LiDCO *Rapid*

Fluid management just got easier

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LiDCO

Cardiac Sensor Systems

LiDCO*Rapid*

Fluid and patient
management made
easier with the
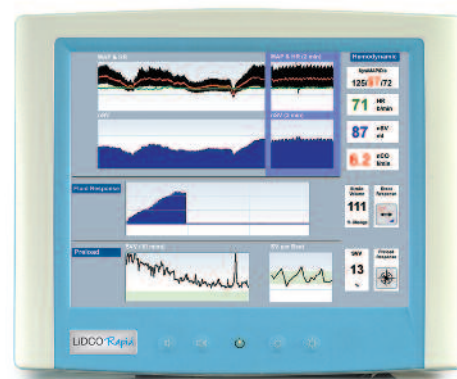**LiDCO*rapid*** Monitor
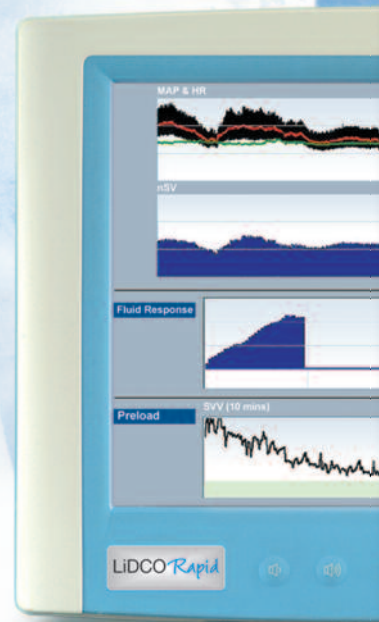
LiDCO*Rapid*

The company that helped reduce post-operative hospital stay by 12 days[1] - now brings you the ideal tool for acute care fluid and drug management.

The LiDCO*rapid* helps you optimally deliver goal directed management (GDM) strategies using its patented and clinically validated PulseCO algorithm[2-7]. Developed for the acute care physician to get immediate feedback on a patient's fluid and hemodynamic status.

The LiDCO*rapid* monitor

- The LiDCO*rapid* monitor is designed to be quick to set-up, simple to interpret and a cost effective way of managing the hemodynamics of surgical or any hemodynamically unstable patient requiring fluid and drug support.

- The LiDCO*rapid* is designed to be used by a physician or nurse to detect potentially deleterious changes in the hemodynamic status of the patient and then help the user choose, use, and monitor the response of the patient to the therapeutic intervention.

- The product's continuously available, beat-to-beat hemodynamic data will facilitate the implementation of enhanced fluid and drug based surgical optimization programs in a substantial number of patients undergoing moderate and high-risk surgical procedures.

- Advanced hemodynamic monitoring has been previously demonstrated to reduce complications and hospital length of stay.[1]

- The LiDCO*rapid* is the first hemodynamic monitor specifically designed for use in the highly demanding conditions encountered in the operative room.

LiDCO*Rapid*

The LiDCO*rapid* is a fluid and drug management monitor with a unique and proprietary* display designed for use by the acute care physician.

The nominal SV and CO are established from the arterial pressure waveform which is taken via simple cable connection from the vital signs monitor. Using the PulseCO algorithm the pressure is then converted into nominal SV and HR to a give CO that is then scaled to the patient's own characteristics.

The LiDCO*rapid* displays the following parameters:

• Pressures – MAP, Systolic and Diastolic
• Heart Rate
• Stroke Volume and Cardiac Output (Scaled or Actual)
• Dynamic Preload parameters – Pulse Pressure Variation (PPV) and Stroke Volume Variation (SVV)[8]
• User selected event response window

What's unique about the LiDCO*rapid* display?

The screen is organised in a visually intuitive and informative manner to provide early warning of hemodynamic change, predicted fluid responsiveness and actual response to a therapeutic intervention

Where do I use the LiDCO*rapid*?

