

# Noninvasive continuous hemodynamic monitoring



# ClearSight finger cuff on HemoSphere advanced monitoring platform



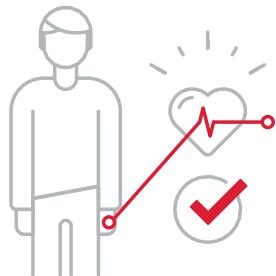
Edwards

# The ClearSight system is a noninvasive solution that enables clinical decision support to help optimize patient perfusion.

The ClearSight system provides continuous blood pressure and advanced hemodynamic parameters from a noninvasive finger cuff. Continuous data offered by the validated ClearSight system enables you to proactively optimize perfusion through hemodynamic management.

## Advanced hemodynamic parameters

- Cardiac output (CO)
- Stroke volume (SV)
- Stroke volume variation (SVV)
- Systemic vascular resistance (SVR)
- Mean arterial pressure (MAP)



## Heart Reference Sensor

The ClearSight system Heart Reference Sensor (HRS) compensates for hydrostatic pressure changes due to height differences between finger and heart. The HRS compensates for clinician repositioning of the patient's hand during a procedure or for patient movement.

## Extend the benefits of hemodynamic monitoring

The ClearSight system gives you noninvasive access to beat-to-beat hemodynamic information for a broad patient population, including patients in whom an arterial line would not be typically be placed.<sup>1</sup>

## Proactive decision support for individualized patient care

Noninvasive hemodynamic monitoring offered by the ClearSight system provides information to enable you to make proactive clinical decisions across the continuum of care, including moderate- to high-risk surgery patients and can be utilized to manage your patients' changing clinical situations in surgical, as well as acute care settings.

## A versatile approach to continuous monitoring

The ClearSight system connects to your patient's finger. Upon starting a measurement, the finger cuff can be used and re-applied for up to 72 hours on one patient. Two ClearSight finger cuffs may be connected simultaneously to alternate the measurement between two fingers. This allows uninterrupted continuous monitoring.



# Noninvasive hemodynamic monitoring provides proactive patient insights for individualized patient management.



## Hemodynamic instability

The ClearSight system offers a noninvasive approach to monitoring key hemodynamic parameters, including: stroke volume (SV), stroke volume variation (SVV), cardiac output (CO), systemic vascular resistance (SVR), mean arterial pressure (MAP). Continuous access to pressure and flow parameters allow you to evaluate hemodynamic instability and guide appropriate treatment.



## Hypotension

Cleveland Clinic researchers showed that continuous noninvasive monitoring reduced the amount of intraoperative hypotension (IOH) by nearly half when compared to intermittent blood pressure monitoring.<sup>2</sup> Early detection of hypotension by continuous hemodynamic monitoring allows for timely remedial actions, thereby reducing intraoperative hypotension.<sup>2</sup> Clarity through advanced hemodynamic parameters CO, SV, SVV, and SVR can help you determine if the cause of IOH is preload, afterload, or contractility.



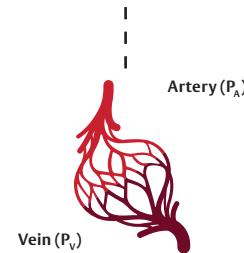
## Sepsis management

Access to CO and SV enables early detection and management of sepsis which is critical to improving survival rates and reducing the economic burden of sepsis. The noninvasive ClearSight system allows continuous assessment of your patient's physiological needs and helps you recognize hemodynamic instability from sepsis.<sup>3</sup> The ClearSight finger cuff can be used to measure flow-based parameters continuously prior to, during, and after the fluid administration portion of 3-hour and 6-hour CMS sepsis bundles.

