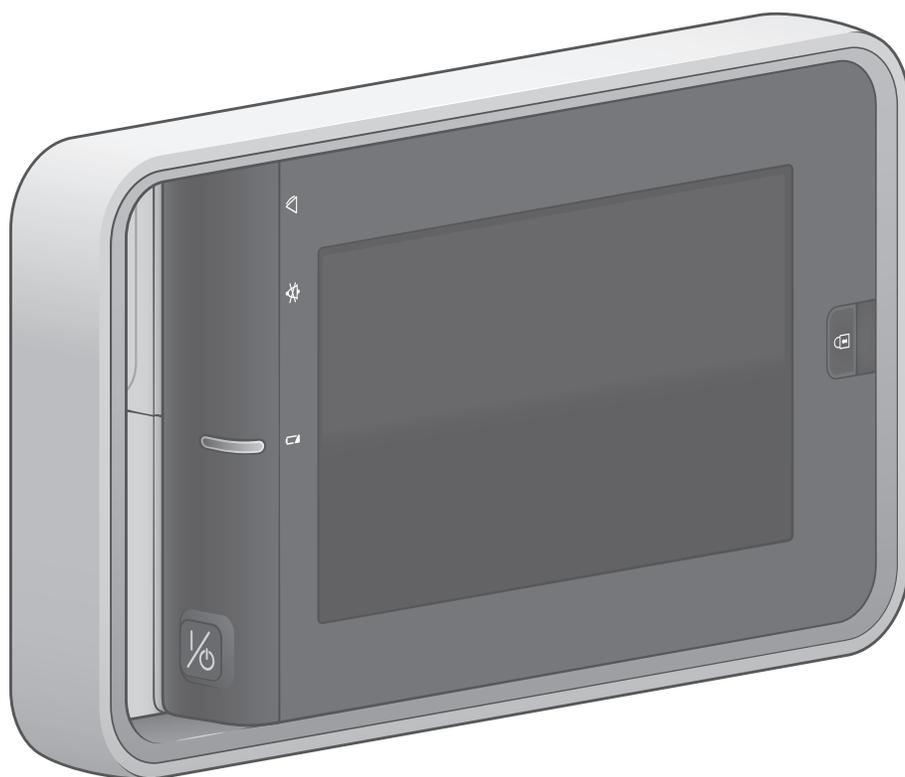




# CARESCAPE ONE

## Clinical Reference Guide

Software Version 3.0



**Notice**

The materials contained in this document are intended for educational purposes only. This document does not establish specifications, operating procedures or maintenance methods for any of the products referenced. Always refer to the official written materials (labeling) provided with the product for specifications, operating procedures and maintenance requirements.

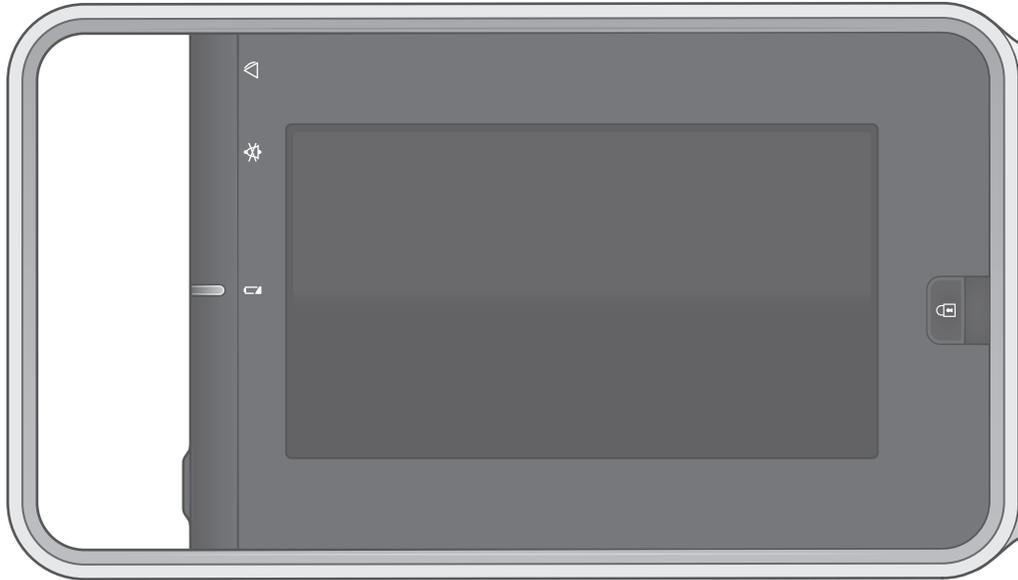
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# CARESCAPE ONE