You use the LiDCO*rapid* in any acute care setting where these measurements are required quickly and simply in order to manage patient care

The types of patient that would benefit from the LiDCO*rapid* are:

• Moderate to high-risk surgery patients
• Trauma patients requiring resuscitation
• Step down and high dependency patients with acute circulatory conditions
• Any patients requiring assessment of fluid status
• Any patient requiring screening or assessment of hemodynamic status

*Patent applied for.

LiDCO*Rapid*
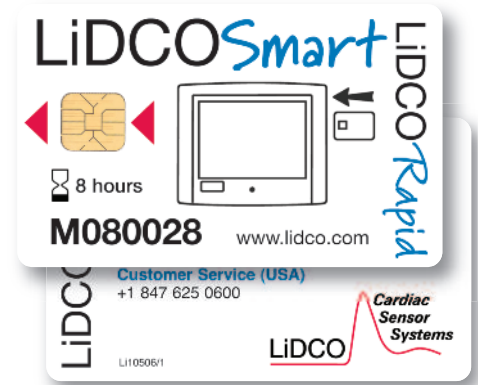
How do I use LiDCO*rapid*?

A) Attach the cable from the LiDCO*rapid* to the vital signs monitor

B) Insert patient smart card (LiDCO*smart*)

C) Switch on and input patient details

D) Begin monitoring

What are the features of the LiDCO*rapid*?

- Quick and easy to set up
- Minimally invasive
- Parameters displayed on a single screen
- Simultaneous real time, beat to beat and trends displayed
- Proven and validated technology[1-7]
- Unique user display
- Logical presentation of parameters
- Works with any pressure transducer
- Choice of fluid response parameters[8]
- Real time parameter streaming to data management systems
- Interfaces with LiDCO*view* and LiDCO*live*

What are the benefits of the LiDCO*rapid*?

Clinical benefits

- Early and fast warning of change
- Clear indication of therapeutic route: fluid or drug
- Quantification of hemodynamic response particularly stroke volume
- More effective use of fluids – the right amount at the right time
- Contributes to reduced morbidity and complications particularly infections[1]
- Reduced length of stay[1]
- Reduced overall cost of care

The LiDCO*rapid* minimally invasive hemodynamic monitor - making fluid management easier.

# Fluid and patient management made easier with the LiDCO*rapid* Monitor

Hemodynamic Window
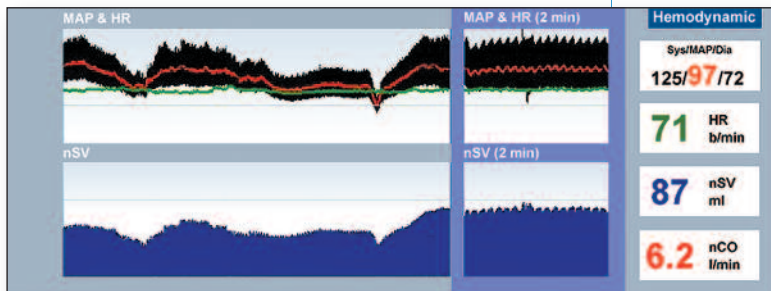
The LiDCO*rapid* shows the long term trend of pressure (MAP, Systolic and Diastolic), Heart Rate (HR) and Scaled Stroke Volume (nSV) or Scaled Cardiac Output (nCO) from the beginning of a procedure.

A short term trend of pressure, Heart Rate and Scaled Stroke Volume (nSV) or Scaled Cardiac Output (nCO) is displayed over the current two minute period.

Dynamic Preload Parameters Window
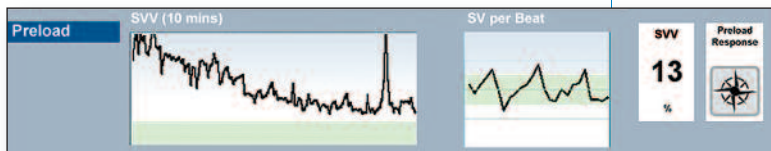
This LiDCO*rapid* window also provides you with access to preload response values or volume status indicators of: Pulse Pressure Variation (PPV%) and Stroke Volume Variation (SVV%)[8].

For closed chest ventilated patients these volume status measurements provide a way of predicting the likely response to volume infusions. A fluid imbalance can have an adverse effect on a patient's cardiac performance and, in turn, oxygen delivery to key organs.

