

Centrella® Smart+ Bed

Product Reference Guide



Enhancing outcomes for
patients and their caregivers:

Hill-Rom

Table of Contents

I.	General Frame Overview	4
•	Audible and Visual Alerts.....	5
•	Verbal Safety Prompts (Optional Feature)	5
•	Power Cords & Cord Holders	5
•	Battery Backup.....	6
•	SideCom® Communication System.....	6
•	Line Managers	7
•	CPR Release Handle	7
•	Patient Restraint Holders.....	7
•	Foley/Drainage Bag Holders & Foley Position Limit.....	8
•	SafeView®+ System (Optional Feature).....	9
–	Siderail Protocol Status	9
–	Bed Exit Alert Status.....	10
–	Bed in Lowest Position Status.....	10
•	IllumiGuide® Siderail Handgrip (Optional Feature).....	10
•	Motion Activated Nightlight.....	11
•	Patient Helper Device/Trapeze (Optional Feature).....	11
II.	Point-of-Care® Caregiver Controls.....	12
•	Introduction: Point-of-Care® Controls	12
•	Foot Up/Down, Lower Leg/Foot Elevation.....	12
•	Boost® Positioning System.....	13
•	Trendelenburg & Reverse Trendelenburg	14
•	Line-of-Site® Angle Indicator	14
•	Unlock/Lock Bed Controls.....	14
III.	Patient-Focused Features.....	15
•	Patient Siderail Controls & Head-of-bed Angle Indicator.....	15
•	Patient Hip Position Indicator & Advanced SlideGuard® Feature.....	15
•	USB Charging (Optional Feature) & Patient Device Storage.....	15
•	Urinal Holder	15
•	Patient Pendant.....	16
–	Stay in Bed Indicator	16
–	Nurse Call Control (Optional Feature).....	16
–	Stand Assist	16
–	Patient Comfort Controls (Optional Feature).....	17

– TV & Lighting Controls.....	17
– Patient Pendant Holder Locations.....	17
• Nurse Call Control (Optional Feature).....	17
IV. Transport.....	18
• Brake & Steer Controls.....	18
• Preparing for Transport.....	18
• Transporting with IntelliDrive® Powered Transport (Optional Feature).....	19
• Ergonomic Push Handles (Optional Feature).....	19
• Corner Bumper and Equipment Sockets.....	19
V. Graphical Caregiver Interface (GCI)® Touchscreen.....	20
• Home Screen & Help Menu.....	20
• <30° Head-of-Bed Limit.....	21
• Dining Chair Control.....	21
• Stand Assist Control.....	22
• Bed Flat Control.....	22
• FlexAfoot™ Bed Length Adjustment.....	22
• Bed Exit Alert System.....	23
– Setting the Bed Exit.....	23
– Respond and Silence.....	24
– Pre-emptive Silence.....	24
• Centrella® max Surface Controls (Optional Feature).....	26
– Surface Modes.....	26
– Turn Assist.....	26
• Scale Operations.....	27
– Zeroing the scale.....	28
– Weighing the patient.....	29
• Settings & Preferences.....	30
• Heart Rate & Respiratory Rate Monitoring.....	32
– Zeroing the scale.....	33
– Using Heart Rate & Respiratory Rate Monitoring.....	34
– Heart Rate & Respiratory Monitoring Thresholds.....	35
– Heart Rate & Respiratory Rate Monitoring Alerting.....	36
– Heart Rate & Respiratory Monitoring Trends.....	37
– Heart Rate & Respiratory Rate Monitoring Screens.....	38

GENERAL BED OVERVIEW

Guide Overview

The Centrella® Smart+ Bed Reference Guide provides you with step-by-step instructions and tips for utilizing the functions of the Centrella® bed.

How to use this Guide

This reference guide will highlight the most valuable features of the Centrella® bed and Centrella® surfaces and demonstrate how to use them. For more detailed information on the normal operation of the Centrella® bed and Centrella® surfaces, please refer to the user manual.

We have organized this Reference Guide into chapters by function. You can read it in its entirety or refer to each chapter individually to refresh your knowledge on the Centrella® Smart+ bed as needed.

To personally speak to someone about your Centrella® Smart+ bed, please contact Hill-Rom's customer service at 1-800-445-3730 and a customer service representative will direct you to your local representative.

Introduction

At Hill-Rom, we understand that life-altering moments happen on a hospital bed. It's where life begins. Where care is delivered. Where healing happens.

All too often, costly complications can happen when life-altering health events occur. The Centrella® Smart+ bed is purposefully designed to best address your primary concerns and meet the changing needs of healthcare facilities.

The Centrella® Smart+ Bed : Because life-altering moments deserve elevated care.

Delivering elevated care through:

- Optimized patient safety
- Enhanced patient satisfaction
- Advanced caregiver-focused technology
- Effective cost management

GENERAL BED OVERVIEW

Audible and Visual Alerts

The Centrella® bed provides caregivers with audible and visual indicators.

- **Single beep:** Activity was performed successfully (i.e. when the bed reaches the lowest position).
- **Triple beep:** Attention is needed; look at the message on the GCI® Touchscreen for more information (i.e. when you attempt to use a control that is locked-out).

For a critical fault, a triple beep will sound every 10-seconds until the caregiver acknowledges the error on the touchscreen and follows the instructions.

A continuous tone will sound to indicate a serious bed malfunction and immediate attention is needed.

Verbal Safety Prompts (Optional Feature)

Verbal safety prompts provide information to the patient and caregiver.

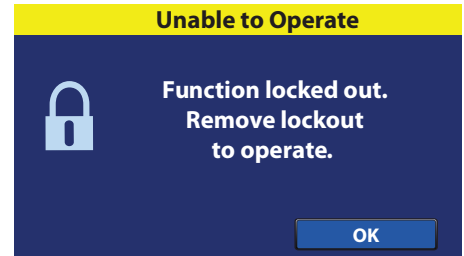
- "Please don't get up"
- "Function not available"
- "The care team has been called"
- "The call light not connected"
- "Brake not set"

Verbal safety prompts (except for "Brake not set") can be disabled through the touchscreen (see "Verbal Safety Prompts On/Off" on page 30).

Power Cords & Cord Holders

The number of power cords varies depending on you bed model.

- **Grey power cord:** Included with all beds, this cord supplies power to the bed and charges the frame's battery backup. When plugged into power, the battery icon on the head rail will be solid green. Keep the battery charged and plug into power when possible.
- **White power cord:** This cord powers the optional auxiliary accessory outlet located on the left side of the base frame, below the intermediate siderail.



GENERAL BED OVERVIEW

Battery Backup

When you unplug the grey power cord, a triple beep indicates the bed has lost power and the battery indicator blinks green indicating the bed is operating on battery. The battery backup operates most bed frame articulations on the caregiver control panel of the head rail.

Battery backup operates:

- All bed frame articulations except Boost® feature
- On GCI Touchscreen: FlexAfoot™ powered bed length adjustment and <30° HOB Limit

Battery backup does not operate:

- Patient pendant
- On GCI Touchscreen: Stand Assist, Chair, Bed Flat

To activate, press and hold any frame articulation control until the articulation starts. There will be a 1-2 second delay before the control activates.

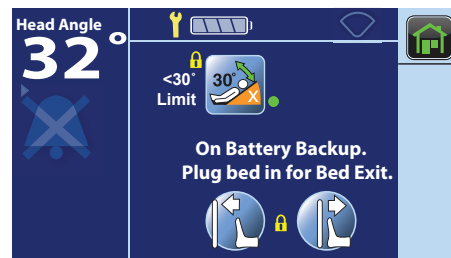
SideCom® Communication System (Optional Feature)

The SideCom® Communication System provides a control for Nurse Call and entertainment features.

The connector is located at the head-end of the bed below the headboard. If the SideCom® communication cable is not connected within 45-seconds of the bed being plugged into power, a triple beep will sound and a message will appear on the GCI Touchscreen.

If equipped, a verbal safety prompt, "Call light not connected" will sound. The triple beep and alert message will continue until the communication cable is connected, or if you turn off the reminder by pressing "Close" on the touchscreen.

The Nurse Call controls are only visible and active when the bed is connected to a compatible nurse call system. If the Nurse Call control is not visible, but the bed communication cable is connected, contact your authorized maintenance personnel.



GENERAL BED OVERVIEW

Line Managers

Each head siderail has an integrated Line Manager on top of the siderail that helps keep lines such as IV lines and suction lines together and away from the articulating frame.

CPR Release Handle

The CPR release handles are located on both sides of the upper frame, between the head and intermediate siderails. The CPR control quickly and safely lowers the head-of-bed to a flat position, even when unplugged.

To activate, pull and hold until the head section is lowered to a flat position. If the legs are elevated, continue to hold until you hear a single beep confirming the bed is flat.

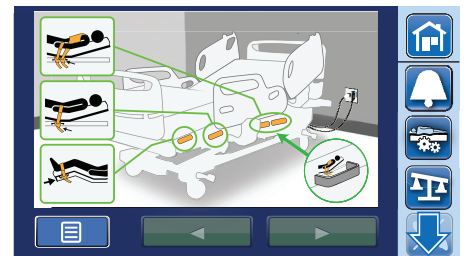
NOTE: If equipped with a Centrella® max powered air surface:

- It will go into Max Inflate for 60-minutes.
- An alert will sound before 60-minutes has elapsed alerting the caregiver to reset the timer or the surface will return to Normal mode.
- A countdown timer will show on touchscreen.

