



CENTRELLA® SMART+ BED

Because life-altering moments
deserve elevated care



Hillrom™

The Evolving State of Med-Surg



INCREASING PATIENTS, ACUITY AND COMPLEXITY

STAGNANT TECHNOLOGY & INNOVATIONS

COST CONSTRAINTS

HIGH PATIENT-TO-NURSE RATIOS

STAFF TURNOVER, RETENTION AND TRAINING



CONSTANT CHANGE AND INCREASED COMPLEXITY IN MED-SURG REQUIRE A COMPREHENSIVE SOLUTION

Optimized Patient Safety

Enhanced Patient Satisfaction

Advanced Caregiver-Focused
Technology



Hillrom™





Optimized Patient Safety



+



+



+



Fall Prevention

Pressure Injury
Prevention

Early Recognition
of Patient
Deterioration

Real-Time
Incontinence
Detection

Enhanced Patient Satisfaction

Advanced Caregiver-Focused Technology



Hillrom™

Help Prevent the 'Never Event' That Happens Daily

ANNUALLY, IN THE AVERAGE
100-BED FACILITY, FALLS ARE
PREVALENT AND COSTLY EVENTS.

179

PATIENTS WILL
FALL¹

59

PATIENTS WILL
BE INJURED.¹



RESULT:
YOUR FACILITY MAY
BEAR COSTS OF \$1.3M
OR MORE PER YEAR.²

Elevate Care: Optimize Patient Safety with Safeview®+ System and 3-Mode Bed Exit

HILLROM™ 3-MODE BED EXIT ALARM AND FALL PREVENTION PROGRAM HELPED RESULT IN:

↓ **23%** REDUCTION IN TOTAL FALLS.

↓ **58%** REDUCTION IN FALLS WITH MODERATE/MAJOR INJURY.

over a four-year period according to a study conducted at San Francisco General Hospital.³



Together, we can reduce patient falls one Centrella® Smart+ Bed at a time.

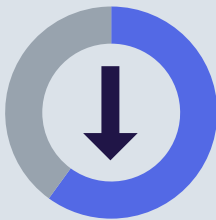
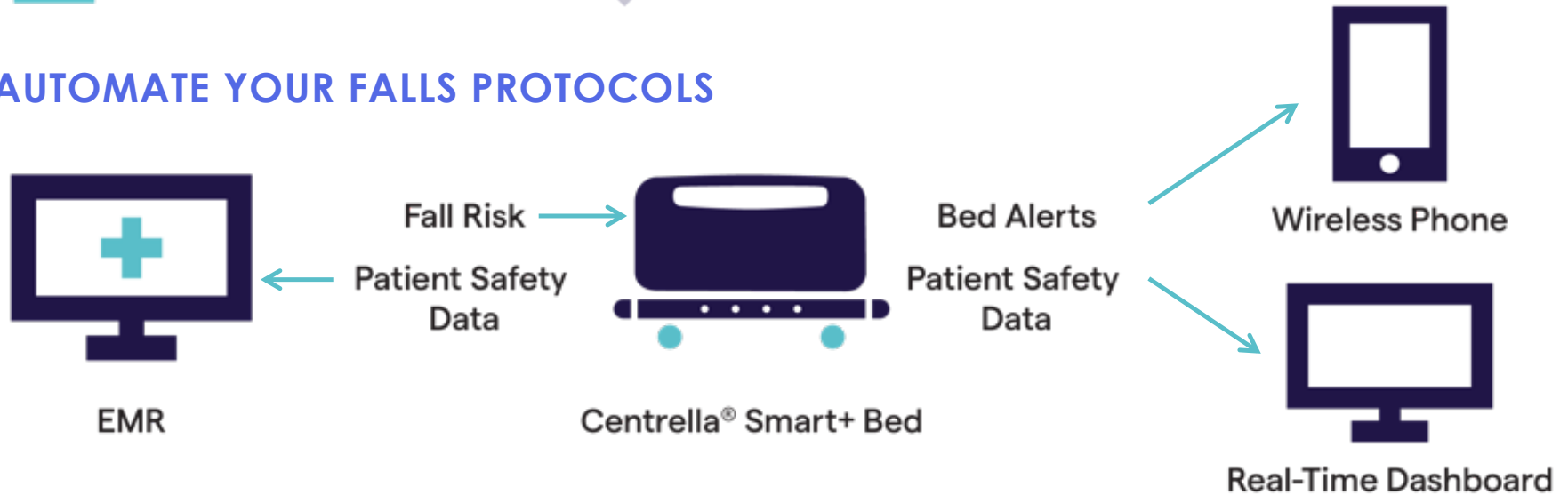


Hillrom™

NaviCare® Patient Safety



AUTOMATE YOUR FALLS PROTOCOLS



PROVEN TO REDUCE THE AVERAGE RATE OF FALLS BY 62%.⁴

Reduce the Prevalence of Pressure Injuries And Overall Cost of Care

ANNUALLY, IN THE AVERAGE 100-BED FACILITY, PRESSURE INJURIES ARE PREVALENT AND COSTLY EVENTS.

