Portrait™ Mobile

A wearable, wireless, continuous monitoring solution that provides a real-time picture of the patient.

ADDRESSING THE CHALLENGES OF WARD MONITORING

EARLY DETECTION of patient deterioration to optimize patient safety in med/surg is CRITICALLY IMPORTANT

Globally, **eight patients per minute die** within 30 days of surgery each year.[1]

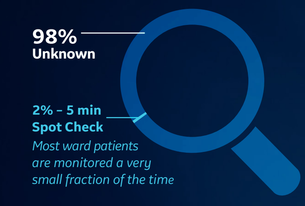
Sepsis interventions are time-sensitive and must be instituted early to achieve better outcomes.[2]

Most post-operative deaths occur on the wards.[3] In one study, **over half of adult in-hospital cardiac arrests occurred on the general wards**.[4]

For many patients, **there is ample time prior to cardiac arrest** to provide potentially life-saving interventions.[5]

RELYING ON INTERMITTENT SPOT CHECKS is suboptimal and can increase the risk of MISSED PATIENT DETERIORATION AND SAFETY ISSUES

In one study, **nurses doing spot checks missed 90% of hypoxemic events**.[6]



Most ward patients are monitored a very small fraction of the time

Respiratory events can occur **despite** regular spot checks

In another study, **at least 42% of patients had been checked by the nurse** within two hours of a respiratory depression event.[6]

The importance of RESPIRATORY RATE

RR is the highest ranked variable in models predicting clinical deterioration in the wards.[7]

Inadequate monitoring for respiratory depression in patients receiving opioids is a **top 10 patient safety concern**.[8]

General ward patients with respiratory compromise are **29 times more likely to die**.[9]

Respiratory compromise is the **third most rapidly increasing hospital inpatient cost** in the United States.[9]

INTRODUCING PORTRAIT MOBILE

Breakthrough design

1. ECG artifact rejection for reliable RR detection.
2. Dual vectors to account for different breathing patterns.
3. Optimized electrode position.
4. Signal optimization with filtering to help reject artifact which may be caused by ECG and motion.
5. Frequency analysis in addition to time-based analysis.
6. Dynamic delays based on signal quality index.

Wireless designed as good as wired

The wireless medical body area network (MBAN) wearable sensors communicate to the patient monitor using an innovative Byndr™ transmission protocol, **designed so the wireless signal is as reliable as a wired connection**.

Greater than 99% measurement accuracy[10]

Unique TruSignal RRdv™ technology has been shown to be very accurate when compared to capnography.

Encourages mobility, going wherever the patient goes, while wirelessly measuring key vital signs including dual vector **RR, SpO_2 and PR**.

Usability study results[11]

90% agree that they feel **more reassured** about their patient's condition when continuous monitoring is used versus vital signs spot check measuring.

99% agree that Portrait Mobile can help in **earlier detection of patient deterioration** than routine observation.

96% of nurse reports give Portrait Mobile an overall rating of **good** or **very good**.

76% agree they are **more confident** in assessing respiratory function using Portrait Mobile.

Where patients go, Portrait Mobile follows.

"I had no problems at all. I didn't even notice they were there."[11]

– Hospital ward patient, when asked about the sensors' comfort

1. Nepogodiev, D., *et al.* Global burden of postoperative death. *Lancet* 393, (February 2019). https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)33139-8/fulltext?fbclid=IwAR0-gjJDa-ptPOb_qcChGdspAy6fXfyChlOOfJ8L-a8KCQ6be4SxRDjOaoM.
2. Mebazaa, A., *et al.* Designing phase 3 sepsis trials: application of learned experiences from critical care trials in acute heart failure. *J Intensive Care* 4, 24 (2016).
3. Pearse, R., *et al.* Mortality after surgery in Europe: a 7 day cohort study. *Lancet* 380: 1059-65 (2012).
4. Nolan, J., *et al.* Incidence and outcome of in-hospital cardiac arrest in the UK National Cardiac Arrest Audit. *Resuscitation*, 85(8):987-92. (2014).
5. Churpek, M., *et al.* Predicting Cardiac Arrest on the Wards; A Nested Case-Control Study, *Chest*, 141(5):1170-1176 (2012).
6. Sun, Z., *et al.* Postoperative hypoxemia is common and persistent: a prospective blinded observational study. *Anesth Analg*, 121: 709-15 (2015).
7. Michard, F., Sessler, D., Ward monitoring 3.0. *Br J Anoesth*, 121(5):999-1001 (2018).
8. Vincent *et al.* Improving detection of patient deterioration in the general hospital ward environment, *Eur J Anaesthesiol* 35:325-333 (2018).
9. Respiratory Compromise Institute Highlights Dangers and Growing Incidence of Respiratory Compromise, at CHEST 2017, October 31, 2017.
10. Järvelä, K., Michard, F. *et al.* Clinical evaluation of a wearable sensor for mobile monitoring of respiratory rate on hospital wards. *J Clin Monit Comput* (2021).
11. Based on a 2020 evaluation clinical study performed at a London hospital in the UK. Twenty-seven nurses from the hospital ward settings used the Portrait Mobile solution with 33 patients. Feedback was collected through a structured questionnaire. Refer to the "Evaluation Clinical Study Of The Ambulatory Monitoring Solution (AMS) ME Study Report" (DOC2599845) for details.

Portrait Mobile is a CE marked medical device. Portrait Mobile is not available in all markets and is not 510k cleared.

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