Patient Restraint Holders

There are four restraint holders on each side of the bed to secure a variety of restraints such as a vest, lap belt, wrist or ankle restraints. We do not recommend using these holders for Foley or other drainage bags due to the bed's low height, which allows for potential risk of bags touching the floor.

WARNING: Restraints must be attached to the articulating section of the bed at the correct attachment points.



GENERAL BED OVERVIEW

Foley/Drainage Bag Holders & Foley Position Limit

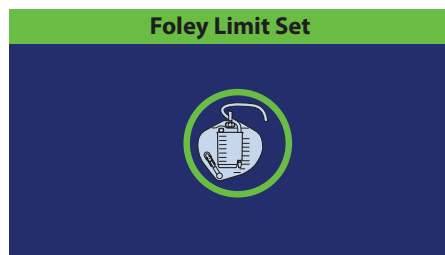
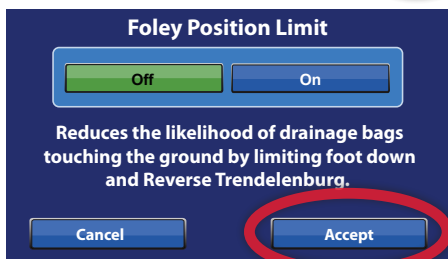
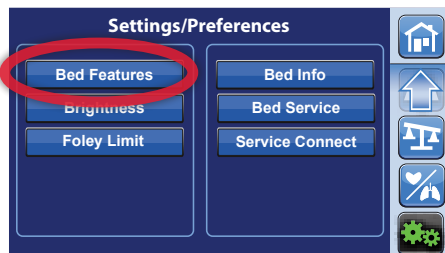
There are two drainage bag holders at the foot-end of each side of the bed. It includes different height and length options for attachment to accommodate various drainage devices and help prevent them from touching the floor or being pulled.

NOTES:

- The bed length can be adjusted to accommodate drainage bags.
- Follow your facility protocol for placement of drainage bags. Make sure drainage bags are placed so they will not touch the floor.

The Foley Position Limit restricts the amount of foot-down motion during reverse Trendelenburg and chair positioning to reduce the risk of drainage bags touching the floor.

To turn the Foley Position Limit on and off, press the Settings Menu control in the Navigation Menu of the home screen, then select Foley Limit. Press Off or On, and Accept to lock in the new setting. A confirmation screen will show that the Foley Position Limit is set and an indicator will show on the Home screen.



GENERAL BED OVERVIEW

SafeView®+ System (Optional Feature)

Beds equipped with SafeView®+ System display bed safety status icons on the foot-end of the bed and projections on the floor. It notifies you when:

- Siderails are not set to facility protocol,
- Bed exit is On or Off, and
- Bed is not in the lowest position.

As you conduct patient rounds or as you leave a patient's room, you can quickly identify that the bed is in the safest position by glancing at the projections on the floor. This is especially helpful at night, and when privacy curtains are used. Responding to flashing, amber lights can be incorporated in your facility's "No Pass Zone" for all hospital staff to ensure patient safety.

To turn floor projections on or off: select the Settings Menu control in the Navigation Menu of the home screen. Press Bed Features, then press SafeView. Select On or Off and confirm by pressing Accept.

NOTE:

- SafeView®+ System floor projections can be turned off, but the icons on the foot-end cannot be turned off.
- The SafeView®+ System is customizable to your facility's falls protocol.



SafeView®+ System: Siderail Protocol Status (Optional Feature)

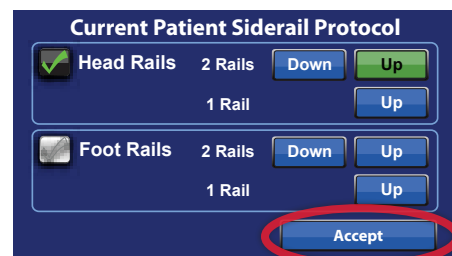
The SafeView®+ System siderail icon notifies you when the siderails are set in or out of facility protocol.

- **Green:** the minimum or greater number of siderails are up as set in the siderail protocol.
- **Flashing amber:** fewer siderails are raised than the set protocol.

To adjust the siderail protocol for an individual patient, select the Settings Menu control. Press Bed Features then press Rail Protocol. Select the patient siderail protocol. Press Accept.

NOTES:

- The siderail protocol is set based on your facility's policy.
- When the bed is Zeroed for a New Patient, the siderail protocol will reset back to your facility's default settings.
- Some rail combination settings may be unsafe for some patients. Follow your facility's protocol.



GENERAL BED OVERVIEW

SafeView®+ System: Bed Exit Alert Status (Optional Feature)

The SafeView®+ System siderail icon notifies you of changes to the bed exit alert status:

- **Green:** the bed exit is armed and the patient is in the bed
- **Flashing amber:** the patient triggers the bed exit alert
- **Solid Amber:** the bed exit has been silenced
- **Blue:** the bed exit is not armed

NOTE: When alert has been silenced and there is no patient in the bed, the only icon displayed will be the solid amber Bed Exit.



SafeView®+ System: Bed in Lowest Position Status (Optional Feature)

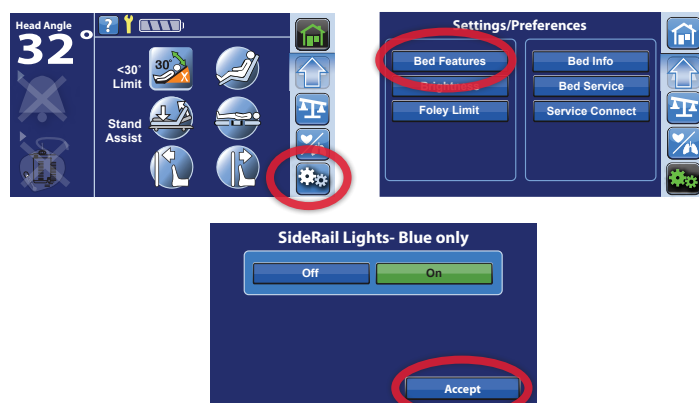
A green “Bed in Lowest Position” icon shows when the bed is in the lowest position. The icon flashes amber when the bed is not in the lowest position. There are three indicators when the bed reaches the lowest position: single beep, “Bed in Lowest Position” icon turns green on siderails and SafeView®+ “Bed in Lowest Position” floor projection.

IllumiGuide™ Siderail Handgrip (Optional Feature)

For beds equipped with IllumiGuide™ Siderail Handgrip, the outer head rail illuminates when the patient exits the bed. It provides a visual indication of the grip location to help patients get back into bed when the room is dimmed or darkened.

- **Blue:** Bed exit off for non-falls risk patients
- **Solid Amber:** Bed exit is on and silenced
- **Flashing Amber:** Bed exit is on and patient has triggered the alert

To turn off IllumiGuide™ handgrip, press the Settings Menu control. Press Bed Features and then Siderail Lights. Select Off and confirm by pressing Accept.



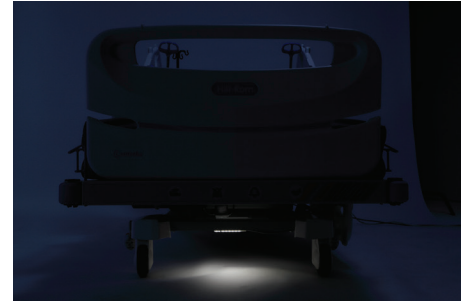
NOTE: The IllumiGuide™ handgrip stays illuminated for 15-minutes after the patient is out of bed. When the patient gets back into bed, it will automatically turn off after 2-minutes.

GENERAL BED OVERVIEW

Motion-Activated Nightlight

The nightlight is located at the foot-end of the base frame and stays on when the bed is plugged into power. When the patient gets out of the bed, the nightlight brightens to improve visibility around the foot-print of the bed, making it easy to get back into bed.

NOTE: The Motion-Activated Nightlight stays illuminated for 15-minutes after the patient is out of bed. When the patient gets back into bed, it will automatically turn off after 2-minutes.



Patient Helper Device/Trapeze (Optional Feature)

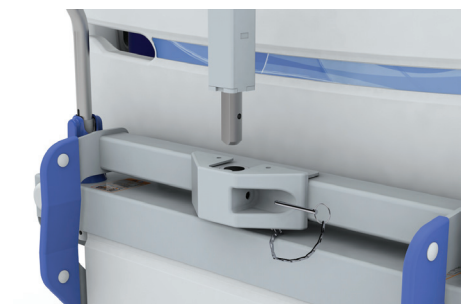
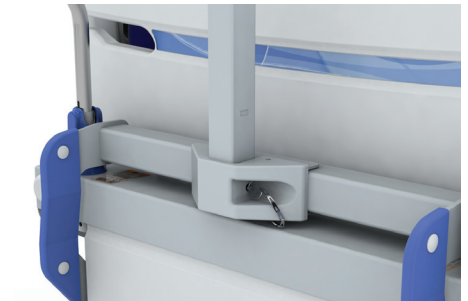
The patient helper can be used by patients to assist with mobility and repositioning.

To install: remove the pull pin from the patient helper mount at the head of the bed and insert the arm assembly into the mount. Insert the pin to hold the arm assembly into place.