170 PATIENTS WILL
ACQUIRE A
PRESSURE INJURY

RESULT: Your facility could bear costs of \$1.8m or more per year.^{5,6,7}

Using the IPUPTM Survey + HillromTM and WOCN® Surface Algorithm + HillromTM Surface Technologies helped one facility achieve a

↓ **33%** REDUCTION
IN PRESSURE INJURY
PREVALENCE.⁸



Pressure Injury Prevention



Centrella® max Surface

4X↑
7X↑

Focused Advanced Microclimate® Technology

– Removes up to 4X more heat and 7X more moisture.⁹

13%↓

Weight-Based Pressure Redistribution

– Up to 13% less peak sacral pressure.⁹

77%↑

Enhanced Turn Assist

– More effective turn in 77% less time.¹¹

Centrella® pro Surface

↓21%

Targeted Pressure Redistribution

– Up to 21% less peak sacral pressure.⁹

5X↑

Best-in-class Comfort

– Rated 5X more comfortable.¹⁰



Enable Earlier Recognition of Patient Deterioration



CONTACT-FREE, CONTINUOUS MONITORING, POWERED BY EARLYSENSE

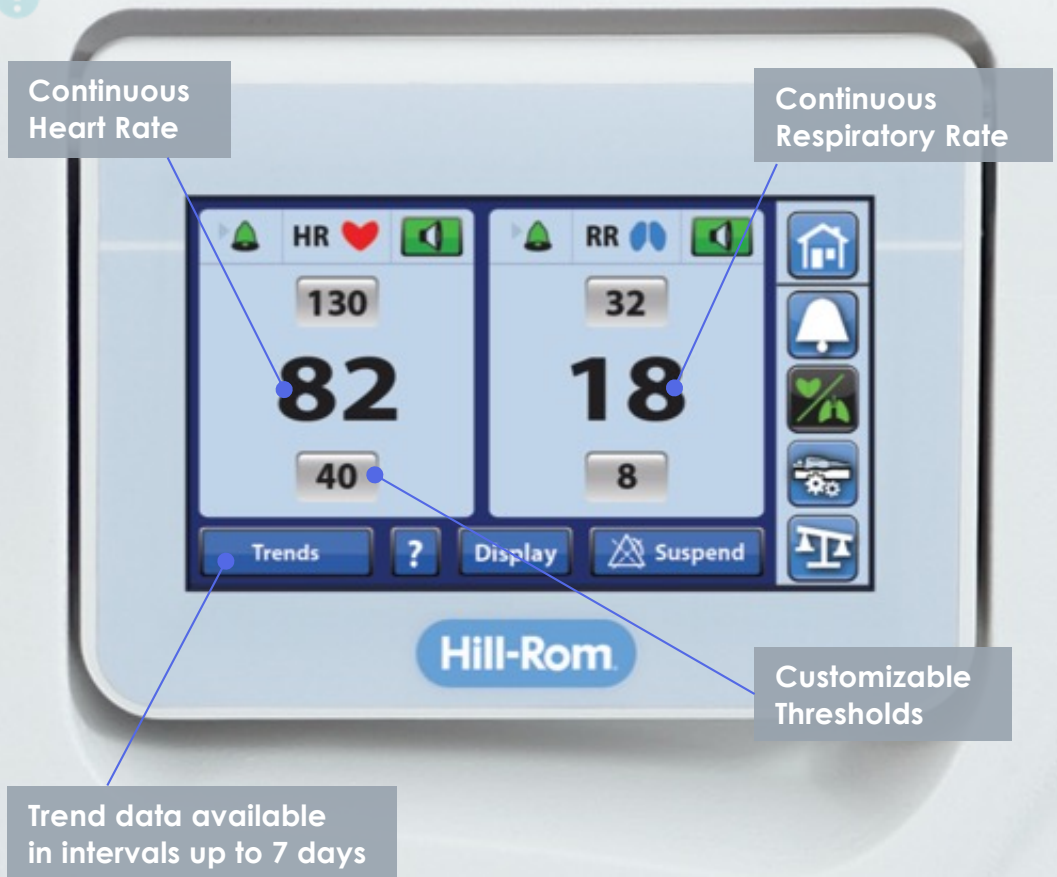
The only contact-free, continuous monitoring solution integrated into a platform, designed for the med-surg patient.

