarm.

Message: Pod Error. Insulin delivery stopped. Change Pod now.

What to do: Tap OK, DEACTIVATE POD NOW. Change your Pod. Check your blood glucose.

⚠ **Call Customer Care** —An unexpected error is detected in the Pod or PDM. The Pod, PDM, or both may sound the alarm.

Message: Call Customer Care. Remove Pod now.
Ref: <reference-number>.

What to do: Tap OK to silence the alarm. Remove your Pod. Call Customer Care immediately. Check your blood glucose.

⚠ **System Error**—An unexpected error is detected in the Pod or PDM. The Pod, PDM, or both may sound the alarm.

Message: System Error. Remove Pod now. Call Customer Care.
Ref: <reference-number>.

What to do: Tap OK, DEACTIVATE POD NOW. Remove your Pod. Call Customer Care immediately. Check your blood glucose.

⚠ **PDM Error**—An unexpected error is detected in the PDM. The PDM sounds the alarm.

Message: PDM Error. Remove Pod now. Call Customer Care.
Ref: <reference-number>.

What to do: Tap OK to silence the alarm. Remove your Pod. Call Customer Care immediately. Check your blood glucose.

⚠ **PDM Error**

Message: PDM Error. Tap "OK" to reset clock.

What to do: Tap OK. Reset the clock. Change your Pod. Check your blood glucose.

⚠ **Pod deactivation required**

Message: Pod deactivation required. Tap "OK" to deactivate.

What to do: Tap OK, DEACTIVATE POD NOW to deactivate your Pod. Remove your Pod.

⚠ **PDM Memory Corruption**

Message: PDM Memory Corruption. Remove Pod now. Call Customer Care. Tap OK to reset PDM and delete all user settings.

What to do: Tap OK to reset your PDM. This deletes all of your user settings, but does not delete your history records. The PDM guides you through reentering your user settings, and date and time, if necessary. Consult your healthcare provider if you do not know your user settings.

Advisory Alarm List

Advisory alarms inform you of a situation that needs your attention in the near future.

> **Warnings:**
>
> Three advisory alarms (Pod Expired, Low Reservoir, and Auto-off) become hazard alarms and result in a stoppage of insulin delivery if ignored. Be sure to respond to all advisory alarms when they occur.

The individual advisory alarms are summarized here.

Pod Expired—Your Pod will stop delivering insulin soon. This escalates to the Pod Expired hazard alarm if ignored. Both the Pod and PDM may sound the alarm.

> Vibration/tone: Periodically, until acknowledged.
>
> Message: Pod Expired. Change Pod now.
>
> What to do: Tap OK. Change your Pod.

Low Reservoir—The volume of insulin in the Pod reservoir is below the specified value. This escalates to the Empty Reservoir hazard alarm if ignored. To change this value, see "Low reservoir level" on page 109. Both the Pod and PDM may sound the alarm.

> Vibration/tone: Once a minute for 3 minutes. Repeats every 60 minutes until acknowledged.
>
> Message: Low Reservoir. <x> U insulin or less remain in Pod. Change Pod soon.
>
> What to do: Tap OK. Change your Pod.

Auto-Off—You have not used your PDM in the Auto-off countdown period that you specified. The Pod will stop delivering insulin soon if you do not respond to this alarm. To enable or disable the Auto-off feature or to change the countdown period, see "Pod Auto-off" on page 109. Both the Pod and PDM sound the alarm.

> Vibration/tone: Once a minute for 15 minutes.
>
> Message: Auto-Off alert. Your PDM and Pod have not communicated in the last <amount of time specified by you>. Tap OK to trigger a communication between your PDM and Pod.
>
> What to do: Tap OK to reset the Auto-off countdown timer to the beginning of the countdown period.

⚠️ **Resume Insulin**—The time period that you specified for insulin suspension has passed. If you do not resume insulin delivery, you could develop hyperglycemia. Both the Pod and PDM sound the alarm.

Vibration/tone: Once a minute for 3 minutes. Repeats every 15 minutes until insulin delivery is resumed.

Message on Lock screen: Resume Insulin. The insulin suspension period has ended.

Full screen message: Do you want to resume insulin delivery with the <name> Basal Program? The insulin suspension period has ended.

What to do: Tap RESUME INSULIN to restart the scheduled Basal Program or tap REMIND ME IN 15 MIN to keep insulin delivery suspended. This alarm recurs every 15 minutes until you resume insulin delivery.

⚠️ **Low PDM Battery**—The PDM battery charge has 15% or less remaining.

Vibration/tone: None. To preserve the battery, the PDM is silent.

Message: Low PDM Battery. PDM battery is getting low. Recharge battery soon.

What to do: Tap OK. Recharge your PDM battery as soon as possible.

Caution: There is no hazard alarm when the battery completely runs out. Plug in the charger as soon as possible after seeing the low battery message.

Note: The battery icon in the status bar of most screens displays the remaining battery charge. When the charge is completely gone, the PDM powers off. You must recharge the PDM to use it again. You can use your PDM while it is charging.

Notifications List

Notifications, also called reminders, remind you about various actions you may want to perform. Some are generated automatically and others have settings that you control (see "Adjusting Settings" on page 99).

Tip: *Use the Sound/vibrate button on the right-side of the PDM to control whether the PDM's notification sounds a tone or vibrates (see "The Sound/vibrate button" on page 125).*

The notifications are:

🕐 **Pod Expiration**—Tells you how much time is left before the Pod expiration advisory alarm. To change the timing of this notification, see "Pod expiration" on page 109. Both the Pod and PDM sound the notification.

> Vibration/tone: A set of three beeps. Repeats periodically until acknowledged.

> Message: Pod Expiration. Pod expires at <time, date>.

> What to do: Acknowledge the message (see "Acknowledging notifications" on page 123). Change your Pod.

🕐 **No Active Pod**—The PDM reminds you to activate a new Pod to begin basal insulin delivery.

> Vibration/tone: Every 15 minutes.

> Message: No Active Pod. Activate a Pod to start insulin delivery.

> What to do: Unlock the PDM. Activate a new Pod.

🕐 **Check BG After Pod Change**—The PDM reminds you to check your blood glucose and the cannula infusion site 90 minutes after activating a new Pod.

> Vibration/tone: Every 5 minutes until acknowledged.

> Message: Check BG. Check BG and infusion site after Pod change.

> What to do: Acknowledge the message (see "Acknowledging notifications" on page 123). Check your blood glucose. Check the infusion site to see if the cannula is properly inserted.

🕐 **Check BG After Bolus**—The PDM reminds you to check your blood glucose after a bolus. To edit these reminders, see "Check BG after Bolus reminders" on page 110.

> Vibration/tone: Every 5 minutes until acknowledged.

> Message: Reminder: Check BG. <x> hours have passed since your bolus.

> What to do: Acknowledge the message (see "Acknowledging notifications" on page 123). Check your blood glucose.

🕐 **Missed Bolus**—The PDM reminds you that you have not delivered a bolus within the time period you have specified. To edit these reminders, see "Missed bolus reminders" on page 110.

> Vibration/tone: Every 15 min until acknowledged.

> Message: Missed Bolus. Meal bolus not delivered between <start time> - <end time>.

> What to do: Acknowledge the message (see "Acknowledging notifications" on page 123). Consider your meal schedule.

⏰ **Custom Reminder**—The PDM shows a message of your choice. To create or edit these reminders, see "Custom reminders" on page 112.

Vibration/tone: Every 15 min until acknowledged.

Message: <Your reminder text>.

What to do: Acknowledge the message (see "Acknowledging notifications" on page 123).

⏰ **Wireless Update** (**Software Update**)—This message reminds you that a software update has been wirelessly downloaded but not yet installed.

Message: Wireless Update. Download complete.

What to do: Install the PDM software update as soon as possible (see "Software update (Wireless update)" on page 106). You must deactivate your Pod before installing the software update.

Informational Signals List

The Pod and PDM can provide informational tones or vibrations to let you know that normal PDM and Pod events are occurring as expected. You do not need to do anything in response to these signals. The PDM does not show an explanatory message.

Tip: *Use the Sound/vibrate button on the right-side of the PDM to control whether some of these signals sound an audible tone or vibrate (see "The Sound/vibrate button" on page 125).*

Confidence reminders—These tones or vibrations let you know that your temp basals and boluses are working as expected. These reminders are on by default. To turn them on or off, see "Confidence reminders" on page 112.

PDM tones/vibrations: At the start of a temp basal, bolus, or extended bolus.

Pod beeps: Once at the end of a temp basal, bolus, or extended bolus.

Program reminders—These beeps remind you that you have a temp basal or extended bolus running. These reminders are on by default. To turn them on or off, see "Program reminders" on page 112.

