

Clinical Evidence Series

User perceptions of avatar-based patient monitoring: a mixed qualitative and quantitative study



What's different

Visual Patient transforms conventional numerical and waveform monitoring data into an animated patient avatar that displays multiple physiologic parameters simultaneously. The technology is designed to improve situation awareness by allowing clinicians to recognize patient status at a glance.



Interpretation

Anesthesiology professionals reported that avatar-based monitoring provided rapid situation recognition, was intuitive to learn, and simplified interpretation of patient information.



Key takeaways

In this mixed-methods study, 63% of participants agreed that Visual Patient enabled a rapid overview of patient status and 82% agreed that the technology was intuitive and easy to learn.



Background

- Conventional patient monitoring requires clinicians to sequentially process and integrate multiple parameters which may delay recognition of critical changes and contribute to reduced situation awareness
- Visual Patient Avatar converts multiple vital sign measurements into an animated patient avatar designed to improve situation awareness
- Multiple physiologic parameters may be perceived simultaneously rather than interpreted one value at a time



Study design and methods

- Mixed-methods study consisting of qualitative interviews and a quantitative online survey
- 128 anesthesiology physicians and nurse anesthetists from two Swiss teaching hospitals participated
- Themes identified during qualitative analysis were used to develop survey questions for a follow-up quantitative evaluation



Objectives

Assess anesthesiology providers' perceptions of avatar-based patient monitoring using qualitative interviews and a quantitative survey.



Results



Quick situation recognition: 63% of participants agreed or strongly agreed that Visual Patient Avatar enabled a rapid overview of patient status



Intuitiveness: 82% of participants agreed or strongly agreed that Visual Patient Avatar was intuitive and easy to learn



Visual design: Only 11% agreed that avatar-based visualization was not helpful for patient monitoring



Future use: 53% agreed or strongly agreed that Visual Patient Avatar could be beneficial for non-experts and other high-workload clinical environments