Continuous monitoring in an inpatient 33-bed med-surg unit led to:¹²

↓ **86%** Reduction in Number of Code Blue Events

↓ **45%** Reduction in Number of ICU days on patients transferred from med-surg

↓ **9%** Reduction in Length of Stay



Trend data available in intervals up to 7 days

Earlier Recognition of Patient Deterioration



Contact-Free,
Continuous
Monitoring +
Trend Indication



Early
Recognition
of Patient
Deterioration



Earlier
Intervention



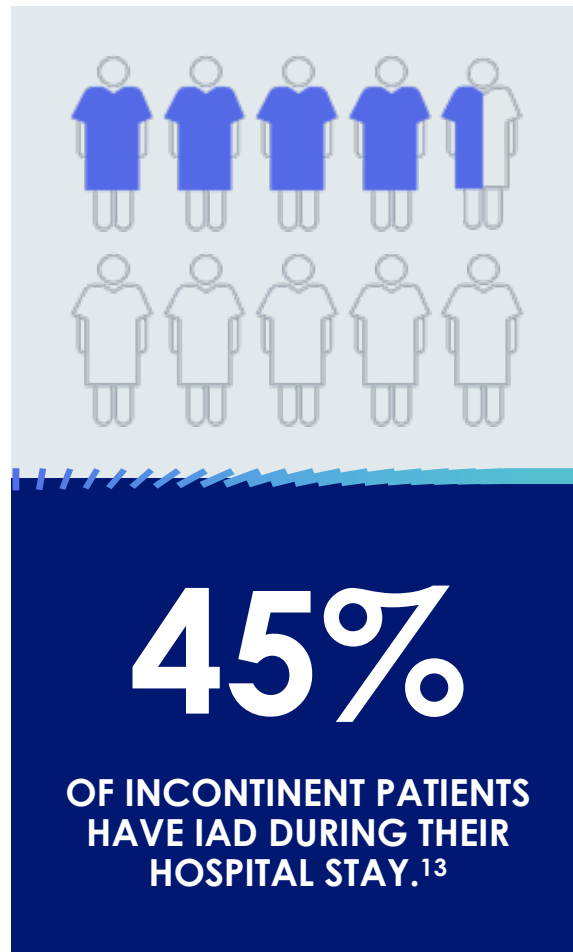
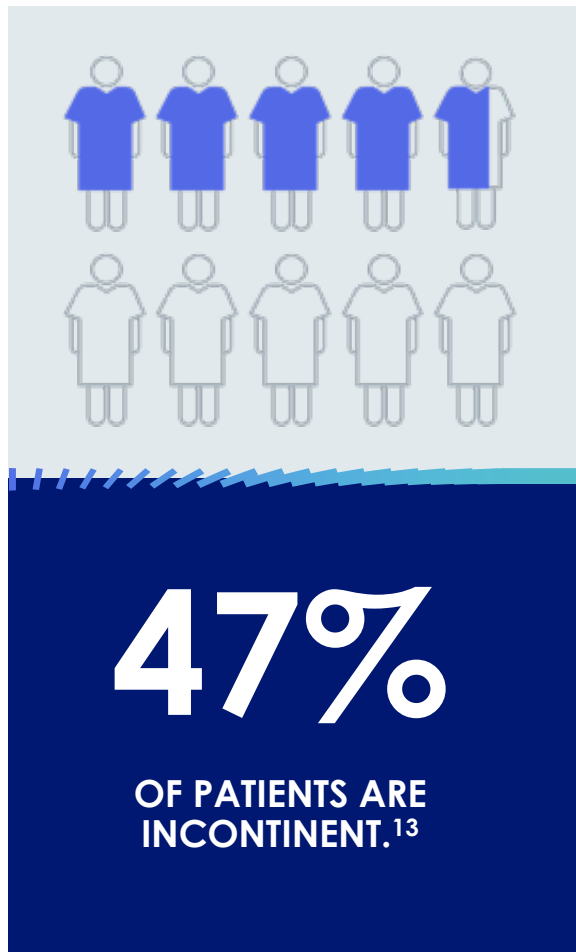
Improved
Patient Safety
Outcomes



Reduced
Financial Burden



Elevate the Patient Experience and Enhance Safety Through Real-Time Incontinence Management.



WatchCare™ Incontinence Management System



PROTECT PATIENT'S SKIN

- Provides timely alerts to help reduce patient exposure to moisture
- May minimize the threat of painful IAD and full-thickness pressure injuries

IMPROVE PATIENT EXPERIENCE

- Allows resting patients to be monitored without awkward incontinence checks
- Eliminates the embarrassment of self-reporting and promotes dignity

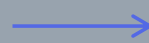
OPTIMIZE CAREGIVER EFFECTIVENESS

- Promotes responsiveness to incontinent events
- Provides caregivers with information to prioritize the right patient, at the right time

SKIN CAN BE COMPROMISED IN AS LITTLE AS 15 MINUTES AFTER EXPOSURE TO MOISTURE, DESPITE THE USE OF A PREMIUM UNDERPAD.¹⁵

IN A MED SURG UNIT,
TIME WAS REDUCED FROM:

2+ HOURS



19 MINUTES

FOR SKIN EXPOSED
TO MOISTURE.¹⁶

Enhanced Patient Satisfaction

Optimized Patient Safety

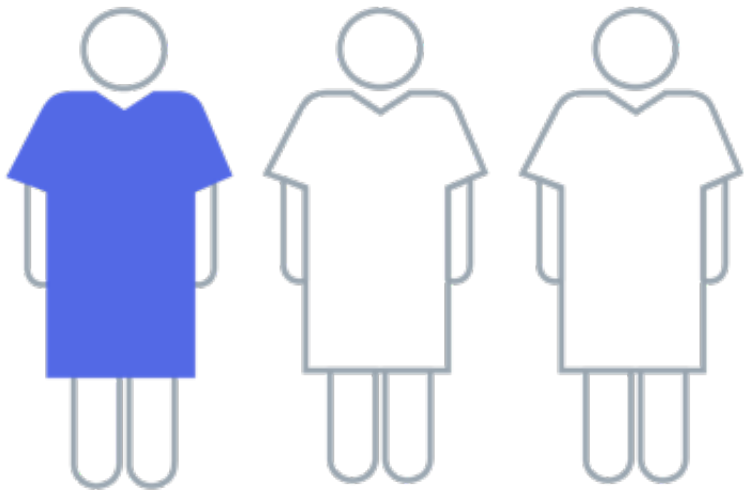
Advanced Caregiver-Focused Technology



Hillrom™

Patient Dissatisfaction is More Common Than You Think

1 IN 3 PATIENTS LEAVE AN AVERAGE HOSPITAL LESS THAN FULLY SATISFIED.¹⁷



When the patient experience declines, so does your reimbursement.



Annually, in the average 100-bed facility:^{18,19}

\$923,000

will be withheld in Centers for Medicare & Medicaid Services (CMS) reimbursement.

\$462,000

will be directly related to Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) and Efficiency of Care.

Centrella® Smart+ Bed Technology

DESIGNED WITH THE PATIENT EXPERIENCE IN MIND



"The bed is very comfortable. Easy to use, has awesome features. I like how you can adjust the firmness on your own, and that the remote for the bed controls everything."



COMMUNICATION

NURSE CALL FEATURE:

Only visible when connected to nurse call and provides audible and visible confirmation of placed calls.

COMFORT

Comment from a patient about the Centrella® Smart+ bed at a 350-bed facility in Michigan.

