



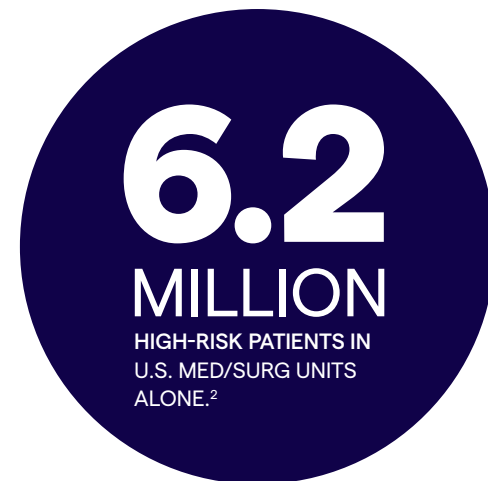
**Hillrom™**

## **SOLUTIONS YOU CAN COUNT ON**

Capture respiration rate to help detect patient deterioration sooner with Welch Allyn® Connex® monitors.

## PREDICTING PATIENT DETERIORATION IS MORE CRITICAL THAN EVER.

Risk factors and comorbidities are increasing, and patient acuity levels are rising in general care areas, while staff-to-patient ratios remain the same.<sup>1</sup>



Respiration rate is the leading indicator of patient deterioration 8-12 hours prior to an event, yet it is the least documented and most omitted vital sign.<sup>3,4</sup>

**ONLY  
1X/DAY**

Vital sign documentation is much lower for respiration rate (1X/day) versus blood pressure (5X/day), heart rate (4.4X/day) and temperature (4.2X/day).<sup>5</sup>

## RESPIRATORY COMPROMISE ON THE GENERAL CARE FLOOR CAN HAVE SERIOUS CONSEQUENCES:<sup>6</sup>

- Increases hospital stays by as much as 180%
- Increases cost of care by 47%
- 29X higher patient mortality rate

### Are you adequately monitoring patients at risk due to opioid medication use, other comorbidities or pulmonary illness?

- 29% of adverse respiratory events are related to inadequate monitoring<sup>7</sup>
- 42% of opioid-induced respiratory events occur within two hours of the last spot check<sup>8</sup>
- 86% reduction of code blue events when using continuous monitoring<sup>9</sup>

## Capturing accurate respiration rate data is vital, but it can also be a challenge.

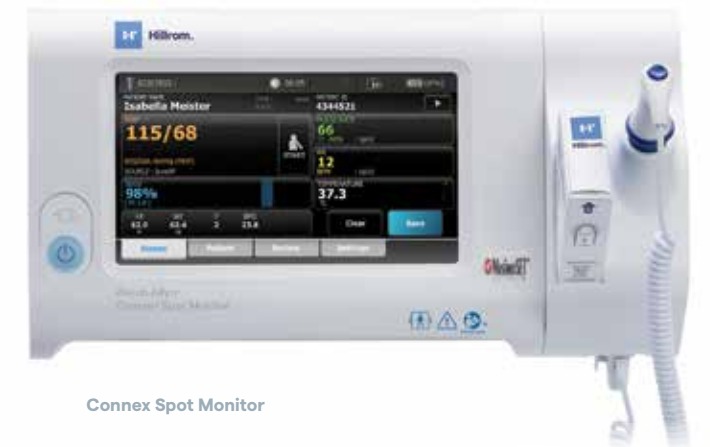
The Welch Allyn® Connex® family of vital signs devices offers respiratory monitoring solutions for every patient acuity level—from simple spot check to continuous monitoring with centralized remote viewing.

### Visually assessing respiration rate? Go digital.

Digitally spot-check respiration rate without changing your workflow. Acquire accurate, connected readings as part of routine vitals capture on patients greater than two years old, helping detect early signs of deterioration.

The Welch Allyn Connex Spot Monitor with digital respiration rate:

- Uses Masimo® RRp® technology to acquire a respiration rate in less than a minute using standard Masimo LNCS® or RD SET™ sensors
- Eliminates subjective measurements, bias and/or multiplication artifact from visual respiration rate assessment
- Includes the ability to incorporate into your early warning score protocol



### Proactively monitor patient status 24/7 to help you quickly recognize respiratory distress and respond to signs of patient deterioration.

The Welch Allyn Connex Vital Signs Monitor with Medtronic® Microstream™ continuous capnography monitoring:

- Enables continuous monitoring of CO<sub>2</sub> at the airway
- Helps caregivers identify respiratory depression more quickly and effectively
- Reflects change in ventilation within 10 seconds
- Alarms when measurements go outside of safe thresholds
- Features a unique Pulmonary Index to help caregivers assess respiratory status





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## Immediate access to vital respiration data.

