

CADD®

CADD-Solis®

Medication Safety Software



Administrator 3.3

Administrator Help

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Administrator Help

About the Administrator Application

CADD™-Solis Medication Safety Software – Administrator

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Overview

CADD™-Solis Medication Safety Software – Administrator can be configured for use with CADD®-Solis (Model 2100, Model 2110), CADD®-Solis VIP (Model 2120), and CADD-Prizm® PCS II (software revision H) Ambulatory Infusion Pumps.

CADD™-Solis Medication Safety Software – Administrator can be used to:

- Create and manage Protocols and Protocol Libraries
- Manage user accounts, permissions, and access to Protocol Libraries
- Determine the amount of flexibility users can have in editing Protocols before sending them to a pump
- Send a Protocol Library and get history (CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps only)
- Send a single Protocol (CADD®-Solis VIP Ambulatory Infusion Pumps only)
- Send or get a Pump ID (CADD-Prizm® PCS II Ambulatory Infusion Pumps only)
- Print Drug ID barcode labels
- View, print, and export log and pump reports

The CADD™-Solis Medication Safety Software – Administrator consists of three main functions (tabs), applicable to the selected Protocol Library:

- **Library General Settings:** On this tab you can view the pumps to which the selected Protocol Library is applicable, provide a description for the Protocol Library, manage Protocol Library versions (publish or restore a Protocol Library), view a Library Summary Report, and set other options for Point of Care users.
- **Setup Therapies, Qualifiers, and Drugs:** This tab allows you to create and edit the Therapies and Qualifiers for the Protocol Library. Drug Name, Unit, and Concentration combinations are also created here. For each Drug combination, a Drug ID can be assigned and a Drug ID barcode label can be printed.
- **Specify Protocols:** This tab is used to create Protocols from the Therapies, Qualifiers, and Drugs in the Protocol Library. You may also edit and delete Protocols, print Protocol Detail Reports and prescription forms, sort Protocols, and manage Protocol templates.

In addition to these main functions, the **File** menu provides Library management features. The **Pump Communications** menu includes commands for sending Protocols and Libraries, and retrieving/viewing Pump Reports. Application configuration, user management, and archival and backup/restore features are located under the **Settings** menu.

Warnings

Read through the CADD™-Solis Medication Safety Software – Administrator *Installation and Technical Manual* and these help topics before operating CADD™-Solis Medication Safety Software – Administrator.

Failure to properly follow warnings, cautions, and instructions could result in death or serious injury to the patient.

- Follow your facility's processes for backup and restoration of the Protocol Library Database information.
- When using weight-based delivery parameters, ensure that all weights are entered in kilograms.
- When using a weight-based Protocol, the Continuous Rate is programmed using units/kg/hr input, and the Demand or PCA Dose amount and Delivery Limit are programmed using units/kg input. The pump LCD screen displays the Continuous Rate in Units (milligram, microgram, milliliter) per hour, and the Demand or PCA Dose, and Delivery limit are displayed in units (milligram, microgram, milliliter); therefore, any further adjustment of doses on the pump will be in units/hr or units.
- When assigning a Drug ID to a Drug using a barcode scanner or keyboard, manually verify that the correct barcode information has been entered.
- It is strongly recommended that another user verify each new or edited Protocol before it is made active and available to send to a pump.
- When printing barcode labels, manually verify that the labels correctly match the Drug.
- When applying printed barcode labels to identify Drugs, ensure that your facility follows a clearly-defined process.
- When scanning a barcode to assign or read a Drug ID, always visually verify that the correct barcode information was entered into the program after scanning.
- Inspect all cable accessories for damage. Do not use the cable accessories if the wires are exposed or if the connector or alignment pins are bent or damaged in any way.
- It is strongly recommended that login and/or physical access to the computer that holds the Protocol Library Database is restricted to prevent unauthorized user access.

- Always carefully review the program on the pump after it has been programmed to verify that the pump is programmed correctly.
- Using an out-of-date Protocol Library or Protocol Library Database could cause incorrect programming of the pump. Your facility should have a clearly-defined process for archiving, backing up, and restoring the Protocol Library Database.

Important Notes

- CADD™-Solis Medication Safety Software – Administrator is not intended to replace medical personnel, clinical expertise, or patient assessment.
- The user must become familiar with the CADD®-Solis, CADD®-Solis VIP, and CADD-Prizm® PCS II (software revision H) Ambulatory Infusion Pumps' features, operation, and accessories prior to use.
- The Help topics pertain only to CADD™-Solis Medication Safety Software – Administrator. For detailed instructions, specifications, warnings, warranty, and additional information about operating the CADD®-Solis, CADD®-Solis VIP, or CADD-Prizm® PCS II (software revision H) Ambulatory Infusion Pumps, refer to the Operator's Manual supplied with the pump.
- Future updates to the computer's operating system software, .NET Framework, SQL, installation of other software on the Administrator or Point of Care computer, a change to the Regional and Language Options - Standards and Formats setting, or removal of installed components may affect the operations of the CADD™-Solis Medication Safety Software. Your facility should have a clearly defined process for qualifying existing software with new operating system versions.
- Your facility should consider creating a Protocol Library for use if the network is unavailable or a different Protocol Library is needed and the Administrator user is not available.
- If the CADD™-Solis Medication Safety Software cannot be used to program the pump due to an inability to operate the software or connect to the pump, follow your facility's policy and procedures for programming the pump manually.

System Setup

Pump Selections

The pump selections determine for which pumps Protocol Libraries can be created and with which pumps you can communicate. CADD™-Solis Medication Safety Software – Administrator can be configured for use with the following pumps:

- CADD®-Solis Ambulatory Infusion Pump (Model 2100, Model 2110)
- CADD®-Solis VIP Ambulatory Infusion Pump (Model 2120)
- CADD-Prizm® PCS II Ambulatory Infusion Pump (software revision H).

Pump selection occurs during installation of the CADD™-Solis Medication Safety Software; however, this can be modified after installation by a user with the Protocol Administrator permission.

To modify pump selections:

1. From the menu bar, select **Settings > Pump Selections**.
2. In the Pump Selections dialog box, add a pump by checking its box (to remove a pump, uncheck its box).

3. Click **OK**.

Connecting to a Database

The CADD™-Solis Medication Safety Software database connection settings are typically set up during installation of the CADD™-Solis Medication Safety Software. A user with the System Administrator permission can modify these settings as necessary. After entering database connection settings, other users using this installation of CADD™-Solis Medication Safety Software – Administrator may log in and access the Protocol Libraries to which they have permission.

Note: To connect to a database, you must be authorized by your facility for the database and have the appropriate database location and connection settings. For more information, contact the administrator responsible for the CADD™-Solis Medication Safety Software database at your facility.

To modify the database location settings:

1. From the menu bar, click **Settings > Database Location**.
2. In the Database Location dialog box, enter your database location and connection settings:
 - Server Name
 - Instance Name
 - Database Name
 - Port Number
 - SQL Server User ID
 - SQL Server User Password
3. Within the Verify Permissions area, enter your CADD™-Solis Medication Safety Software **User ID** and **User Password**. This user account must have the System Administrator permission to apply any database location and connection changes.
4. Click **OK**.

Setting Administrator Auto Logout

Users will be logged out of the Administrator application automatically if the application has been idle for a specified amount of time. This Administrator Auto Logout setting can be modified by a user with the Protocol Administrator permission.

Note: To prevent unauthorized access to the Administrator application and the Protocol Libraries, users should log out manually when not using the application by clicking the **Log Out** button.

To set the Administrator Auto Logout time:

1. On the menu bar, select **Settings > Administrator Auto Logout**.
2. In the Administrator Auto Logout dialog box, select the amount of time (in minutes) for which the Administrator application can be idle before the user is logged out automatically.
3. Click **OK**.

CADD®-Solis Pump Settings

For CADD®-Solis pumps, you can choose to allow CADD™-Solis Medication Safety Software to set the pump's clock to the local PC date and time during pump communications (i.e., when sending a Library, sending a Protocol, or getting history).

To allow CADD®-Solis pump time to be set to PC clock time:

1. From the menu bar, select **Settings > CADD®-Solis Pump Settings**.
2. In the CADD®-Solis Pump Settings dialog box, click to place a check in the checkbox next to **Set pump's clock to PC clock time**.

Managing User Accounts

Managing User Accounts

Users with the System Administrator or Protocol Administrator permission can create and administer user accounts and set user application permissions and access to Protocol Libraries. User accounts can also be removed.

To add or edit a user account and set account permissions:

1. From the menu bar, select **Settings > User Accounts > Manage User Accounts**. The Manage User Accounts dialog box opens.
2. To add a new user, click the **New User** button
– OR –
To modify an existing user, select their User ID from the list.
3. If creating a new user, enter the **User ID**, **Password**, and then **Confirm Password** for the user. The User ID and password must each contain a minimum of three alphanumeric characters (letters, numbers, or a combination of both). Users can use the [Change User Password](#) feature later to change their passwords.
4. For the user, select from the following permissions:

Permission	Capabilites
Protocol Administrator	<ul style="list-style-type: none"> • Select pump applications • Access log and pump reports • Manage user accounts • Manage library permissions • Export and import users • Export and import Protocol Libraries and usage logs • Create, save, and delete Protocol Libraries • Update and restore Protocol Libraries • Set Administrator auto logout • All Send Protocols and Send Libraries capabilites (described below)
Send Protocols	Send a single Protocol to a pump from CADD™-Solis Medication Safety Software – Administrator (CADD®-Solis VIP Ambulatory Pump only) or Point of Care (CADD®-Solis and CADD-Prizm® PCS II Ambulatory Infusion Pumps only).
Send Libraries	Send a Protocol Library to a pump from CADD™-Solis Medication Safety Software – Administrator (CADD®-Solis

	and CADD®-Solis VIP Ambulatory Infusion Pumps only) or Point of Care (CADD®-Solis Ambulatory Infusion Pumps only).
System Administrator	<ul style="list-style-type: none"> • Connect to a database/library • Manage user accounts • Manage library permissions • Export and import users • Export and import Protocol Libraries and usage logs • Archive data • Backup and restore database • Import data from 2.0 database • Get or Send a Pump ID from/to a CADD-Prizm® PCS II Ambulatory Infusion Pump.