Then, install the horizontal arm and insert the pull pin to hold it in position. Install the trapeze clamp assembly on the horizontal arm and tighten.

NOTES:

- Before adding or removing the patient helper, make sure the brake is set, the bed is in the lowest position and the patient is not in the bed.
- Use correct lifting techniques and ask for assistance when installing or removing the Patient Helper.



POINT-OF-CARE® CAREGIVER CONTROLS

Introduction: Point-of-Care® Caregiver Controls

The Centrella® Smart+ bed caregiver control panels are located on both sides of the head siderails. These controls operate the various bed frame positions. Bed frame position changes such as head up/down and bed up/down can be performed simultaneously to help save time.

Foot Up/Down, Lower Leg/Foot Elevation

The Foot Up/Down control allows you to raise or lower the feet and lower legs.

To elevate the lower legs and feet: press and hold the Foot Up control to the desired position. The knees will raise first to support the leg, then the foot-end of the bed will elevate to make the patient's lower extremities parallel to the floor. If more elevation is required, slightly elevate the bed height and then press the Reverse Trendelenburg control to tilt the patient back.

To lower legs and feet for a chair-like position: press and hold the Knee Up control until you hear a single beep. Then press and hold the Foot Down to the desired position.

When lowering the foot-end of the bed, make sure drainage bags do not touch the floor.

To level the legs and foot, press and hold Knee Down until the bed stops and you hear a single beep. The knees and feet will be level.



POINT-OF-CARE® CAREGIVER CONTROLS

Boost® Positioning System

To help you quickly reposition the patient toward the head-end of the bed, the Boost® Positioning System one-button control lowers the head and levels the knees. If desired, continue to hold the button to transition into Trendelenburg. You will hear a single beep when the bed is flat and the head is tilted 7°.

If additional boost is needed, continue to hold the control to raise the knee section until you hear a second single beep.

If equipped with a Centrella® max surface, the Boost® feature will automatically transition the surface into Max Inflate to provide a firmer surface, making it easier to reposition patients. It will stay in Max Inflate for 15-minutes unless deactivated. When 2-minutes remain, the bed will triple beep and a message appears on the touchscreen reminding you Max Inflate is ending. Press Reset if you need more time

NOTE:

- Boost® feature will not operate if any bed functions are locked out
- Use the patient hip position indicator on the intermediate siderail to align the patient's hips in correct position to optimize performance of the Advanced SlideGuard® feature.



POINT-OF-CARE® CAREGIVER CONTROLS

Trendelenburg& Reverse Trendelenburg

Trendelenburg and Reverse Trendelenburg controls function at any bed height.

To activate, press and hold either control until you have reached the desired tilt.

If the Foley Position Limit is set, it limits the degree of Reverse Trendelenburg.

To return to flat position, press the opposite control, Trendelenburg or Reverse Trendelenburg, until you hear a single beep confirming the bed is flat; or press the Bed Flat control on the touchscreen until the bed is at the desired position.

The Line-of-Site® Trendelenburg/Reverse Trendelenburg Angle indicators on the intermediate siderails provide an estimated degree of the bed's angle.

Line-of-Site® Angle Indicator

The mechanical Line-of-Site® Angle Indicators on the inside of the head siderails show the approximate angle of the head section from 0 to 60 degrees from the floor.

The digital head angle display on the GCI touchscreen gives a more accurate degree of head elevation.

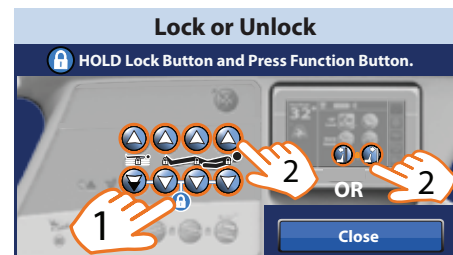
Unlock/Lock Bed Controls

The lockout control disables bed functions for both the patient and caregiver. Locking out certain functions may cause other dependent functions to be locked out as well. (i.e. Locking out the head will also lock out the chair, Boost® and bed flat controls.)

To lockout or disable any articulating bed function, from the caregiver control panel, press the lockout control and then the bed function control you want to lock out. The applicable indicator light will illuminate to let you know the function is locked out. This will lockout both patient and caregiver controls.

NOTES:

- To unlock, repeat the same steps.
- When CPR is activated, any controls that are locked out will become unlocked.



PATIENT-FOCUSED FEATURES

Patient Siderail Controls and Head-of-Bed Angle Indicator

The patient controls are located on the patient side of the head siderails. The standard patient controls include: Nurse Call, Head Up/Down, Knee Up/Down and the Head-of-Bed angle indicator.

The patient Head Up/Down control includes the Auto Contour™ feature. When the patient raises, or lowers the head section, the head and knee sections raise or lower simultaneously.

The Head-of-Bed Angle Indicator can be used by patients to help them comply with head-of-bed orders.



Patient Hip Position Indicator & Advanced SlideGuard® Feature

The hip position label located on the intermediate siderails identifies the correct position of the patient's hip while on the bed, optimizing the performance of the Advanced SlideGuard® feature.

Standard on all Centrella® bed models, Advanced SlideGuard® feature helps minimize patient migration. As you raise the head section, the head section moves back and the length of the seat increases by 6".



USB Charging (Optional Feature) & Patient Device Storage

Patients want to keep their personal electronics within reach. The Centrella® bed offers patient storage on the inside of both intermediate rails.

Some beds are equipped with a USB charging port on the inside of the right head siderail, allowing patients to charge personal electronic devices such as cell phones and tablets.

The USB Charging Port can be turned off. To turn Off, press the Settings Menu control on the touchscreen. Press Bed Features and then USB. Turn Off and confirm by pressing Accept.

WARNING: Never allow excess cable length near the patient's head or neck. This can result in strangulation. Secure any excess cable to the siderail or another suitable object.



Urinal Holder

The integrated urinal holder provides a dedicated place to hang a urinal, providing easy access for the patient.



PATIENT-FOCUSED FEATURES

Patient Pendant (Optional Feature)

The patient pendant is a handheld device that gives the patient control of certain features of the bed.

Standard Controls include:

- Head Up/Down
- Knee Up/Down
- Foot Up/Down
- Stand Assist
- Stay in Bed Indicator

WARNING: Never allow excess cable length near the patient's head or neck. This can result in strangulation. Secure any excess cable to the siderail or another suitable object.



Stay-in-Bed Indicator

When the Bed Exit is armed, the Stay-in-Bed Indicator illuminates to remind patients not to get up. This is right next to the Nurse Call control as a reminder to call for help.

Nurse Call Control (Optional Feature)

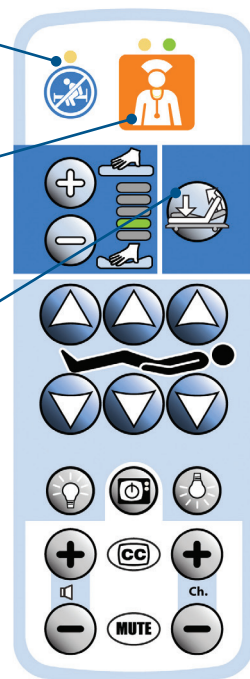
The Nurse Call controls are only visible and active when the bed is connected to a compatible nurse call system. If the Nurse Call control is not visible, but the bed communication cable is connected, contact your authorized maintenance personnel.

Stand Assist

The Stand Assist control simultaneously levels legs to a flat position and raises the head-of-bed to the desired elevation, positioning the patient to safely get out of bed.

If equipped with a Centrella® max powered air surfaces, the seat section will inflate for additional support. After 15-minutes, the feature times out and the surface will return to the Normal setting.

NOTE: Train ambulatory patients to use this before getting out of bed.



PATIENT-FOCUSED FEATURES

Patient Comfort Control (Optional Feature)

If equipped with a Centrella® max powered air surface, Patient Comfort control can be used to personalize comfort from soft to firm using the plus or minus controls. This does not take the mattress out of therapeutic pressure redistribution.

TV & Lighting Controls

Some patient pendants also include controls for TV and lighting.

Patient Pendant Holder Locations

On each side, there are three places to store the patient pendant — on the inside or outside of the head siderails, and on the top of the intermediate siderail.

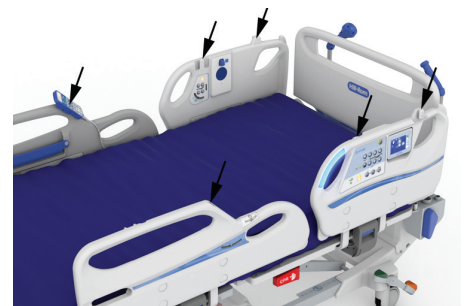
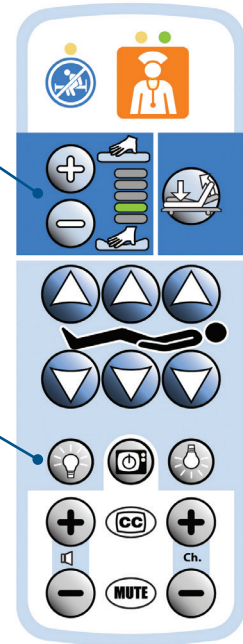
To store the patient pendant, align it above the holder, and slide it into place. During transport, always ensure the pendant is stored on the inside of the rail to get through doorways.