CONVENIENCE

USB PORT AND DEVICE STORAGE AREA:

Patients can conveniently charge personal devices and store personal items.



Transforming the Patient Experience with the Experience POD™ Device

The Experience POD™ device offers a control panel, USB charging, and personal device holder to help bring home entertainment to the hospital. While in bed, patients can use their own devices to surf the internet, stay in touch with family and friends, and access entertainment such as Netflix and HBO- all hands free!

THE EXPERIENCE POD™ DEVICE ALSO INCLUDES:

- Location to mount and charge a personal device
- Patient controls, including comfort adjust
- Active nurse call button



Advanced Caregiver- Focused Technology

Optimized Patient Safety

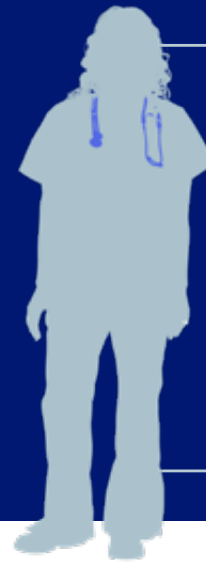
Enhanced Patient Satisfaction



Hillrom™

The Demands on the Med-Surg Nurse Continue to Increase

**MANY MED-SURG
NURSES MANAGE 5-7
PATIENTS AT A TIME.²⁰**



High patient volume is a dangerous pattern and can lead to increased harm to patients including healthcare-associated infections, increased length of stay and higher rates of readmission.²¹

Graphical Caregiver Interface (GCI)[®] Touchscreen

THOUGHTFULLY DESIGNED FOR EASE-OF-USE AND EFFICIENCY



Home



3-mode Bed Exit
Alert Setting



Contact-Free, Continuous
Monitoring



Surface
Menu



Scale Functions/
Settings



Help Menu



Technology Focused on Keeping Caregivers Safe

HELPS REDUCE THE STRESS AND STRAIN ON CAREGIVERS



PATIENT TRANSPORT

INTELLIDRIVE® POWERED TRANSPORT:

Reduce the stress and strain, especially during long patient transports.



PATIENT TURNS

ENHANCED TURN ASSIST:

Turn patients up to 30 degrees in 30 seconds –

77% MORE EFFECTIVE than other beds.¹¹



PATIENT REPOSITIONING

BOOST® POSITIONING FEATURE:

Places bed in optimal position to boost patients towards the head of bed.

Smart Bed Technology Enables Wired or Wireless Bed Connectivity

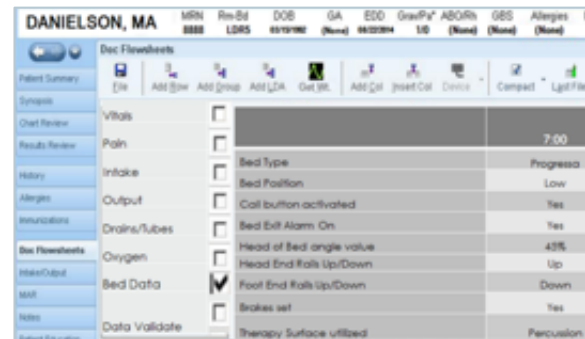
MAKES BED DATA VISIBLE, USEFUL AND ACTIONABLE TO AID IN YOUR PATIENT SAFETY INITIATIVES

Room	Patient	Risks	Rails	Exit	Low	Brake	HOB	Weight
1201N-A	Am...A	Falls Pulmonary					43.0°	73.1 kg
1201N-B	Ww...W	Falls Skin					32.1°	Not Taken
1202N	Sa...S	Falls					43.6°	95.2 kg
1205N	Qu...Q						35.7°	65.4 kg

Status Board: Visibility into patient bed safety status from outside the patient room.

Organization	Bed	Event Date	Event Time	Bed Property - State	Bed Property - State Value
	6703 [A]	09/20/2016	05:50:53	Foot Rails - Left Rail Down	
	6703 [A]	09/20/2016	05:51:30	Bed Height - Low	
	6703 [A]	09/20/2016	06:06:46	Head Rails - Left Rail Down	
	6703 [A]	09/20/2016	06:10:51	Head Rails - Both Rails Up	
	6703 [A]	09/20/2016	06:10:52	Foot Rails - Both Rails Up	
	6703 [A]	09/20/2016	06:18:54	Bed Height - Not Low	
	6703 [A]	09/20/2016	06:19:21	Foot Rails - Left Rail Down	
	6703 [A]	09/20/2016	06:24:58	Foot Rails - Both Rails Up	
	6703 [A]	09/20/2016	06:25:41	Bed Height - Low	
	6703 [A]	09/20/2016	08:15:41	Bed Brakes - On	
	6703 [A]	09/20/2016	08:15:41	Bed Exit - Off	
	6703 [A]	09/20/2016	08:15:41	Bed Height - Not Low	
	6703 [A]	09/20/2016	08:15:41	Connection State - Connected	
	6703 [A]	09/20/2016	08:16:33	Patient Weight in Kg	63.6
	6703 [A]	09/20/2016	08:33:27	HOB Angle in Degrees	21.3

Enterprise Reporting: Reports that provide analytics to drive continuous improvement.



EMR Integration: Data sent directly to the EMR to reduce manual documentation.