5. If Protocol Libraries have been created, the list of libraries is displayed. To grant the user access to a Protocol Library, click to place a check next to the library to which you want to give the user access.

Note: In the Manage User Accounts window you can also click the **User List** button and select a library name from the drop-down list to view the users with permissions for that library. Click **Save** or **Close** after viewing or making changes.

6. When finished, click **Save**.

To remove a user account:

1. From the menu bar, select **Settings > User Accounts > Manage User Accounts**.
2. Select the user to be removed from the **User ID** drop-down list.
3. Click **Delete**.

Setting Library Permissions

Users with the Protocol Administrator or System Administrator permission can set Library Permissions to allow users' access to specific Protocol Libraries.

To provide a user with library permissions:

1. From the menu bar, click **Settings > User Accounts > Library Permissions**.
2. In the Library Permissions dialog box, from the **Library Name** drop-down list, select the Protocol Library to which you want to grant permission.
3. For each user you want to grant permission, click to check the **In Library** box.

NOTE: Whether or not a user has access to Send Protocols or Send Libraries will depend on the permissions set for the user's account. For more information, see [Managing User Accounts](#).

4. Click **Save**.

Changing User Password

CADD™-Solis Medication Safety Software – Administrator allows users to change their passwords. Users do not need to be logged into the Administrator program to change their passwords. When changing a user password, the current password is required.

To change a user's password:

1. From the menu bar, select **Settings > Change User Password**.
2. Enter the User ID.
3. Enter the old password.
4. Enter the new password and then confirm the new password by entering it again in the Confirm New Password field.
5. Click **OK**. A message is displayed to confirm that the password has been changed.

Importing and Exporting Users

Users with the Protocol Administrator or System Administrator permission can export the user list to a file as an empty template, or as a template including the currently defined users. The file is exported as an editable comma separated value (.CSV) file. By editing this file, you can manage the user list by adding users and/or changing user permissions. After making changes, the modified user list file can be imported into the Administrator program to update the users in the database.

To export a user list:

1. From the menu bar, select **Settings > User Accounts > Import/Export Users**.
2. To export the current user list, select **All Users**.
– OR –
To export an empty user template, select **Blank User Template**.
3. Click **Export**.
4. In the Select Export File Name window, use the **Save in** dialog to select the file location.
5. Enter a name for the file in the **File name** dialog.
6. Click on the **Save** button to export the user list.

Note: An exported user list file is not a secure file. An administrator should verify the contents of the file before importing it.

To edit an exported user list file or template:

1. Open the exported file in an application that can edit CSV files (e.g., Microsoft® Excel®).
Note: You cannot remove users by deleting them from an exported user list. To remove a user, use the [User Accounts](#) feature.
2. Edit the user list, if desired, by adding users to the USERID column.
3. As desired, set any user's permissions by adding the word TRUE (permission granted) or FALSE (permission denied) for each of the following permissions:

Permission	Capabilities
Send Protocols	Send a single Protocol to a pump from CADD™-Solis Medication Safety Software – Administrator (CADD®-Solis VIP Ambulatory Pump only) or Point of Care (CADD®-Solis and CADD-Prizm® PCS II Ambulatory Infusion Pumps only).

Send Libraries	Send a Protocol Library to a pump from CADD™-Solis Medication Safety Software – Administrator (CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps only) or Point of Care (CADD®-Solis Ambulatory Infusion Pumps only).
System Administrator	<ul style="list-style-type: none"> • Connect to a database/library • Manage user accounts • Manage library permissions • Export and import users • Export and import Protocol Libraries and usage logs • Archive data • Backup and restore database • Import data from 2.0 database • Get or Send a Pump ID from/to a CADD-Prizm® PCS II Ambulatory Infusion Pump.
Protocol Administrator	<ul style="list-style-type: none"> • Select pump applications • Access log and pump reports • Manage user accounts • Manage library permissions • Export and import users • Export and import Protocol Libraries and usage logs • Create, save, and delete Protocol Libraries • Update and restore Protocol Libraries • Set Administrator auto logout • All Send Protocols and Send Libraries capabilities (described below)

4. Save changes in a CSV compatible format.

To import a user list:

1. Select **Settings** from the menu bar and click **User Accounts > Import/Export Users**.
2. Click **Import**.
3. In the Select Import File Name window, use the **Look in** drop-down list to locate the directory and file.
4. Click the file you want to import and it will be added to the **File name** drop-down list. Click the **Open** button to import the user list.

After importing a user list, updates from the new file will be made to the users in the database. Always verify the user updates by selecting **Settings** from the menu bar and clicking **User Accounts > Manage User Accounts**.

Note: New users will be assigned a default password: **password**. Users can use the [Change User Password](#) feature to set their passwords.

Setting User Password Expiration

Users with the System Administrator permission can set a password expiration policy for all users of CADD™-Solis Medication Safety Software – Administrator and Point of Care. When enabled, password expiration provides an additional level of security by requiring users to

change their password periodically. With password expiration set, when a user's password is due to expire, the user is given opportunity to change their password.

To set user password expiration:

1. From the menu bar, select **Settings > User Accounts > User Password Expiration**.
2. In the User Password Expiration dialog, select the **Days** option, and then set the number of days a password can be active before it expires.
3. Click **OK**.

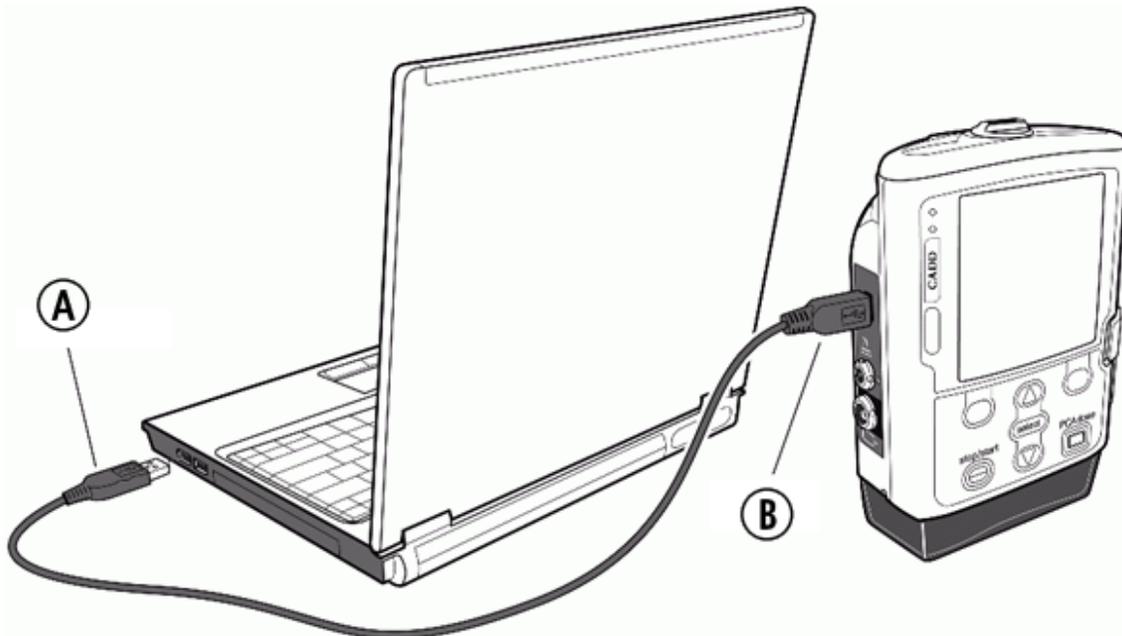
Connecting to a Pump**Connecting to a CADD®-Solis or CADD®-Solis VIP Pump**

When the PC is connected via USB cable to a CADD®-Solis (Model 2100, Model 2110) or CADD®-Solis VIP (Model 2120) Ambulatory Infusion Pump, CADD™-Solis Medication Safety Software – Administrator can be used to [send a Protocol Library](#) or [send a Protocol](#) to the pump; it can also be used to [get pump history](#) which allows pump reports to be viewed.

USB cable connection

The USB cable requires a USB Type A plug for connecting to the PC and a USB Type Mini-B plug for connecting to the pump. This is a standard USB cable that may be purchased at a computer supply store.

Note: Do not use a USB cable that is longer than 2 meters (6.5 feet). Exceeding this length may increase the pump's susceptibility to external electromagnetic interference.