There are two ways to stow the patient pendant on the intermediate rail:

- Snap it on side to side, or
- Slide it down onto the holder angled toward the patient, with the cable on the inside of the rail. Do not go straight down, it will not attach this way.

To remove the patient pendant from any siderail, lift off the holder.

NOTE: The pendant can be completely removed or moved from one side of the bed to the other to meet patient needs. Unscrew the two thumb screws, pull the plug out. Move to the outlet on the opposite side of the bed and securely screw in.



Nurse Call Control (Optional Feature)

Nurse Call controls are located on the caregiver control panel, the patient control panel, patient pendant (optional) and Experience POD™ device (optional). When the Nurse Call control is activated, a signal is sent to the nurse's station. Voice communication is provided through a speaker/microphone on the inside of both head siderails.

To activate, press a nurse call control. When activated,

- **Yellow indicator, single beep & verbal safety prompt (optional):** confirmation to patient that the nurse call has been sent
- **Green indicator:** communication line with nurse's station is open

NOTE: Nurse Call controls can never be turned off.



TRANSPORT

Brake & Steer Controls

The brake and steer controls include brake pedals above the foot-end casters and brake and steer pedals above the head-end casters. There are three positions — steer, neutral and brake.

Steer Position

To activate steer, step down on the green head-end pedal or lift up on the orange foot-end pedal. Steer allows for straight travel down long hallways, especially when equipped with the optional 5th wheel.

Neutral Position

To move the bed in any direction, move the pedal to the level position. This position helps with sideways movements in a room or a small enclosed area, or helps align the bed with another surface for patient transfers.

Brake Position

To prevent the bed from moving, step down on the orange brake pedal until it is in the full downward position. Unless transporting a patient, always set the brakes when the bed is occupied.

If equipped with verbal safety prompts, when you release the brake, the “Brake Not Set” will sound when the bed is connected to power, the indicator on the upper siderail panel will flash, and a message appears on the touchscreen.

Preparing for Transport

1. Raise all four siderails to the up and locked position.

NOTE: A fully-charged battery for back-up frame controls is preferred. If the bed battery is low, put the bed into the desired transport position before unplugging the bed from power.

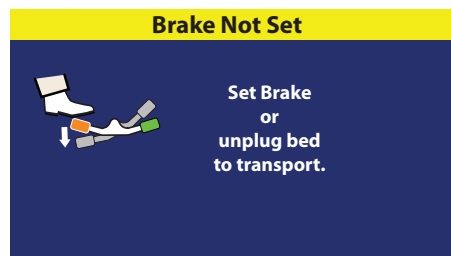
2. If necessary, shorten the length of the bed to get into elevators, and adjust the head section to make sure your view is not obstructed.
3. Unplug and secure all power cords, hoses and equipment that are to be transported with the bed.

NOTE: If the Patient Helper, Experience POD™ device, or IV poles are installed, make sure they will not impact doorways or ceiling fixtures.

4. If the bed has push handles, lift the handles up, and lock them in position. Otherwise, use the push handles built-in to the headboard.
5. Activate Steer by stepping down on the Green pedal.

For beds without IntelliDrive® Powered Transport, continue to transport the patient per your facility's protocol.

For beds with IntelliDrive® Powered Transport, refer to the “Transporting with IntelliDrive® Powered Transport” section.



TRANSPORT

Transport with IntelliDrive® Powered Transport (Optional Feature)

For beds equipped with IntelliDrive® Powered Transport, locate the Transport Pod on the right push handle at the head of the bed. Swivel it towards you and follow the steps shown on the Transport Pod.

1. Unplug the power cord and set the brake pedal to steer.
2. As the drive wheel lowers, the indicator on the Transport Pod flashes green. When the wheel has lowered completely, the indicator turns solid green and a single beep will sound.
3. Press down on one of the black enable switches on the underside of the blue push handles. Apply pressure to the handles to move the bed either forward or backward.

NOTE: The bed will not move until pressure is applied to the handles.

To move the bed, push or pull on the handles while pressing down on the enable switch. Applying pressure to the handles activates the motor and moves the bed in the direction of applied pressure.

Decreasing pressure on the handles will slow the bed down to go onto elevators and through doorways.

To deactivate the IntelliDrive® feature, set to Brake or Neutral, or plug the bed into power.

NOTE: Remember if plugging into power — it is best to set brake first to avoid “Brake Not Set” verbal safety prompt.

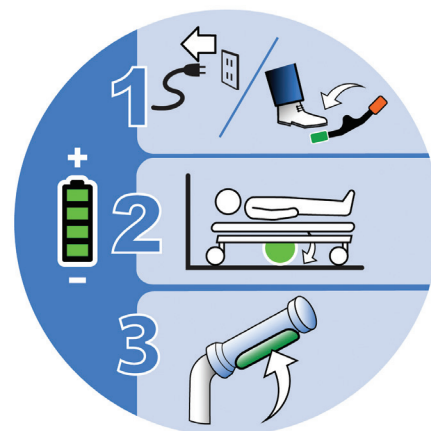
Ergonomic Push Handles (Optional Feature)

Our ergonomic push handles are designed to provide variable grip points for people of various heights. When not in transport, the push handles can be stowed away.

NOTE: For beds without push handles, the headboard has a built-in rail that can be used to navigate during transport.

Corner Bumper with Equipment Sockets

Located at each corner of the bed, there are four equipment sockets for attaching accessories such as IV poles and oxygen tank holders.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Home Screen & Help Menu

The Home Screen is divided into four distinct areas where you can either determine bed status or access special functions including:

1. Bed Status Indicators
2. Information Indicators
3. Special Functions
4. Navigation Menu

Bed Status Indicators section provides information such as:

- Digital Head-of-Bed Angle
- Bed Exit On/Off Status
- Bed Scale has been Zeroed
- Foley Position Limit On/Off Status

To see more details associated with each Status indicator, touch the applicable indicator.

Information Indicators section includes:

- The “Help (?) Menu” to access step-by-step instruction for many bed functions and features including “Zero Bed” and “Bed Exit.”
- A service wrench icon that will illuminate only when the bed needs service.
- Battery Charge Level shows the battery’s charge in increments of 25%. The indicator flashes yellow when the charge is low. When the bed is unplugged and the battery reaches a low condition, it will triple beep every 2-minutes.

In the center section, you will find Special Function Controls such as Head Angle <30° limit, Chair Position, Foley Position Limit, Stand Assist, Bed Flat and FlexAfoot™ Bed Length Adjustment.

The far-right is the Navigation Menu and displays icons to navigate controls for Bed Alerts, Scale, and if equipped with Centrella® max surface – Surface Controls, and Settings/Preferences. Use the up and down arrows if you do not see the desired control. At any time, you can press the Home control to return to the Home screen.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

<30° Head-of-Bed Limit

The Head Angle <30° Limit control allows the caregiver to prevent the head-of-bed from going below 30°. This function is available on battery backup.

To activate, elevate the head-of-bed >30°, then press the Head Angle <30° Limit control. A single beep confirms the alert is set and the LED light next to the icon will turn green.

NOTE: If the head-of-bed is already less than 30°, a triple beep will sound and a message will appear on the GCI touchscreen. Elevate the Head-of-bed above 30° and continue setting the control.

When set, the head-of-bed can move from 30-68°, but not lower than 30°.

NOTE: This is helpful for patients that are required to keep the head-of-bed above 30° for aspiration precautions and pulmonary concerns.

If a caregiver or patient attempts to lower the head below 30°, the bed will triple beep and display a message on the GCI touchscreen to follow instructions. If equipped with verbal safety prompts, you will hear "Function is not available."

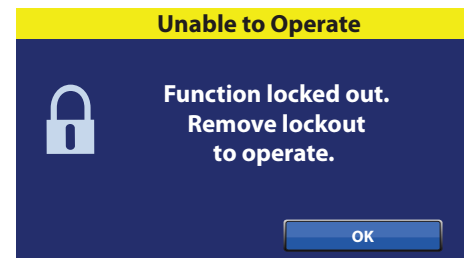
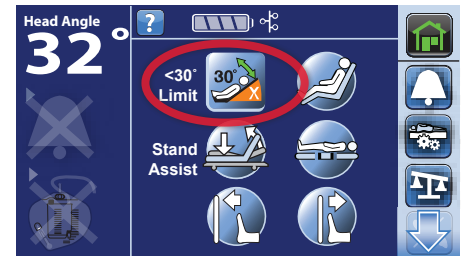
Dining Chair® Function

The one-button Dining Chair® control allows you to adjust the bed into a reclined chair position. This position is great for patients that want to eat, watch TV or those with swallowing and breathing difficulties. When you activate the Dining Chair® control, the bed will articulate the head section to the highest position, the knee section to the highest position, and the foot section to the lowest position.

To activate, from the special functions section of the GCI touchscreen, press and hold the Dining Chair® control to the desired position, or until you hear a single beep and the bed stops moving.

NOTES:

- If an additional upright chair position is desired, raise the bed height and either tilt forward into Reverse Trendelenburg.
- When the bed is in the lowest position, the bed will triple beep indicating a need to raise bed height for more tilt.
- In the lowest chair position, make sure the drainage bags do not touch the floor and move them if necessary.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Stand Assist Feature

The Stand Assist control is accessed via the Patient pendant or from the GCI Touchscreen. One-button simultaneously levels legs to a flat position and raises the head-of-bed to position the patient to safely get out of the bed.