Frame ID	Location	Data	Possible Cause of Issue
XXU9LEW4ODIO	2-North 215	Y	
NWZK0878D0EU	4-North 411	Y	
672NAK06YFHN	4-North 408	Y	
KJBMAFC955JV	Not Located	N	Asset Tag or Bed Out of Range
3CBFDKWSL15A	3-West 309	N	Network or Bed Power Cable
68YPDHD0E7KH	Not Located	N	Asset Tag Detached
Q8NUBMEKPFJ2	3-West 301	Y	

Device Manager: Troubleshooting information for increased bed up-time.*

Centrella® Smart+ Bed

THE EXTENSION OF YOUR CARE TEAM

Centrella® Smart+ Bed

Therapeutic Surfaces

Patient Safety Applications



Therapeutic Surfaces

THE EXTENSION OF YOUR CARE TEAM

Centrella® Smart+ Bed

Therapeutic Surfaces

Patient Safety Applications



Patient Safety Applications

THE EXTENSION OF YOUR CARE TEAM

Centrella® Smart+ Bed

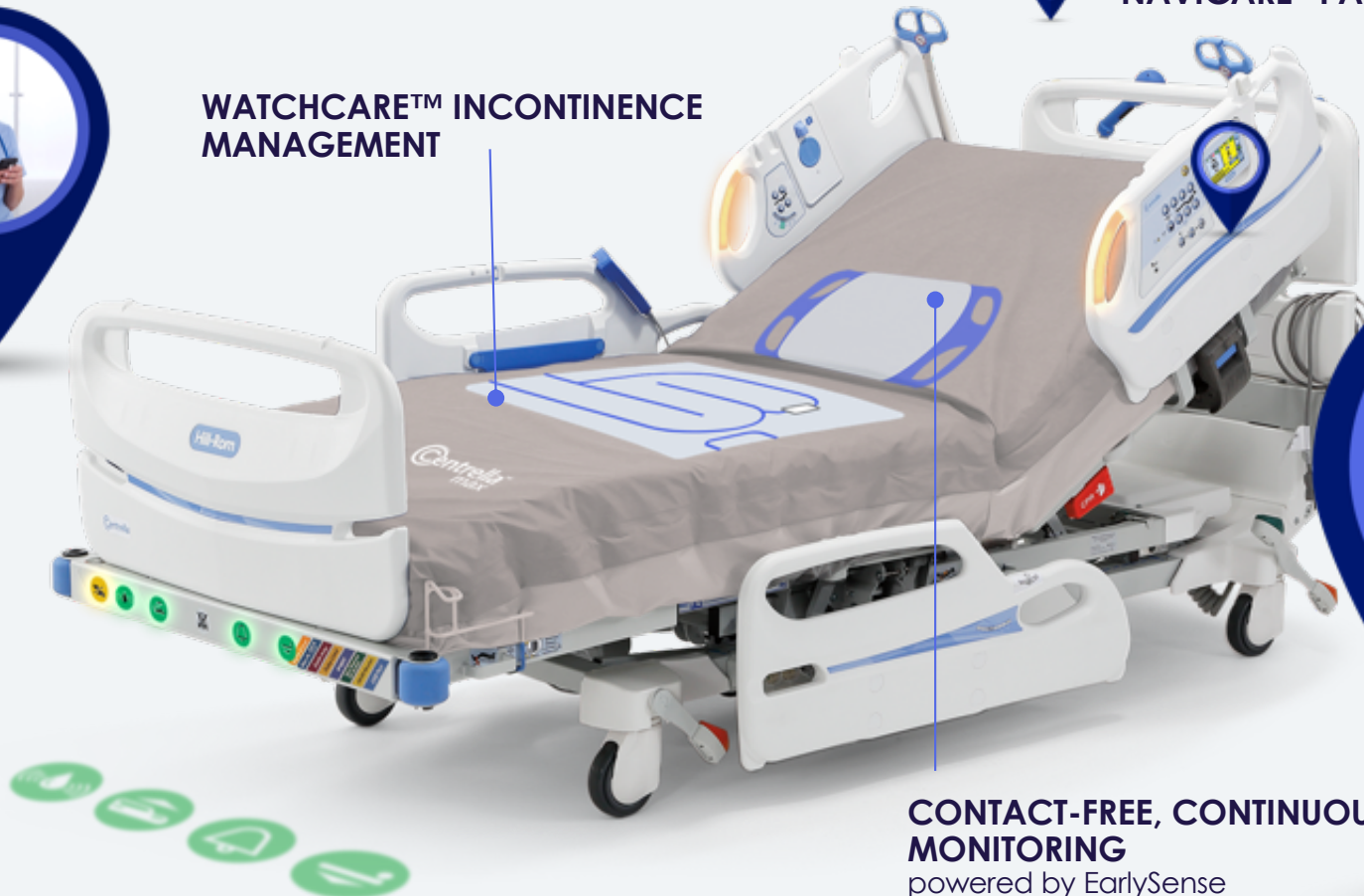
Therapeutic Surfaces

Patient Safety Applications

 = NAVICARE® PATIENT SAFETY



WATCHCARE™ INCONTINENCE MANAGEMENT



CONTACT-FREE, CONTINUOUS MONITORING
powered by EarlySense



Hillrom™

Centrella® Smart Bed Solution

THE EXTENSION OF YOUR CARE TEAM

Centrella® Smart+ Bed

Therapeutic Surfaces

Patient Safety Applications



See Centrella® Smart+ Bed in action at Centrellabed.com

THE BED IS JUST THE BEGINNING.

INNOVATION THAT EVOLVES WITH YOU.

The Centrella® Smart+ bed is not just a bed. It's a future-proofed investment that evolves with your needs through a roadmap of innovations, only offered by the Centrella platform.