Pod beeps: Once every 60 minutes while a temp basal or extended bolus is running.

Pod activation—These tones or vibrations occur at various times during the Pod activation process to indicate progress. You cannot turn these off.

> Pod beeps: Twice when it has been filled with the minimum amount of insulin needed for activation (see page 41).

> PDM tones/vibrations: When the Pod and PDM are successfully paired.

> Pod beeps: Beginning 10 minutes after the Pod is filled with insulin, the Pod beeps every five minutes until insulin delivery has started.

Pod deactivation—PDM sounds a tone or vibrates: Twice when the Pod is successfully deactivated.

Basal Program changes—These tones or vibrations inform you of changes to your Basal Program. You cannot turn these off.

> PDM tones/vibrations: When a Basal Program is activated, edited, suspended, or resumed.

> Pod beeps: Once every 15 minutes while insulin is suspended.

Canceling temp basals and boluses—Informs you that the temp basal or bolus has been successfully canceled.

> Pod beeps: Once when you cancel a temp basal, bolus, or extended bolus. You cannot turn these beeps off.

Communication Errors

When your PDM sends an instruction to your Pod, the communication usually succeeds quickly. If an error in communication occurs, the PDM displays the "no Pod communication" icon on the status bar (see "The Status Bar" on page 9). The PDM communicates with the DISPLAY™ app only when the PDM is in sleep mode. PDM sleep mode starts up to one minute after the PDM screen turns black.

Communication can fail if:

- The PDM is, or has temporarily been, too far from the Pod—For successful communication, the PDM and Pod should be side by side during activation and within 5 ft (1.5 meters) after activation. Any insulin command will initiate a connection between the PDM and Pod.

- The PDM's Bluetooth communication system is temporarily in use—This could happen, for example, during communication with the Omnipod DISPLAY™ app.

- Communication is disrupted by outside interference—See the "Omnipod DASH™ System Notice Concerning Interference" on page 194.

> **Warnings:**
>
> If you are unable to deactivate a Pod, it continues to pump insulin. Be sure to remove the old Pod before activating a new Pod. Giving too much insulin can cause hypoglycemia.
>
> If your PDM is damaged or not working as expected, call Customer Care for assistance. Be sure to check your blood glucose frequently. Remove your Pod and contact your healthcare provider for treatment guidelines.

Error when canceling a bolus

If you are trying to cancel a bolus when a communication error occurs, the PDM offers these options:

- CANCEL: Select this option to stop attempting to cancel the bolus. The Pod continues to deliver the bolus.

  Note: If the 'cancel bolus' instruction has already been sent, this CANCEL option is not available.

- TRY AGAIN: Move to a new location, then select this option to tell the PDM to continue attempting to communicate with the Pod.

- DEACTIVATE POD: Select this option and follow the PDM's instructions for replacing your Pod.

If the 'cancel bolus' instruction has already been sent from the PDM when a communication error occurs, the PDM offers these options:

- CHECK STATUS: Select this option to attempt to re-establish communication with the pod and obtain the current status of the 'cancel bolus' command

- DEACTIVATE POD: Select this option to deactivate the pod when CHECK STATUS is unsuccessful.

Error when sending insulin instructions to the Pod

A communication error may occur when the PDM attempts to send the following insulin delivery instructions to the Pod—suspending or resuming insulin, activating a new Basal Program, starting or canceling a temp basal, or starting a bolus.

If a communication error occurs when the PDM attempts to send an insulin delivery instruction, the PDM offers you different options. The options offered depend on whether the PDM has sent the Pod the instruction and hasn't received confirmation that it was carried out, or whether the PDM hasn't sent the instruction.

If the PDM has sent the Pod the instruction and hasn't received confirmation that it was carried out, the PDM offers these options:

- CHECK STATUS: Move to a new location, then select this option to recheck for confirmation that the instruction was carried out.

- DEACTIVATE POD: Select this option and follow the PDM's instructions for replacing your Pod.

If the PDM has *not* sent the Pod the instruction, the PDM tells you to move to a new location and tap TRY AGAIN to reattempt communication. After you tap TRY AGAIN, if the next communication attempt fails, the PDM offers these options:

- CANCEL: Select this option to cancel sending the instruction. In this case, the Pod continues with its prior insulin delivery mode. You can try to send the instruction later.

- TRY AGAIN: Move to a new location, then select this option to tell the PDM to reattempt to send the instruction to the Pod.

- DEACTIVATE POD: Select this option and follow the PDM's instructions for replacing your Pod.

Note: At any point, if the PDM receives confirmation from the Pod that the instruction was successfully received, a green banner appears informing you that the instruction has been carried out.

Error when activating a Pod

If a communication error occurs during Pod activation, the PDM offers these options:

- DISCARD POD: Select this option to stop attempting to use this Pod.

- TRY AGAIN: Select this option to attempt to reestablish communication.

Error when deactivating a Pod

If a communication error occurs during Pod deactivation, the PDM offers these options:

- DISCARD POD: Select this option to tell your PDM to unpair from that Pod. The PDM instructs you to remove your Pod and tap CONTINUE.

- TRY AGAIN: Select this option to attempt to reestablish communication.

Note: After selecting the discard option, you can prevent future alarms from the discarded Pod by following the instructions in "Silencing an Alarm" on page 135.

Note: If there is an unconfirmed bolus when you discard a Pod, the PDM does not know how much of the bolus was delivered. Therefore, the PDM temporarily disables the Bolus Calculator. If you tap the Bolus button while the Bolus Calculator is disabled, the PDM displays a message that says "Bolus Calculator

temporarily disabled." You can deliver a manually-calculated bolus when the Bolus Calculator is disabled.
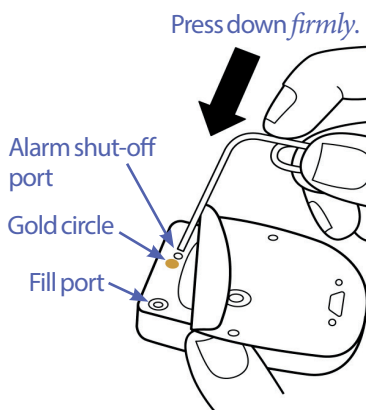
Silencing an Alarm

You can usually silence Pod or PDM alarms by tapping a button on the alarm screen. If the alarm continues, or if you are discarding a Pod and want to prevent a future alarm, follow the directions in this section.

Pod alarm

To permanently silence a Pod alarm:

1. If the Pod is on your body, remove it.

2. Peel back a little bit of the adhesive pad from the bottom of the Pod at the square end (see figure).

3. Locate the alarm shut-off port to the right of the gold circle. The alarm shut-off port can be felt with a fingernail or paper clip as a soft plastic.

4. Firmly press a paper clip or similar item straight down into the alarm shut-off port. If an alarm is sounding, the alarm stops. You need to apply enough force to break a thin layer of plastic.

Press down firmly.

Alarm shut-off port

Gold circle

Fill port

PDM alarm

If a PDM alarm is not silenced when you tap the alarm screen's button:

1. Press and hold the Power button, then tap Power off.

2. Take out and reinsert the PDM's battery. For instructions on removing and replacing the PDM battery, see "Inserting or replacing the PDM battery" on page 143.

3. Press and hold the Power button to turn the PDM back on.

This action silences the PDM's alarm. Your history records and personal settings are preserved. However, you may have to reset the time and date and change your Pod. After you reset the time, the Bolus Calculator is temporarily disabled. A PDM message tells you when the Bolus Calculator can be used again. You can deliver a manually-calculated bolus when the Bolus Calculator is disabled.

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CHAPTER 11
Taking Care of Your PDM and Pod

The Omnipod DASH™ Insulin Management System has no user-serviceable parts. If you require assistance operating or maintaining the Omnipod DASH™ System, call Customer Care.

> **Warnings:**
>
> Store all Omnipod DASH™ System products and supplies, including unopened Pods, in a cool, dry place. Products or supplies that have been exposed to extreme temperatures may not function properly.

Pod and Insulin Care

This section describes proper care of your Pod. To order all Omnipod DASH™ System products and supplies, call Customer Care.

Pod and insulin storage

Extreme heat or cold can damage Pods and cause them to malfunction. If Pods are exposed to extreme temperatures, inspect them carefully before use.

It is especially important to store your insulin in a well-controlled environment. Inspect insulin before using it; never use insulin that looks cloudy or discolored. Insulin that is cloudy or discolored may be old, contaminated, or inactive. Check the insulin manufacturer's instructions for use and the insulin's expiration date.

Pods and the environment

Avoid extreme temperatures

The Pod's operating temperature is between 73°F and 98.6°F (between 23°C and 37°C). Under normal circumstances, your body temperature keeps the Pod well within this range.