The Welch Allyn® Connex® Central Station provides centralized, real-time information so you can view a patient's respiratory status at a glance and have access to alarms to enable faster response times. Plus, with EMR integration, intermittent vitals and continuous monitoring data are automatically documented into the patient chart, giving you immediate access to accurate patient data anywhere in the facility.



## Leverage your existing devices.

Device upgradeability helps maximize investments, increase staff efficiency and provide flexibility as patient care needs change. Add the parameters you need to help detect patient deterioration faster and reduce respiratory compromise.

Contact your local Hillrom representative for upgrade paths.

Visit [discover.hillrom.com/respiration-rate](https://discover.hillrom.com/respiration-rate) to learn more.

**hillrom.com**

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<sup>1</sup> Celeste M Torio, PhD, MPH and Roxanne M Andrews, PhD. National Center for Biotechnology Information. National Inpatient Hospital Costs: The Most Expensive Conditions by Payer, 2011. <https://www.ncbi.nlm.nih.gov/books/NBK169005/>. Accessed September 26, 2019.

<sup>2</sup> Navigant Consulting, Inc. – Analysis of Healthcare Claims Data (HCUP-INS), Page 58

<sup>3</sup> 2003 Subbe et al., Effect of introducing the Modified Early Warning Score on clinical outcomes, cardio-pulmonary arrests and intensive care utilization in acute medical admissions. *Anesthesia*.

<sup>4</sup> Cretikos, M., Bellomo, R., Hillman, K., Chen, J., Finfer, S., & Flabouris, A. (2008). Respiratory Rate: The Neglected Vital Sign. *Medical Journal of Australia*, 188(11): 657-659.

<sup>5</sup> 2008, Van Leuvan et al. *Australia*

<sup>6</sup> Kelley S, Agarwal S, Parikh N, Ersilon M, Morris P. Respiratory insufficiency, arrest and failure among medical patients on the general care floor. *Crit Care Med*. 202;40(12 Suppl):764

<sup>7</sup> The Joint Commission, Sentinel Event Alert, Safe Use of Opioids in Hospitals, Issue 49, August 8, 2012

<sup>8</sup> Postoperative Opioid-induced Respiratory Depression: A Closed Claims Analysis. Lorri A. Lee, M.D.; Robert A Caplan, M.D.; Linda S. Stephens, Ph.D; Karen L. Posner, Ph.D; Gregory W. Terman, M.D., Ph.D; et al

<sup>9</sup> Brown, HV et al. *The American Journal of Medicine*. 2014; 127:226-232.

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## Welch Allyn® Connex® Spot Monitor Special Information For US Only

The FDA issued Enforcement Policy for Non-Invasive Remote Monitoring Devices Used to Support Patient Monitoring During the Coronavirus Disease 2019 (COVID-19) Public Health Emergency. During this emergency and while the policy is in effect, FDA does not intend to object to limited modifications to the FDA-cleared indications without prior submission of a 510(K) where the modification does not create an undue risk. Hillrom does not yet have FDA 510(k) clearance on the combination use of the Connex Spot Monitor with Masimo RRP. Hillrom intends to adhere to FDA's recommendations to market CSM with Masimo RRP with appropriate testing and labeling while the policy is in effect.

This device is intended to provide recommendations that should be used in an adjunctive (supportive) manner and are not intended to be used as a primary means to make diagnosis, prevention, or treatment recommendations.

### **Modifications to FDA Cleared Indications for Use (modifications are underlined)**

The Connex Spot Monitors are intended to be used by clinicians and medically qualified personnel for monitoring of noninvasive blood pressure, pulse rate, noninvasive functional oxygen saturation of arteriolar hemoglobin (SpO2), and body temperature in normal and axillary modes of neonatal, pediatric, and adult patients. Monitoring Respiration Rate from photoplethysmogram (RRp) is indicated for adult and pediatric patients greater than 2 years old.

The most likely locations for patients to be monitored are general medical or surgical floors and general hospital and alternate care environments. The product is available for sale only upon the order of a physician or licensed health care professional.

### **Device Performance**

Validation of the integration of Masimo RRP technology into the CSM device was completed through software verification testing and design validation of the RRP parameter in the device user interface and IFU. The CSM device has been tested and shown to comply with IEC 60601-1 Edition 3.1 and IEC 60601-1-2 4th Edition. A Risk assessment has been performed according to ISO 14971. Any identified hazards have been found to be acceptable.

### **Potential Risks**

See the Instructions for Use included on the CD for a complete list of Warnings and Cautions.

**For further information on the Hillrom Welch Allyn Connex Spot Monitor, including the Instructions For Use, please visit [hillrom.com](http://hillrom.com).**