AS YOUR NEEDS EVOLVE, SO DOES THE CENTRELLA® SMART+ BED:



Data and alert connectivity



Falls protocol automation



Contact-free, continuous monitoring



Incontinence detection



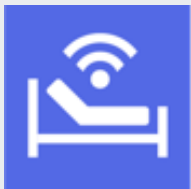
COMING SOON
Real-time analytics and algorithms



Hillrom™

Hillrom believes the complete Med-Surg environment helps accelerate patient recovery by contributing to patient safety, patient satisfaction and managing costs in a healthcare facility.

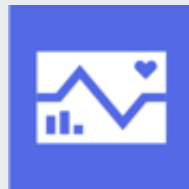
ADVANCING CONNECTED CARE THROUGH OUR MED-SURG SOLUTIONS.



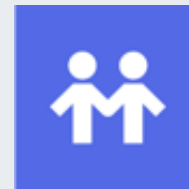
Smart Beds & Surfaces



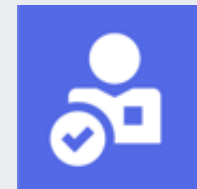
Safe Patient Handling & Mobility



Patient Monitoring



Care Communications



SmartCare™ Services

Explore the Med-Surg Solution on [hillrom.com](https://www.hillrom.com)



Appendix





Centrella® Smart+ Bed

STANDARD FEATURES AND OPTIONS

Value driven and upgradeable Centrella® Smart+ Bed solution offerings.

STANDARD FEATURES

Enhanced 3-Mode Bed Exit	Graphical Caregiver Interface (GCI) Touchscreen
Motion Activated Nightlight	One-button chair
One-button Patient Stand Assist	Scale (KG/LBS)
Advanced SlideGuard® Technology	Battery Back-up
Foley Position Limit	Digital Angle Indicator
Trendelenburg/Reverse Trendelenburg	Four Corner Brake and Steer
Dampen Emergency CPR	Line and Cord Management
Device Storage Area	Four IV Pole Sockets
Integrated Urinal Holders	Integrated Restraint Holders
FlexAfoot™ Powered Bed Extension	Drainage Bag Holder
WiFi Module	Scalability

PACKAGE 255

Advanced Patient Pendant
USB Charging
Verbal Safety Prompts
Patient Safety Apps: Contact-Free, Continuous Monitoring Capable

PACKAGE 355

Includes Package 255
Centrella® max Powered Air Surface
SafeView®+ System
IllumiGuide™ Siderail Handgrip
Second Graphical Caregiver Interface (GCI) Touchscreen

A LA CARTE OPTIONS

Centrella® core Surface	Second Advanced Patient Pendant
Centrella® pro Surface	Active Nurse Call Button
Centrella® max Powered Air Surface	Universal TV and Lighting Controls
SafeView®+ System	Second Graphical Caregiver Interface (GCI) Touchscreen
IllumiGuide™ Siderail Handgrip	Accessory Outlet
5 th Wheel Steering	Patient Safety Apps: <ul style="list-style-type: none"> NaviCare® Patient Safety Contact-Free, Continuous Monitoring WatchCare™ Incontinence Detection System
IntelliDrive® Powered Transport	
Comfort Edition 40" Width	
Obstacle Detection® System	



Universal Fall Prevention



- SafeView®+ System
- Enhanced 3-mode bed exit
- IllumiGuide™ Siderail Handgrip
- Motion-activated nightlight
- Verbal safety prompts



Universal Fall Prevention



– SAFEVIEW®+ SYSTEM

Helps caregivers monitor patient safety at-a-glance with easy-to-read visual projections.

- Enhanced 3-mode bed exit
- IllumiGuide™ Siderail Handgrip
- Motion-activated nightlight
- Verbal safety prompts



Universal Fall Prevention



– SafeView®+ System

Includes silence, auto reset, and visual/audible safety prompts.

– **ENHANCED 3-MODE
BED EXIT**

– IllumiGuide™ Siderail
Handgrip

– Motion-activated
nightlight

– Verbal safety prompts



Universal Fall Prevention



– SafeView®+ System

Enhances visibility to safely guide patients back to bed.

– Enhanced 3-mode bed exit

– **ILLUMIGUIDE™ SIDERAIL HANDGRIP**

– Motion-activated nightlight

– Verbal safety prompts



Universal Fall Prevention



– SafeView®+ System

Illuminates the path to guide patients to and from the bed.

– Enhanced 3-mode bed exit

– IllumiGuide™ Siderail Handgrip

– **MOTION-ACTIVATED NIGHTLIGHT**

– Verbal safety prompts



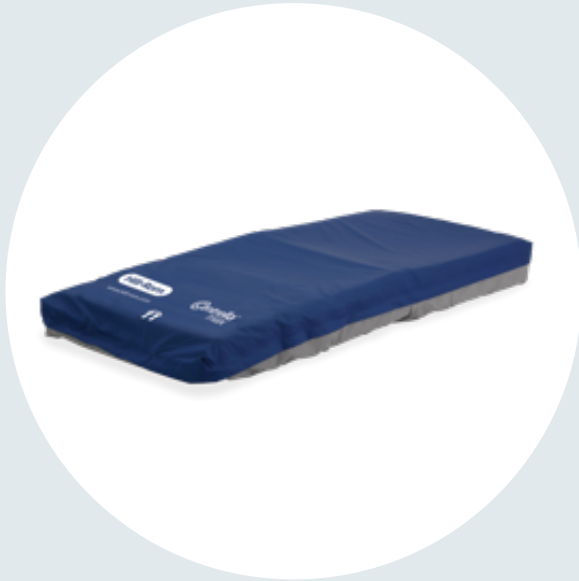
Universal Fall Prevention



- SafeView®+ System
- Enhanced 3-mode bed exit
- IllumiGuide™ Siderail Handgrip
- Motion-activated nightlight
- **VERBAL SAFETY PROMPTS**