Caution: Never use a blow dryer or hot air to dry the Pod. Extreme heat can damage the electronics.

> **Warning:** Do NOT expose a Pod to direct sunlight for long periods of time. Remove your Pod prior to using hot tubs, whirlpools, or saunas. These conditions could expose the Pod to extreme temperatures and may also affect the insulin inside the Pod.

If you remove your Pod to avoid exposing it to extreme temperatures, remember to check your blood glucose levels frequently. Check with your healthcare provider for guidelines if you will not use a Pod for extended periods.

Water and your Pod

The Pod is waterproof up to a depth of 25 feet (7.6 meters) for up to 60 minutes (IP28). After swimming or similar exposure to water, rinse off the Pod with clean water and gently dry it with a towel.

> **Warning:** Do NOT expose your Pod to water at depths greater than 25 feet (7.6 meters) or for longer than 60 minutes.

Cleaning your Pod

Pods are waterproof. If you need to clean a Pod, gently wash it with a clean, damp cloth, or you can use mild soap and water. However, do not use strong detergents or solvents, as they can damage the Pod's casing or irritate the infusion site.

Caution: Hold the Pod securely and take care while cleaning it, so the cannula does not kink and the Pod does not detach from your skin.

PDM Care

This section describes proper care of your PDM.

> **Warning:** If your PDM is damaged or not working as it should, please call Customer Care for assistance. Be sure to check your blood glucose frequently. Remove your Pod and contact your healthcare provider for treatment guidelines to follow.

PDM storage

When you are not using your PDM, store it in a convenient, nearby location that is cool and dry.

If the PDM is not safe from children or others who may press the buttons by accident, do not share your PDM's PIN number with anyone. Also, store the PDM in a safe place.

Long term storage of the PDM

If you are not going to use your PDM for an extended period of time, allow your battery to reach approximately 50% charge. Then press and hold the Power button to turn the PDM off, and remove the PDM battery (see "Inserting or replacing the PDM battery" on page 143).

Caution: Be sure your PDM battery level icon is green before removing the battery. Do not turn your PDM off for more than six months at a time.

Note: When you reinsert your battery into the PDM, you will need to reset date and time, but your user settings will be retained.

PDM and the environment

Avoid extreme temperatures

Extreme operating temperatures can affect the PDM's battery and interfere with Omnipod DASH™ System operation. Avoid using the PDM in temperatures below 41°F (5°C) or above 104°F (40°C).

Caution: Do not store or leave the PDM where it may be exposed to extreme temperatures, such as inside a car. Extreme heat or cold can cause the PDM to malfunction.

Water and your PDM

The PDM is not waterproof. Do not place it in water or leave it near water where it can accidentally fall in. If it gets wet:

1. Dry the outside of the PDM with a clean, lint-free cloth.

2. Open the battery compartment, remove the battery, and dry the battery with a clean, lint-free cloth.

   Note: For detailed instructions for removing and replacing the battery, see "Inserting or replacing the PDM battery" on page 143.

3. Gently absorb any water in the battery compartment with a clean, lint-free cloth.

   Caution: Never use a blow dryer or hot air to dry the PDM. Extreme heat can damage the electronics.

4. Leave the battery compartment door open until the PDM is thoroughly dry.

5. After the PDM has thoroughly air-dried, replace the battery and replace the door to the battery compartment.

6. Turn on the PDM to see if it is working.

7. If the PDM is not working, call Customer Care.

Caution: The PDM is not waterproof. Do NOT place it in or near water.

Electrical interference

The PDM is designed to withstand normal radio interference and electromagnetic fields, including airport security and cellular phones. However, as with all wireless communication technology, certain operating conditions can interrupt communication. For example, electric appliances such as microwave ovens and electric machinery located in manufacturing environments may cause interference. In most cases, interruptions are easy to resolve by moving to a new location (for more information, see "Communication Errors" on page 132).

USB cable

When you use a USB cable to upload your PDM records to another device or to charge your PDM, disconnect the USB cable as soon as you are finished.

Caution: Only connect a USB cable to your PDM when charging the battery or transferring data to a computer or another device. Never connect a USB cable to the PDM for any other reason.

Note: You can use the PDM while it is charging or transferring data.

Caution: When you connect a USB cable to the PDM, only use a cable that is less than or equal to 4 feet (1.2 meters) in length.

Cleaning your PDM

Always keep your PDM USB port free of debris and liquids. Dirt, dust, and liquids can impair the functionality of your PDM or damage it.

Caution: Do not use solvents to clean your PDM. Do not immerse your PDM in water.

To clean your PDM:

1. Press the Power button briefly to put your PDM to sleep.

2. Wipe the outer surface of the PDM with a damp, lint-free cloth. If necessary, use a solution of a mild detergent mixed in warm water.

3. Dry the outer surface with a dry, lint-free cloth.

Caution: While cleaning, do NOT allow debris or liquid to get into the USB port, speaker, earphone jack socket, Sound/vibrate button, or Power button.

Every time you clean your PDM, examine the entire PDM for discoloration, cracks, or separations. Also check for deteriorating performance, such as illegible messages, button malfunction, or repeated communication failures. If you notice any signs of deterioration, stop using the PDM. Call Customer Care if you have questions or for information about PDM replacement.

If you drop the PDM

Shock or a severe impact can damage your PDM. If you drop the PDM or if it is otherwise subjected to severe impact:

1. Inspect the outside of the PDM for visible signs of damage.

2. Press and hold the Power button to see whether the PDM turns on and the Lock screen appears.

Caution: Do not use the PDM if it appears damaged or is not working as it should. Do not use the PDM if the PDM screen is broken.

PDM Battery Care

The PDM uses a rechargeable lithium ion battery. If there is a problem with your battery or charger, contact Customer Care for information about replacements.

Safe use of the PDM battery

> **Warnings:**
>
> Do not expose your battery to high heat. Do not puncture, crush, or apply pressure to your battery. Failure to follow these instructions could result in an explosion, fire, electric shock, damage to the PDM or battery, or battery leakage.
>
> Do not incinerate a battery. Dispose of an old battery in accordance with local waste disposal regulations.

To safely use the rechargeable battery:

*   To prolong battery life, store and charge it in a cool, dry place out of direct sunlight. Avoid leaving the battery in a car where temperature extremes can permanently damage the battery.

*   Your PDM may become warm after prolonged use or when exposed to high temperatures. If your PDM or battery become hot to the touch, unplug the USB cable if it is plugged in, and avoid prolonged skin contact. Place your PDM in a cool location and allow it to cool down to room temperature.

- Do not connect the battery poles with pieces of metal, such as keys or jewelry. Doing so may short-circuit the battery and cause injuries or burns.

- Do not expose the battery or its charger to liquids, including water, rain, or snow, as this can cause malfunction. If the battery or charger is exposed to liquid, allow it to dry.

- Do not allow anyone, including children and pets, to put the battery in their mouth. Doing so may result in damage or explosion.

- Do not place the PDM or battery on or in heating devices, such as microwave ovens, stoves, or radiators. The battery may explode if overheated.

- Do not drop the battery.

- Only use an Insulet approved battery, charger, and cable to charge your PDM. Using unapproved batteries, chargers, or cables can cause the battery to explode or damage the PDM, and may void the warranty.

- If the battery is damaged so that fluid leaks from the battery, do not allow the leaked fluid to make direct contact with your skin or eyes. If this happens, immediately flush your skin or eyes with clean water and consult a doctor.

- If the battery deforms, changes color, or overheats while charging, during use, or in storage, immediately remove the battery. Continued use may lead to battery leakage, fire, or explosion.

- Inspect your PDM battery charger before each use. If the adapter for the charger falls in water or is cracked, do not use it.

Charging the PDM battery

Under normal use, the battery should hold its charge for more than one day.

A PDM message alerts you when the battery charge is low. The battery icon in the status bar tracks the remaining charge in the battery (see "The Status Bar" on page 9). To charge the battery, see "Charge the battery" on page 22.

You can charge your battery many times, but all batteries have a limited lifespan. If you notice a significant deterioration in the duration of the PDM's battery charge, contact Customer Care about replacing your battery.

Note: Charging times can vary depending on the surrounding temperature and the remaining battery level.

Tip: *Develop a routine to charge the PDM battery at the same time every day. Do not wait for the low PDM battery message.*

> **Warning:** If the battery power becomes critically low, the PDM turns itself off to preserve the data in memory. At this point, you cannot use the PDM until you have plugged in the charger.

