



Wearable Patient Monitor

Infinite care in every step forward



Sydney Unit 4, 6-8 Byfield St Macquarie Park NSW 2113
Brisbane 20/300 Cullen Avenue East, Eagle Farm QLD 4009
Melbourne 3/273 Williamstown Road Port Melbourne VIC 3207
Perth Unit 2, 61 Prosperity Ave Wangara WA 6065
1300HPAUST | info@hpaust.com www.hpaust.com

mindray
healthcare within reach




73% 73% of 1855 patients who died before hospital discharge were not admitted to critical care at any stage after surgery^[1].


Patient safety is a main concern to clinicians. Wearable devices provide safer and more comfortable monitoring experience. The accuracy, usability of wearable devices and the reliability and security of wireless signal transmission bring great challenges to clinical application^[2]. To meet these challenges Mindray develops the mWear* wearable patient monitor to better monitor the patient safety and provide simplicity of clinical application in multiple scenarios.


Medical-grade Wearable Monitoring


Refined product design and medical-grade algorithm give mWear the ability to enhance patient safety.



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Refined design
Comfortable wearing experience
Complete wireless interconnection
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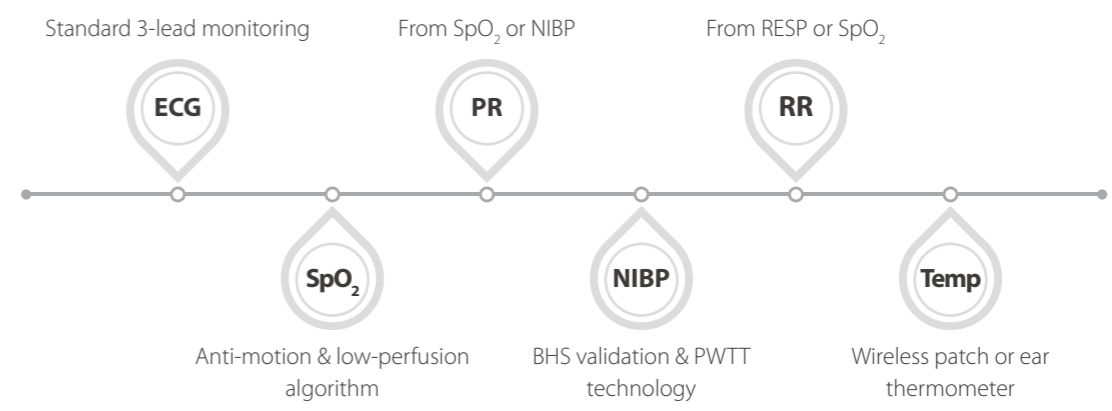
Reliable design
IP22 Waterproof
Resistant to 48 kinds of disinfectants
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Medical-grade monitoring
Multi-parameter monitoring
Innovative health parameters
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Ring SpO₂ sensor
Normal hand movement with greater comfort

