

NAVIGATOR™ CARDIOVASCULAR MANAGEMENT SIMPLIFIED

To reduce clinician information overload, the Navigator system enables targeted therapy and provides continuous feedback on interventions – enhancing team work and patient focus. By simplifying the process of circulatory management, Navigator facilitates systematic and protocol-based care. Now you and your team can work in harmony and spend more time caring for patients and less time interpreting data.

Navigator systematizes cardiovascular care to simplify the process of circulatory management, enabling systematic and protocol-based critical care.

Clinical Benefits

- Enables the implementation of systematic and adaptive protocol-based cardiovascular care.
- Provides optimized targeted therapy according to clinician defined targets.
- Provides graphical therapeutic guidance for volume, resistance and heart therapies.
- Enables coordinated team care of a wide variety of critical patients.
- Simplifies cognitive tasks for clinicians to enable a rational, methodical approach and patient focus.
- Allows teams to work autonomously and efficiently according to parameters set by clinicians.
- Continuous assessments against targets and monitoring of the effect of interventions.

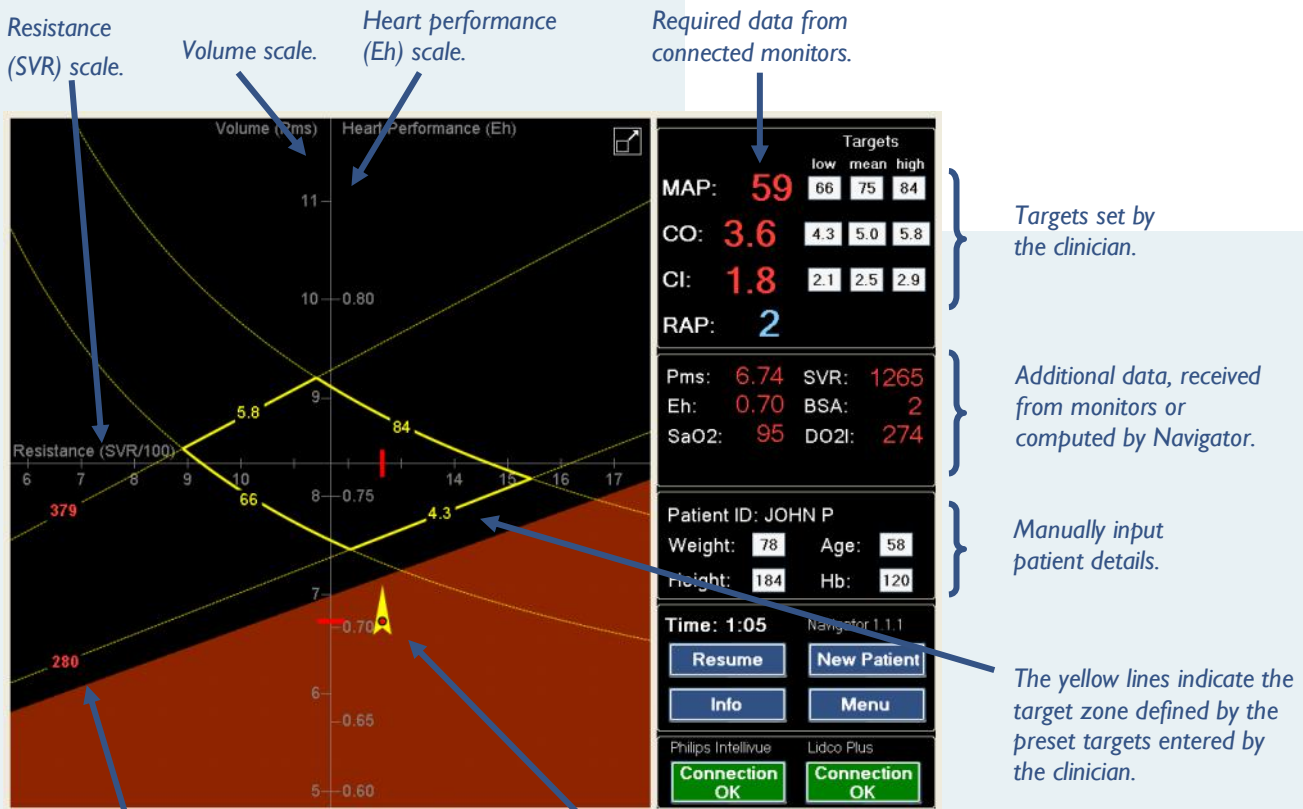
Features

- Clinically validated.
- Easy bedside set-up.
- Connects to common monitors and cardiac output devices.
- Touch screen and highly readable display for bedside use.
- Graphical display presents variables and guidance continuously and in real-time.
- Instant view of patient status relative to goals.
- Venous oxygen interpretation for oxygen management.
- Targeting of MAP and CO/CI for a wide array of critical care applications.