Blood Pressure Window
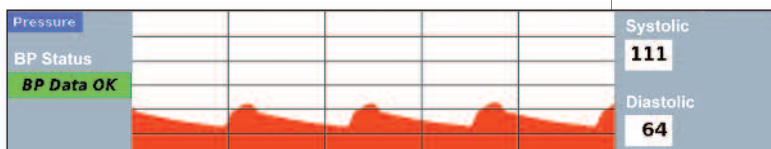
At the touch of a button the arterial pressure waveform is displayed on the LiDCO*rapid* screen. The LiDCO*rapid* algorithm and individualised scaling function converts this pressure into nominal stroke volume and nominal cardiac output.

Event Response Window
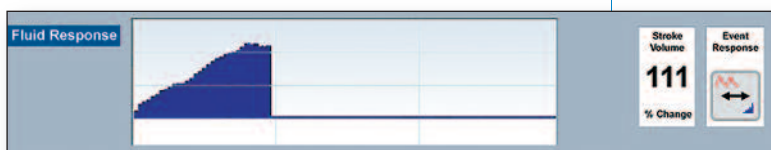
Pre-Load Responsiveness via the Event Response Display.

The Event Response display allows the user to view a selected hemodynamic variable in a higher resolution during a specific period (e.g. fluid challenge, inotrope change). The LiDCO*rapid* will display percentage change from the start for the variable as a numeric value.

This feature is very useful when evaluating the patient's response to targeted interventions such as a fluid challenges or changes in inotrope therapy.

Data Download

The History Screen can be used to review the patient's hemodynamic changes from a selected baseline. This screen is designed to aid in viewing the relative magnitude of changes over the entire case. The beat-to-beat patient data and event markers are recorded as a file to be reviewed on LiDCOview. Download is enabled through a USB port and memory stick.
This powerful tool for data collection provides you with the ability to review, research and train using historical case data.

LiDCO *Rapid*

References

1   Rupert Pearse, Deborah Dawson, Jayne Fawcett, Andrew Rhodes, R Michael Grounds and E David Bennett (2005) Early goal-directed therapy after major surgery reduces complications and duration of hospital stay. A randomised, controlled trial. [ISRCTN38797445], Critical Care 2005, 9:R687-R693 (DOI 10.1186/cc3887).

2   Pittman J, Bar Yosef S, SumPing J, Sherwood M, Mark J (2005) Continuous cardiac output monitoring with pulse contour analysis: A comparison with lithium indicator dilution cardiac output measurement. Crit Care Med. 33 (9) 2015-2021.

3   Hamilton et al (2002) PulseCO: A less-invasive method to monitor cardiac output from arterial pressure after cardiac surgery. Ann Thorac Surg 74: S1408-12.

4   C Missant, S Rex, P F Wouters (2007) Accuracy of Cardiac Output Measurements with Pulse Contour analysis (PulseCO) and Doppler Echocardiography during off pump coronary artery bypass grafting. European Journal of Anaesthesiology 2007 Nov 9;:1-6 [Epub ahead of print] PMID: 17996125.

5   Costa et al (2007) Continuous and intermittent cardiac output measurements in hyperdynamic conditions: pulmonary artery catheter versus lithium dilution technique. Intensive Care Medicine DOI 10.1007/s00134-007-0878-6.

6   R.B.P De Wilde et al (2007) An evaluation of cardiac output by five arterial pulse contour techniques during cardiac surgery. Anaesthesia 2007,62, pages 760-768.

7   JJ Kim et al (2006) Arterial Pulse Wave Analysis: An accurate means of determining cardiac output in children. Pead Critical Care Med, 2006, Vol 7 No 6.

8   Belloni et al (2007) Assessment of fluid responsiveness parameters for off pump coronary artery bypass surgery: A comparison among LiDCO, Transesophageal Echocardiography and Pulmonary Artery Catheter. Journal of Cardiothoracic and Vascular Anesthesia 2007 [Epub ahead of print] doi:10.1053/j.jvca.2007.07.007.

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