Note: If the PDM battery is critically low and the PDM has turned off, your Pod continues to deliver basal insulin according to the active Basal Program or temp basal. If you do not charge your PDM battery, this insulin delivery continues until the Pod expires.
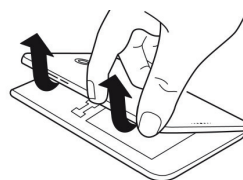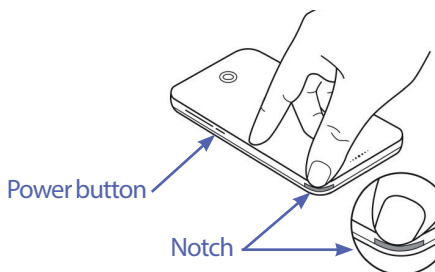
Note: The history records stay in memory for 60 days even if the battery power is critically low or the battery is removed.

Inserting or replacing the PDM battery

Caution: Only use the rechargeable battery that came with your PDM or an Insulet authorized replacement. Contact Customer Care if you have questions.

To insert or replace the PDM battery:

1. If your PDM is on, turn it off by pressing the Power button, tapping Power off, and then tapping OK.

2. If the white pull tab is still on the PDM, remove the back cover using the pull tab as follows:

   a. Hold the PDM with the back cover facing you.

   b. Place two or more fingers of one hand between the pull tab and the PDM.

   c. Brace the thumb of that hand against the back of the PDM.

   d. Pull back on the pull tab and lift off the cover.

   e. Skip to step 4.

3. If the white pull tab is no longer on the PDM, remove the back cover as follows:

   a. Hold the PDM sideways and locate the notch in the PDM case. The notch is located in the corner below the Power button.

   Power button

   Notch

   b. Holding the PDM firmly, place a fingernail into the notch and pull the front cover away from the back cover.

   c. Slide your finger along the opening to completely separate the front from the back.
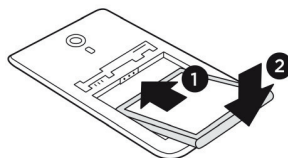
   d. Lift off the back cover.

4. If a battery is in place, put your fingernail in the slot just below the battery on the right-hand side and lift out the battery.

5. Orient the new battery so the three gold tabs on the battery line up with the three gold pins in the battery compartment. The "-" and "+" signs on the battery label should face you.

    Caution: Do not remove the label from the battery.

    Caution: Be careful not to damage any of the small metal parts inside the battery compartment.

6. Slide the battery into place. Gently push the bottom of the battery to fit it into place.

7. To replace the back cover of the PDM:

    a. Line up the cover's edge along the side with the Sound/vibrate and Power buttons. Press down on this side first.

    b. Press down along the back cover until the cover has clicked into place.

The PDM is now ready to use. If this is a new PDM, see "Initial PDM Setup" on page 21 for instructions for entering your settings.

Note: If you replaced the battery in your current PDM, you must reset the time and date (see "Date and time, and language" on page 102). Your history records and personal settings will be saved.

CHAPTER 12
Understanding PDM and Pod Function

This chapter explains how the PDM and Pod interact, features such as basal and bolus insulin delivery, and how the Bolus Calculator works.

PDM and Pod Interactions

This section describes how the PDM controls the Pod, and what the Pod can do without input from the PDM.

Pod actions controlled by the PDM

The Pod requires input from the PDM in order to:

- Become activated or deactivated
- Change to a different Basal Program
- Start a bolus or temp basal
- Cancel a bolus or temp basal
- Suspend or resume insulin delivery

Pod activation

Pods are dormant until they are activated by a PDM. Once a PDM activates a Pod, that PDM and Pod are paired together, which means that they can only communicate with each other even if there are other Pods or PDMs within range. During Pod activation, the PDM transfers the active Basal Program details to the Pod.

The PDM's communication range is automatically reduced during activation. Therefore, the PDM should touch the Pod (in or out of its tray) during Pod activation. As an added precaution, do not activate your Pod in the same area that someone else is activating a Pod.

How close do the PDM and Pod need to be after activation?

After activation, the PDM should always be able to communicate with a Pod that is up to 5 feet (1.5 m) away. Depending on the surroundings, the PDM may be able to communicate with a Pod that is as much as 50 feet (15 meters) away. To ensure that you can deliver a bolus, change the basal rate, or receive status updates from the Pod, make sure the PDM is within 5 feet (1.5 m) of the Pod.

When you are not actively using the PDM, store it in a nearby location, such as a shirt pocket or in a drawer, briefcase, or purse.

Status checks: How the PDM checks Pod function

The PDM periodically queries the Pod about its status, called a "status check." The PDM performs a status check:

- When you wake up the PDM.

- When you navigate to the Pod Info tab.

- Periodically, whether the PDM is awake or asleep.

    Note: Following a sleeping status check, the PDM only wakes up and sounds an audible alarm if the Pod has a hazard alarm. If the Pod has an advisory alarm or a notification, the PDM remains asleep and silent.

During a status check, the PDM collects information from the Pod about bolus deliveries, the amount of remaining insulin, and any alarm situations. The PDM displays this information as follows:

- The Home screen displays information about the most recent bolus.

- The Pod icon on the status bar shows how much insulin remains in the Pod's reservoir (see "The Status Bar" on page 9).

- The Lock screen and a full screen message display information about Pod alarms.

Timing of alarms originating in the Pod

If the Pod is sounding a hazard alarm, the Pod broadcasts a signal to the PDM.

- If the PDM is in range and awake, within 25 seconds of the Pod's initial alarm sound, the PDM also sounds an alarm and displays the alarm message.

- If the PDM is in range but asleep, the Pod cannot wake it up. The PDM finds out about the Pod alarm when it does a 'sleeping status check.' In this case, there could be a delay of up to five minutes and 25 seconds between when the Pod sounds the alarm and when the PDM sounds the alarm.

- If the PDM is out of range of the Pod, the PDM cannot receive any communication from the Pod. Therefore, if you hear a Pod alarm or notification, bring the PDM in range of the Pod and wake the PDM up. Within 25 seconds, the PDM sounds the alarm and displays the alarm message.

When the PDM cannot communicate with the Pod

When the PDM attempts to communicate with an active Pod that is in range, communication usually occurs quickly.

The PDM cannot communicate with the Pod when:

• The PDM is, or has temporarily been, too far from the Pod; for example, when you attend a meeting, leaving your PDM back at your desk.

• The PDM's battery has run down.

• There is too much outside interference (see "Omnipod DASH™ System Notice Concerning Interference" on page 194).

For information about handling PDM-Pod communication problems, see "Communication Errors" on page 132.

Pod deactivation

Deactivation unpairs a PDM and Pod from each other. Deactivation:

• Stops the current Pod's insulin delivery.

• Permanently silences any alarms from that Pod.

• Frees the PDM to activate a new Pod.

Note: Deactivation does not occur automatically when the Pod expires or runs out of insulin. In these situations, you must still use the PDM to deactivate the current Pod before the PDM can activate a new Pod.

Discarding a Pod

When the PDM cannot resolve a communication error, the PDM is unable to deactivate the Pod. In this situation, the PDM asks if you want to "discard" the Pod. "Discarding" unpairs the PDM from that Pod but does not stop the Pod's insulin delivery. Therefore, if you tell the PDM to "discard" a Pod, be sure to remove and dispose of the old Pod before activating a new Pod. To prevent the "discarded" Pod from sounding an alarm at a later time, follow the instructions for silencing a Pod alarm on page 135. Otherwise, if a discarded Pod sounds an alarm, the alarm stops after 15 hours.

What the Pod can do between PDM instructions

Once activated, the Pod can perform the following without input from the PDM:

- Deliver insulin according to the active Basal Program's schedule. The Pod has a built-in clock that allows it to track the timing of the Basal Program's segments.

- Stop delivery of a temp basal at the scheduled time and resume delivery of the active Basal Program.

- Once a bolus or an extended bolus is started, complete the delivery of the bolus.

- Track the amount of insulin remaining inside the Pod.

- Track the amount of time until Pod expiration. Stop delivering insulin once the Pod expires.

- Perform self-checks to verify that insulin delivery is occurring as expected. Sound an alarm if it is not.

- Send alarm and notification messages to the PDM, if it is in range.

- Stop insulin delivery if the Auto-off feature is enabled and you have not used the PDM within the specified period of time.

Auto-off

The optional Auto-off feature is useful if you are prone to hypoglycemia unawareness. When you enable the Auto-off feature, you define a length of time for an Auto-off countdown timer. The Pod and PDM will sound an alarm if you do not use your PDM within that amount of time. To change the Auto-off setting, see "Pod Auto-off" on page 109.

Resetting the Auto-off countdown timer

Any action you take that causes the PDM to communicate with the Pod resets the Auto-off countdown timer to the beginning. Therefore, if Auto-off is enabled, make sure the PDM is in range of the Pod, then wake up your PDM. This resets the timer and prevents the alarm from sounding.