Targeted Therapy & Enhanced Teamwork

The Navigator's graphical display makes optimized targeted therapy a reality. For patients in whom mean arterial pressure (MAP), right atrial pressure (RAP), and cardiac output (CO) are being measured, simply connect the monitors to the Navigator and use the touch screen to set pressure and flow targets. The screen continuously displays the patient's position relative to these goals, leaving you free to make your rounds as the team expertly monitors the patient and the effect of any interventions.

A directional arrow indicates a pathway (i.e. vasoactive, volumetric or cardioactive) likely to move the patient toward the desired target zone. Real-time updates on patient status are provided by the red dot within the arrow. In a glance, clinical care teams rapidly assess patient response to interventions. Teamwork is facilitated and a greater patient focus is enabled.



Red numbers on the CO target line indicate the corresponding DO2I. The red zone (below) indicates where DO2I is 300 or less.

The red dot inside the arrow indicates the patient's status. The arrow suggests a pathway to the target zone. In this case the arrow indicates that volume may need to be administered.

Clinical Results

The efficacy and safety of Navigator were assessed in a multi-centre randomized trial in 112 patients recovering from open heart surgery in 7 leading Australian tertiary ICUs in Sydney and Melbourne.

Achievement of treatment goals with the Navigator guidance system was at least as good as with conventional care. Navigator safety data were the equal of control and there were no device related adverse events.

Fast, Easy Setup

Setting up is quick and easy. Navigator automatically receives data when connected to existing monitors. All you have to do is enter patient details and targets.

Integration with a wide range of common multi-parameter monitors and cardiac output devices is supported.

Applications and Target Patients

The Navigator is designed for use in critical care units or other environments in which resuscitation, stabilization and optimization of hemodynamic and oxygen metabolism is required.

Navigator is intended for use with a broad range of patients with unstable circulations presenting to the intensive care unit (ICU) or critical care units and those undergoing or suffering from:

- Pre and post open heart surgery
- Pre and post major surgery
- Sedated patients
- Drug overdose
- Septic shock
- Renal failure
- Major burns
- Major trauma
- Cardiogenic shock
- Hypovolemic shock

“Any device that can instantaneously represent the state of the patient and help you to control that patient while (you’re) doing all the other aspects of your job is so potentially beneficial it’s incredible. That’s what the Navigator can do.”

Dr Vincent Pellegrino, Intensive care specialist, The Alfred Hospital, Melbourne Australia.



Technical Specifications

Required parameters: Mean arterial pressure (MAP mmHg)

Right atrial pressure (RAP mmHg)

Cardiac output (CO L/min)

Arterial oxygen saturation (S_aO₂ %)

Input parameters: Age, height, weight, hemoglobin, patient ID

Supported monitors: Edwards (Vigilance, Vigilance II, Vigileo)

Philips Intellivue (MP30, MP40, MP50, MP60,
MP70, MP90)

Datex (Ohmeda S5, AS3 Anaesthesia)

Draeger Infinity (Gamma, Gamma XL, Delta,

Delta XL, Kappa, Kappa XLT, Vista, Vista XL)

LiDCO (Plus, Rapid)

Display/monitor: Medically rated bedside touch-panel computer

(Advantech POC-S155)

AC Power: 110-240v

Connections: Serial RS232, Ethernet 10/100 Base-T auto-sensing

Data acquisition: 5 second intervals

References

1. Parkin WG. Volume state control - A new approach. *Critical Care and Resuscitation*, 1999, 1:311-321.
2. Pellegrino V. et al. Multicentre randomized control trial of a computerized circulatory guidance system in post operative cardiac surgical patients: nav-I study accepted for presentation at the European Society of Intensive Care Medicine, Lisbon, Portugal, September 2008.
3. G. Parkin, C. Wright, R. Bellomo *et al.*, "Use of a mean systemic filling pressure analogue during the closed-loop control of fluid replacement in continuous hemodiafiltration," *J Crit Care*, vol. 9, no. 2, pp. 124-33, Jun, 1994.

The Navigator medical device has not been approved for use. Applied Physiology is working on the necessary regulatory applications in order to obtain regulatory clearances. This device is not available for commercial distribution and may only be used for clinical investigations provided the relevant clinical investigational requirements have been fulfilled.