## Overview



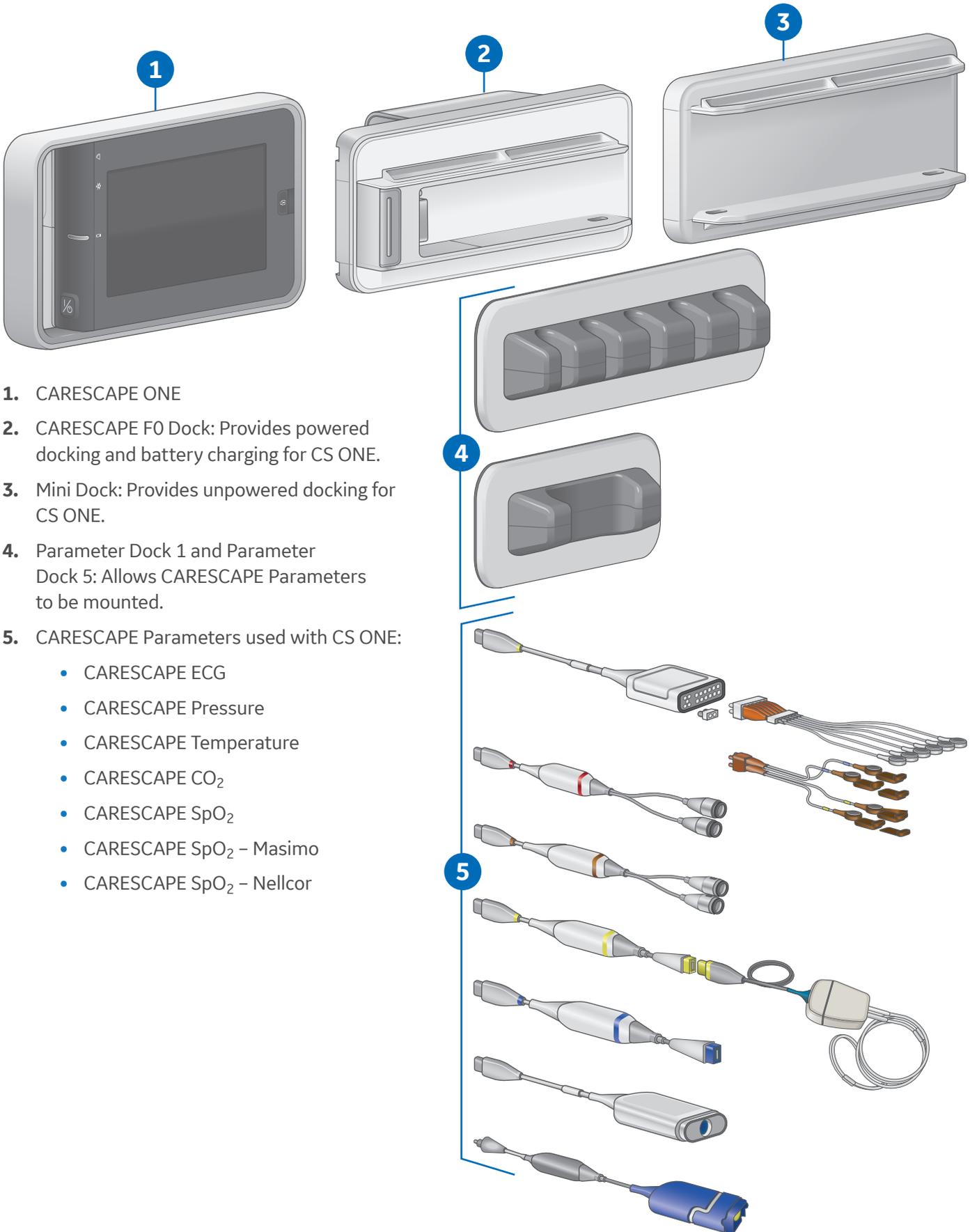
CARESCAPE ONE • Front View

The CARESCAPE ONE (CS ONE) can be used as an accessory to the B850/B650/B450 monitor with version 3.1 software, or as a standalone monitor. As a standalone monitor, the CS ONE provides ECG, ST segment, arrhythmia detection, impedance respiration, SpO<sub>2</sub>, non-invasive blood pressure, invasive pressure, temperature, and CO<sub>2</sub> airway gas parameter acquisition and monitoring.

The CS ONE includes an integrated display, touchscreen, alarm light, user input buttons, and an audio subsystem. Realtime physiological parameter measurements and waveforms are displayed on the integrated display. Visual alarms are conveyed using both the integrated display and alarm light. Audible alarms are conveyed using the integrated audio subsystem. User input for configuration control and interaction is provided via the touchscreen. In addition, both a power button and touchscreen lock button are provided.

# CARESCAPE ONE System Components

Your system may not include all these components. Consult your local representative for the available components.



1. CARESCAPE ONE
2. CARESCAPE F0 Dock: Provides powered docking and battery charging for CS ONE.
3. Mini Dock: Provides unpowered docking for CS ONE.
4. Parameter Dock 1 and Parameter Dock 5: Allows CARESCAPE Parameters to be mounted.
5. CARESCAPE Parameters used with CS ONE:
  - CARESCAPE ECG
  - CARESCAPE Pressure
  - CARESCAPE Temperature
  - CARESCAPE CO<sub>2</sub>
  - CARESCAPE SpO<sub>2</sub>
  - CARESCAPE SpO<sub>2</sub> – Masimo
  - CARESCAPE SpO<sub>2</sub> – Nellcor

# CARESCAPE ONE Front, Back, and Side Views

## Front and Back Views

1. Alarm light area (blue, yellow, or red).
2. Audio alarm paused/off indicator (blue).
3. Battery status indicator (yellow or green).
4. Power on/standby button.



**On/standby (yellow):** The yellow on/standby key should be lit when one of the following occurs:

- The device is connected to an external power source and the device is turned off
- The device is booting up or is in standby

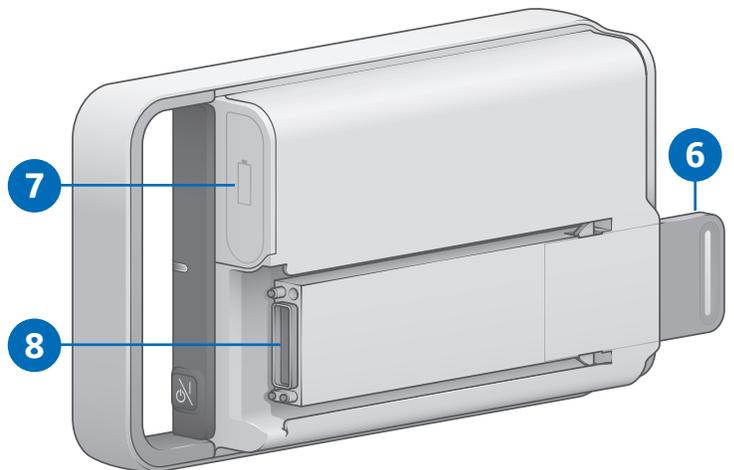
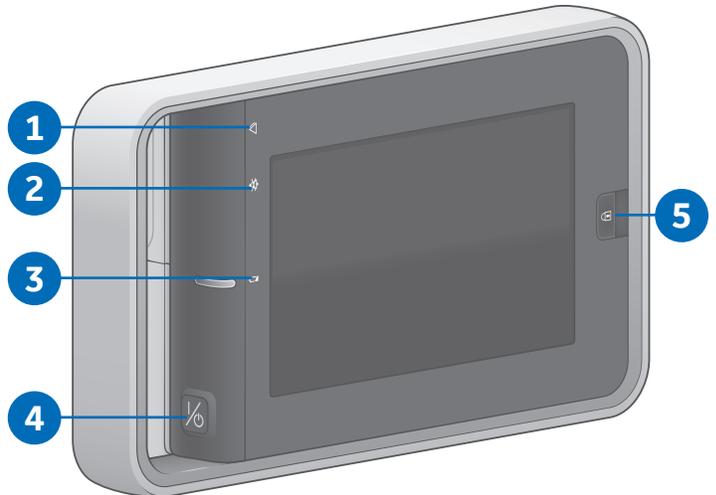


**On/standby (green):** The green on/standby key indicates the device is ready for operation.



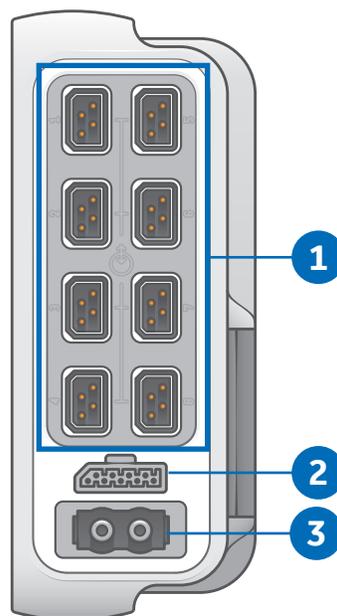
**On/standby (unlit):** The unlit on/standby key indicates there is no power applied to the device.