Auto-off alarms

If you have not used your PDM within the amount of time specified by the Auto-off countdown timer, the Pod and PDM sound an advisory alarm every minute for 15 minutes. The PDM also displays an on-screen message.

If you do not use your PDM within 15 minutes of the onset of the Pod's Auto-off advisory alarm, the Pod stops delivering insulin and both the PDM and Pod sound a hazard alarm. Tap OK to silence the alarm and deactivate your Pod.

PDM and Paired BG Meter Interaction

The following actions occur whenever you sync your PDM with a paired BG meter:

- The PDM transmits its time, date and goal/target range information to the BG meter, overwriting the BG meter's time, date and goal/target range if they differ. This ensures that the time of blood glucose readings and boluses can be compared accurately.

  Tip: *To keep your PDM and BG meter clocks in sync, always sync your BG meter immediately before and after a time or date change (see "Date and time, and language" on page 102).*

- The BG meter transmits all blood glucose readings taken since the last time it synced to the PDM.

- If the BG meter tagged a reading as a control solution reading, the PDM adds a control solution tag.

BG readings from a paired BG meter and the Bolus Calculator

When the Bolus Calculator imports a blood glucose value from a paired BG meter:

- The Bolus Calculator automatically displays a blood glucose reading that was taken within the past 10 minutes.

- If multiple readings were taken within the past 10 minutes, the Bolus Calculator uses the most recent reading.

- If the clocks on the BG meter and PDM differ by more than five minutes, the Bolus Calculator does not display any reading from the BG meter.

BG readings from a paired BG meter and the history records

The PDM history records store all blood glucose readings and control solution readings from a paired BG meter.

Exception: If the PDM and BG meter's clocks differ by more than five minutes, the history records do not display any of the new readings from the BG meter.

Basal Insulin Delivery

Even without eating, our bodies need a small, constant supply of insulin for normal daily living, which is referred to as "basal" insulin. In people without diabetes, the pancreas continuously delivers this basal insulin. For people using the Omnipod DASH™ System, the Pod mimics a healthy pancreas by delivering basal insulin at the rate that you program into the PDM.

Approximately 50% of a person's total daily insulin dose typically comes from basal insulin delivery; the remaining 50% typically comes from bolus doses.
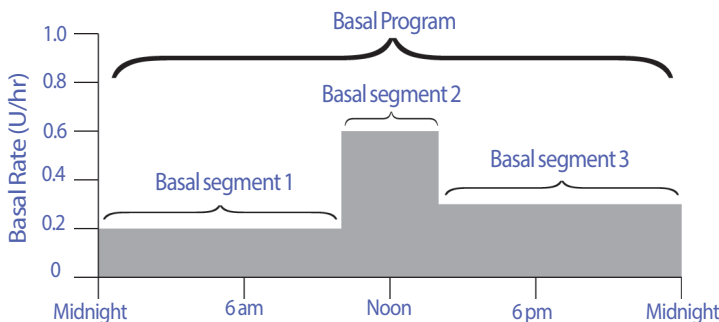
This section describes the Omnipod DASH™ System's two modes for delivering continuous basal insulin: Basal Programs and temp basals.

Basal Programs

A basal rate is the number of units of insulin delivered per hour.

A basal segment defines the time of day during which a given basal rate is delivered.

A collection of basal segments covering a midnight-to-midnight period is called a "Basal Program." In other words, a Basal Program describes the rate of insulin delivery throughout an entire 24-hour period.
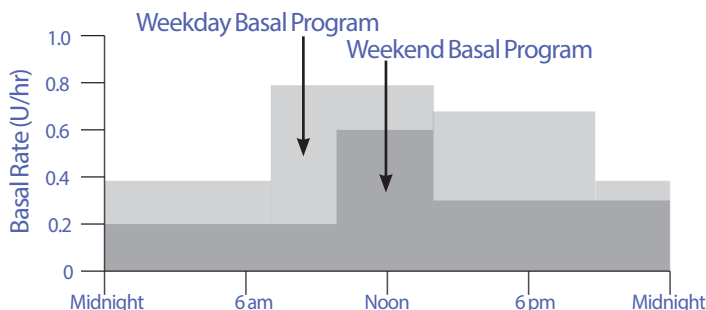

Insulin needs vary throughout the day. Therefore, most people set their basal rates to deliver more or less insulin at certain times of day. For example, you could deliver a lower rate of insulin during the night and a higher rate during the day. This figure shows a Basal Program with three basal segments.

To create the Basal Program shown in the preceding figure, the following basal segments are programmed into the PDM:

Segment	Basal rate	
1: Midnight–10:00 am	0.20 U/hr	Between midnight and 10:00 am, the Pod delivers 0.20 units of insulin per hour.
2: 10:00 am–2:00 pm	0.60 U/hr	Between 10:00 am and 2:00 pm, the Pod delivers 0.60 units of insulin per hour.
3: 2:00 pm–midnight	0.30 U/hr	Between 2:00 pm and midnight, the Pod delivers 0.30 units of insulin per hour.

You may have different routines on different days of the week; for example your weekend routine may differ from your weekday routine. To handle these predictable changes in your routine, you can create up to 12 different Basal Programs (see "Basal Programs" on page 81). This figure shows two possible Basal Programs, one for weekdays and the other for weekends.

Temporary basal rates

The ability to set temporary basal rates, also called "temp basals," is an important feature of the Omnipod DASH™ System. A temp basal lets you override the currently running Basal Program by setting a different basal rate for a predetermined period of time.

For example, if you are going cross-country skiing for several hours, you could set a temp basal to lower your basal rate during and after your exercise (see "Using Temporary Basal Rates" on page 75).

Temp basals can last from 30 minutes to 12 hours. At the end of the specified time, the Pod automatically reverts to the active Basal Program.
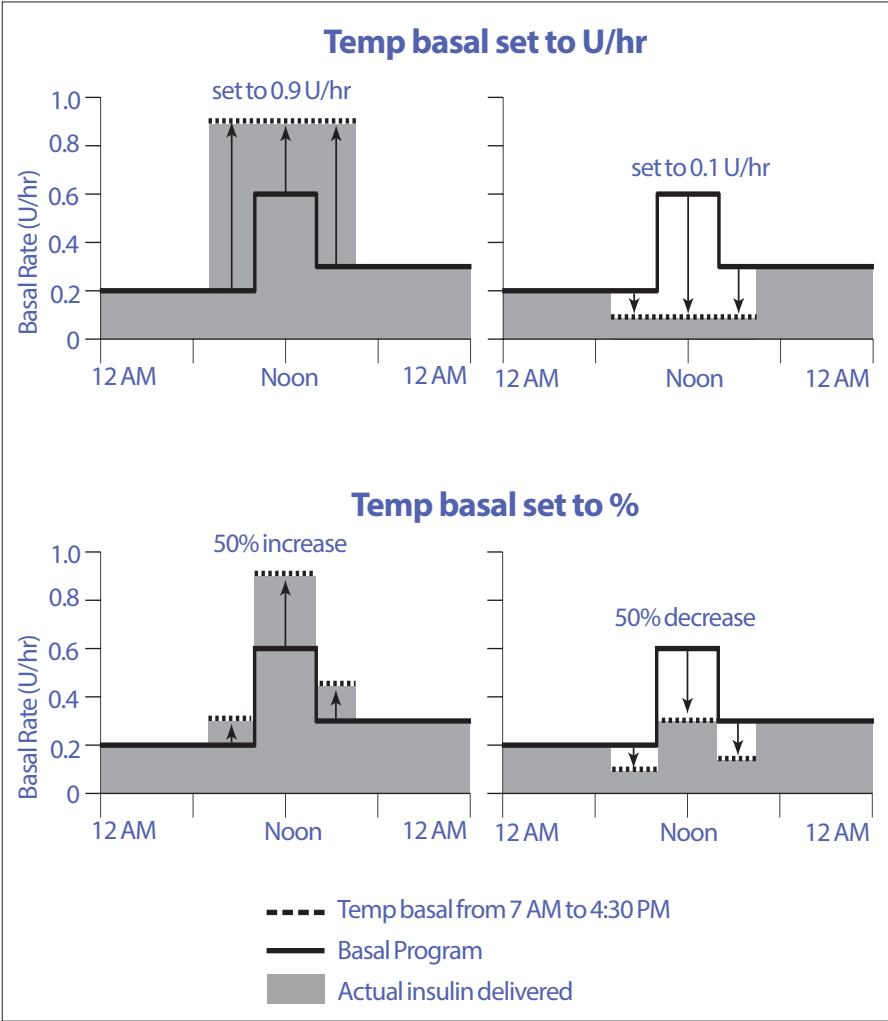
Temp basal settings: Units per hour (U/hr) or percent (%)

Temp basals can be set using percent (%) or units per hour (U/hr).