To activate, press and hold the Stand Assist control until the legs are flat and the head is at the desired angle.

If equipped with a Centrella® max powered air surface, wait for the seat section to inflate to provide more support for the patient to get out of bed.

Finally, adjust the bed height until the patient's feet are flat on the floor, and help the patient out of the bed.



Bed Flat Control

The one-button Bed Flat and Level control, located on the GCI touchscreen, returns the bed, head, knees and feet to the flat and level position from any position.

To activate, press and hold the Bed Flat and Level control until the system stops. You will hear a single beep when the bed is at its flat position.

NOTE: If any frame function is locked, the Bed Flat control will not operate, an audible alert will sound and a message will appear on the touchscreen.



FlexAfoot™ Feature

The FlexAfoot™ bed length adjustment is a powered control standard on all models. With the press of a button, the caregiver can adjust the foot section up to 12" to accommodate various patient heights and make patients more comfortable.

To lengthen, press and hold the Foot Longer control until foot section is at the desired length.

To shorten, press and hold the Foot Shorter control until the desired length is achieved.

NOTES:

- Length adjustment can be stopped anywhere between the fully retracted (76" inner, 87" outer) and fully extended position (88" inner, 99" outer).
- The FlexAfoot™ feature is available on battery backup and can be used during transport to adjust to small spaces such as an elevator.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Bed Exit Alert System: Setting the Bed Exit

The Centrella® Bed Exit system monitors the patient's movement and notifies caregivers when the patient is trying to exit the bed.

NOTE: The patient must weigh between 32-277 kgs (or 70-500 lbs) for the bed exit to turn on. If outside this range, a triple beep will sound and a message on the GCI touchscreen indicates "Failed to set: Weight Too Low" or "Failed to set: Weight Too High".

There are three sensitivity settings to select the most appropriate setting for your patient and minimize over alarming:

- **Changes Position:** is the most sensitive setting and will alert when a patient begins to move.
- **Moves Towards the Edge:** allows the patient to move within the bed, but triggers an alert when the patient moves their legs over the edge or shifts towards the foot-end of the bed.
- **Has Left the Bed:** is the least sensitive setting, allowing a patient to sit on the edge of the bed, alerting only once they have gotten out of bed.

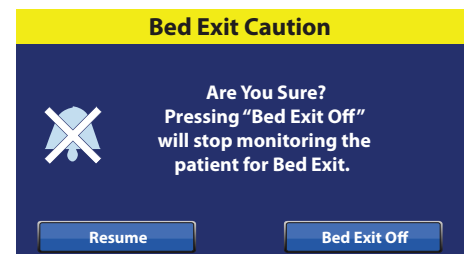
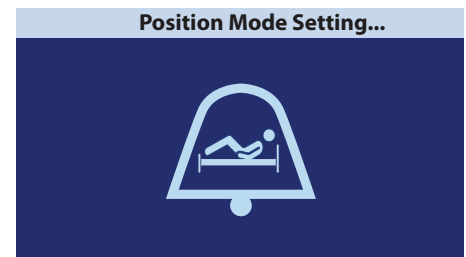
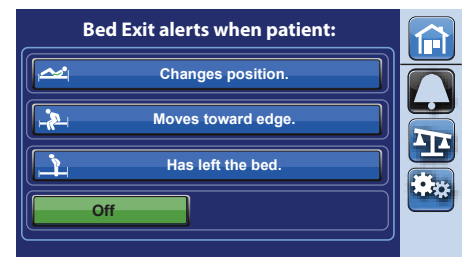
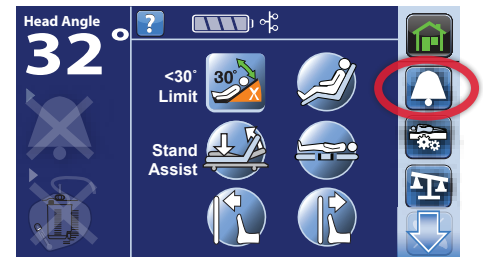
To turn on the bed exit alert:

1. Press the Bell icon in the Navigation Menu of the touchscreen. Use the UP arrow if you do not see the Bed Exit icon.
 - Position the patient in the center of the bed for "Changes position" and "Moves towards the edge" settings.
 - For "Has left the bed" setting, the bed exit alert can be set with the patient setting on the edge of the bed.
2. Select the most appropriate setting for your patient.
3. Listen for a single beep and look for the Bed Exit On icon indicating the system is armed. The Bed Exit Alert bell indicator on the head right siderail turns solid green. The bed exit icon on the home screen will now be outlined in green. After 3-minutes of no GCI activity, the status screen shows a Bed Exit On indicator.

If equipped with SafeView®+ System, the blue bell icon turns solid green, another indication that bed exit is on.

Once armed, if the bed senses extra weight such as the weight of a family member or heavy equipment, the bed will triple beep and a message will appear on the touchscreen indicating additional weight has been detected. Remove the weight or the alert will sound in 45-seconds. Not removing may affect bed exit sensitivity.

To deactivate the alert, press the bell icon in the Navigation Menu, press Bed Exit Off. The Alert Status Indicator changes to an "X," the icon is no longer green. "Exit Alert Off" message will appear on the touchscreen for 10-seconds.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Bed Exit Alert System: Respond and Silence

When a patient triggers the bed exit alert system, an alert sounds. If the bed is plugged into the Nurse Call system, a priority alert will be sent to the nurse's station, to the caregiver's phone or pager, and the dome light above the patient's door will flash.

If the bed is equipped with verbal safety prompt, the patient will hear four-beeps plus a verbal reminder "Please don't get up," AND if plugged into nurse call, "The care team has been called."

Other indicators, such as the SafeView®+ bell icon and the IllumiGuide™ handrail, will flash amber, indicating an alert has been triggered.

Silence the Bed Exit Alert System without deactivating the system.

To respond to an alert, select Silence on the GCI touchscreen or press the Alert Silence control on the siderail. This will Silence the alert for an initial 30-seconds with the option to add 1 or 5-minutes of silence, if more time is needed with the patient.

Bed Exit Alert System: Pre-emptive Silence

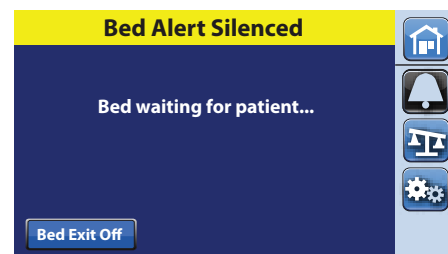
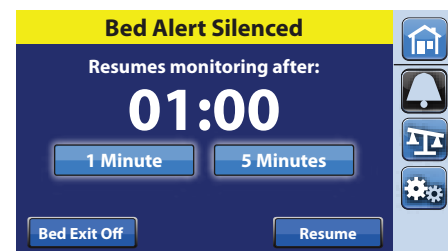
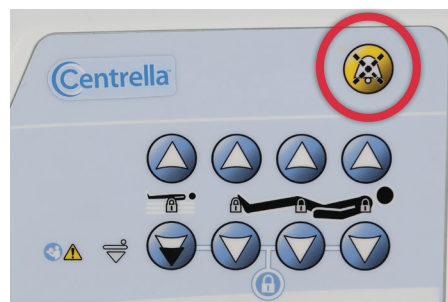
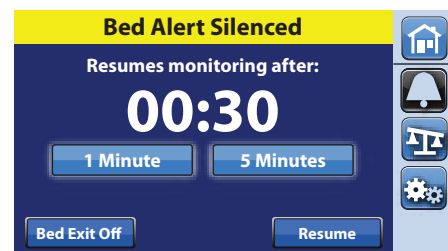
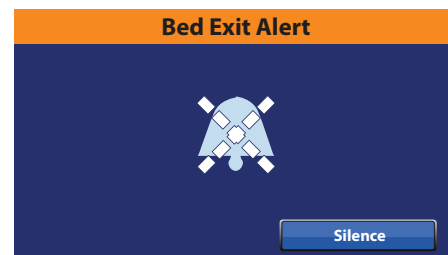
To avoid triggering the alert, pre-emptively silence the alert before caring for the patient by pressing the Alert Silence control on the siderail until the yellow indicator light turns on. The touchscreen displays Bed Exit Silenced and will silence the alert for an initial 30-seconds, with the option to add 1 or 5-minutes of silence, if more time is needed with the patient.

While the alert is silence, a low-volume, triple beep will sound every 10-seconds, and if available, the SafeView®+ and IllumiGuide™ lights will be solid amber. These are reminders to Resume the alert before leaving the patient.

NOTE: During this Silence mode, the system stops monitoring patient movements; therefore, the system will not notify the care team or alert. While the system is in the Silence mode, you can change the position of the patient or assist the patient out of the bed.

If you finish the task before the silence timer has expired, press Resume on the touchscreen or press the Bed Exit Alert control on the siderail to reactivate the Bed Exit Alert.

When the alert is silenced and the patient gets out of bed, the bed goes into a "Bed waiting for patient" mode and if equipped, the SafeView®+ bed exit icon and IllumiGuide® lights will be solid amber. When in silence and the patient is not in the bed, the amber bed exit icon will be the only icon projected on the floor and the low-volume triple beep will not sound. The bed will remain in this state until the patient returns to the bed or the Bed Exit alert is turned Off.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

When the bed senses the patient back in bed, the bed exit system will automatically rearm.