5. Screen lock/unlock button.
6. Pull tab for removing the acquisition platform from the docking mount.
7. Battery door.
8. Docking interface connector to the CARESCAPE Dock F0 or Mini Dock.



## Side View

1. CARESCAPE Parameter connectors.
2. Analog out / Defibrillator synchronization connector. Connect IEC 60601-1 compliant medical devices to this port only.
3. NIBP hose connector.

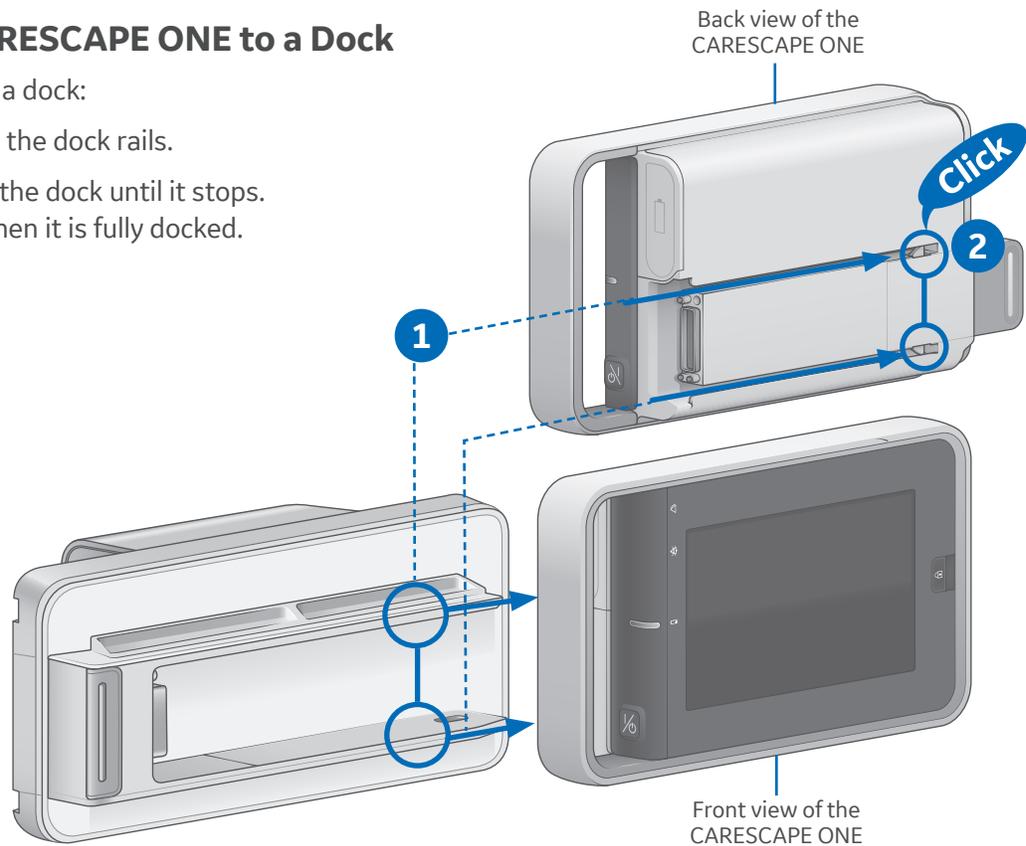


# Docking

## Connecting the CARESCAPE ONE to a Dock

To connect the CS ONE to a dock:

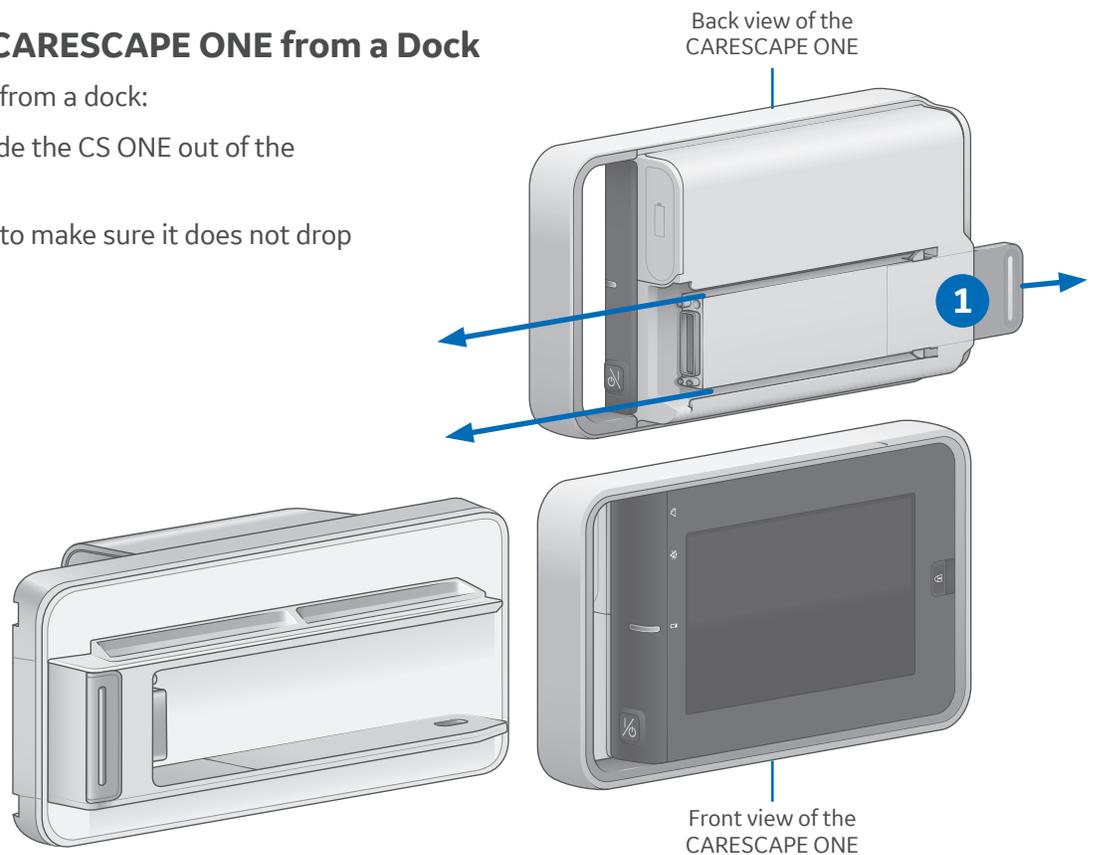
1. Align the CS ONE with the dock rails.
2. Push the CS ONE into the dock until it stops. You will hear a click when it is fully docked.



## Disconnecting the CARESCAPE ONE from a Dock

To disconnect the CS ONE from a dock:

1. Pull the tab out and slide the CS ONE out of the dock rails.
2. Hold onto the CS ONE to make sure it does not drop when it comes out.



