

Clinical Evidence Series

A Comparison of Two Transport Monitor Systems With Regard to Efficiency and Staff Satisfaction in the Perioperative Setting



What's different

A patient-related monitoring system (IntelliVue X3) replaces organizational unit-based monitors by remaining with the patient throughout the perioperative pathway, eliminating the need to switch monitors during transfers and enabling continuous monitoring with reduced equipment handoffs.



Interpretation

A patient-related monitoring approach was associated with shorter handover times and improved workflow efficiency during key perioperative transfers, along with higher staff satisfaction.



Key takeaways

A patient-related monitoring system that travels with the patient throughout perioperative care was associated with faster handover times during transfers from the operating room to recovery or ICU, and higher staff satisfaction related to flexibility and ease of cleaning.



Background

- Intrahospital patient transport is associated with a meaningful risk of physiologic deterioration and workflow complexity
- Transfers between care areas typically require switching monitoring systems, introducing delays and added workload
- Monitoring solutions that remain with the patient may reduce handoff complexity and improve workflow efficiency



Study design and methods

- **Design:** Prospective observational comparison across two monitoring workflows
- **Setting:** Perioperative surgical environment
- **Participants:** 243 surgical patients, 375 intrahospital transfers, and 30 healthcare providers completing satisfaction surveys
- **Intervention:** Patient-related monitoring system (IntelliVue X3) vs. organizational unit-based monitoring system



Objectives

Evaluate differences in workflow efficiency, handover time, and staff satisfaction between an organizational unit-based monitoring system and a patient-related monitoring system during perioperative patient transfers.



Results



Workflow efficiency

- Time to full vital sign display on transfer ICU/ PACU:
 - Unit-based system: 241 seconds
 - Patient-related system: 98 seconds
 - ~2 minute reduction ($p < 0.001$)
- Organization system faster to full vital sign display on transfer to the OR (21 vs. 77 seconds) likely reflecting workflow differences in connection sequence



Staff satisfaction

Staff reported **higher satisfaction** with the patient-related monitoring system for flexibility, cleanability, and usability