Silence and reset the Bed Exit Alarm without ever turning it off!

- For Position and Exiting modes, the patient needs to be in the center of the bed for Bed Exit to resume monitoring.
- For the Out of Bed mode, the bed will resume the Bed Exit monitoring when the patient gets back into bed.

If the bed is unplugged for transport when the Bed Exit is armed, the alert will automatically re-arm when plugged back into power. It does NOT work on battery backup.

GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Centrella® max Controls (Optional Feature)

Contraindication: The use of a powered air surface with patients with unstabilized spinal cord injury could cause serious injury to the patient.

The surface automatically adjusts the air system to accommodate changes in weight distribution such as when the head is elevated or a patient turns from their side to their back.

Pressure redistribution therapy is always active unless:

- Max Inflate is active
- Power is not available
- An error has occurred with the surface

Surface Modes

Normal mode provides continuous full-body pressure redistribution for patients.

Max Inflate mode maximizes the firmness of the surface to assist in patient handling such as surface-to-surface transfers and/or patient repositioning.

1. Press the Surface Menu control located in the Navigation Menu of the home screen. It will stay in Max Inflate for 15-minutes unless deactivated. When 2-minutes remain, the bed will triple beep and a message appears on the touchscreen reminding you Max Inflate is ending.
2. Press Reset if you need more time or let it return to Normal mode.

Turn Assist helps the caregiver turn the patient to the left or right. This can be used for procedures such as patient positioning and linen changes.

NOTE: Right Turn control turns the patient to the patient's right side.

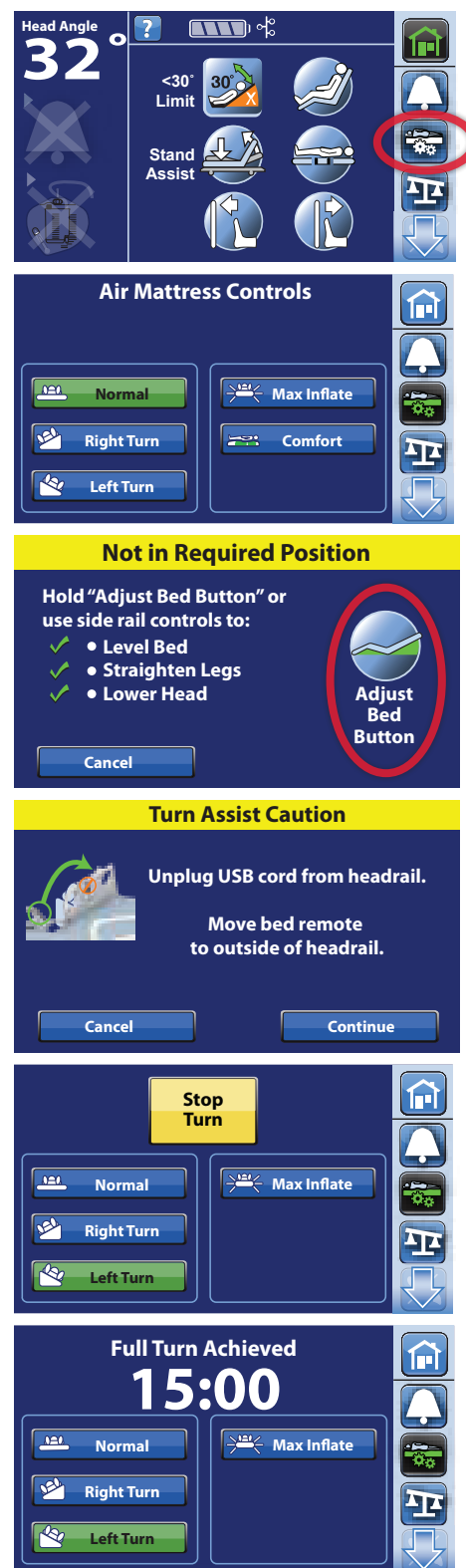
1. Press the Surface Menu control in the Navigation Menu of the home screen.
2. Select Right Turn or Left Turn. A triple beep sounds and a message appears as a reminder to remove USB charge cable from the port and to place patient pendant on outside headrail.
3. Select Continue.

If the bed is not in the correct position to activate Turn Assist, such as if the head-of-bed is greater than 25°, press and hold the Adjust Bed Button to correct the bed's position, then select Continue.

The siderail that the patient is turning towards **MUST** be in the up position to activate Turn Assist. If the siderail is down, a message will appear, reminding you to raise the rail. Raise the rail, press Close then press Turn Assist again.

NOTES:

- For proper operation, there must be a minimum of 32 kgs (70 lbs) on the surface.
- Use loose, fitted sheets, preferably knitted, for maximum pressure redistribution.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Scale Operations

Standard on all Centrella® beds, the built-in scale allows you to take a patient's weight while in the bed.

Not included in Zero and Weigh Processes:

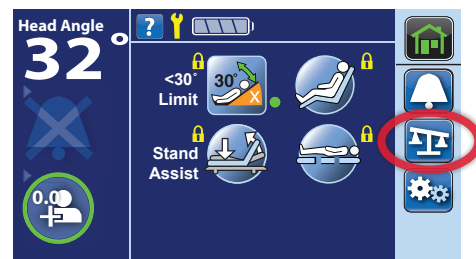
- Headboard and any device mounted to the head-end of the bed

Included in Zero and Weigh Processes:

- Equipment and linen attached to any part of the bed that moves, including the siderails, footboard and foot-end sockets.

NOTES:

- Scale only operates when connected to power. Last zero and the history of last weight are maintained when the bed is not connected to power.
- The scale is very sensitive. Make sure the bed is not touching anything that could affect the patient weight, such as a wall or furniture. Failure to do so could cause an inaccurate reading.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Zeroing the Scale

There are two ways to zero the scale:

New Patient Zero:

- Clears previous patient weight history
- Zeros the scale
- Resets bed to facility's default settings (i.e., siderail protocol, comfort adjust on Centrella® max surface)

Same Patient Re-Zero:

- Keeps patient weight history and bed settings customized for that patient.
- Zeros the scale

For demonstration purposes, we will select Zero for New Patient. The steps are the same for Same Patient Re-Zero.

1. Select the Scale icon in the Navigation Menu.
2. Place all standard linens and items, including patient pendant control, on the bed
3. Select Zero and let go.

NOTE: When zero is complete, you will hear a single beep and the message "Ready for New Patient" appears on the touchscreen until the screen is touched.

If during the zeroing process, the bed is not in the "Required Bed Position," you will hear a triple beep and additional directions appear on the touchscreen.

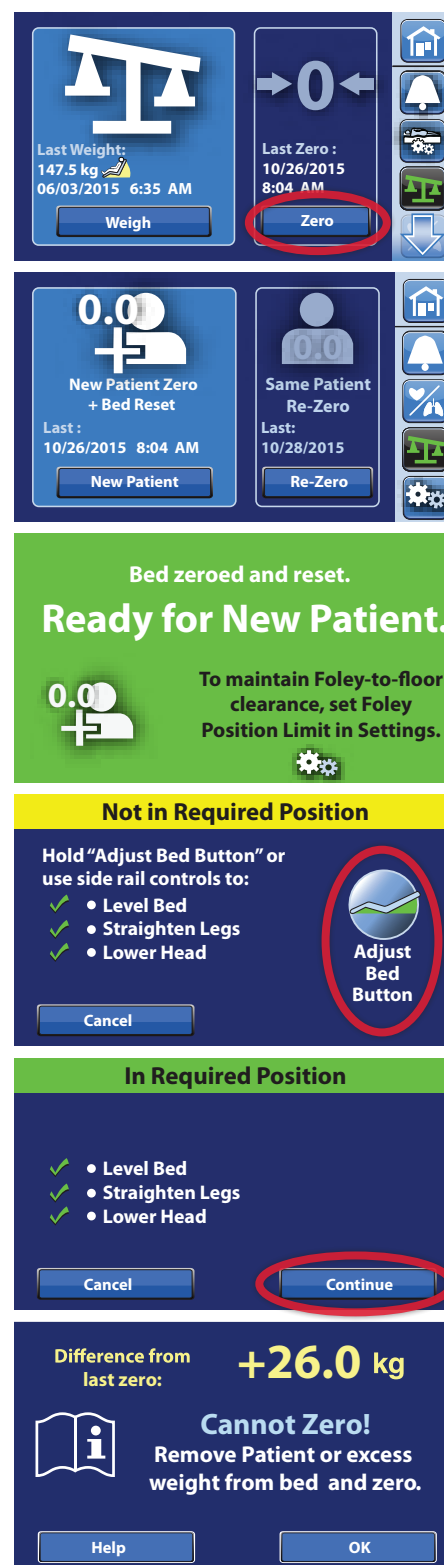
Required Bed Position:

- HOB is $<35^{\circ}$
- Knees are $<25^{\circ}$
- Foot angle is $<10^{\circ}$

Press and hold the Adjust Bed Button on the touchscreen to automatically place the bed into the correct position until you hear the single beep confirming the bed is in the required position. Select Continue.