# Turning the CARESCAPE ONE On/Off

## Turning On the CARESCAPE ONE

CS ONE can operate via battery power using its own battery, or via DC power when connected to a powered docking station.

1. Ensure all cables are properly connected.
2. Press the **on/standby** button on the handle side of the CS ONE. The welcome screen will appear.

## Turning Off the CARESCAPE ONE

1. Ensure that the patient has been discharged/the case has ended.
2. Press the **on/standby** button for approximately 1 second.

The **Powering Down** window appears to confirm you want to shut down the CS ONE.

3. Press the **on/standby** button again within 10 seconds to shut down the CS ONE.

If you do not press the on/standby button again within 10 seconds, the CS ONE remains on and the **Powering Down** window is removed from the display.



# Inserting and Removing a Battery

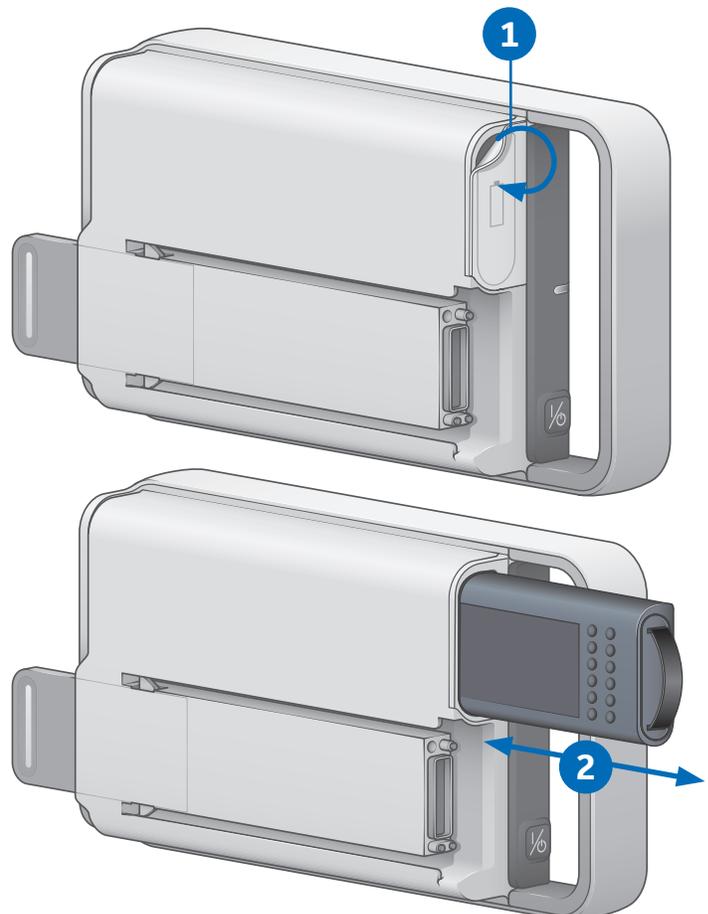
**Caution:** To prevent loss of monitoring, or the CS ONE from powering down, change the CS ONE battery when the CS ONE is connected to a powered CS ONE dock F0.

## Inserting a Battery

1. Open the battery door by gently pulling on the battery door pull tab.
2. Position the battery with the connector end facing towards the battery slot and insert the battery all the way into the battery slot.

## Removing a Battery

1. Open the battery door by gently pulling on the battery door pull tab.
2. Pull on the battery cord to remove the battery from the battery slot.

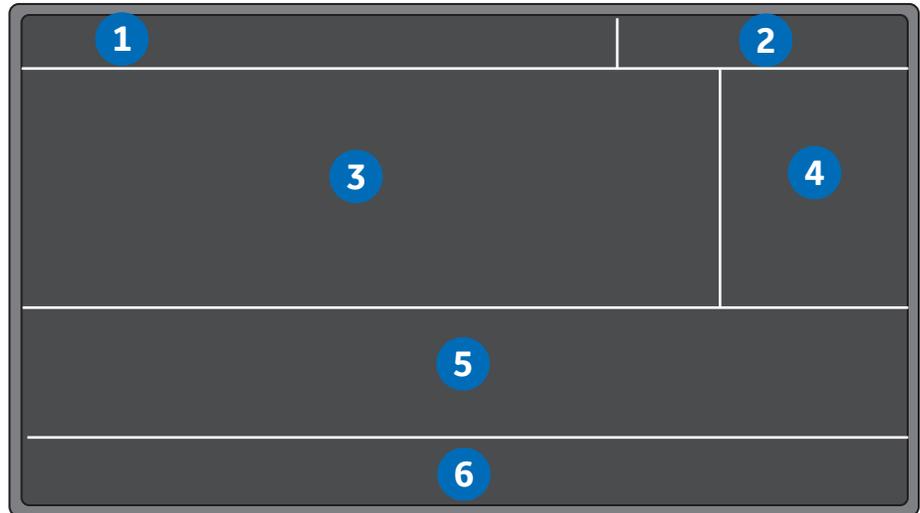


# CARESCAPE ONE Monitoring Basics

## CARESCAPE ONE Main Screen Layout

The main screen displays alarms, information, waveforms, parameter windows, and the main menu in pre-defined areas.

1. Alarm area
2. Information area
3. Waveform area.
4. Upper parameter windows
5. Lower parameter windows (optional).
6. Main menu area



## Information Area

When the **Information area** of the screen is selected via touch, it opens the **Admit/Discharge** or **Case Setup** menu and provides access to settings related to patient information, standby and profile selections.

The Information area of the screen displays the following information:

- Patient name (if entered). The patient name may be covered by an alarm message if there are three or more active alarms.
- Profile name that is being used for patient monitoring. The profile name may be covered by an alarm message if there are three or more active alarms.
- Patient icon . You can access the **Admit/Discharge** or **Case Setup** menu by selecting this icon.
- Battery icon . You can access the **Battery Status** menu by selecting this icon.
- Current time of day.



## Main Menu Keys

Various functions of the monitor can be accessed through the main menu keys.



Key	Function
<b>Home</b> 	Close all menus/applications displayed on the monitor.
<b>Alarms Setup</b> 	Allows access to alarm limits and priorities, arrhythmia alarm settings, audible and visual alarm indicators.
<b>Monitor Setup</b> 	<p>The Main Setup tab allows access to screen setup, colors, sound volumes, parameter setup, battery status, brightness settings, admit/discharge (ICU, ED, NICU software packages) or case setup (OR, PACU software packages).</p> <p>The Defaults &amp; Service tab allows access to default setup, service calibrations, and service, which are password protected.</p> <p>The Monitor Info tab presents monitor hardware and software information.</p>
<b>Pt. Data &amp; Trends</b> 	Allows access to numeric trends, trends time interval, and admit/discharge (ICU, ED, NICU software packages) or case setup (OR, PACU software packages).
<b>NIBP Start or NIBP Cancel</b> 	<p>Start or stop a non-invasive blood pressure measurement. After selection, the key toggles to NIBP Cancel.</p> <p>Measurement does not start unless the cuff size is defined.</p>
<b>NIBP Auto Start of NIBP Auto Stop</b> 	<p>Start or stop automatic non-invasive blood pressure measurements at timed intervals. After selection, the button toggles to NIBP Auto Stop.</p> <p>Measurement does not start unless the cuff size is defined.</p>
<b>Zero All Pressures</b> 	Zero all invasive pressure channels. This does not apply to ICP.
	Pause audio alarm. Pause activates audio alarms or pre-pause audio for incoming active alarms.

