

Clinical Evidence Series

The role of clinical decision support tools to reduce blood pressure variability in critically ill patients receiving vasopressor support



What's different

An enhanced bedside monitor display with Horizon Trends adds directional signaling and trend visualization to standard physiologic monitoring, helping clinicians see the direction, magnitude, and rate of change in key parameters rather than relying on raw waveforms and numeric values.



Interpretation

Adding bedside clinical support with Horizon Trends to standard monitoring was associated with more stable blood pressure control and greater time within MAP targets, without disrupting routine clinical workflows.



Key takeaways

Patients monitored with Horizon Trends had a higher mean MAP (68.1 ± 6.8 vs. 63.7 ± 25.3 mmHg; $p = 0.004$) and spent a greater proportion of time within the target MAP range (76.3% vs. 72.8%; $p = 0.031$) compared with standard monitoring alone.



Background

- Vasopressors are essential for treatment life-threatening hypotension in critically ill patients
- Conventional monitoring relies on threshold-based audible alarms, which signal changes only after mean arterial pressure (MAP) has already fallen below target
- Bedside clinical decision support tools may support earlier recognition of blood pressure trends



Study design and methods

- Three group, pilot study conducted in a 24-bed ICU with a population of general critical care and postoperative open heart surgery patients receiving vasopressor support
 - Group 1: Standard monitor + audible alarms
 - Group 2: Standard monitor + Horizon Trends
 - Group 3: Standard monitor + Horizon Trends + ST Map
- Primary Comparison: Group 1 ($n = 30$) vs. Groups 2+3 ($n = 44$)



Objectives

Evaluate whether Horizon Trends improves MAP and time within target MAP (≥ 65 mmHg) in critically ill patients receiving vasopressors.



Results



Patients monitored with Horizon Trends had **higher mean MAP** compared with standard monitoring (68.1 vs 63.7 mmHg; $p = 0.004$)



Patients monitored with Horizon Trends spent **more time within the target MAP** range (76.3% vs. 72.8%; $p = 0.031$)