SAEM 2026 · WEARABLES

Patient Comfort, Perceived Safety, and Willingness to Use Wearable Continuous Monitoring in Emergency Care

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96%

OF PATIENTS WOULD WEAR THE DEVICE AGAIN

208/217 · **95% CI 92–98**

242
ADULT ED PATIENTS ENROLLED
Median age 59 · IQR 39–71 (n=230)

71%
FELT SAFER WHILE MONITORED
155/218 · 95% CI 65–77

0 / 231
ADVERSE EVENTS DOCUMENTED
No device-related adverse events

BACKGROUND

Deterioration often begins where monitoring isn't.

With increasing patient volume and limited resources across the hospital, the earliest physiologic signals of clinical deterioration often occur where continuous monitoring is unavailable — hallways, waiting rooms, perioperative holding bays, and general medicine floors.

Patient perceptions of wearable continuous monitoring devices are limited but will be vital to broader implementation.

Objective. Evaluate patient comfort, perceived safety, and willingness to use wearable continuous monitoring as a prerequisite to broader implementation.

METHODS

Prospective observational, single academic ED, Caretaker device.

Design. Prospective observational study in a single academic ED.

Population. Adult patients who wore a Caretaker wearable continuous monitoring device.

Survey. 0–10 comfort score (lower indicating greater comfort) · 5-point Likert safety item · willingness to wear again · optional free-text comments.

Abstracted variables. Start location · time from ED arrival to device placement · final disposition.

Analysis. Medians with IQRs · proportions with 95% CIs · inductive thematic analysis of comments.

RESULTS

High comfort, high acceptability, no adverse events.

- **242** Patients enrolled · median age 59 (IQR 39–71, n=230)
- **62%** Monitoring began in provider-in-triage rooms (149/240)
- **27%** Began in waiting/staging areas (64/240)
- **39%** Patients admitted (89/230)
- **48 min** Median ED arrival to device placement (IQR 29–80, n=187)
- **Median 1** Comfort score (IQR 0–4, n=219) — lower = more comfortable
- **71%** Agreed/strongly agreed they felt safer (155/218, 95% CI 65–77)
- **96%** Would wear again (208/217, 95% CI 92–98)
- **0 / 231** Adverse events documented
- **67** Free-text comments — overall comfort with minor wrist/finger discomfort, occasional BP-accuracy concerns

CONCLUSION

High patient acceptability supports broader deployment in under-monitored care areas.

ED patients reported high acceptability of wearable continuous monitoring, supporting readiness for broader deployment in under-monitored care areas. Patient-identified usability and trust concerns provide actionable guidance for device optimization and future effectiveness studies. Findings from this single academic ED may apply to other hospital settings with limited physiologic monitoring.

ASK ME ABOUT

- Caretaker device design
- Hallway/waiting-area deployment
- Comfort survey instrument
- Free-text comment themes