## Menu Example

1. Menu title (for example, **ECG**).
2. Submenu tabs (for example, **Setup, ST**).
3. Selection lists: when selecting the arrow, a list of options appear.
4. Arrow selector for increasing/ decreasing a value.
5. Radio button for selecting or deselecting a feature from the available options.
6. Help text area.
7. Further menu selections
8. Selector for increasing or decreasing the volume.
9. Check box for selecting or deselecting a feature.
10. Tabs to access additional pages (for example, **Page 1, Page 2**).

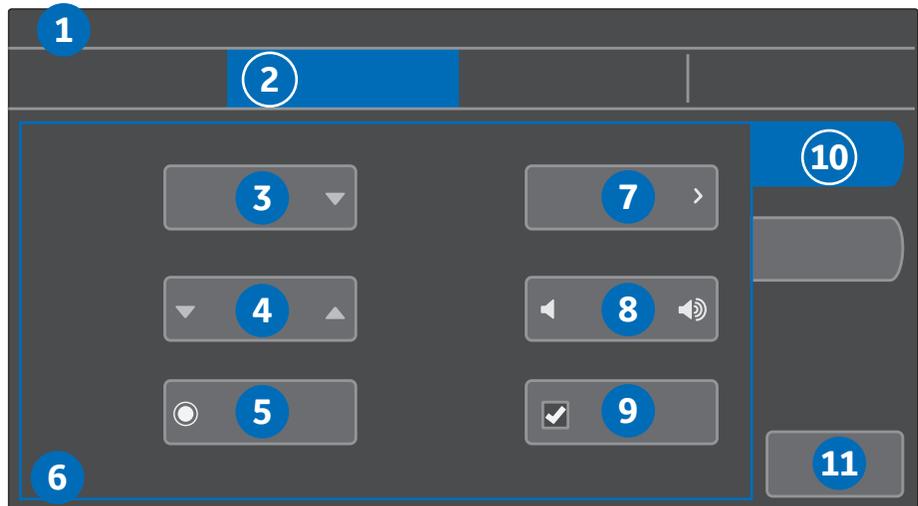


**Note!** These tabs may also be labeled with feature names (for example, **HR, PVC/SVC Arrhythmia**).

11. Exit key (for example, **Previous Menu, Close**).



**Note!** Not all menus have these same components.



## Selecting Menu Options with a Touchscreen

In this guide, the term select means using the touchscreen display to select an item on the screen.

1. Touch the menu option with your finger.
2. The highlight on screen moves to this option.
3. Lift your finger off the screen, and the selected function is performed (for example, a list opens).

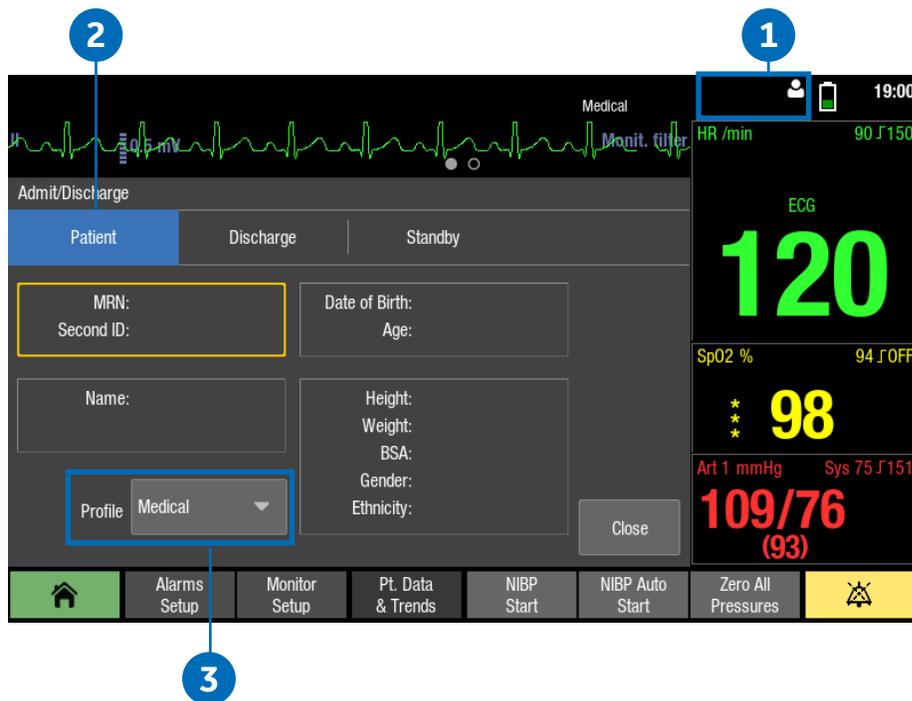
# Profiles

When you start monitoring a patient, you can use the startup profile or select another profile. According to the configuration, your software may have up to eight profiles to choose from. Profiles control many settings, including parameter defaults, alarm detection limits, and alarm functionality.

1. Select the patient information area on the screen.
2. Select the **Patient** tab.
3. Select a profile from the **Profile** list.

If you make changes to a profile while using it and need to return to its previous settings, first select another profile and then re-select the one you were using. If only one profile has been enabled during configuration, return to saved profile settings through patient discharge/case end or device reset.

If a profile other than the startup menu has been selected during the monitoring session, upon discharge the CS ONE will return to the startup profile for the next monitoring session.



# Starting Monitoring

A case automatically starts/a patient is admitted when the monitor detects any of the following vital signs: ECG, impedance respiration, Art, Fem, UAC, NIBP, SpO<sub>2</sub>, or CO<sub>2</sub>. Each vital sign has activation criteria that must be met before the vital sign is considered active. For more information about activation criteria, see the User Manual.

A case manually starts/a patient is admitted when any patient data is entered, such as the patient name or medical record number.

Always observe the monitor and the patient carefully during startup periods and when connecting CARESCAPE Parameters.

Here are the basic steps for starting monitoring. Parameter-specific instructions are more detailed and should always be followed.

- 1.** Connect the patient to the CS ONE according to the measurement setup requirements in the parameter-specific chapters of the User Manual. The alarms and parameter settings become active.
- 2.** If the startup profile is not suitable, select another profile.
- 3.** Enter patient demographics. Alarms will be activated based on the criteria, even if demographic information is not entered. Demographic information can be entered at a later point, if needed.
- 4.** Start the measurement.
- 5.** Zero invasive pressure lines. Refer to the invasive pressures chapter in the User Manual.
- 6.** If required, change the parameters displayed on the screen.
- 7.** Check alarm limits and adjust, if necessary.