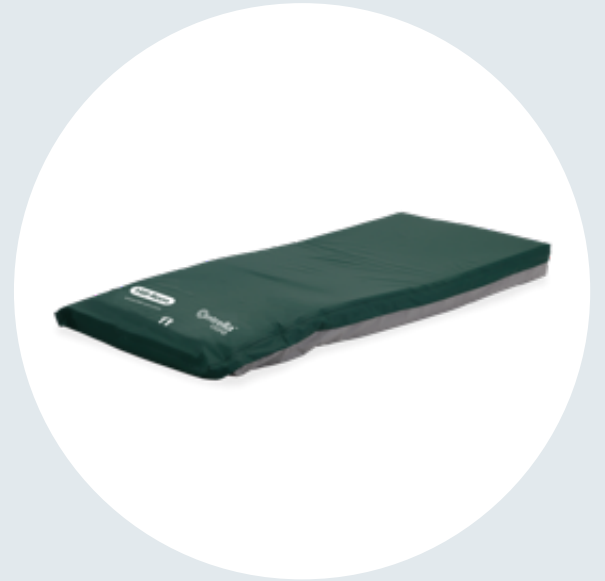
Therapeutic Surfaces Overview



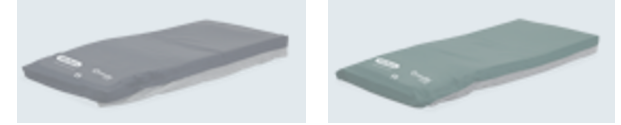
Centrella[®] max
Surface



Centrella[®] pro
Surface



Centrella[®] core
Surface



Centrella[®] max Surface

ADVANCED TECHNOLOGY DELIVERING SUPERIOR PRESSURE REDISTRIBUTION AND MICROCLIMATE MANAGEMENT

Focused Advanced Microclimate[®] Technology

- Removes up to 4X more heat and 7X more moisture.⁹

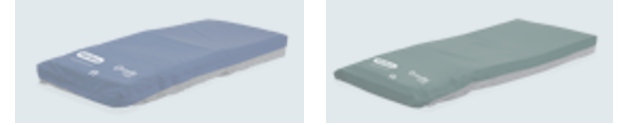
Enhanced Turn Assist

- More effective turn in 77% less time.¹¹

Weight-based Pressure Redistribution

- Up to 13% less peak sacral pressure.⁹





Centrella[®] pro Surface

TARGETED AND CUSTOMIZED NON-POWERED PRESSURE REDISTRIBUTION FOR OPTIMAL PATIENT SUPPORT AND COMFORT

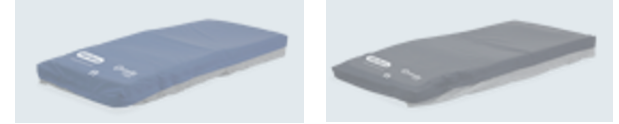
Targeted Pressure Redistribution

- Up to 21% less peak sacral pressure.⁹

Best-in-class Comfort

- Rated 5X more comfortable.¹⁰





Centrella[®] core Surface

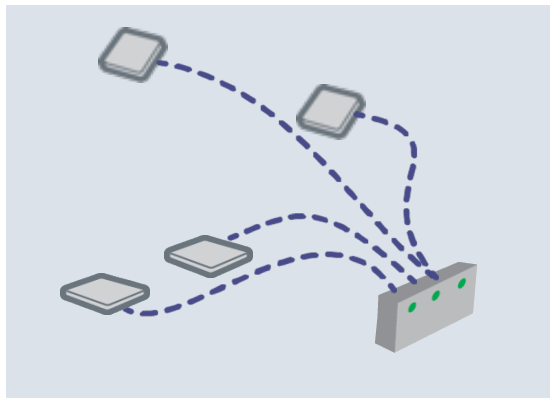
NON-POWERED PRESSURE REDISTRIBUTION DESIGNED TO ENHANCE PATIENT COMFORT

Multi-layer Foam Construction

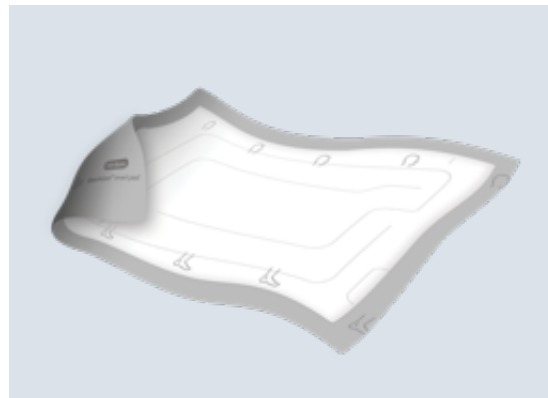
- Up to 11% less peak sacral pressure⁹



WatchCare™ Incontinence Management System



MONITOR



DETECT



INFORM

Graphical Caregiver Interface (GCI)[®] Touchscreen

THOUGHTFULLY DESIGNED FOR EASE-OF-USE AND EFFICIENCY



Home



3-mode Bed Exit
Alert Setting



Contact-Free, Continuous
Monitoring



Surface
Menu



Scale Functions/
Settings



Help Menu



Graphical Caregiver Interface (GCI)[®] Touchscreen

THOUGHTFULLY DESIGNED FOR EASE-OF-USE AND EFFICIENCY



Home



3-mode Bed Exit
Alert Setting



Contact-Free, Continuous
Monitoring



Surface
Menu



Scale Functions/
Settings



Help Menu



Graphical Caregiver Interface (GCI)[®] Touchscreen

THOUGHTFULLY DESIGNED FOR EASE-OF-USE AND EFFICIENCY



Home



3-mode Bed Exit
Alert Setting



Contact-Free, Continuous
Monitoring



Surface
Menu



Scale Functions/
Settings



Help Menu



Graphical Caregiver Interface (GCI)[®] Touchscreen

THOUGHTFULLY DESIGNED FOR EASE-OF-USE AND EFFICIENCY



Home



3-mode Bed Exit
Alert Setting



Contact-Free, Continuous
Monitoring



Surface
Menu



Scale Functions/
Settings



Help Menu



Graphical Caregiver Interface (GCI)[®] Touchscreen

THOUGHTFULLY DESIGNED FOR EASE-OF-USE AND EFFICIENCY



Home



3-mode Bed Exit
Alert Setting



Contact-Free, Continuous
Monitoring



Surface
Menu



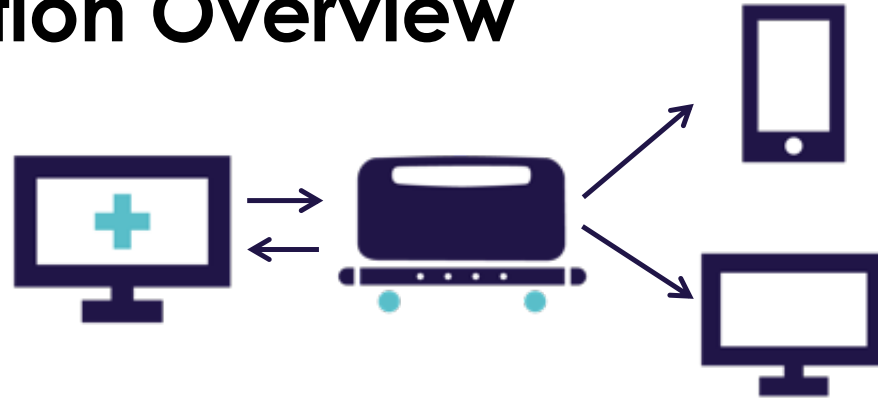
Scale Functions/
Settings



Help Menu



Connectivity Solution Overview



**NAVICARE®
PATIENT SAFETY**
+ REAL-TIME STAFF LOCATING

Alarm Management via Caregiver Presence
(Real-Time Staff Locating)

**NAVICARE®
PATIENT SAFETY**

Bed Safety Alerts to Wireless Phones
