

Continuous vital signs monitoring and trending in non-intensive care unit (non-ICU) hospitalized patients is associated with earlier detection of clinical deterioration, reductions in ICU transfers, and decreases in in-hospital mortality

Systematic reviews and meta-analyses have found that continuous monitoring is feasible and may reduce ICU admissions, hospital length of stay, and mortality, particularly in high-risk populations. Some studies report improved early detection of deterioration and more timely clinical interventions.^[1-4]

A large propensity-matched analysis of 7,971 medical ward patients found that **intermittent monitoring was associated with nearly three times greater odds of a composite outcome of in-hospital mortality or ICU transfer** compared to continuous monitoring (OR 2.79, 95% CI 1.89–4.25), though limitations included inability to match on admission diagnosis and potential confounding. A similar study in surgical patients found that **continuous monitoring was associated with lower odds of mortality or ICU admission** (OR 3.42, 95% CI 3.19–3.67 for intermittent vs. continuous), as well as lower rates of heart failure, myocardial infarction, and acute kidney injury. Systematic reviews and meta-analyses have reported that **continuous monitoring may reduce mortality (risk ratio 0.61, 95% CI 0.39–0.95)**, with trends toward reduced ICU transfers and rapid response team activations, but results are heterogeneous and not universally conclusive. Barriers to implementation include alarm fatigue and staff workload. In summary, **continuous vital signs monitoring on general wards is associated with improved detection of deterioration and may reduce ICU transfers and mortality in some studies.**^[2,5-7]

1. [The Impact of Continuous Versus Intermittent Vital Signs Monitoring in Hospitals: A Systematic Review and Narrative Synthesis.](#) Downey CL, Chapman S, Randell R, Brown JM, Jayne DG. International Journal of Nursing Studies. 2018;84:19-27. doi:10.1016/j.ijnurstu.2018.04.013.

2. [Clinical Impact of Multi-Parameter Continuous Non-Invasive Monitoring in Hospital Wards: A Systematic Review and Meta-Analysis.](#) Sun L, Joshi M, Khan SN, Ashrafian H, Darzi A. Journal of the Royal Society of Medicine. 2020;113(6):217-224. doi:10.1177/0141076820925436.

3. [Continuous Vital Sign Monitoring of Patients Recovering From Surgery on General Wards: A Narrative Review.](#) Khanna AK, Flick M, Saugel B. British Journal of Anaesthesia. 2025;134(2):501-509. doi:10.1016/j.bja.2024.10.045.

4. [A Retrospective Observational Study of Continuous Wireless Vital Sign Monitoring via a Medical Grade Wearable Device on Hospitalized Floor Patients.](#) Weller GB, Mault J, Ventura ME, et al. Journal of Clinical Medicine. 2024;13(16):4747. doi:10.3390/jcm13164747.
5. [Impact on Patient Outcomes of Continuous Vital Sign Monitoring on Medical Wards: Propensity-Matched Analysis.](#) Rowland B, Saha A, Motamedi V, et al. Journal of Medical Internet Research. 2025;27:e66347. doi:10.2196/66347. (see attached)
6. [Impact of Continuous and Wireless Monitoring of Vital Signs on Clinical Outcomes: A Propensity-Matched Observational Study of Surgical Ward Patients.](#) Rowland BA, Motamedi V, Michard F, Saha AK, Khanna AK. British Journal of Anaesthesia. 2024;132(3):519-527. doi:10.1016/j.bja.2023.11.040. (see attached)
7. [The Impact of Continuous Versus Intermittent Vital Signs Monitoring in Hospitals: A Systematic Review and Narrative Synthesis.](#) Downey CL, Chapman S, Randell R, Brown JM, Jayne DG. International Journal of Nursing Studies. 2018;84:19-27. doi:10.1016/j.ijnurstu.2018.04.013.