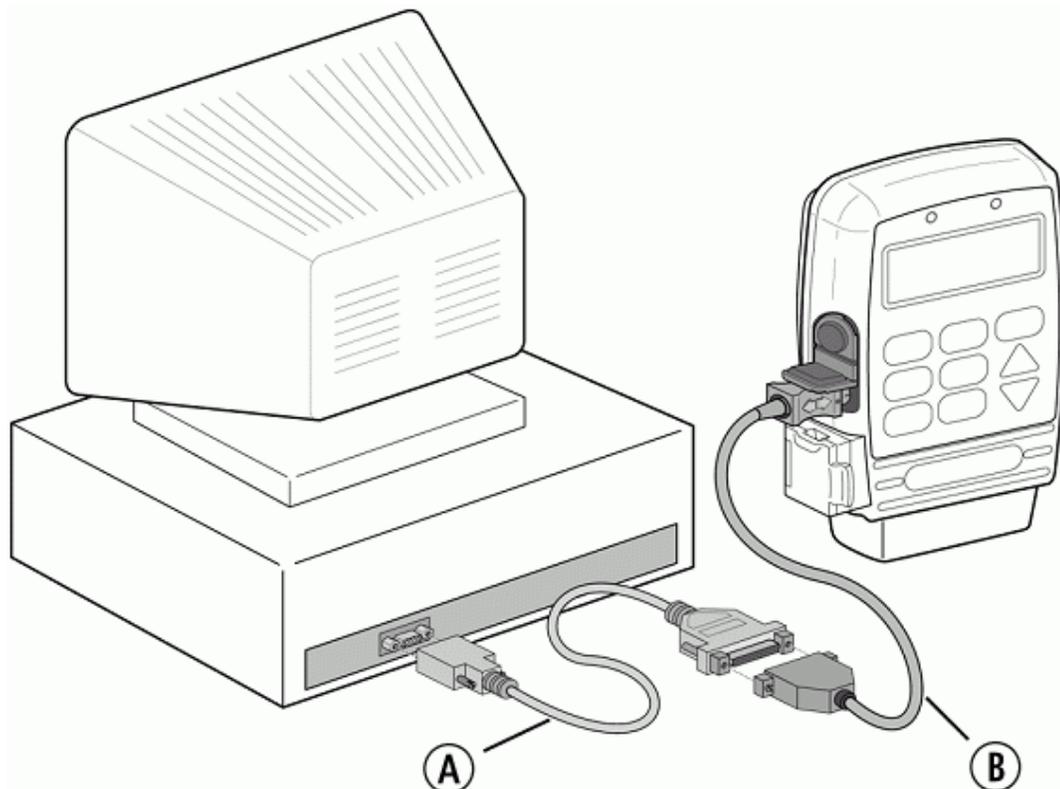
- A** - USB Type A Plug
B - USB Type Mini-B Plug

Connecting to a CADD-Prizm® PCS II Pump

When the PC is connected via Interface Cable/NULL Modem Cable Set to a CADD-Prizm® PCS II Ambulatory Infusion Pump (software revision H), CADD™-Solis Medication Safety Software – Administrator can be used to [send a Pump ID](#) to the pump, [get a Pump ID](#) from the pump, and send a Protocol to the pump (when using CADD™-Solis Medication Safety Software – Point of Care).

Interface Cable/NULL Modem Cable Set

The Interface Cable/NULL Modem Cable Set (part number 21-6144) may be purchased from Smiths Medical [Customer Service](#). For information about connecting the PC and setting up the communication port, see the illustration and instructions below.



A - NULL Modem Cable
B - Interface Cable

Upon installation, CADD™-Solis Medication Safety Software – Administrator is set up to communicate with the pump on the COM1 port. If the connection to the PC is on a port other than COM1, you must change the port setting in Administrator.

To set the COM Port:

1. On the menu bar, select **Settings > Select COM Port**.
2. In the Select COM Port dialog box, enter the correct COM Port number.

Note: If you need to find which port to select, navigate to System Properties (in Windows Control Panel, select System). On the **Hardware** tab of the System Properties dialog box, click the **Device Manager** button. Click the "+" next to Ports (COM & LPT). Enter the COM Port shown there.

3. Click **OK**.

Using System Tools

Archiving Data

Users with the System Administrator permission can use the Archive Data feature to move pump event history and Administrator usage log data from the database to a file for archival purposes. When archiving data, an XML file is created containing data in the database previous to the selected date.

Note: Follow your facility's processes for retaining archived data.

CAUTION: The Archive Data feature permanently removes Administrator log data and pump data from the database. Once data is archived, it cannot be imported back into the CADD™-Solis Medication Safety Software for viewing or reporting.

To archive data:

1. From the menu bar, select **Settings > System Tools**.
2. In the System Tools dialog box, on the **Archive Data** tab, select the time period for the archive. All log data prior to the selected date will be removed from the database and archived.
3. Click **Browse** to select the location and file name to use for the archive, and then click **Save**.
4. Click **Archive**.
5. At the confirmation message, click **Yes** to continue with the archive or **No** to cancel.

Backing Up the Database

Users with the System Administrator permission can use the Backup Database feature to save a backup of the current CADD™-Solis Medication Safety Software database to a file for archival purposes and for future restoration, if necessary. The backed-up database is stored as a Smiths Medical Data file (*.smd) that can be named and stored to your selected location (e.g., a network drive or removeable media).

Important: Follow your facility's processes for storing, retaining, and restoring database backups.

Warning: Restoring a database will delete any existing database and return the database (including all Libraries, Protocols, and user account settings) to the state it was at the time the backup was created. Your facility should follow a clearly-defined process for evaluating all Libraries and Protocols from a restored database, and adjusting them if necessary, before sending Libraries or Protocols to pumps; failure to do so could result in death or serious injury to the patient.

To backup the database:

1. From the menu bar, select **Settings > System Tools**.
2. In the System Tools dialog box, on the **Backup Database** tab, click **Browse** to select the location and file name to use for the backup, and then click **Save**.
3. Click **Backup Database**.
4. A message will appear when backup is complete. Click **OK**.

To set a backup reminder:

1. Under Backup Reminder, click to select **On**, and then specify the number of **Days** after backing up the database in which you want the Administrator program to remind you to perform a backup.
2. Click **Save Settings**.
3. A message will appear to confirm that your settings have been saved. Click **OK**.

Note: A backup reminder message will only appear if you are using the Administrator program and the reminder duration has passed.

Restoring a Database

For data recovery purposes, users with the System Administrator permission can use the Restore Database feature to restore a previously backed-up CADD™-Solis Medication Safety Software database. To restore a database, a [database connection](#) must be established, which may be a new (empty) or an existing database. Additionally, you must have access to the Smiths Medical Data file (*.smd) for your previously backed-up database.

Important: Follow your facility's processes for storing, retaining, and restoring database backups.

Warning: Restoring a database from a backup will delete any existing database and return the database (including all Libraries, Protocols, and user account settings) to the state it was at the time the backup was created. Your facility should follow a clearly-defined process for evaluating all Libraries and Protocols from a restored database, and adjusting them, if necessary, before sending Libraries or Protocols to pumps; failure to do so could result in death or serious injury to the patient.

To restore a database:

1. From the menu bar, select **Settings > System Tools**.
2. In the System Tools dialog box, on the **Restore Database** tab, click **Browse** to select the location and file name to use for the backup, and then click **Restore Database**. A message will appear when the database restoration is complete.

Transferring Data

When installing CADD™-Solis Medication Safety Software – Administrator 3.0, previous versions of the CADD™-Solis Medication Safety Software Database and its data (comprised of your Protocol Libraries and usage logs) are not removed. After installing CADD™-Solis Medication Safety Software – Administrator 3.0, users with the System Administrator permission can use the Transfer Data feature to transfer data from any CADD™-Solis Medication Safety Software 2.0 Database to your newly-installed CADD™-Solis Medication Safety Software 3.0 database.

Important: The Transfer Data feature should be used to transfer data from a CADD™-Solis Medication Safety Software 2.0 Database before using the Administrator application to create any new Protocol Libraries or users in the new database. This is because, when transferring data using the Transfer Data feature, existing data in the destination database is deleted.

To transfer 2.0 data to a new 3.0 database:

1. From the menu bar, select **Settings > System Tools**.

2. In the System Tools dialog box, click the **Transfer Data** tab.
3. Specify the settings for the Source (CADD™-Solis Medication Safety Software 2.0) and the Destination (CADD™-Solis Medication Safety Software 3.0) database. Default values are provided for the Source Instance, Port, SQL Server Login and SQL Server Password. Enter the Computer Name and change other values as necessary for your Source database. For the Destination (the newly installed CADD™-Solis Medication Safety Software 3.0 database), enter the **Computer Name** and other connection settings. The default connection values for the Destination (3.0) database are provided below:

Instance: SMITHSMEDICAL2
Port: 55000
SQL Server Login: sa
SQL Server Password: [Contact Smiths Medical for password]
Database Name: SmithsSolisC

4. Click **Verify Data Sources**. The specified Source and Destination is evaluated and compatibility is verified. If a database is not detected, check your connection settings and try again.
5. Click **Transfer Data** to transfer the data in the source database to the destination database.
6. A message notifies you that this action permanently erases any data in the destination database. Click **OK** to confirm the action.
7. The transfer of data begins. Data transfer may take several minutes or more, depending on the amount of data in your source database. A message is displayed to confirm the successful transfer of data. Click **OK** to close this message.

Protocols and Protocol Libraries

What is a Protocol?