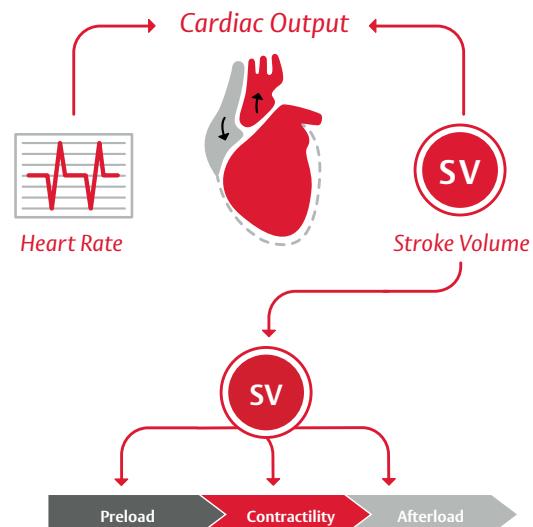


Physio-Relationship Screen

$$\text{Tissue Perfusion} = \text{Blood flow through the tissue (capillary blood flow)}$$



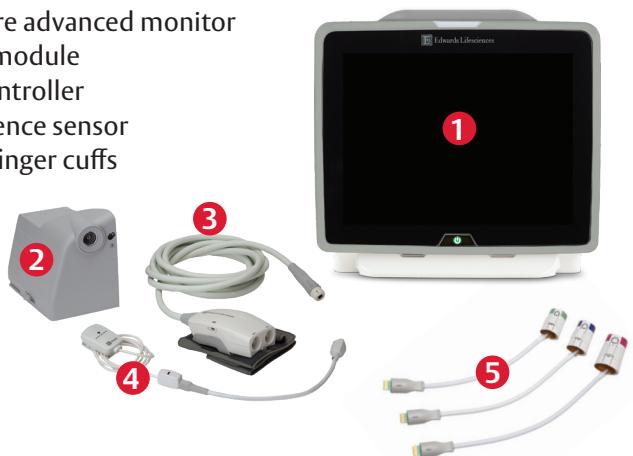
$$\text{Tissue Perfusion} = \frac{\text{Pressure at arterial end (Pa)} - \text{Pressure at venous end (Pv)}}{\text{Artery (Pa)}} \times \text{Capillary length}$$



# ClearSight system

The ClearSight system is comprised of the ClearSight finger cuff and HemoSphere advanced monitoring platform

1. HemoSphere advanced monitor
2. ClearSight module
3. Pressure controller
4. Heart reference sensor
5. ClearSight finger cuffs



Description	Model
ClearSight finger cuff small multi pack	CSCS
ClearSight finger cuff medium multi pack	CSCM
ClearSight finger cuff large multi pack	CSCL
HemoSphere ClearSight upgrade	HEMCSMUPG
HemoSphere smart recovery non-cardiac bundle	HEMAQSR2

**Know more. Know now.**

**Visit [edwards.com](http://edwards.com) or contact your Edwards representative**

For more than 50 years, Edwards Lifesciences has been helping you make proactive clinical decisions and advance the care of surgical and acutely ill patients across the continuum of care. Through ongoing collaboration with clinicians, providing continuous education, and our dedication to purposeful innovation, Edwards continues to develop smart hemodynamic management solutions that enable proactive decision support.

## References

1. Truijen, J et al. Noninvasive Continuous Hemodynamic Monitoring. *Journal of Clinical Monitoring and Computing* 2012;26(4):267–268.
2. Maheshwari, K et al. A Randomized Trial of Continuous Noninvasive Blood Pressure Monitoring During Noncardiac Surgery. *Anesthesia & Analgesia*, 2018 Aug;127(2):424-431.
3. Marik, et al: Hemodynamic parameters to guide fluid therapy. *Annals of Intensive Care* 2011 1:1

**CAUTION: Federal (United States) law restricts this device to sale by or on the order of a physician. See instructions for use for full prescribing information, including indications, contraindications, warnings, precautions and adverse events.**

Edwards, Edwards Lifesciences, the stylized E logo, ClearSight, and HemoSphere are trademarks of Edwards Lifesciences Corporation or its affiliates. All other trademarks are the property of their respective owners.

© 2020 Edwards Lifesciences Corporation. All rights reserved. PP--US-5448 v1.0

**Edwards Lifesciences • One Edwards Way, Irvine CA 92614 USA • [edwards.com](http://edwards.com)**