Setting temp basals to units per hour (U/hr) means that the Pod delivers insulin at a flat rate for the duration of the temp basal. In other words, the details of the currently scheduled Basal Program are ignored during these temp basals.

Setting temp basals to percent (%) means insulin delivery follows the pattern defined by the currently scheduled Basal Program, but increases or decreases the insulin delivery by the specified percentage. For example, a 50% increase raises the Basal Program's insulin delivery by 50%, while a 50% decrease lowers the Basal Program's insulin delivery by 50%.

Temp basal set to U/hr

Temp basal set to %

- - - - Temp basal from 7 AM to 4:30 PM
—— Basal Program
Actual insulin delivered

The calculations for the 50% increase temp basal in the preceding figure are:

Segment boundaries*	Basal rate of Basal Program (U/hr)	50% increase (U/hr)	Resulting temp basal rate: (U/hr)
Midnight–7:00 am	0.20		
7:00 am–10:00 am	0.20	0.20 x 50%=0.10	0.20 + 0.10 = 0.30
10:00 am–2:00 pm	0.60	0.60 x 50%=0.30	0.60 + 0.30 = 0.90
2:00 pm–4:30 pm	0.30	0.30 x 50%=0.15	0.30 + 0.15 = 0.45
4:30 pm–midnight	0.30		

* Segments are defined by the currently scheduled Basal Program.

Temp basal limitations

Prohibited temp basals: You cannot set a temp basal of 0%, as there would be no change from the active Basal Program.

Maximum temp basal:

- When using percent (%), you can set the temp basal up to 95% more than your active Basal Program's rate with the following exception: You cannot set a temp basal that would go above your Maximum Basal Rate during any time segment covered by the temp basal duration.

- When using a flat rate (U/hr), you cannot set a temp basal above your Maximum Basal Rate.

Temp basals that turn off basal insulin delivery: When using percent (%), if you set a decrease that results in a flow of less than 0.05 U/hr for a segment, the PDM informs you that you will receive 0 U/hr of insulin for one or more segments.

If the temp basal is long enough, you will eventually receive some insulin. This is because the Pod delivers insulin in 0.05 U pulses.

For example, if the flow rate for a basal segment is 0.10 U/hr and you create a temp basal with a 60% decrease for:

- One hour, the resulting flow rate of 0.04 U/hr results in no insulin being delivered for the one hour duration of the temp basal.

- Two hours, the resulting flow rate of 0.04 U/hr results in a delivery of 0 U insulin in the first hour and 0.05 U insulin in the second hour.

You can set a temp basal to turn off basal insulin delivery for a set period of time by using a 100% decrease or a flat rate of 0 U/hr. The Pod beeps at the start and end of a temp basal period of no basal insulin. You can still deliver boluses when using a temp basal to turn off basal insulin delivery.

Tip: *Using a temp basal to turn off basal insulin delivery is useful if you want your Basal Program to automatically resume when the temp basal ends (see "Methods to temporarily stop insulin delivery" on page 154).*

Temp basal presets

Some temporary changes in your daily routine are easy to predict, and you may know from experience how they affect your insulin needs. For example, you might join a summer soccer league or attend an exercise class. For women, your monthly hormonal change can affect blood glucose in a predictable manner.

To handle predictable, short-term changes, you can define temp basal presets (see "Temp Basal Presets" on page 85). Once stored, a temp basal preset can be activated quickly at a later time (see "Activate a temp basal preset" on page 77).

Methods to temporarily stop insulin delivery

There may be times when you want to stop all insulin delivery, or at least all basal insulin delivery, for a period of time. If you do not want to deactivate your current Pod, you can request a temporary halt of insulin delivery as follows:

- Suspend insulin delivery:

  Menu icon (☰) > Suspend Insulin.

- Set a temp basal to turn off insulin delivery:

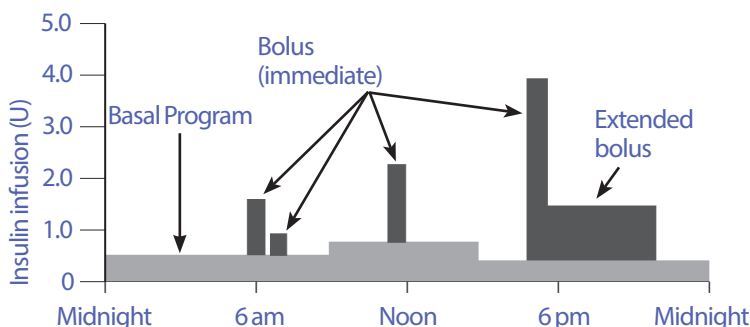 Menu icon (☰) > Set Temp Basal. Then select 100% decrease or 0 U/hr.

The following table compares these options for pausing insulin delivery.

	Suspend insulin	Temp basal of 0 U/hr
Effect on basal and bolus insulin delivery	No basal delivery No bolus delivery	No basal delivery Boluses allowed
Minimum duration for stopping insulin	30 min	30 min
Maximum duration for stopping insulin	2 hrs	12 hrs
Insulin delivery resumes automatically	No	Yes
Screen display at end of specified duration	"Resume insulin. The insulin suspension period has ended."	Middle tab of Home screen titled "Basal" (not "Temp Basal")
Beeps while insulin is stopped	Every 15 min	At beginning and every 60 min
Beeps at end of specified duration	Every 15 min until you tap Resume	One beep, then insulin resumes automatically
Must be used when	Editing an active Basal Program Changing the time or date Testing alarm and vibrate feature	Use is never required
How to cancel	Menu icon (☰) > Resume Insulin	Home: Temp Basal tab > CANCEL

Immediate and Extended Boluses

A bolus is an extra dose of insulin that is delivered in addition to the continuous basal rate of insulin delivery. Use boluses to bring down high blood glucose levels and to cover the carbohydrates (carbs) in a meal.

You have the option of delivering the entire bolus at once. This is referred to as an "immediate bolus" or, simply, a "bolus." Alternatively, you can spread out the delivery of all or part of a meal bolus so that it is delivered steadily over a specified period of time. This is referred to as an "extended bolus."

You may want to extend a bolus if your meal contains high-fat or high-protein foods. These foods slow down digestion and therefore slow down the post-meal rise in your blood glucose.

About Manually-Calculated Boluses

A manually-calculated bolus is a bolus that you have calculated without the help of the Bolus Calculator. You can use manually-calculated boluses when the Bolus Calculator is set to off or if the Bolus Calculator is disabled (see "Maximum Bolus" on page 156). Consult your healthcare provider for instructions about how to calculate a bolus.

You can extend some or all of a manually-calculated bolus.

If there is a bolus amount that you deliver frequently, you can create bolus presets (see "Bolus Presets" on page 87) that can be activated quickly at a later time.

Note: You can only use bolus presets if the Bolus Calculator is off.

The Bolus Calculator

The PDM's Bolus Calculator can do a lot of the work of calculating a bolus for you. The Bolus Calculator uses your personal settings and also takes into account any insulin that remains from recent boluses (referred to as insulin on board or IOB).

Bolus Calculator boluses

When calculating a bolus, the Bolus Calculator considers a bolus to be made up of the following two components:

- **Correction bolus**: Used to lower blood glucose when it gets too high.

- **Meal bolus**: Used to cover carbs in a meal.

Extended boluses

When using the Bolus Calculator, you can extend some or all of a meal bolus, but a correction bolus cannot be extended. A correction bolus is always delivered first. In the following example, three units of insulin are extended:

Total bolus = 5 units (1 unit correction bolus + 4 units meal bolus)

   → Deliver now = 2 units (1 unit correction + 1 unit meal bolus)

   → Extend   = 3 units (3 units meal bolus)

Maximum Bolus

The PDM does not allow you to enter a bolus that is above your Maximum Bolus setting. If the Bolus Calculator calculates a bolus amount greater than your Maximum Bolus, you will only be able to deliver up to the Maximum Bolus amount. To adjust it, tap the Total Bolus field and enter a revised bolus.

Controlling the bolus amount

The Bolus Calculator is a useful tool, but you have the ultimate control over the amount of a bolus to be delivered. After the Bolus Calculator suggests a bolus amount, you can confirm the suggested bolus or increase or decrease it.

When the Bolus Calculator does not work

The Bolus Calculator does not work when it is disabled or when it is set to off. You control whether the Bolus Calculator is turned on or off, but the PDM controls when it is disabled.

If the Bolus Calculator is set to off, the PDM does not track IOB and does not suggest a bolus.

If the Bolus Calculator is set to on, the PDM may disable it in a few situations. Being disabled means that the Bolus Calculator is temporarily unable to calculate a suggested bolus.