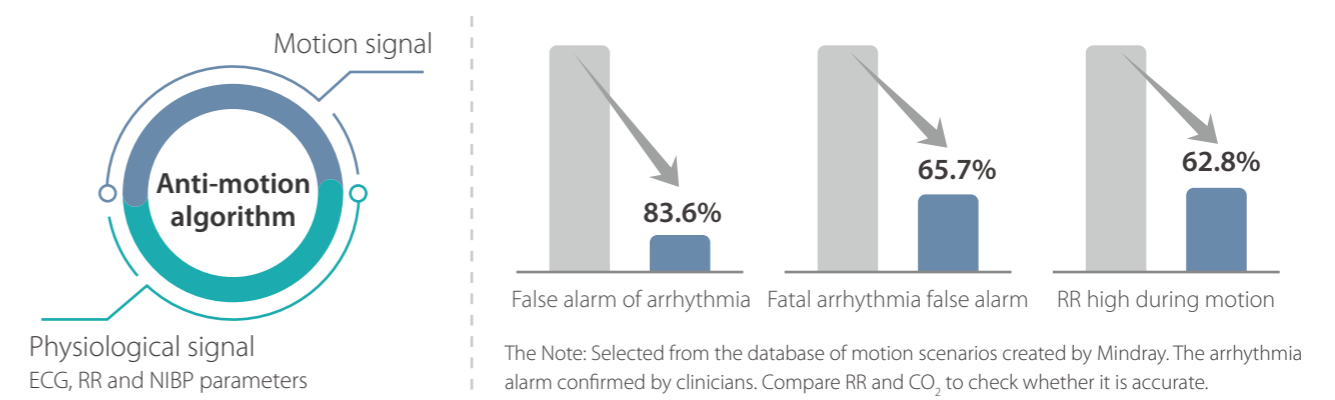
Accurate, Reliable Multi-Parameter

Based on years of technology accumulation, Mindray provides accurate and reliable multi-parameter monitoring for clinical teams.



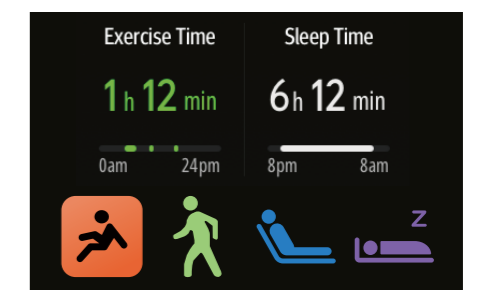
Anti-motion Algorithm

Motion artefact can often affect parameter accuracy. Mindray innovatively develops the patented technology^[3], which significantly improve the motion artefact performance of mWear.



Health Parameter Monitoring

- Innovative health parameter. Specialised algorithm based on clinical evidence to monitor patient's exercise and sleep time
- Identify four patient statuses: Fall down, exercise, sleep, and rest



[1] Pearse R M, Rui P M, Bauer P, et al. Mortality after surgery in Europe: a 7 day cohort study[J]. Lancet, 2012, 380(9847): 1059-1065.
 [2] Nightingale project summary. <https://www.nightingale-h2020.eu/>
 * Including EP30, ES30 and BP20.

[3] Technical algorithm patent No.: EP 18921425.7, PCT/CN2018/088982



Neutral attitude

Wearable device was well accepted by patients, but only moderately by nurses. Acceptability of the device among nurses needs further improvement^[4]

Smooth Workflow

How to make the wearable devices easier and better to use? Based on the real clinical needs, Mindray tries to solve the inconveniences from three dimensions.



Monitoring Preparation

- Pairing through a single touch
- Patient information auto bound through PDA scanning



Patient Monitoring

- Conduct a unified management and viewing through central station
- Support two kinds of multi-bed screen



- For more detailed information, Mindray provides single-bed screen.

Innovative Wearable Mode

- Display patient status.
- Calculate and display the EWS score.
- Display health parameters
- Refresh parameters every two minutes

Fall Down Warning

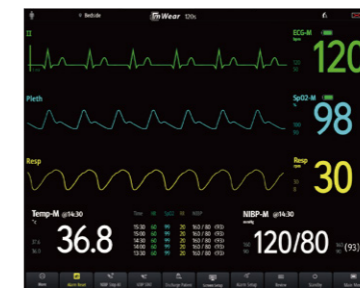
Fall down warning and the position of the patient are displayed.

Emergency Monitoring

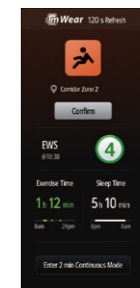
- When patient has abnormal fatal signs *, or clinicians want to know the detailed signs of patient. "Wearable mode" can be switched to "Continuous mode". And the central station refreshes parameters every second.
- When serious alarms are identified, alarm escalation will be triggered, and the special fatal sound and exclusive display will be used.