# Entering Patient Data

The monitor automatically displays an on-screen keyboard for you to use for data entry.

1. Select the patient information area on the screen.
2. Select the **Patient** tab.
3. Edit or enter patient data by selecting the characters using the touchscreen.
  - a. Select **MRN: Second ID:**, select the field to be edited, and enter the data. Entering the **Second ID:** in addition to the **Medical Record Number** allows a flexible use of local patient identification methods.
  - b. Select **Name:**, select the field to be edited, and enter the data.
  - c. Select **Date of Birth: Age:** to enter or edit the patient's date of birth or age. If **Day, Month, and Year** are entered, **Age** is automatically calculated.
  - d. Select the **Height: Weight: BSA: Gender: Ethnicity:** field, then select values for different types of data. If height and weight are entered, the patient's BSA (body surface area) is automatically calculated.



# Resetting a Case / Discharging a Patient

Resetting a case/discharging a patient deletes all patient information and returns the monitor to the defined startup profile.

All settings, including alarm limits return to their default values. All patient data is removed from the monitor.

The CS ONE may be configured in care unit settings with an automatic case reset/patient discharge timer. Care unit settings are password protected. If an automatic case reset/patient discharge is configured and there are no active parameters and no use of the touchscreen, monitoring will end automatically after the configured time has elapsed.

1. Disconnect patient cables.
2. Select the patient information area on the screen.
3. Select the **Discharge / Reset Case** tab.
4. Select **Confirm**.



# Standby

## About Standby

When you remove the patient temporarily from the monitor, you can use the standby option to put the monitor on standby until the patient is reconnected to the monitor. You can also use the standby option before a patient is admitted to the monitor/patient case is started. Configure the current patient settings for the incoming patient, then put the monitor in standby to prevent nuisance alarms or automatic discharge due to monitor inactivity.

## Starting Standby

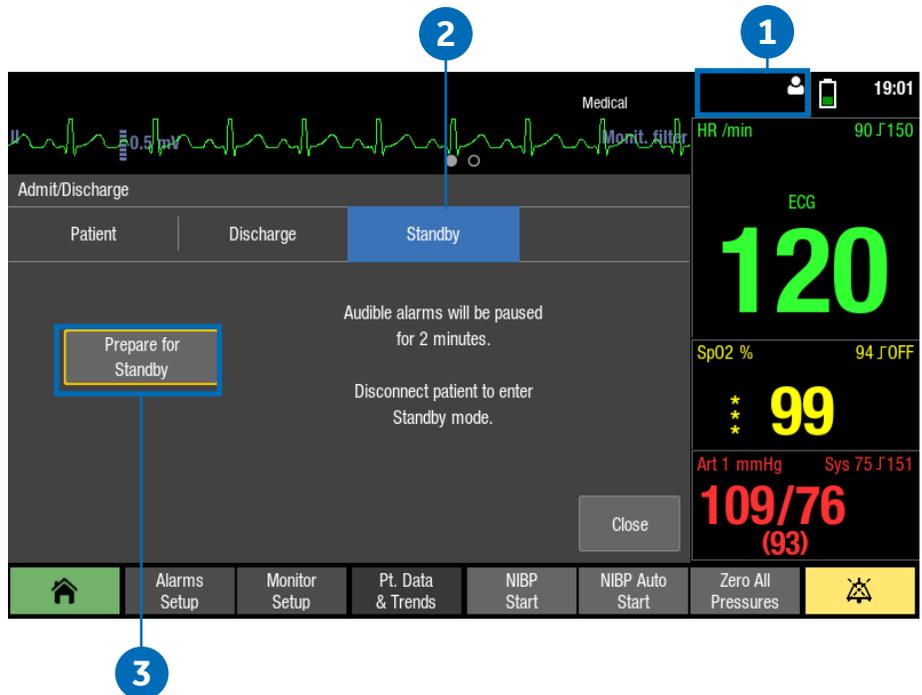
1. Select the patient information area on the screen.
2. Select the **Standby** tab.
3. If a patient is connected, select **Prepare for Standby** to pause audible alarms for two minutes. This allows time to disconnect patient cables.

If no patient is connected (no CARESCAPE Parameters are connected to the CS ONE), select **Standby** from the **Standby** tab, and the monitor will immediately enter standby.

4. Disconnect the patient cables and check that NIBP Auto is turned off.

If patient cables are still connected and the monitor receives vital signs, a message indicating that audio alarms have been paused appears.

If you do not disconnect the cables and vital signs are still present after the audio pause time expires, the standby is cancelled. You can also cancel the standby before the timer expires by selecting **Cancel Standby**. The monitor will automatically enter standby when all cables are disconnected and **NIBP Auto** is turned off. The screen goes blank and the GE logo with the message **Standby** appears.



## End of Standby

The monitor ends the standby automatically when any of the following conditions occur:

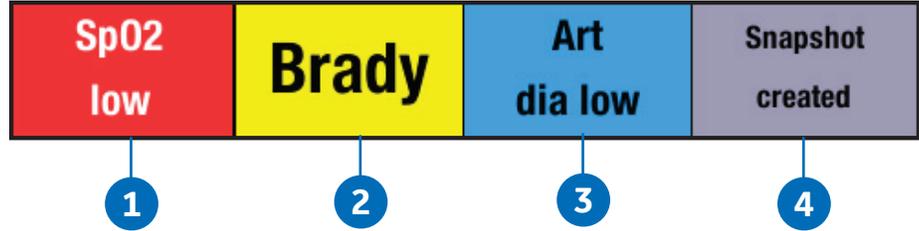
- The touchscreen is pressed.
- At least one CARESCAPE Parameter is connected and active parameter data is detected.

# Alarms

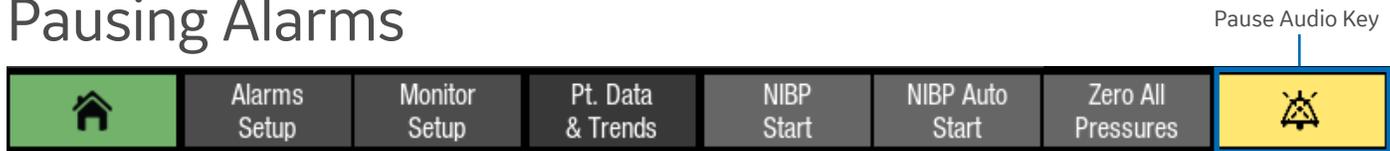
## Alarm Priority Levels

Physiological and technical alarms are categorized by priority level:

1. **High priority** alarms require an immediate response.
2. **Medium priority** alarms require a prompt response.
3. **Low priority** alarms require you to be aware of the condition.
4. **Informational priority** messages provide information you should know.