A Protocol is a collection of medication delivery and other pump settings. It includes Administrator settings for CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps; Biomed Toolbox settings for the CADD-Prizm® PCS II Ambulatory Infusion Pump (software revision H); a Therapy, Qualifier, and Drug combination; and other delivery parameters. Protocols in CADD™-Solis Medication Safety Software are contained in [Protocol Libraries](#).

When creating Protocols in CADD™-Solis Medication Safety Software – Administrator, some parameters (e.g., patient specific parameters) can be set as displayed and/or editable when a user sends the Protocol to a pump. When selecting a Protocol to send to a pump, the user receives the pump parameters defined in the Protocol and can make changes to any editable patient specific parameter as prescribed. After setting any patient specific parameters and providing verifications as required by the Protocol, the user can send the Protocol to the pump.

Note: CADD™-Solis Medication Safety Software – Administrator can be used to send a single Protocol to a CADD®-Solis VIP Ambulatory Infusion Pump only. To send a single Protocol to a CADD®-Solis or CADD-Prizm® PCS II (software revision H) Ambulatory Infusion Pump, the CADD™-Solis Medication Safety Software – Point of Care program must be used.

What is a Protocol Library?

A Protocol Library is a collection of [Protocols](#). Protocol Libraries (and the Protocols that they contain) are created in CADD™-Solis Medication Safety Software – Administrator. Users of

CADD™-Solis Medication Safety Software can be given permission to access selected Protocol Libraries, and permission to send a Protocol Library or a single Protocol to a pump.

Note: CADD™-Solis Medication Safety Software – Administrator can be used to send a Protocol Library to a CADD®-Solis or CADD®-Solis VIP Ambulatory Infusion Pump.

CADD™-Solis Medication Safety Software – Administrator stores Protocol Libraries in the [CADD™-Solis Medication Safety Software database](#).

What is the Database?

The database is where [Protocol Libraries](#) for CADD™-Solis Medication Safety Software are stored. To create or access Protocol Libraries and Protocols using CADD™-Solis Medication Safety Software, a [connection to the database](#) is required.

Note: The database may exist on a networked PC or server running Microsoft® SQL Server® Express (an optional component, installable with CADD™-Solis Medication Safety Software – Administrator), or on a server running Microsoft® SQL Server® 2005 or 2008. Database location and connection settings are typically established upon installing the CADD™-Solis Medication Safety Software; however, database connection settings can be changed at any time. For more information, contact the administrator responsible for the database at your facility.

To support other CADD™-Solis Medication Safety Software – Administrator or Point of Care installations that do not have access to the database via the network, the Administrator program can be used to [export a Protocol Library](#) from the database to a file. This exported file can be transferred (e.g., via CD or other removable media) to the other Administrator or Point of Care computer and then imported.

Protocol Libraries

Creating a New Protocol Library

Users with the Protocol Administrator permission can create [Protocol Libraries](#). After a Protocol Library is created, Therapies, Qualifiers, Drugs, and Protocols can be created for the library.

To ensure Protocol Library compatibility with CADD®-Solis (Version A, English) Ambulatory Infusion Pumps, do not specify a Protocol Library name that uses extended or accented characters (for example, Á, É, ö). If extended characters are used in a Protocol Library name for this pump, the Protocols will not download to the pump.

Note: A new Protocol Library also can be created based on an existing Protocol Library.

To create a new Protocol Library:

1. From the menu bar, select **File > New Library**.
2. In the New Library dialog box, type the desired New Protocol Library Name.
3. From the drop-down list, select the Pump application to which the new Protocol Library will apply. Choose one of the following choices (the pumps listed will depend on your [pump application selections](#)):
 - CADD-Prizm® PCS II Pump
 - CADD®-Solis Pump
 - CADD-Prizm® PCS II Pump and CADD®-Solis Pumps

- CADD®-Solis VIP Pump
4. Click **OK**.
 5. The new Protocol Library is added to the **Select Protocol Library** drop-down list. To make any changes to the new library, make sure it is selected.
 6. From the **Library General Settings** tab, you may:
 - a. Enter a **Library Description**.
 - b. Use the **Library Version** button to increment the library version to the next major version number. (You may wish to [set the library version](#) after you have [set up Therapies, Qualifiers and Drugs](#), [specified Protocols](#) for the Protocol Library, and validated the Protocol Library for use.)
 - c. Under Point of Care Settings, enable **Require User Login** and set the **Auto Logout** time setting for Point of Care users.

Note: To modify user accounts and set up user access to this Protocol Library, select **Settings > User Accounts > Manage User Accounts**.

Viewing a Library Summary Report

On the **Library General Settings** tab, for the selected Protocol Library, you can view a summary report containing information about the Protocol Library and all its Active Protocols.

The library summary report is called the All Active Protocols Report and includes the following information for the selected Protocol Library:

- Name
- Version
- Last modified date/time
- Number of Protocols
- Description
- A list of Therapies, Qualifiers, and Drugs used in the active Protocols

To view the All Active Protocols report:

1. On the **Library General Settings** tab, under Library Summary Report, click the **View Report** button.
2. The All Active Protocols report is displayed. If the report is a multi-page report, you may use the navigation controls in the report viewer toolbar to view other pages in the report. Additionally, the report can be printed or exported using the buttons on the toolbar. Hover over any toolbar button to view a tooltip describing its function.

Point of Care Settings

On the **Library General Settings** tab, for the selected Protocol Library, you can choose settings that apply to CADD™-Solis Medication Safety Software – Point of Care users for CADD®-Solis Ambulatory Infusion Pump Protocols.

Point of Care Settings include:

- **Enable Point of Care Options:** Check this option to enable, for Point of Care users, all editable Protocol parameters and general settings, including Drug Verification, Second

Nurse Verification, Require Comment, and weight-based settings. When this option is enabled, the Require User Login settings, described below, are also available.

- **Require User Login:** Select this option to require that Point of Care users login. When this option is selected, you can set an Auto Logout time, which will automatically log out the Point of Care user after the specified amount of time of user inactivity in minutes.

Deleting a Protocol Library

When deleting a Protocol Library, all Therapies, Qualifiers, Drugs, and Protocols contained in that Protocol Library are deleted. However, to allow you the ability to view [log reports](#) for any deleted Protocol Library, its log entries are retained in the CADD™-Solis Medication Safety Software database.

To delete a Protocol Library:

1. From the menu bar, select **File > Delete Library**.
2. In the Delete Library dialog box, select the Protocol Library you want to delete.
3. Click **OK**.

Exporting a Protocol Library

Any Protocol Library in the connected database can be exported to an encrypted data file (e.g., saved to a CD or other removable media) that may be imported by another CADD™-Solis Medication Safety Software – Administrator or Point of Care installation. This is useful in cases when another Administrator or Point of Care installation is not on the network and/or does not have access to the database, or to provide another Administrator user with an editable copy of the Protocol Library.

When exporting a Protocol Library, you can choose whether or not to also include user account information, usage logs, and pump logs. You can also set all the Protocols in the Protocol Library to be not active in the exported file (this will, after importing, require the Protocols to be edited/reviewed and set Active in order to be sent to a pump).

To export a Protocol Library:

1. From the menu bar, select **File > Export Library**.
2. In the Export Library dialog box, click to select the Protocol Libraries you want to export.
3. Set Export Options as desired:
 - **Include Users:** Include all user account information from the database.
 - **Include Usage Logs:** Include log entries associated with the Protocol Libraries.
 - **Include Pump Logs:** Include pump log information associated with the Protocol Libraries.
 - **Export Protocols as Not Active:** By default, each Protocol will retain its Active or Not Active state at the time of the export. Select "Export Protocols as Not Active" to set all Protocols in the exported Protocol Libraries as inactive. When a Protocol is set to inactive, it cannot be sent to a pump until the Protocol has been edited/reviewed and set to [Active](#) in the Administrator application.
4. Click **OK**.
5. In the Export Library To dialog box, select a location where to save the file, type a file name, and then click **Save**.

The exported Protocol Libraries are saved as database file (*.smd file) in your chosen location.

Importing a Protocol Library

Users with the Protocol Administrator permission can import Protocol Libraries from another CADD™-Solis Medication Safety Software 3.0 database or from a previously-exported database file. To import Protocol Libraries, the database or database file from which you are importing must be from the same version of the CADD™-Solis Medication Safety Software – Administrator.

Upon importing a Protocol Library, additional options allow you to import users, usage and pump logs, and set imported Protocols as inactive.

To import a Protocol Library from a database server or file:

1. From the menu bar, select **File > Import Library**. The Import Library dialog box is displayed.
2. To import from another database server, select **Import From Server** and enter the Server Name and Advanced Connection Settings (default values are provided) for the database server.
– OR –
If importing from a previously-exported database file, select **Import from File**, click **Browse** and then select the location and filename for the exported database file (*.smd file).
3. If not already logged in with a user with the System or Administrator permission, in the Verify Permission area, enter a **User ID** and **User Password** for a user with the System or Administrator permission.
4. Click **Get Library List**. The selected database server or file is read and a list of Protocol Libraries is displayed. To view a Protocol Library's description, last modified date/time, and version number, click to select it.
5. Click to place a check mark next to the Protocol Libraries you want to import.
6. Set the Import Options by clicking to place a check mark next to the desired options:
 - **Import Users:** All users in the database server or file shall be copied into the connected database. New users will be added, existing users will have their permissions updated (including all user passwords), and no users shall be deleted.
 - **Import Usage Logs:** All usage logs in the database or data file shall be copied into the connected database.
 - **Import Pump Logs:** All pump log information shall be copied into the connected database.
 - **Import Protocols as Not Active:** All Protocols imported from the database server or file shall default to inactive upon being copied into the database. When a Protocol is set inactive, it cannot be sent to a pump until the Protocol has been edited/reviewed and set to [Active](#) in the Administrator application.