(Wireless Phone & Staff Assignment Integrations)

Automatic Arming of Bed Exit Alarm
(NaviCare® Patient Safety)

**BASE BED
CONNECTIVITY***

Real-Time Dashboard for Bed Data (Status Board)

Bed Data into EMR (Outbound EMR Integration)

Reporting on Bed State (Enterprise Reporting)

**Wired or wireless*

References

1. Preventing Falls TST © Joint Commission Center for Transforming Healthcare.
http://www.centerfortransforminghealthcare.org/assets/4/6/Falls_TST_PPT_Slides.pdf. Accessed February 2016.
2. Hoffman, et al. Claims-based Identification Methods and the Cost of Fall-related Injuries Among US Older Adults. *Medical Care*. Volume 54, Number 7, July 2016.
3. Cuttler, et al. Beyond the Falling Star: Sustained Decrease in Falls and Injuries with Targeted Bed Exit Alarm, Staff Education Icons, and Patient Education Video. Collaborative Alliance for Nursing Outcomes. 2015.
4. Hill-Rom Customer (HC). NaviCare® Patient Safety Customer Interview. August 2017. Email results on file.
5. 2013 International Pressure Ulcer Prevalence™ survey data. Pressure Ulcer Prevalence Reductions Seen from the International Pressure Ulcer Prevalence Survey.
6. Jackson, et al. "Pressure Ulcer Prevention in High Risk Postoperative Cardiovascular Patients." *Crit Care Nurse*. 2011;31:44-53.
7. 2014 AHA Data.
8. Hill-Rom Case Study 193131. Data on file.
9. Lachenbruch C. 2017. Data on file.
10. Smith K. 2017. Data on file.
11. Wiggerman N. 2017. Data on file.
12. Brown, et al. Continuous Monitoring in an Inpatient Medical-Surgical Unit: A Controlled Clinical Trial, *AJM* Mar. 2014 (127:3)
13. Gray M and Giuliano K. *J Wound Ostomy Continence Nurs*. 2017;00(0):1-5.
14. Gray M, Giuliano KK. *Journal of Wound Ostomy and Continence Nursing* 2018; 45(1): 63-7.
15. Phipps L, Gray M, Call E. Single Exposure to Clinically Relevant Levels of Moisture Contained by an Incontinence Pad Compromises Skin Health.
16. Abbot C, et al. Incontinence Management System Use Significantly Reduces Incontinence Exposure Time. 2019 American College of Wound Healing and Tissue Repair Conference.
17. <https://www.advisory.com/technology/iround-for-patient-experience/infographics/patient-experience-an-investment-worth-making>
18. Revenue of hospitals (NAICS 62211) in the United States from 2009 to 2014 (in billion US dollars).
<http://www.statista.com/statistics/296854/revenue-hospitals-in-the-us/>. Assessed October 17, 2016.
19. Wheeler B. Overview of the Hospital VBP. Center for Medicare and Medicaid Services. Page 37 February 15, 2015.
20. http://lippincottolutions.lww.com/blog.entry.html/2014/09/03/the_three_bs_of_med--cEOD.html
21. Litvak E, Fineberg H. Smoothing the way to high quality, safety and economy. *N Engl J Med*. 2013;369(17):1581-1853.

