

Mobile-enabled non-invasive measure-through motion and low perfusion pulse oximeter

Country of origin | United States of America

Health problem addressed

Globally, 19% of all under-five deaths are caused by pneumonia, while 26% of neonatal deaths are caused by severe infections during the neonatal period, including pneumonia or the serious blood-borne bacterial infection sepsis. From a global perspective, approximately 7% of all neonatal deaths are attributable to major congenital malformations of which at least 25% are due to severe forms of CHD. Early recognition of these diseases could potentially improve and save many lives.

Product description

The proprietary technology uses adaptive filters for real-time physiologic monitoring to accurately calculate arterial saturation and pulse rate. While other pulse oximetry technologies employ one, or sometimes two algorithms to attempt to measure a patient's arterial oxygen saturation, the non-invasive device uses multiple signal processing algorithms and is the world's first Measure-through Motion and Low Perfusion™ pulse oximeter for medical use, allowing clinicians to noninvasively track and trend oxygen saturation (SpO₂), pulse rate, and perfusion index with select Android and iOS devices.



Developer's claims of products benefits

Flexible and easy-to-use for spot-check of the following parameters: oxygen saturation, pulse rate, and perfusion index using a mobile smart device. Ability to use compatible reusable and adhesive sensors (for Adult and Pediatric patients). Display and share information using e-mail and smart phones and facilitates remote assessment and management of patients.

Suitability for low-resource settings

Effective, affordable, and scalable pulse oximetry evaluation of adults and paediatrics, along with reliable follow-up in low-resource countries can significantly reduce infection-related paediatric death rates. The ease of usability and low maintenance can arm front-line health care providers with the most effective pulse oximeter that is accurate in challenging conditions of patient movement (common in paediatrics) and low perfusion.

Operating steps

Insert the iSpO₂ Rx connector into the power port of the smart device. Attach the sensor to the patient. The measurements will display on the smart device as a waveform measurement and numeric display. More details about attachment types and operational procedures can be found in the user manual accompanying the technology.

Regulatory status

CE Marked in France, Italy, Germany, Spain, United Kingdom and other European countries.

Future work and challenges

Increase functionality to a wider range of smart mobile devices, and develop new non-invasive parameter capabilities that can be easily accessed in low-resource settings. Continue to partner with health ministries to raise awareness and improve access to technologies, develop universal standardized training for end-users, and drive further adoption of mobile devices in low-resource settings.

Use and maintenance

User: Can be used by patient or by any health care professional

Training: Group training by a local health partner (clinician, technician, nurse, other community health worker).

Maintenance: Prior to each use clean the sensor, cable and connector by wiping with a 70% isopropyl alcohol pad.

Environment of use

Setting: Intended to be used in any setting or healthcare facility

Energy requirements: draws power from attached mobile device

Software Requirements: The Masimo iSpO₂ Rx app for Android may be downloaded from the Google Play Store, and the app for iOS may be downloaded from the App Store

Product specifications

Weight (kg): 0.07

Dimensions: 87mm x 3 mm x 2 mm

Consumables: disposable batteries, cable with sensor

Lifetime: 5 years

Retail price (USD): 490

Year of commercialization: 2014

Currently sold in: France, Italy, Germany, Spain, United Kingdom and other European countries

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http://www.who.int/medical_devices