Note: Import options will not be available for selection if the source database server or file does not contain the applicable data. For example, usage logs will not be available to import if the Protocol Libraries were exported with usage logs not included.

7. Click **OK** to import the selected Protocol Libraries.

Updating and Restoring a Protocol Library

Users with the Protocol Administrator permission can use the Update Library Version feature to increment the Protocol Library's version to the next major number (i.e., 3.0, 4.0, etc.), which creates a restore point that can be used later, should it be necessary to restore this version of the Protocol Library.

Note: Modifying a Protocol Library (for example, by creating new Protocols, editing a Protocol, etc.) increases the minor version number of the Protocol Library (for example, from 2.2 to 2.3). An increment of a minor version number does not create a restore point; a restore point can only be created by updating the Protocol Library version as described below.

Updating a Protocol Library Version

Updating a library version saves a restorable version of the library only; it does not send a Protocol Library or a Protocol to a pump, nor does it prevent further changes to the Protocol Library.

To update the library version:

1. Select the Protocol Library that you want to update.
2. On the **Library General Settings** tab, click **Library Version**.

In the Manage Version dialog box, on the **Update Library Version** tab, the current protocol library version is shown along with version number the library will be when it is updated. For example, a library with the version number 2.1 will change to version 3.0.

3. Click **Update**.

Note: After a Protocol Library is sent to a pump using the [Send Library](#) feature, the library's name and revision number can be viewed on the Protocol Library Summary screen on CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps.

Restoring a Protocol Library Version

Users with the Protocol Administrator permission can use the Restore Library Version feature to revert to a previously updated Protocol Library version (a major version number, such as 3.0, 4.0, etc.). Restoring a Protocol Library version will replace the current Protocol Library in use with the version you select to restore.

To restore a previous library version:

1. On the **Library General Settings** tab, click **Library Version**.
2. In the Manage Version dialog box, click the **Restore Library Version** tab.
3. From the list of previously-updated and available library versions, click to select the version you want to restore.
4. Optionally, click the checkbox next to **Restore Protocols as Not Active** if you want the Protocols in the restored Protocol Library to not be set Active upon restoration. If this option is selected, each Protocol in the restored Protocol Library will need to be reviewed, edited (if necessary), and set Active before it can be sent to a pump. If Restore Protocols as Not Active is not selected, each Protocol will retain its Active or Not Active state at the time the update was performed for that version.

5. Click **Restore**.

Therapies, Qualifiers and Drugs

Therapy, Qualifier, and Drug Setup

The **Setup Therapies, Qualifiers, and Drugs** tab is where you create and edit the Therapies, Qualifiers, and Drugs used to build Protocols for the Protocol Library and your specific pump applications. Each Therapy, Qualifier, and Drug listed contains an "In Use" column indicating whether or not it is currently specified in a Protocol.

Note: For information about the Therapies and delivery modes available for your selected pump, see the product literature supplied with the pump.

To ensure Protocol Library compatibility with CADD®-Solis (Version A, English) Ambulatory Infusion Pumps, do not specify Therapy, Qualifier, Drug, or Protocol names that use extended or accented characters (for example, Á, É, ö). Also, do not specify date, time or numeric formats other than that selected in the default Protocol Template. If extended characters or incompatible time/date/numeric formats are used in a Protocol for this pump, the Protocol will not download to the pump.

Note: For the Japanese language version of the CADD®-Solis pump and CADD™-Solis Medication Safety Software, only the Katakana and Latin-1 character sets are supported for Therapy, Qualifier, Drug Names, the Clinical Advisory Note, and Support message. The Latin-1 character set includes English characters and Western European accented characters such as: Á, É, ö. Only Protocols created using the Katakana and Latin-1 character sets will be able to be sent to a pump. If Kanji characters are used, the software will not allow the Protocol to be sent to the pump.

In this section:

- [Adding a new Therapy](#)
- [Adding a new Qualifier to a Therapy](#)
- [Adding a new Drug](#)

Adding a new Therapy

Note: Protocol Libraries for CADD®-Solis VIP Ambulatory Infusion Pumps include pre-defined Therapies corresponding to the delivery modes available on the pump. For this pump, you cannot create other Therapies; you may begin adding new Qualifiers and Drugs (see sections below).

To add a new Therapy (for CADD®-Solis and CADD-Prizm® PCS II Ambulatory Infusion Pumps only):

1. Select the Protocol Library for which you want to add a new Therapy.
2. On the **Setup Therapies, Qualifiers, and Drugs** tab, in the Therapies box, click **New**.
3. In the New Therapy dialog box, enter the new Therapy Name (e.g., IV PCA). The number of characters that can be used with Therapy names is limited by the pump display.
4. If desired, add Therapy Notes which will be viewable by the Point of Care or Administrator user.
5. Click **OK**. After you have created a Therapy, you may move on to create Qualifiers for the Therapy.

Note: You may edit a Therapy at a later time by selecting the Therapy and clicking **Edit**. The Therapy name cannot be edited if it is "in use" in a Protocol. Therapy notes can be edited at any time.

Adding a new Qualifier to a Therapy

Qualifiers are specific to a selected Therapy. To add a new Qualifier for a Therapy:

1. Make sure you have the desired Protocol Library and Therapy selected in the **Setup Therapies, Qualifiers, and Drugs** tab.
2. In the Qualifiers for Therapy box, click **New**.
3. In the New Qualifier for Therapy dialog box, enter the Qualifier Name (e.g., Adults). The number of characters that can be used with Qualifier names is limited by the pump display.
4. If desired, add Qualifier Notes which will be viewable by the Point of Care or Administrator user.
5. Click **OK**.

Note: You may edit a Qualifier at a later time by selecting the Therapy and the Qualifier, and clicking **Edit**. The Qualifier name cannot be edited once if it is "in use" in a Protocol. Qualifier notes can be edited at any time.

Adding a new Drug

Each Drug is designated by a Name/Concentration/Units/Drug ID combination. You may use a Drug name more than once only if you designate a different concentration for each listing. Each Drug added can be [assigned a Drug ID](#) which can be used for verification when administering the Drug.

Note: Drugs are specific to the Protocol Library and can be used broadly throughout it. Unlike Qualifiers, you do not need to create new Drugs for each Therapy; Drugs can be used in multiple Therapies.

To add a new Drug:

1. Make sure you have the correct Protocol Library selected in the **Setup Therapies, Qualifiers, and Drugs** tab.
2. In the Drugs box, click **New**.
3. In the New Drug dialog box, enter the Drug Name, Units, Concentration, and a unique Drug ID (not to exceed 20 characters). The number of characters that can be used with Drug names is limited by the pump display.

Note: The milligrams and micrograms units are only applicable for PCA Therapies. Therefore, Therapies that specify Drugs with milligram or microgram units will only be displayed in the list of Protocols for these Therapies.

Note: If it is specified in a Protocol (in the [Protocol Details](#) screen) to require Drug Verification, the Administrator or Point of Care application user will be required to verify the Drug ID before it can be administered to a patient. To do this, the user will need to enter the Drug ID by typing it in, or by using a barcode scanner to read the Drug barcode label (see [Printing Drug Barcode Labels](#) for more information).

WARNING: When assigning a Drug ID to a Drug using a barcode scanner or keyboard, manually verify that the correct barcode information has been entered. Failure to do so could result in undesired Drug administration and, depending on the type of Drug being administered, death or serious injury to the patient.

4. Click **OK**.
5. In the Verify New Drug dialog box, verify that the Drug information you entered is correct. Check the box next to each item after you have verified the information, and then click **OK**.

Note: After a Drug has been added, only the Drug ID can be edited. To do this, select the Drug, and then click **Edit**.

Assigning a Drug ID

An alpha-numeric Drug ID can be assigned when adding a new Drug or by editing an existing Drug in the [Setup Therapies, Qualifiers, and Drugs](#) tab. The Drug ID is used to uniquely identify a specific Drug and Concentration combination.

When the Require Drug Verification setting for a Protocol is turned on for a Protocol in the [Protocol Details](#) screen, the Administrator or Point of Care application user will be required to verify the Drug ID. To do this, the Drug ID can be entered manually via keyboard or a [drug barcode label](#) can be scanned using a barcode scanner.

WARNING: When scanning a barcode to assign a Drug ID, always visually verify that the correct barcode information was entered into the program after scanning. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

Note: To scan a Drug ID barcode, a barcode scanner configured as a Human Interface Device (HID) and compatible with the Code 128 barcode must be connected to the PC. For scanner setup, see your barcode scanner manufacturer's instructions.

Other considerations for barcode scanning with CADD™-Solis Medication Safety Software:

- One barcode may be entered at a time; batch entries are not allowed.
- 1D barcodes are printed; however, 2D scanners may be used to read the barcodes.
- If an error is encountered during scanning, check the Caps Lock position of your keyboard.

Printing Drug Barcode Labels

Barcode labels, at least one inch high by three inches wide, can be printed for Drugs defined in any Protocol Library in the CADD™-Solis Medication Safety Software database. Drug barcode labels include a 1D barcode (in Code 128 format) representing the Drug ID, text for the Drug ID, Drug Name, and Drug Concentration with Units.