NOTES:

- To check when the scale was last zeroed, select the Scale icon. There will be a date for last New Patient Zero and for the last Same Patient Re-Zero.
- Bed will not zero if it detects >2 kgs of weight difference to prevent zeroing the scale with excess equipment.
- Bed will not zero if it detects >45 kilograms to prevent zeroing the scale with the patient in the bed.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Weighing the Patient

1. Press the Scale icon located in the Navigation Menu of the home screen.

NOTE: If the patient has been weighed previously, the last recorded weight with date and time will appear on the left side.

2. Follow the on-screen instructions. Remove drainage bags, equipment and excess linen from the upper frame, siderails, and foot-end of the bed. Select Weigh.

NOTE: Items not on the bed during zeroing will be included in the patient's weight.

3. Press OK and let go.

When the process is complete, you will hear a single beep and the current weight in kgs will be displayed, with the date and time, and a variance from the previous weight, if one was taken.

NOTE: Before accepting the weight, to see the weight in lbs, you can press and hold the lbs square to momentarily display the weight in lbs.

4. Press Save to save the weight. You will hear a single beep confirming that the weight has been saved. If you forget to save the weight, the bed will remind you before you can select any other options.

NOTE: When saved, you can retrieve the weight from the main scale screen that displays last date/time for weigh and zero.

If during the weigh process the bed is not in "Optimum Position", you will hear a triple beep and a message will appear on the screen.

The bed is "Not in Optimum Position" when:

- Head-of-bed is $>35^{\circ}$
- Knees are raised $>25^{\circ}$
- Foot angle is $>10^{\circ}$

If the patient cannot tolerate having their position changed, press Continue to weigh in this position.

NOTE: An icon will indicate that the patient was not in optimal position when the weight was taken.

If the patient can be repositioned, press and hold the Adjust Bed button to adjust the bed into the optimal position. After you hear the single beep, press Continue.

WARNING: A patient cannot be weighed if:

- The patient is < 32 kgs (70 lbs) or >227 kgs (500 lbs).
- The patient is not centered in the bed.
- The patient is causing excessive bed movement.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

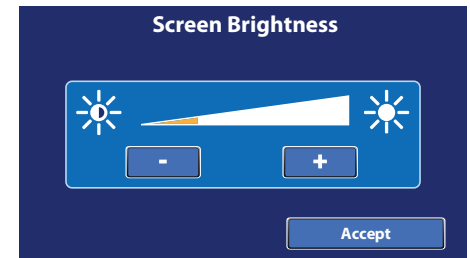
Settings & Preferences Bed Features

To access the Settings/Preference controls, select the Settings Menu control on the bottom of the Navigation Menu. Use the down arrow if you do not see the Settings Menu control.

On the left side of the Settings Menu, you can change settings by following the on-screen instructions for Bed Features such as: SafeView®+ System, Siderail Lights, Siderail Protocol, USB Charging Port, and Voice Alerts. You can also adjust the touchscreen brightness and set the Foley Position Limit.

NOTE:

- When the scale is Zeroed for a New Patient, all settings will return to the facility's default settings.
- Not all bed models are equipped with all these features
- The list on the right side is intended as service information for facility-authorized maintenance and service technicians.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Verbal Safety Prompts On/Off & Language Options

Beds equipped with the verbal safety prompts feature provide guidance to the patient or caregiver. You may select English, Spanish or French.

To access the verbal safety prompt settings, press the Settings Menu control in the Navigation Menu of the home screen, press Bed Features, then press Voice Alerts.

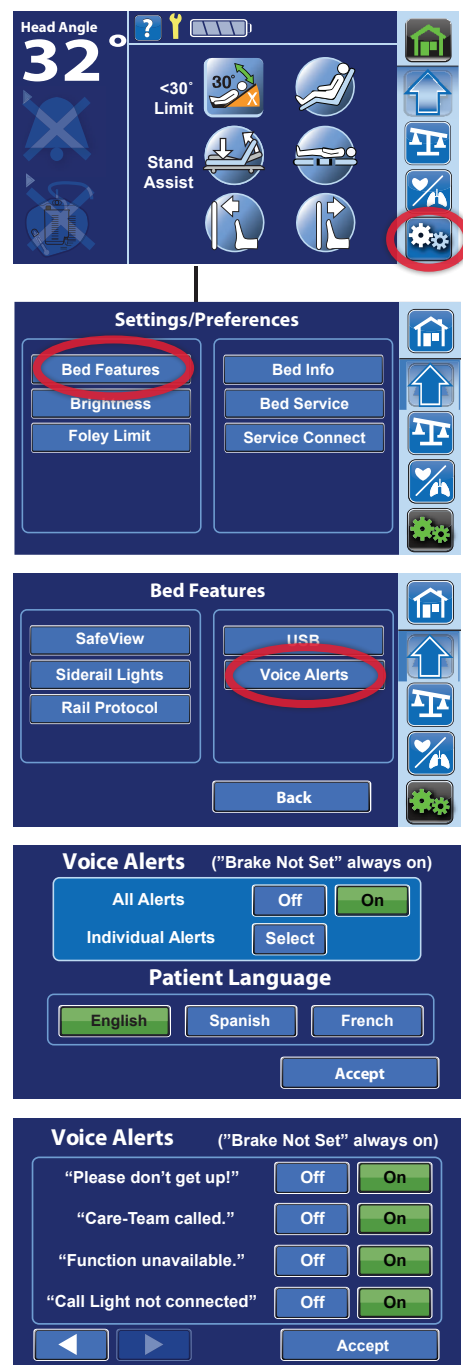
You have three options:

- All Alerts Off —turns off all voice alerts, except the “Brake not Set” alert can never be turned off.
- All Alerts On —turns on all voice alerts.
- Individual Alerts Select— allows you to customize the voice alerts.

Select on/off as desired, press Accept to lock in changes, then press the back arrow to return to the previous screen.

Select the patient’s language and press Accept.

Screen Brightness of the GCI Touchscreen can be adjusted to accommodate patient light-sensitivities at night.



GRAPHICAL CAREGIVER INTERFACE (GCI)[®] TOUCHSCREEN

Introduction

Your Centrella[®] Smart+ bed has the capability to continuously monitor a patient's heart rate and respiratory rate without ever touching the patient. Monitoring these two vital signs continuously allows you to be notified as soon as there is a change in your patient's condition. Enabling you to intervene before a patient becomes critical and avoiding adverse events. Your administration believes strongly that having continuous vital sign data is an important tool to help support your efforts to provide the highest level of patient care.

How does it work

Underneath your patient's mattress is a small sensor that is hooked onto the bed that will be monitoring the patient's Heart Rate & Respiratory Rate, (show sensor). The system is accurate within:

- + or – 5 BPM for heart rate as compared to ECG
- + or – 2 br/min as compared to respiratory belts

GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Zeroing the Scale

New Patient Zero:

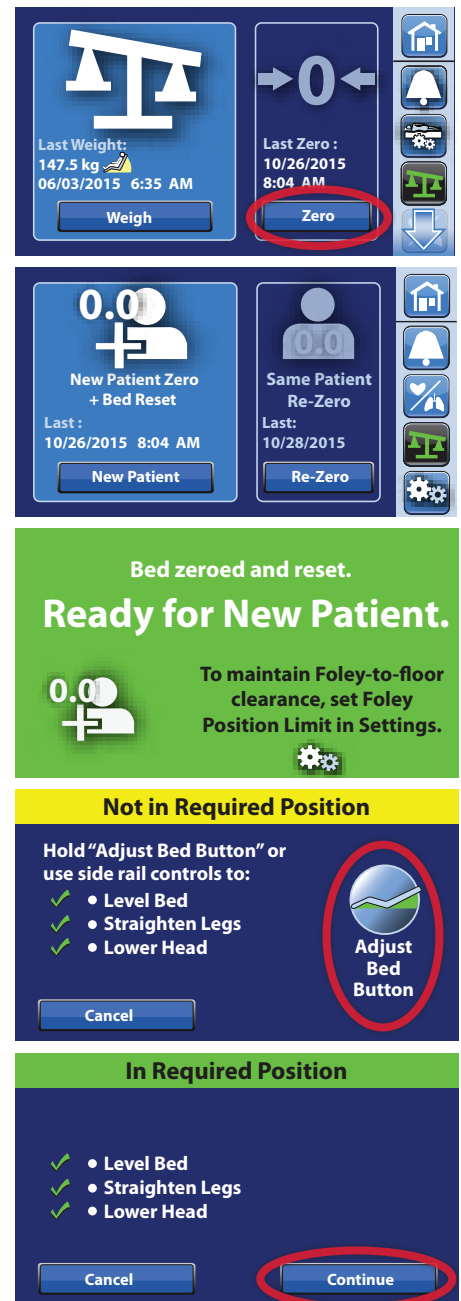
- Clears previous patient weight history
- Zeros the scale
- Resets bed to facility's default settings
- Turns off Bed Exit System
- Clears HR/RR monitoring trend history
- Sets HR/RR monitoring to default setting
 - Heart Rate Thresholds: 40 – 130 BPM
 - Respiratory Rate Thresholds 8 – 32 Br./min

If during the new patient process, the bed is not in the "Required Bed Position," you will hear a triple beep and additional directions appear on the touchscreen.

Required Bed Position:

- HOB is $<35^{\circ}$
- Knees are $<25^{\circ}$
- Foot angle $<10^{\circ}$

Press and hold the Adjust Bed Button on the touchscreen to automatically place the bed into the correct position until you hear the single beep confirming the bed is in the required position. Select Continue.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Using Heart Rate & Respiratory Rate Monitoring

Initial Patient Usage:

Once the bed is activated for HR/RR Monitoring, and the bed is set for a new patient, simply place the patient in the bed and the HR/RR monitoring will automatically begin.