## Pausing Alarms



Selecting the **Pause Audio** key results in different alarm behaviors depending on whether the alarms are active and/or latched or not. The length of audio pause (2 min or 5 min) has been configured in Care Unit Settings > Alarms (password protected). Acknowledging or pausing audio alarms does not affect the visual alarm indicators. They will **still continue** indicating alarms.

## Adjusting the Alarm Volume

The selections in the Alarms Setup menu vary according to what has been configured in the Care Unit Settings > Alarms (password protected).

1. Select **Alarms Setup** from the main menu.
2. Select the **Audible & Visual** tab.
3. Select the **Volume & Light** tab.
  - Adjust the **Alarm Volume** value. This is the volume for all alarms.
  - Adjust the **Alarm Volume** separately for **High & Medium Priority** and **Low Priority**.

The lower the number, the quieter the alarm volume. Note that the minimum allowed alarm volume levels are set in the **Care Unit Settings**.

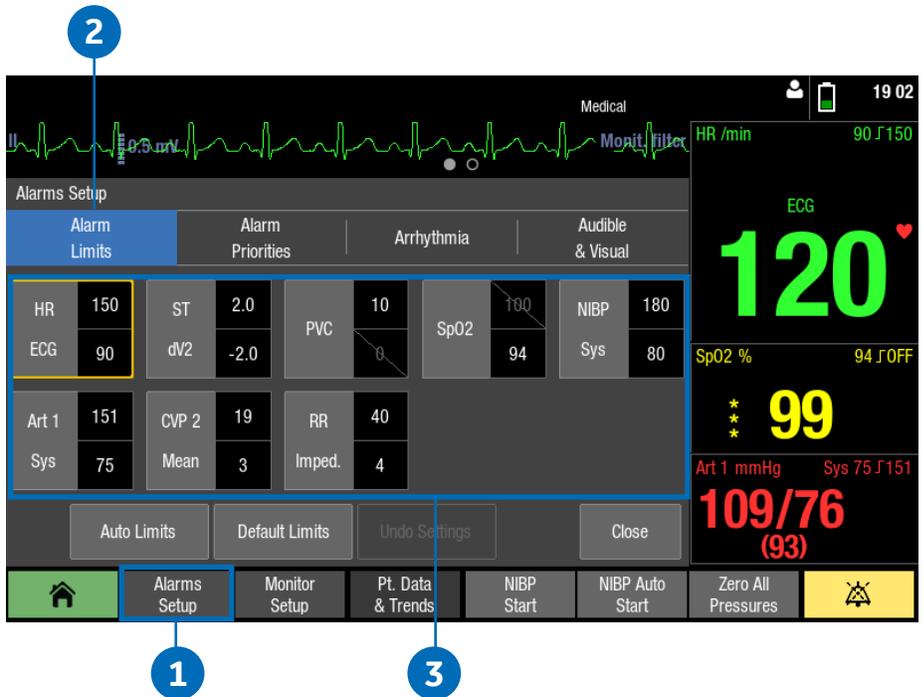


# Changing an Alarm Limit

## Setting Parameter Alarm Limits

Parameter alarm limits may be set in the **Alarms Setup** menu, or in the parameter menu's own Alarm tab. Alarm limits should not be set beyond reasonable physiological boundaries in to maintain patient safety. Setting outside of reasonable boundaries would cause the alarms to be ineffective.

1. Select **Alarms Setup** from the main menu.
2. Select the **Alarm Limits** tab.
3. Select a parameter label. That parameter menu's **Alarms** tab opens, where you can select the alarms on or off, and set their limits.



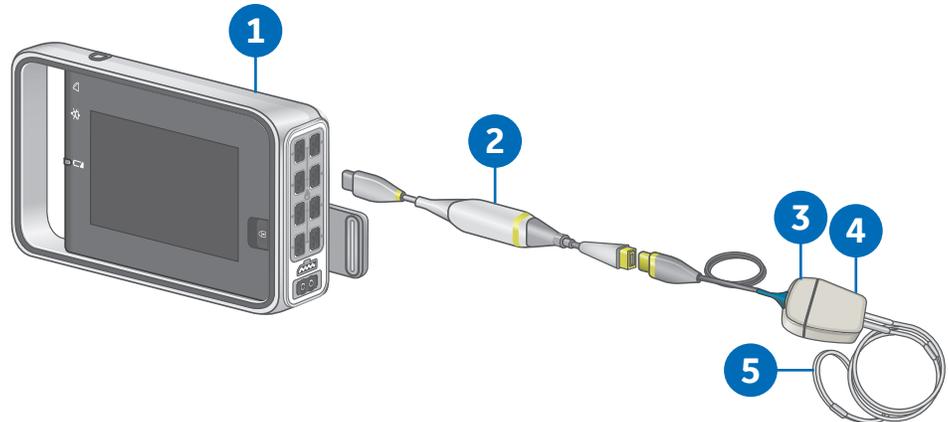
# CARESCAPE CO<sub>2</sub> Measurement

## Equipment Connection with CARESCAPE CO<sub>2</sub>

For intubated and non-intubated patients.

- Connect the LoFlo Sidestream Module to CARESCAPE CO<sub>2</sub>.
- Connect CARESCAPE CO<sub>2</sub> to the CS ONE.
- Connect the sample line to the LoFlo Sidestream Module.
- When the LoFlo Sidestream module is connected it will zero and go through a warm-up procedure automatically.

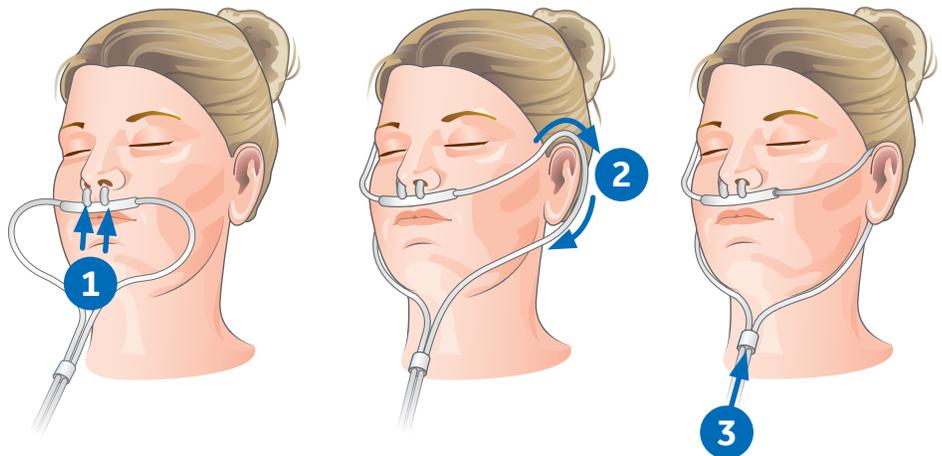
1. CARESCAPE ONE
2. CARESCAPE CO<sub>2</sub>
3. Exhaust port
4. LoFlo Sidestream Module
5. Accessories, i.e. sample lines, nasal cannulas, etc.