WARNING: When applying printed barcode labels to identify Drugs, ensure that your facility follows a clearly-defined process. Failure to do so could result in undesired Drug administration, and depending on the type of Drug, death or serious injury to the patient.

Note: For printer installation and configuration, refer to the printer manufacturer's instructions.

To print a Drug barcode label:

1. When logged in and with the appropriate Protocol Library selected, click the **Setup Therapies, Qualifiers, and Drugs** tab, select the desired Drug Name, and then click **Print Barcode**.

– OR –

From the menu bar, select **Print Barcode > Print Barcode**, click the desired Drug Name associated with the appropriate Protocol Library, and then click **Print**.

2. In the Print Barcode dialog box, a preview of the barcode label is displayed. Confirm that the appropriate Drug ID, Drug Name, and Drug Concentration are shown.
3. Click **Print**.
4. In the Print dialog box your installed printers are listed. Click to select your desired printer and printing options, and then click **Print**.

WARNING: When printing barcode labels, manually verify that the labels correctly match the Drug. Failure to do so could result in undesired Drug administration, and depending on the type of Drug, death or serious injury to the patient.

Protocols

Adding or Editing a Protocol

After [creating a new Protocol Library](#) and adding [Therapies, Qualifiers, and Drugs](#) to it, you may add or edit the [Protocols](#) contained in the Protocol Library. When you add or edit a Protocol you select the Therapy, Qualifier, and Drug for the Protocol, and then specify its delivery parameters, alarm settings, and other pump settings. Additionally, when setting up a Protocol, you can set some Protocol parameters as read-only or modifiable in the Administrator or Point of Care application when the Protocol is sent to a pump.

Note: For information about the Therapies, delivery modes, and settings available for your selected pump, see the product literature provided with the pump.

To ensure Protocol Library compatibility with CADD®-Solis (Version A, English) Ambulatory Infusion Pumps, do not specify Therapy, Qualifier, Drug, or Protocol names that use extended or accented characters (for example, Á, É, ö). Also, do not specify date, time, or numeric formats other than that selected in the default Protocol Template. If extended characters or incompatible time/date/numeric formats are used in a Protocol for this pump, the Protocol will not download to the pump.

Note: For the Japanese language version of the CADD®-Solis pump and CADD™-Solis Medication Safety Software, only the Katakana and Latin-1 character sets are supported for Therapy, Qualifier, Drug Names, the Clinical Advisory Note, and Support message. The Latin-1 character set includes English characters and Western European accented characters such as: Á, É, ö. Only Protocols created using the Katakana and Latin-1 character sets will be able to be sent to a pump. If Kanji characters are used, the software will not allow the Protocol to be sent to the pump.

To edit Protocol details:

1. All Protocol parameters are viewed and edited by clicking **New Protocol** or **Edit Protocol** on the **Specify Protocols** tab.
2. If creating a new Protocol, in the New Protocol window:
 - a. Select a **Therapy, Qualifier, and Drug**.

- b. Choose whether or not to use the associated [Protocol Template](#) as a basis for the new Protocol. To use the template, click the **Use Template** check box.
3. Add or edit **Protocol Notes** as desired. These notes will inform the user when they select the Protocol from the Point of Care or Administrator applications.
4. Click **Next**.
5. In the Protocol Details window, adjust Protocol and pump settings on each tab as necessary:
 - The **Delivery 1**, **Delivery 2**, and **Delivery 3** (used for some Protocols) tabs contain programmable delivery parameters for the Protocol and specific to its delivery mode—including hard and soft maximum, hard and soft minimum, and other settings. To provide further information, some parameter headings feature tooltip text when you hover the mouse cursor over them; for more information, see the product literature provided with the pump.

Note: The checkboxes under each Patient Specific Parameter and general settings apply to how the Protocol functions in the Point of Care program and when sending a Protocol from Administrator; they do not apply to Protocols stored in the pump within an on-board Protocol Library. The checkboxes are available only if the [Enable Point of Care Settings](#) option on the Library General Settings tab is selected. The "Requires Verification" settings allow you to select whether or not to require Drug ID or Second Nurse Verification. If this is a Weight-Based Protocol, see [Weight-Based Protocols](#).
 - The **Alarms** tab contains pump alarm, air detector, sensor, reservoir low/empty alarm settings, and preventative maintenance settings for the pump.
 - The **Security** tab contains security codes and security level settings for the pump.

Note: For CADD-Prizm® PCS II Ambulatory Infusion Pumps, determining the Initial Lock Level allows you to select the Lock Level you want the pump to be in after the Protocol is sent to the pump. When the pump is started in LLO, the Lock Level will change to the Auto Lock setting. The Auto Lock setting is also determined on this tab.
 - The **Display/Sound** tab contains pump settings related to backlight intensity; alarm volume and sound settings; date, time and numeric format; and the color theme, support note and/or clinical advisory message visible in the pump software (for CADD®-Solis pumps that support these features).

Note: When setting date and time format for pumps other than the CADD®-Solis (Revision A) Ambulatory Infusion pump (see compatibility note above), it is recommended to set the date and time format to match that of the PC to avoid confusion when comparing pump and PC data.
 - For CADD-Prizm® PCS II Ambulatory Infusion Pumps only, the **Reports** tab contains settings related to the custom reports in the pump and new patient markers.

Note: For detailed instructions and information about programming the CADD®-Solis, CADD®-Solis VIP, or the CADD-Prizm® PCS II (software revision H) Ambulatory Infusion Pump, refer to the product literature supplied with the pump.
6. For the CADD®-Solis VIP Ambulatory Infusion Pump: For a visual representation of the delivery profile (the amount of Drug infused over a period of time) based on your Protocol settings, click the graph button to the left of the **Save** button.

7. If you want to make the Protocol *active* so that it can be sent to a pump, click to check the **Active - Protocol Available to Send to Pump** box.

WARNING: It is strongly recommended that another user verify each new or edited Protocol before it is made active and available to send to a pump. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

8. After editing Protocol details, click **Save**.

Note: It is possible for multiple Administrator users to be logged into the database at the same time. If two users attempt to edit the same Protocol at the same time, a message will appear to the second user who attempts to edit the Protocol. The message will inform the user that the Protocol is currently being edited, and it will ask, "Do you want to over-ride?" Clicking **Yes** to this message means that any changes the first user makes will not be saved. The first user will receive notification of this upon any attempt to save changes. After receiving this notification, all changes the first user has made will be lost. Clicking **No** to the "Do you want to over-ride?" message sends the second user back to the **Specify Protocols** tab, allowing the first user to finish editing.

9. On the **Specify Protocols** tab, the new or edited Protocol is listed and shows whether or not it is set Active. To view or print a summary of any Protocol, click to select the Protocol, and then click **Print Protocol**.

Weight-Based Protocols

A [Protocol](#) can be created that is Weight-Based—that calculates patient-specific Protocol values based on units/kg/hr or units/kg input. A Weight-Based Protocol can be programmed and sent to a pump only from the Point of Care application. To turn the Weight-Based feature on for a Therapy that supports it, select the Weight-Based option on the **Delivery 1** tab of [Protocol Details](#) screen.

WARNING: When using weight-based delivery parameters, ensure that all weights are entered in kilograms. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

WARNING: When using a weight-based Protocol, the Continuous Rate is programmed using units/kg/hr input, and the Demand or PCA Dose amount and Delivery Limit are programmed using units/kg input. The pump LCD screen displays the Continuous Rate in Units (milligram, microgram, milliliter) per hour, and the Demand or PCA Dose, and Delivery limit are displayed in units (milligram, microgram, milliliter); therefore, any further adjustment of doses on the pump will be in units/hr or units.

Activating Protocols

Note: Before activating any Protocol, ensure that you have reviewed all settings specified in the Protocol, per your facility's processes.

If a Protocol is not ready for use, do not place a check in the **Active - Protocol Available to Send to Pump** box on the [Protocol Details](#) screen when editing the Protocol; leaving this unchecked keeps the Protocol inactive. An inactive Protocol is saved for later edits or reviews, but it cannot be sent to a pump. No Protocol can be viewed by a Point of Care user or sent to a pump until the **Active - Protocol Available to Send to Pump** box has been checked on the Protocol Details screen.

When you log out of Administrator, you are notified of any Protocol Library that contains inactive Protocols. You may verify the "Active" status of any Protocol for a selected Protocol Library on the **Specify Protocols** tab.

Sorting Protocols

For CADD-Prizm® PCS II and CADD®-Solis Pump Protocol Libraries, you can specify how the list of Protocols is sorted when displayed in Administrator, Point of Care, and in the pump's display (CADD®-Solis Pump, Rev. C only) after the library is sent to the pump. By default, the list of Protocols is presented in character, numeric, and then alphabetical order by Therapy, then Qualifier, and then Drug; however, you can specify a custom sort order.

To set the sorting of Protocols:

1. Select the Protocol Library from the **Select Protocol Library** drop-down list.
2. Select the **Specify Protocols** tab.
3. Click **Sort Protocols**.
4. In the Protocol Sort Order dialog box, select the sorting method **Alphabetical** or **Customized Order**.
5. When **Customized Order** is selected, the Customized Sorting for Protocols controls are enabled to allow you to set the sorting order for Therapies, Qualifiers, and Drugs. To move the position of any Therapy, Qualifier, and Drug name in its list, click to select the name, and then click the up or down arrow button. Alternatively, you may click and drag a name to change its position in the list.
6. After making your desired sorting changes, click **OK**.