- It will take a few cardiac and respiratory rate cycles for the system to detect HR/RR.

If the patient is successfully being monitored:

- The current HR/RR readings will show on the GCI touchscreen.
- If the Centrella® bed is equipped with Safeview®+ feature, the footend icon will go from white to green.

HR/RR is updated twice per second and is reflective of the past minute.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Heart Rate & Respiratory Rate Monitoring Thresholds

Default Threshold Settings:

There are default heart rate and respiratory rate threshold settings.

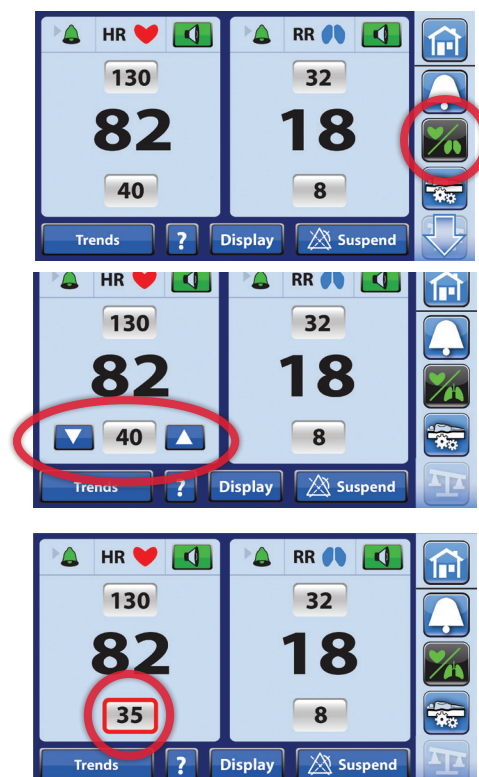
Experience has shown that these settings are appropriate a large majority of the time. Those default settings are:

- Heart Rate Thresholds: 40 – 130 BPM
- Respiratory Rate Thresholds 8 – 32 Br./min

If the trend of the patient's vitals cross these thresholds the system will alert.

To change the Threshold Settings:

- Verify your hospitals protocol for patient monitoring.
- Using the GCI touchscreen:
 - Select the Lung/Heart Icon.
 - Select the alarm threshold you want to change.
 - Press the Up and Down arrows to the desired threshold.
 - A red box will show around the number if the number is changed from the default threshold.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Heart Rate & Respiratory Rate Monitoring Alerts

HR/RR Monitoring Alerts (bedside)

If the HR/RR thresholds are crossed:

- The GCI touchscreen will turn yellow and will indicate which threshold was crossed.
- An audible alarm will sound.
- If your Centrella® bed is equipped with Safeview®+ feature, the HR/RR icon will turn from green to flashing amber.

HR/RR Monitoring Alerts (nurse call)

Your Centrella® Smart+ bed has the ability to send alerts through your nurse call system. These alerts can be sent to dome lights, status boards and mobile devices.

Navicare® Nurse Call Users – A specific “Patient Deterioration” alert will be sent.

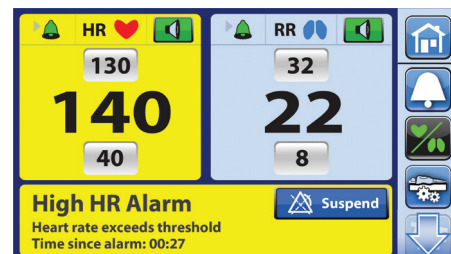
Other Nurse Call Users – Generic “Priority” alert will be sent.

Acknowledging Alerts

A caregiver must go into the patient room to acknowledge an alert. On the GCI touchscreen you can:

- Select Suspend to silence the alert for 15-minutes.

Once a caregiver selects how they acknowledge the alert, a patient assessment should be performed.



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

Heart Rate & Respiratory Rate Monitoring Trends

HR/RR Monitoring Trends

The Centrella® Smart+ bed has the capability to collect and display trend information. Because the system collects vital sign values twice per second, the trend screen can provide a detailed clinical picture of the patient's condition. The trends screen will show up to 7-days worth of data. To access the trends screen:

- Select the Lung/Heart Icon.
- Select Trends.

A trends information screen will show:

- Select Accept to move forward.

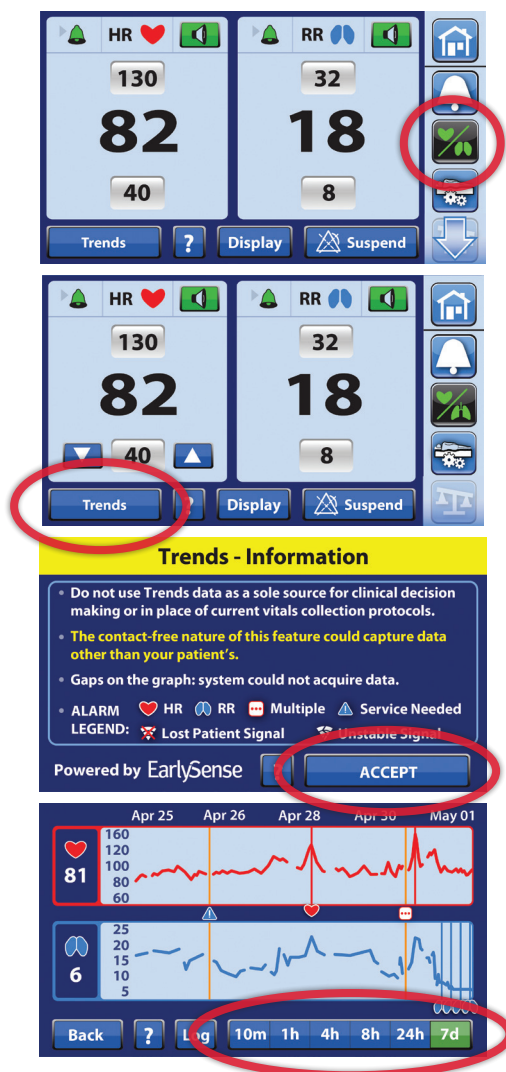
Trends Screen Overview

- The top graph represents the heart rate trend.
- The lower graph represents the respiratory rate trend.
- A vertical line on the graph indicates an alert.

Because the system collects vital sign values twice per second, the trend screen can provide a very detailed clinical picture of the patient's condition. This can help you detect changes even prior to crossing that alarm thresholds.

To adjust the time frame of trend information select the appropriate range:

- 10 minutes, 1, 4, 8 or 24 hours as well as 7 days



GRAPHICAL CAREGIVER INTERFACE (GCI)® TOUCHSCREEN

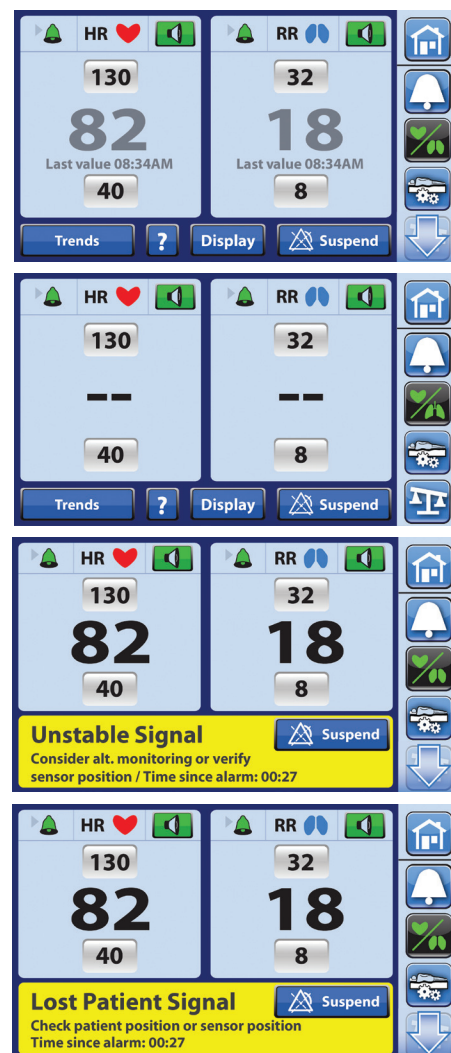
Heart Rate & Respiratory Rate Monitoring Screens

Throughout a patient's admission you may see gray values. This means that the system could not detect a stable signal. This could be due to movement, eating, talking etc. The system is still collecting data but will not display an active reading until it can be registered again. This is to ensure there aren't any false alarms.

Unstable Signal – An Unstable Alert will show.

Lost Patient Signal – This indicates that the system has lost this patient's signal.

If either of these signals occur the course of action would be to assess the patient and potentially consider alternative monitoring based on the clinical assessment.



Hill-Rom is a leading global medical technology company with more than 10,000 employees worldwide. We partner with health care providers in more than 100 countries, across all care settings, by focusing on patient care solutions that improve clinical and economic outcomes in five core areas: **Advancing Mobility, Wound Care and Prevention, Patient Monitoring and Diagnostics, Surgical Safety and Efficiency and Respiratory Health.** Hill-Rom's people, products and programs work towards one mission: **Every day, around the world, we enhance outcomes for patients and their caregivers.**

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