Conditions that disable the Bolus Calculator:	The Bolus Calculator is disabled until:	While the Bolus Calculator is disabled:
Your blood glucose reading is below your Minimum BG for Calcs setting.	Ten minutes pass. or A new blood glucose reading is above your Minimum BG for Calcs setting.	IOB is displayed on the Home screen.
Your blood glucose reading is "HI."	Ten minutes pass. or A new blood glucose reading is lower than "HI."	IOB is displayed on the Home screen.
There is an unconfirmed bolus when you discard a Pod.	A complete Duration of Insulin Action period passes.	IOB is not displayed on the Home screen.
There is an internal clock reset.	8.5 hours pass.	IOB is not displayed on the Home screen.

Factors used in the Bolus Calculator's calculations

The Bolus Calculator accounts for the following when it calculates a bolus:

- Your current blood glucose level, Target BG, Correct Above threshold, and Correction Factor
- The carbs you are about to eat and your IC Ratio
- Your Duration of Insulin Action and insulin on board (IOB)
- Your Minimum BG for Calcs
- Reverse Correction, if it is enabled

Target BG

When calculating a correction bolus, the Bolus Calculator aims to bring your blood glucose down to the Target BG.

Correct Above threshold

The Bolus Calculator only suggests a correction bolus if your blood glucose reading is above your Correct Above setting. This feature can prevent corrections to blood glucose values that are only slightly higher than your Target BG.

Insulin on board

Insulin on board (IOB) is the amount of insulin still active in your body from earlier boluses. IOB from previous correction boluses is referred to as correction IOB. IOB from previous meal boluses is referred to as meal IOB.

When calculating a new bolus, the Bolus Calculator may reduce the suggested bolus based on the IOB.

The Duration of Insulin Action setting represents the amount of time that insulin remains "on board" or "active" in your body.

Note: The Bolus Calculator only subtracts IOB from a suggested bolus if your current blood glucose is known. You should always test your blood glucose prior to delivering a bolus.

Duration of insulin action

The Bolus Calculator uses your Duration of Insulin Action setting to calculate the insulin on board from prior boluses.

Minimum BG for Calcs

The Bolus Calculator does not suggest a bolus if your blood glucose reading is below your Minimum BG for Calcs level.
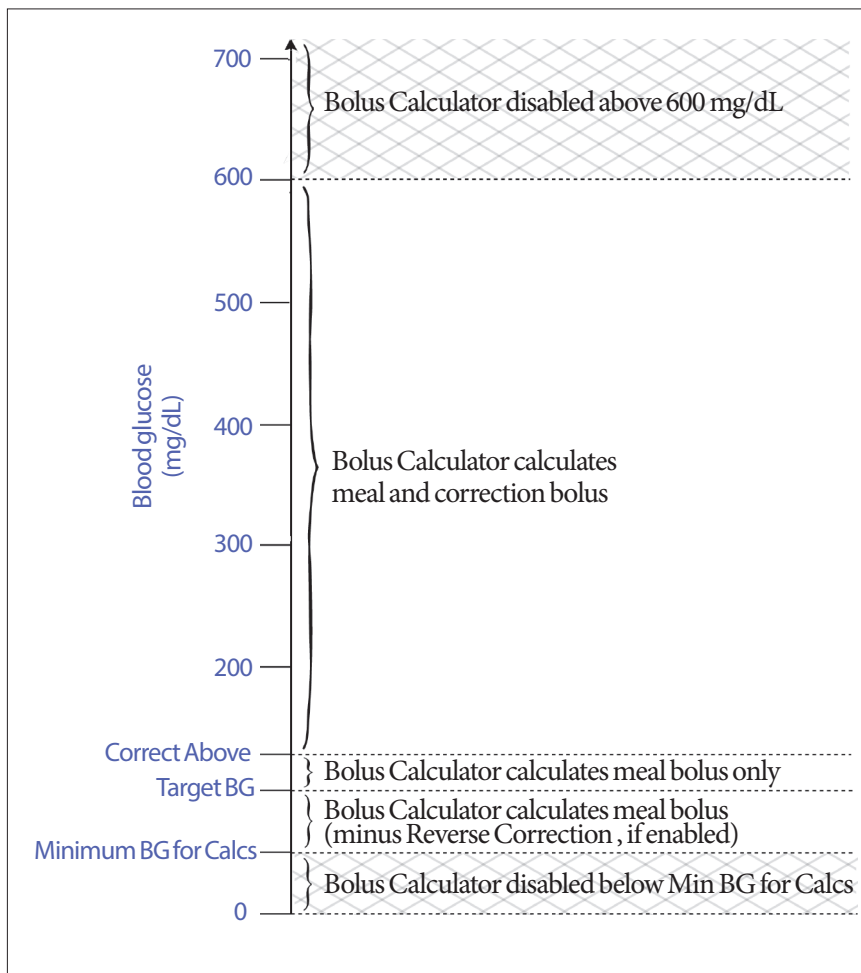
Reverse Correction

If the Reverse Correction setting is turned on and your blood glucose level is below your Target BG, the Bolus Calculator uses the calculated negative correction bolus to reduce the meal bolus. This allows part of the meal to be used to raise the low blood glucose level towards the Target BG.

If the Reverse Correction setting is turned off, the Bolus Calculator suggests the full meal bolus even if your blood glucose level is below your Target BG.
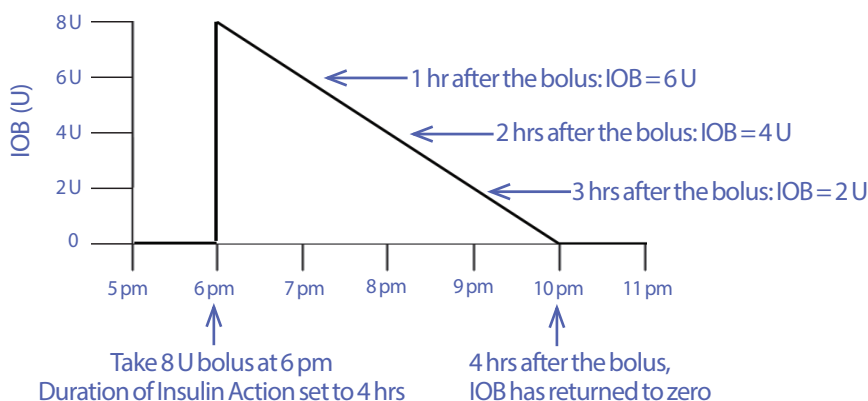
Boundaries of the Bolus Calculator suggestions

The following figure shows the boundaries between the types of calculations performed by the Bolus Calculator. For example, the Bolus Calculator suggests a meal bolus, but not a correction bolus, if your blood glucose reading is between your Target BG and your Correct Above settings. If your blood glucose is above the range of your BG meter or is above 600 mg/dL, the reading is recorded as "HI" and the Bolus Calculator cannot calculate a bolus.

Insulin on board (IOB)

After a bolus is delivered, the amount of insulin that is active in the body decreases over several hours. The Bolus Calculator approximates this decrease in insulin by calculating an 'insulin on board' (IOB) value. The calculated IOB value decreases over time and reaches zero at the time set by the Duration of Insulin Action value. For example, if your Duration of Insulin Action is 4 hours and an 8 unit bolus is given at 6 pm, the IOB amount decreases steadily over time as shown in this graph.
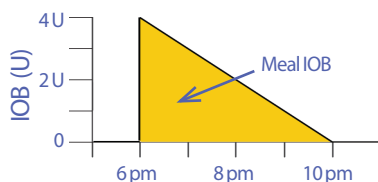

Types of IOB: meal IOB, correction IOB, or both

A bolus, and the IOB from that bolus, can be entirely meal, entirely correction, or both. The following graphs show how the IOB from a 4 U total bolus decreases over time with a Duration of Insulin Action of 4 hours.
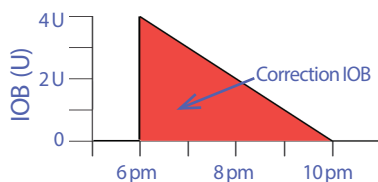
Entirely meal

A meal bolus is calculated when you are eating a meal and your blood glucose is less than your Correct Above value. The IOB from this bolus is entirely meal IOB.
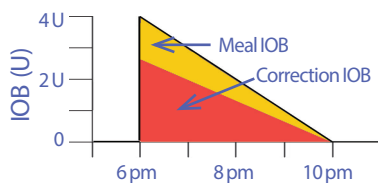

Entirely correction

A correction bolus is calculated when you are not eating and your blood glucose is above your Correct Above value. The IOB from this bolus is entirely correction IOB.

Both meal and correction

When you are eating and your blood glucose is above your Correct Above value, the total bolus includes a meal bolus and a correction bolus component. Likewise, the IOB from this bolus has a meal IOB and a correction IOB component.