Managing Protocol Templates

Protocol Templates contain initial settings that can be used when creating a new Protocol for a specific delivery mode (e.g., PCA, Continuous, etc.) in the selected Protocol Library. Using a Template when creating a Protocol is optional; however, when a Protocol Template is used, it provides a common starting point when creating new Protocols.

Protocol Templates are specific to the Protocol Library and depend on your [selected pump applications](#). Although Protocol Templates contain default initial settings, a user with the Administrator permission can edit any of the Protocol Templates for the selected Protocol Library. The templates may also be reset to their default settings.

Note: Modifications to Protocol Templates affect the initial settings when creating new Protocols only. Changing a template does not modify any Protocols you have previously created.

To modify a Protocol Template:

1. Select the desired Protocol Library from the Select Protocol Library drop down list.
2. On the **Specify Protocols** tab, click the **Manage Templates** button.
3. In the Manage Templates dialog box, click to select the template you want to edit. The list of templates varies based on the pump applications for the selected Protocol Library.
4. Click **Edit Template**.

5. In the Edit Template window you can use the tabs to modify therapy and pump parameters for the template. The tabs correspond to the same settings that would be presented when creating or editing a Protocol:
 - The **Delivery 1**, **Delivery 2**, and **Delivery 3** (used with some Protocols) tabs contain programmable delivery parameters for the Protocol. When editing a Protocol Template, parameters directly related to fluid delivery cannot be edited; however, you can edit settings for Drug Verification, Second Nurse Verification, Delivery Limit Methods, and Titration where supported by the Therapy and delivery mode.
 - The **Alarms** tab contains pump alarm, air detector, sensor, reservoir low/empty alarm settings, and preventative maintenance settings for the pump.
 - The **Security** tab contains security codes and security level settings for the pump.

NOTE: For CADD-Prizm® PCS II Ambulatory Infusion Pumps, determining the Initial Lock Level allows you to select the Lock Level you want the pump to be in after the Protocol is sent to the pump. When the pump is started in LL0, the Lock Level will change to the Auto Lock setting. The Auto Lock setting is also determined on this tab.
 - The **Display/Sound** tab contains pump settings related to backlight intensity; alarm volume and sound settings; date, time and numeric format; and the color theme, support note and/or clinical advisory message visible in the pump software (for CADD®-Solis pumps that support these features).
 - For CADD-Prizm® PCS II Ambulatory Infusion Pumps only, the **Reports** tab contains settings related to the custom reports in the pump and new patient markers.
6. After editing the Protocol Template, click **Save**. To confirm the changes to the template, click **OK** at the confirmation message.
7. Click **Close** to close the Manage Templates dialog box.

The edited Protocol Template is now in effect. When [creating a new Protocol](#) and selecting **Use Template** in the Protocol Details screen, the associated Protocol Template's values will be initially selected.

WARNING: It is strongly recommended that another user verify each new or edited Protocol before it is made active and available to send to a pump. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

To reset a Protocol Template to its default settings:

1. Select the desired Protocol Library from the Select Protocol Library drop down list.
2. On the **Specify Protocols** tab, click the **Manage Templates** button.
3. In the Manage Templates dialog box, click to select the template you want to reset.
4. Click **Reset to Default**. To proceed with resetting the template, click **Yes** at the confirmation message.
5. Click **Close** to close the Manage Templates dialog box.

The reset Protocol Template is now in effect. When [creating a new Protocol](#) and selecting **Use Template** in the Protocol Details screen, the associated Protocol Template's default values will be initially selected.

WARNING: It is strongly recommended that another user verify each new or edited Protocol before it is made active and available to send to a pump. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

Viewing a Protocol Details Report

You can view, save, and print a Protocol Details Report for any Protocol. The Protocol Details Report contains the date when the Protocol was last modified; the library to which the Protocol belongs; its associated Therapy, Qualifier, and Drug; and the delivery, alarm, security, display, and sound settings specified in the Protocol.

To view and print a Protocol Details Report:

1. Select the Protocol Library from the **Select Protocol Library** drop-down box.
2. Select the **Specify Protocols** tab.
3. Select the Protocol for which you want the report.
4. Click **Print Protocol**.
5. The Protocol Details Report displays. To print the report, click the printer toolbar button. To save the report as a Microsoft® Excel® file or PDF file, click the export (floppy disc icon) toolbar button. If the report extends beyond one page, use the page forward and back toolbar buttons to view the next or previous page.

Printing an Rx Form

The Rx Form is a printable doctor's order form specific to a Protocol that allows the prescriber to document and sign orders for specific Drug and pump parameters.

Note: The Rx Form is not editable. It is intended to be printed and then completed manually.

Using the Rx Form a doctor can review the Therapy and Qualifier notes, provide the specifics for the prescription, view the available ranges in the Protocol, and then date and sign the order. Using the completed order form, a pharmacist or clinician can then send the Protocol to the pump using patient-specific parameters per the doctor's prescribed order.

To print an Rx Form for a Protocol:

1. Select the Protocol Library from the **Select Protocol Library** drop-down list.
2. Select the **Specify Protocols** tab.
3. From the list of Protocols in the Protocol Library, click to select the Protocol for which you want the Rx Form.
Note: The Rx Form is only printable for Protocols that are active (for information about setting a Protocol active, see [Editing Protocol Details](#)).
4. Click **Rx Form**. The Prescription Form for the selected Protocol is displayed.
5. To print the form, click the printer toolbar button. You can also export the form as a Microsoft® Excel® file or a PDF file by clicking the export (floppy disc icon) toolbar button.
6. To close the form, click the "X" in the upper right-hand corner of the form window.

Pump Communications

CADD-Prizm® PCS II Pump

Get Pump ID

Note: For the CADD-Prizm® PCS II Ambulatory Infusion Pump (software revision H) only. You can retrieve the ID previously sent to the connected pump. Retrieving a Pump ID can be done in the Administrator application without logging into a Protocol Library.

To get the Pump ID:

1. Connect the pump to the computer (see [Connecting to a CADD-Prizm® PCS II](#)).
2. From the menu bar, select **Pump Communications > CADD-Prizm® PCS II Pump > Get Pump ID**.
3. In the Get Pump ID dialog box, click **Get From Pump**.
4. The ID is retrieved from the connected pump and displayed in the Pump ID box.

Send Pump ID

Note: For the CADD-Prizm® PCS II Ambulatory Infusion Pump (software revision H) only. The Pump ID is a facility-defined identifier in addition to the pump's serial number. It may be up to 6 alphanumeric characters (letters or numbers).

To send a Pump ID:

1. Connect the pump to the computer (see [Connecting to a CADD-Prizm® PCS II](#)).
2. From the menu bar, select **Pump Communications > CADD-Prizm® PCS II Pump > Send Pump ID**.
3. In the Send Pump ID dialog box, enter the new pump ID, and then click **Send To Pump**.

CADD®-Solis Pumps

Send Library

Note: For CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps only.

Users with the Send Library permission and permission to at least one Protocol Library with an active non-weight based protocol may send a Protocol Library to a CADD®-Solis or CADD®-Solis VIP Ambulatory Infusion Pump.

Note: If the administrator did not provide the user with Library permissions or did not make any Protocols [active](#) in the library, the user will not be able to select or send a Protocol Library.

To send a Protocol Library to a pump:

1. [Connect the pump to the computer](#) and ensure that the pump is powered on and stopped (for information about using the pump, see the Operator's Manual for the pump). When sending a library to a CADD®-Solis pump, the pump must be on the home screen.
2. In CADD™-Solis Medication Safety Software – Administrator, select **Pump Communications > CADD®-Solis Pumps > Send Library**.
3. If not already logged in with a user account having the Send Library permission, you are prompted to enter a User ID and Password to proceed.

4. In the Send Library dialog box, select the Protocol Library that you want to send to the pump.

Note: The Send Library dialog box displays only Protocol Libraries that contain active, non-weight based Protocols that the logged-in user has permissions to use.

5. Click **Send to Pump**. (If you want to view and print a Send Library Report containing details about the Protocols contained in the selected Protocol Library, click **Print**.)

The Send Library dialog box displays status and a message indicating when the Protocol Library has been successfully downloaded to the pump. If the Protocol Library could not be downloaded, additional information is provided.

6. Click the **Close** button when finished.

WARNING: Always carefully review the program on the pump after it has been programmed to verify that the pump is programmed correctly. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

Send Protocol

Note: For the CADD®-Solis VIP Ambulatory Infusion Pump only. To send a Protocol to a CADD®-Solis or CADD-Prizm® PCS II Ambulatory Infusion Pump, the CADD®-Solis Medication Safety Software – Point of Care application must be used.

Users with the Send Protocol permission and permission to at least one Protocol Library with an active Protocol may send a Protocol to a CADD®-Solis VIP Ambulatory Infusion Pump.

To send a Protocol to a pump:

1. [Connect the pump to the computer](#) and ensure that the pump is powered on and stopped (for information about using the pump, see the Operator's Manual for the pump). When sending a Protocol to a CADD®-Solis VIP pump, the pump must be on the home screen.
2. In CADD™-Solis Medication Safety Software – Administrator, select **Pump Communications > CADD®-Solis Pumps > Send Protocol**.
3. If not already logged in with a user account having the Send Protocol permission, you are prompted to enter a User ID and Password to proceed.
4. In the Select Library dialog box, click to select the Protocol Library that contains the Protocol you want to send, and then click **Continue**.
5. On the Select Protocol screen, select your Therapy, Qualifier, and Drug. After making your selections, click **Continue**.