## About Sidestream

Sidestream kits are intended for monitoring CO<sub>2</sub> of intubated and non-intubated patients. Following are things to consider when selecting a sidestream kit for a non-intubated patient.

- Select the kit that has the best fit and most comfort for the patient. For example, the kit labeled as Pediatric may have the best fit and be more comfortable on a small-statured adult than the adult cannula kit. The cannula kits are equally functional regardless of which is used.
- Verify that the cannula kit is clean, dry and undamaged. Replace the cannula kit, if necessary.
- Insert the sample cell into the sample cell receptacle. You will hear a click when the sample cell is properly inserted.
- When the LoFlo Sidestream module is connected it will zero and go through a warm-up procedure automatically.
- Place the nasal cannula kit onto the patient.

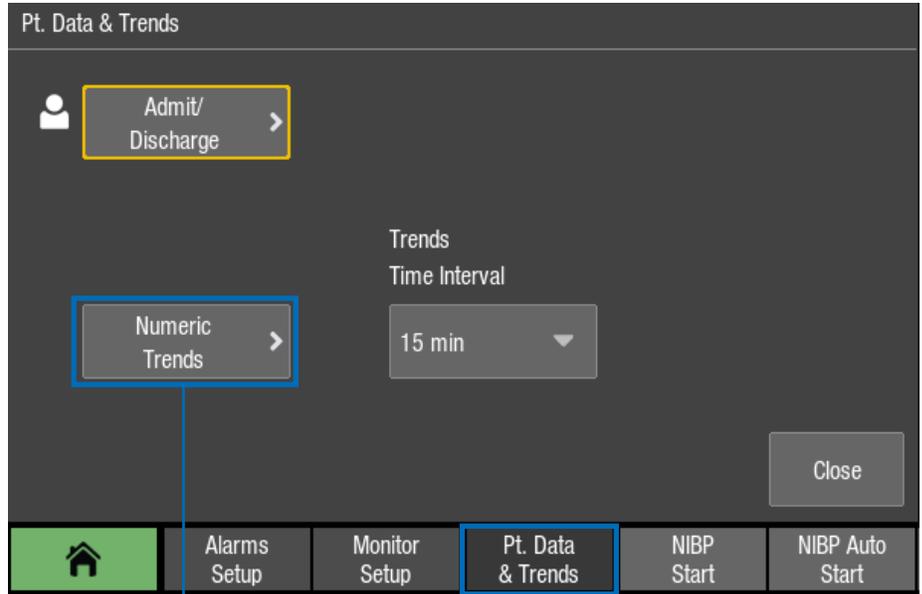


# Trends

## Viewing Numeric Trends

Numeric trends contain three pages with 24 hours of trend data. The lowest row shows the time indication and the top of the view shows the highest priority realtime waveform. You cannot configure the layout of the **Numeric Trend** view.

1. Select **Pt. Data & Trends**.
2. Select **Numeric Trends**.
3. Select a parameter group tab to view the trends.
  - **Vital:** HR, **SpO<sub>2</sub>**, invasive pressure 1, **NIBP S/D(M)**, **RR(Imp)**, **RR(CO<sub>2</sub>)**
  - **Pressures:** HR, invasive pressure 1, invasive pressure 2, **NIBP S/D(M)**
  - **Temp & Gases:** **T1**, **T2**, **CO<sub>2</sub> ET/Fl**
4. To see more numeric data, use the scroll bar to scroll the data in horizontal directions.



2

1

3

## About Snapshots and Graphic Trends

**Snapshots:** The CS ONE records snapshots when it is operating as a standalone monitor. However, snapshots are only viewable on the host monitor when the CS ONE is connected to a host monitor as an acquisition device.

**Graphic Trends:** Graphic trends are only viewable on the host monitor when the CS ONE is connected to a host monitor as an acquisition device. Only numeric trends are available on the CS ONE when it is operating as a standalone monitor.



4

# Transport Use

You can use the CS ONE for uninterrupted monitoring when transferring a patient from one location to another. When the CS ONE is used as an acquisition module, with a host monitor, you can disconnect it from the host monitor, retain the patient data in the CS ONE, and continue to monitor as you move the patient. After transport, you can return to the CS ONE to the host monitor, reconnect it as an acquisition module, and resume monitoring the patient on the host monitor.

## Dual Monitoring and Transport

During normal monitoring when the CS ONE is connected to the host monitor as an acquisition device, the CS ONE display is not active. A screen saver is displayed, and all parameter data and alarm signals are presented on the host monitor.

You can activate the CS ONE display screen by touching it. When activated, the message **Acquisition mode - view only** is displayed, indicating that only view is allowed.

Upon return from transport when the CS ONE is reconnected to the host monitor, the CS ONE display remains illuminated for two minutes so you can ensure the host monitor is displaying waveforms and parameter data.

## Preparing to Transport a Patient

1. Place the host monitor into standby mode. Refer to the host monitor user manual for instructions.
2. Add parameters needed for transport to the CS ONE, or remove those not needed for transport.
3. Ensure that the parameters you need to monitor during transport are selected to display on the CS ONE screen.
4. Ensure that there is a charged battery installed in the CS ONE. Refer to the User Manual if the battery needs to be charged or changed.
5. Disconnect the CS ONE from the CARESCAPE Dock F0.
6. Place the CS ONE in the transport location. Use a Mini Dock and/or a Parameter Dock 1 or Parameter Dock 5 to secure the CS ONE and CARESCAPE Parameters during transport.
7. Transport the patient.

## Returning a Patient from Transport

Follow these steps to return the patient to the same host monitor after transport, retaining the patient data.

1. Return the patient to the room.
2. Remove the CS ONE from the Mini Dock.
3. Connect the CS ONE to the CARESCAPE Dock F0 at the host monitor.

Patient monitoring will automatically resume on the host monitor if the patient case matches. Patient data acquired on the CS ONE during transport will be available on the host monitor.

If the patient case does not match between the host monitor and the CS ONE, then the Select **Patient and Data** window will open on the host monitor. There are four possible options.

You can:

- Select the patient in the CS ONE to continue the CS ONE patient case. This option is shown as CS ONE, along with the patient name and MRN number.
  - Select the patient in the host monitor to continue the host monitor patient case. This option will only appear if a patient is admitted to the host monitor. It is shown as the host monitor bed name plus the patient name and MRN number.
  - Merge the CS ONE patient case with the host monitor patient case. This option is shown as the host monitor bed name + CS ONE.
  - Select **New Patient** to discharge the patient from the CS ONE, deleting all patient data and history, and start monitoring a new patient/case at the host monitor.
4. If needed, reconnect any parameters that were disconnected during transport.



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