Insulin on board (IOB) calculations

$$\frac{\text{Duration of insulin action} - \text{time since previous bolus}}{\text{Duration of insulin action}} \text{ x previous bolus}$$

IOB from a previous correction bolus is called a "correction IOB."

IOB from a previous meal bolus is called a "meal IOB."

Correction IOB example

Duration of insulin action: 3 hours
Time since previous correction bolus: 1 hour
Previous correction bolus: 3 U

$$\frac{3 \text{ hours} - 1 \text{ hour}}{3 \text{ hours}} \text{ x } 3 \text{ U} = 2 \text{ U correction IOB}$$

In other words, one hour after your previous correction bolus, your body has used up only 1 unit from the correction bolus. The remaining 2 units of insulin are still in your body working to correct your blood glucose level. Accounting for correction IOB in bolus calculations prevents the delivery of too much insulin when correcting a high BG or eating a meal.

Meal IOB example

Duration of insulin action: 3 hours
Time since previous meal bolus: 2 hours
Previous meal bolus: 4.5 U

$$\frac{3 \text{ hours} - 2 \text{ hours}}{3 \text{ hours}} \text{ x } 4.5 \text{ U} = 1.5 \text{ U meal IOB}$$

In other words, two hours after your previous meal bolus, your body has used up 3 units from the meal bolus. The remaining 1.5 units of insulin are still in your body working to cover your meal.

Meal IOB is only used to reduce a correction bolus; it does not reduce a new meal bolus. The correction bolus is only reduced until it becomes 0 units.

Bolus Calculator equations

The Bolus Calculator first calculates a preliminary correction and meal bolus. It then adjusts these preliminary values for IOB, if applicable. The final suggested bolus is equal to the sum of the resulting correction bolus and meal bolus.

Preliminary correction bolus $= \dfrac{\text{Current BG - Target BG}}{\text{Correction Factor}}$

Example: Current BG: 200 mg/dL, Target BG: 100 mg/dL
Correction Factor (CF): 50

$\dfrac{200\,\text{mg/dL} - 100\,\text{mg/dL}}{50} = 2\,\text{U prelim. correction bolus}$

Preliminary meal bolus $= \dfrac{\text{Carb intake}}{\text{Insulin-to-carb (IC) ratio}}$

Example: Carb intake: 45 grams of carb, IC ratio: 15

$\dfrac{45}{15} = 3\,\text{U prelim. meal bolus}$

Final correction bolus = (prelim. correction bolus - meal IOB) - correction IOB

The meal IOB is subtracted first. If the preliminary correction bolus is still above zero, then the correction IOB is subtracted

Note: A correction bolus is never reduced below 0 U.

Final meal bolus = prelim. meal bolus - remaining correction IOB

Meal IOB is never subtracted from a meal bolus. Only a remaining correction IOB is subtracted from a meal bolus (see "Remaining correction IOB" on page 164).

Note: A meal bolus is never reduced below 0 U.

Calculated bolus = final correction bolus + final meal bolus

Reverse Correction bolus calculation: If the Reverse Correction feature is turned on and if your current blood glucose is below your Target BG but above your Minimum BG for Calcs, the Bolus Calculator subtracts a correction amount from the preliminary meal bolus.

Meal bolus with Reverse Correction = Reverse Correction + prelim meal bolus

Example: Current BG: 75 mg/dL, Target BG: 100 mg/dL
Correction Factor: 50, Preliminary meal bolus: 1.5 U

$\dfrac{75\,\text{mg/dL} - 100\,\text{mg/dL}}{50} = -0.5\,\text{U Reverse Correction}$

- 0.5 U (Reverse Correction) + 1.5 U (prelim meal bolus) = 1.0 U meal bolus

A Reverse Correction is only applied to the meal bolus. In this example, the meal bolus is reduced by 0.5 units.

Bolus Calculator rules

The Bolus Calculator applies the following rules to the suggested bolus doses:

- Suggested bolus doses are rounded down to the nearest 0.05 U.

- If the total of the suggested bolus calculation (correction bolus plus meal bolus) is less than zero, the suggested bolus dose is 0.00 U.

- The Bolus Calculator does not suggest a bolus dose if your current blood glucose reading is below your Minimum BG for Calcs.

- The Bolus Calculator suggests a correction bolus only when your blood glucose reading is above your Correct Above threshold.

- Meal IOB, which is insulin on board from a previous meal bolus, is subtracted first from the current correction bolus, if any, until the correction bolus is zero. However, any remaining meal IOB is *never* subtracted from the current meal bolus.

- Correction IOB, which is insulin on board from a previous correction bolus, is then subtracted from the current correction bolus, if any remains, until the correction bolus is zero. At that point, any remaining correction IOB is subtracted from the current meal bolus.

- The calculated insulin on board is rounded up to the nearest 0.05 U.

- A Reverse Correction only occurs if the meal bolus is greater than 0.00 U.

- If your blood glucose value is below your Target BG value and Reverse Correction is on, the Reverse Correction bolus is subtracted from the suggested meal bolus. If Reverse Correction is off, the Bolus Calculator does not subtract insulin from the suggested meal bolus dose.

If you manually adjust the suggested bolus, the following rules apply:

- If you increase a suggested bolus, the increase is applied to the meal bolus unless there is no meal bolus, in which case it is applied to the correction bolus.

- If you decrease a suggested bolus, the decrease is applied to the meal bolus until it reaches zero; then it is applied to the correction bolus. If there is no meal bolus, the decrease is applied to the correction bolus.

Overview of the Bolus Calculator CALCULATIONS screen

The Bolus Calculator's screen can be accessed by tapping VIEW BOLUS CALCULATIONS from the Insulin & BG history screen or by tapping CALCULATIONS from the Bolus Calculator screen.

Your current blood glucose reading and Target BG setting are listed here.

Your Correction Factor setting is listed here.

A correction bolus is adjusted for meal IOB first ...

... then for correction IOB.

Correction IOB is subtracted from the correction bolus first ...

The carbs in your meal and your IC Ratio are listed here.

... and any remaining correction IOB is subtracted from the meal bolus.

Bolus Calculation

Correction Bolus   1 U
BG = 150, Target BG = 100
Correction Factor = 50
(150-100) / 50 ≈ 1 U

Meal IOB adjustment

Meal IOB = 0 U
1 U - 0 U = 1 U

Correction IOB adjustment

Correction IOB = 0 U
1 U - 0 U ≈ 1 U

Meal Bolus   4 U
Carbs = 60 g, IC Ratio = 15 g/U
60 / 15 ≈ 4 U

Correction IOB adjustment

CLOSE

You need to scroll down to see the total bolus and any adjustments you may have made to the calculated bolus.

The blood glucose units on the Calculations screen are mg/dL.

Note: IOB adjustments are only made if you have entered a blood glucose reading.

Remaining correction IOB

A calculated bolus amount can never be less than zero. If a correction IOB is greater than the preliminary correction bolus, subtracting only part of the correction IOB from the preliminary bolus brings the correction bolus to zero.

The 'remaining correction IOB' is the amount of the correction IOB that was not needed to bring the preliminary correction bolus to zero. This remaining amount is then used to reduce the meal bolus, if there is a meal bolus.

The preliminary and final boluses in the CALCULATIONS screen

The Bolus Calculation screen shows the calculations for a preliminary bolus first (correction and meal bolus), and then shows the IOB adjustments that produce the final correction bolus and final meal bolus. See "Bolus Calculator equations" on page 162 for a step-by-step description of these calculations.

The preliminary correction bolus calculations and where the preliminary correction boluses appear on the Calculations screen, as well as which numbers represent the final correction bolus, are identified here:

Bolus Calculation screen content	Annotations
🔋 50+U ✱ ◈ 90% ▭ 5:47 AM	
← **Bolus Calculation** 🔔¹	
Correction Bolus 1 U	Final correction bolus (rounded down to the nearest 0.05 U)
BG = 150, Target BG = 100 Correction Factor = 50 (150-100) / 50 ≈ 1 U	
Meal IOB adjustment	
Meal IOB = 0 U 1 U - 0 U = 1 U	
Correction IOB adjustment	
Correction IOB = 0 U 1 U - 0 U ≈ 1 U	
Meal Bolus 4 U	Final meal bolus
Carbs = 60 g, IC Ratio = 15 g/U 60 / 15 ≈ 4 U	
Correction IOB adjustment	
Remaining correction IOB = 0 U 4 U - 0 U ≈ 4 U	
Calculated Bolus 5 U	
Total Bolus = 5 U	
Correct Above: 110 mg/dL	
CLOSE	

The following pages show examples of the Calculations screen with various blood glucose, meal, and IOB scenarios.