If the Protocol is defined as weight-based, a [Weight-Based Protocol](#) dialog box is displayed, otherwise you are brought directly to the Edit/Review screen.

6. On the Edit/Review screen, any patient-specific parameters defined in the Protocol as viewable and editable are displayed. When editable patient-specific parameters are available, fields show editable values. You can type to change any editable value and use the TAB key to move to the next editable parameter. You can also use the up or down buttons to the right of any editable parameter to increase or decrease the desired value. Additionally, you can use the mouse to click and drag the black sliding arrow to select the desired value.

Note: If you adjust a parameter outside of the soft limits defined in the Protocol, an amber indication is displayed for that parameter. If the Protocol requires comments to be added

when entering a value outside of the soft limit, then the Enter a Comment dialog box will be presented.

7. For the CADD®-Solis VIP Ambulatory Infusion Pump: For a visual representation of the delivery profile (the amount of Drug infused over a period of time) based on your Protocol settings, click the graph button to the left of the **Save** button.
8. After editing patient specific parameters, click **Send to Pump**.
9. If Second Nurse Verification and/or Drug Verification are required for the Protocol, you are prompted to provide such verification. For Second Nurse Verification, another user with the Send Protocol permission must enter their User ID and Password. For Drug Verification, the Drug ID corresponding to the Drug to be administered must be entered (via keyboard or barcode scanner).

WARNING: When scanning a barcode to read a Drug ID, always visually verify that the correct barcode information was entered into the program after scanning. Failure to do so could result in undesired programming of the pump and, depending on the type of drug being administered, death or serious injury to the patient.

10. In the Send to Pump step, a message about pump connectivity status is displayed. Verify that a pump is connected. All settings in the connected pump will be overwritten. Click **Send** to continue or **Close** to cancel.
11. After the Protocol is sent to the pump, confirm on the pump that it has received the correct Protocol.

WARNING: Always carefully review the program on the pump after it has been programmed to verify that the pump has been programmed correctly. Failure to do so could result in undesired programming of the pump and, depending on the type of Drug being administered, death or serious injury to the patient.

Get History

Note: For CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps only. To get the event log from a CADD-Prizm® PCS II pump, the Point of Care application must be used.

CADD™-Solis Medication Safety Software – Administrator allows users with the Administrator or System permission to download history and view the event log from a CADD®-Solis or CADD®-Solis VIP Ambulatory Infusion Pump. When history is obtained from the pump, it is stored in the CADD™-Solis Medication Safety Software database. Upon getting history, Pump Reports can be viewed, printed, and exported.

To get history:

1. [Connect the pump to the computer](#) and ensure that the pump is powered on and stopped (for information about using the pump, see the Operator's Manual for the pump).
2. From the menu bar, select **Pump Communications > CADD®-Solis Pump > Get History**.
3. In the Reports window, click to select the appropriate pump type: **CADD®-Solis Pump** or **CADD®-Solis VIP Pump**.
4. Click **Get Current Data from Pump**.
5. Assign an optional Patient ID to associate all new events that have occurred on the pump since the last new patient was started, or select **No Patient ID** to associate the pump

data with the pump serial number. Note that some [pump reports](#) will require a Patient ID to be assigned.

Note: Even when associating events with a Patient ID, all events also will be associated with the pump serial number for future report viewing.

6. Click **Get Events**. A "History Data Successfully Received from Pump" message is displayed if the data transfer was successful. Click **OK** on this message.

Note: If a message displays indicating that the pump is disconnected or communications with the pump failed, click **OK**, check the [USB cable connections](#), and then try again.

7. For a description of the available reports and how to view, print, and export them, see [Pump Reports](#).

Reports

Log Reports

Log Reports are CADD™-Solis Medication Safety Software application reports from the database.

Note: Refer to [Pump Reports](#) or predefined reports available for viewing and printing from the event history downloaded from the pump.

To view Log Reports:

1. On the menu bar, select **Log Reports > View Log Reports**.
2. Use the drop-down menus in the Log Reports window to select the log report you would like to generate:
 - **Administrator Usage Log:** This report documents various Administrator usage events, their date/times, and associated users.
 - **Continuous Quality Indicators:** This report documents incidences such as selecting values outside of the limits or failed Drug ID verification.
 - **Libraries Sent to Pump:** This report documents Protocol Libraries that were sent to CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps. The report contains User ID, date/time, pump serial number, library name and revision, and the date the library was last modified.
 - **Point of Care Usage:** This report documents various Point of Care application usage events, their date/times, and associated users.
 - **Protocols Changed by Administrator:** This report documents all changes to all Protocols made by the Administrator users.
 - **Protocols Sent to Pump:** This report details the Protocols that were sent to pumps, including date/time, pump serial number, user ID sending the Protocol, and the Protocol's Therapy, Qualifier, and Drug name. This report is applicable to the CADD®-Solis VIP pump only.
 - **Pump Utilization:** This report contains pump usage data, including pump serial number, libraries and protocols sent, pump history retrieval, pump ID getting and sending events, and the associated ID of the user invoking the event.
3. For the selected report type, make filtering selections using drop-down lists. The available filtering fields will vary based upon the selected report.
4. Click **Show Report**.

Note: If the "Log reports entries found" displays a high number of entries, consider refining your search.

Note: If the Administrator program is configured for more than one pump application, it may be necessary to select the Pump from the drop-down menu for some report types.

The CADD™-Solis Medication Safety Software – Administrator program is required to view usage logs. Therefore, for a computer that is not connected to the network, but uses a local database, it is required that CADD™-Solis Medication Safety Software – Administrator be installed on that computer to view usage logs.

From the View Log Reports window you can print the report using the printer icon on the toolbar or you can export the report by clicking the export (floppy disc icon) button on the toolbar. Reports can be exported as Microsoft® Excel® files or PDF files.

Pump Reports

CADD™-Solis Medication Safety Software – Administrator provides a number of pump reports for the CADD®-Solis and CADD®-Solis VIP Ambulatory Infusion Pumps. Before you can view these reports you must [get the event history](#) from a pump.

To view pump reports:

1. [Get history for the pump.](#)
2. For the selected pump, click **View Reports** in the Reports window.
3. Click to select the desired report type.
4. Enter your filtering choices for the report (the filters vary based on the report), and then click **Show Report** or **Show Graph** (where applicable), to display the report or graph.
5. From the report window you can print the report using the printer toolbar button or you can export the report from the export (floppy disc icon) toolbar button. The report can be exported as a Microsoft® Excel® file or a PDF file.

Note: When exporting reports that contain graphical information, using the PDF format may provide a better result. The exported Excel file will contain all of the exported data; however, it may require manual formatting to display the graphs properly.

Reports for CADD®-Solis Ambulatory Infusion Pumps:

- **Given and PCA Dose:** This shows the cumulative total of given medication, and PCA doses given and attempted for the time period displayed. This report must be filtered using a Patient ID and Protocol.
- **Delivery History and Pie Chart:** This report displays the portion of therapy delivered by the Continuous Rate, PCA Doses, and Clinician Bolus for the time period displayed. This report must be filtered using a Patient ID and Protocol.
- **Delivery Log:** This report provides a log of the events related to fluid delivery. Each event is stamped with the time and date. This report must be filtered using a Patient ID and Protocol.
- **PCA and Intermittent Bolus Graph:** This report displays the number of Intermittent Bolus Doses given and the number of PCA Doses given and attempted over the selected time span. This report must be filtered using a Patient ID and Protocol.
- **Intermittent Bolus Graph:** This report displays the number of Intermittent Bolus Doses given over the selected time span. This report must be filtered using a Patient ID and Protocol.

- **Continuous Quality Indicators:** This is a collection of reports on alarms, faults, and other indicators that facilitate troubleshooting and analysis of Therapy and pump usage. This report must be filtered using a date range and Protocol.
- **Event Log:** This report displays the following types of events: hourly given totals, dose delivery, alarms and error codes, power source changes, cassette changes, Protocol Library changes, changes to pump programming, and changes to pump settings. This report is filtered using a pump Serial Number or a Patient ID.

Reports for CADD®-Solis VIP Ambulatory Infusion Pumps:

- **Given and PCA Dose:** For PCA delivery mode only, this reports the cumulative total of given medication, and PCA doses given and attempted for the time period displayed. This report is filtered using a Patient ID and Protocol.
- **Given Counters:** For all delivery modes except PCA, this reports the cumulative total of given medication. This report must be filtered using a Patient ID and Protocol.
- **Delivery History and Pie Chart:** This report displays delivery information about portions specific to the selected Therapy. This report must be filtered using a Patient ID and Protocol.
- **Delivery Log:** This report provides a log of the events related to fluid delivery. Each event is stamped with the time and date. This report must be filtered using a Patient ID and Protocol.
- **Continuous Quality Indicators:** This is a collection of reports on alarms, faults, and other indicators that facilitate troubleshooting and analysis of Therapy and pump usage. This report is filtered by date range and Protocol.
- **Event Log:** This report displays the following types of events: hourly given totals, dose delivery, alarms and error codes, power source changes, cassette changes, Protocol Library changes, changes to pump programming, and changes to pump settings. This report is filtered by a Patient ID or Pump Serial Number.

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2018-05
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