Wearable Mode



Continuous Mode



Fall Down Warning



Charging&Device Management

- Long duration: at least 48 hours
- Replace the battery with a single hand
- Centralised charging design. Clear charging instruction
- Large volume storage

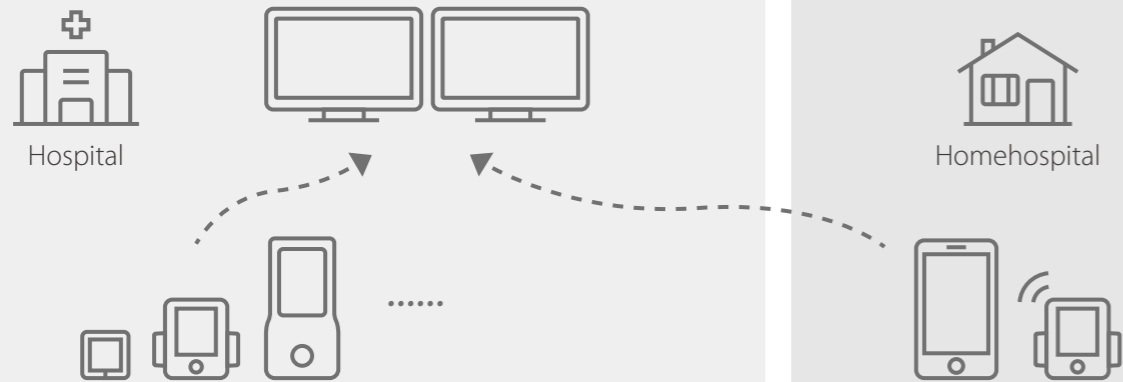


[4] Leenen JPL, Dijkman EM, van Dijk JD, et al. Feasibility of continuous monitoring of vital signs in surgical patients on a general ward: an observational cohort study. *BMJ Open* 2021;11:e042735.

* Including 4 types of arrhythmia: Asystole, V-Fib/V-Tach, Extreme Tachy and Extreme Brady.

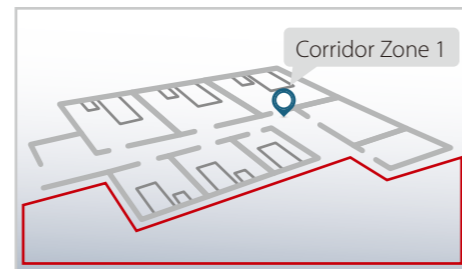
Reliable and Accessible IT Solution

Mindray understands that data accuracy is important and this is realised through reliable and stable IT network. This also extends to the home through the App so that patients are safely monitored at home. The application of mWear in hospital and homehospital use the same monitoring system. All the data can be connected to the EMR system.



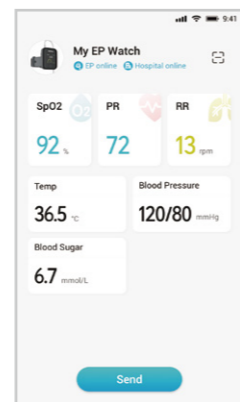
Intelligent Device Positioning

- Device search: Through the central station, we can find the area near the AP where the wearable device is located
- Electronic fence: When the wearable device exceeds the network range, the EP will beep



Homehospital application*

- Dedicated app design
- App sends the data back to the central station in hospital. Unified management of patient data within the hospital
- Independent charging pod



Cooperation

- Officially linked with iThermonitor® wireless temp patch
- Welcome more partners to join Mindray system

* Will go online on 2023.01.01



Reliable Signal Transmission

- Seamless roaming technology: Ensure the seamless connection of signals when switching between different AP. Ensure the stable transmission of signals.
- Security encryption technology: Support multiple WiFi encryption technologies to ensure access to the hospital network under the hospital dedicated network environment. Adopt TKIP and AES encryption to ensure the security of signal transmission.

Accessible IT Solution

Mindray's IT solution provides patient-centric data collection. All data can be displayed, analysed, alarmed, reported and sent to the 3rd-party system by Mindray standard interface for a more comprehensive picture of patient health.

