

# Non-invasive haemoglobin monitoring device

Country of origin | United States of America

## Health problem addressed

Anaemia affects more than 2 billion people globally, resulting in 1million deaths per year. Iron deficiency anaemia, is one of the top 10 risk factors contributing to the global burden of disease. It impacts quality and length of human life along with a country's social and economic development costing \$50 billion annually in GDP losses worldwide. Children, infants & women are most susceptible to anaemia, yet typically this population group has the least access to services & timely intervention.

## Product description

This device is an easy-to-use, lightweight, ruggedly designed handheld device that provides non-invasive and quick measurement of haemoglobin, oxygen saturation, pulse rate and perfusion index in approximately 1 minute, in virtually any environment. It takes only four simple steps to obtain all measurements. This device measures haemoglobin using similar principles as pulse oximetry with additional wavelengths of light. The device uses a sensor with multi-wavelengths of light to calculate functional oxygen saturation, haemoglobin concentration and pulse rate.



## Developer's claims of products benefits

Current devices require painful blood draw exposing workers to blood borne pathogens, calibration/QC testing, numerous supplies requiring special storage/handling, disposal of hazardous waste, & special training/certification. The monitor is a simple easy to use multi-parameter device that doesn't require special training, supplies, or calibration to measure SpO<sub>2</sub>, pulse rate and Hg all of which it does in approximately 1 minute without drawing blood. It can be used with infants, children & adults in any setting.

## Suitability for low-resource settings

This device is a small lightweight rugged handheld battery powered monitor designed to screen adults, children and infants for anaemia without painful blood draw virtually anywhere. Non-invasive measurement reduces fear of painful blood draws, no special handling/storage of supplies, helps addresses religious cultures concerns of blood draws, no special training required, & eliminates exposure to hazardous waste.

## Operating steps

Connect sensor to the monitor and turn the device ON. Select sensor size using finger size guide. Place sensor on finger, thumb or great toe (for infants). The Monitor will automatically provide SpO<sub>2</sub>, pulse rate, and perfusion index first. Press the SpHb (non-invasive haemoglobin) button when tone is heard. Haemoglobin measurement will be displayed. Record measurements.

## Regulatory status

CE Marked in France, Italy, Germany, Spain, United Kingdom, Sweden, Netherlands, Belgium, Finland, Austria, Poland, Portugal, Czech Republic, Latvia, Croatia, Slovakia, Greece, Slovenia, Romania, Hungary, Malta, Luxemburg, Ireland, Bulgaria, Denmark, and other European countries

## Future work and challenges

Noninvasively measuring haemoglobin empowers healthcare workers & patients across the globe, enabling them to easily identify & manage anaemia more proactively at the point of care anywhere, any time without a lab, technician or clinician. This allows a community screenings and permits health workers to focus to develop programs to address anaemia more effectively. Future work will also include education and training for both community members and health care workers of the importance of recognizing anaemia.

## Use and maintenance

**User:** Intended for self-use by patient, or by any health care provider

**Training:** Training can be accomplished individually or in groups. Material available: Operator's Manual, Quick reference guides, videos and webinars. Training takes approximately 30 minutes.

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

## Environment of use

**Setting:** Designed to be used in any setting, including outdoor use

**Energy requirements:** Battery operated

## Product specifications

**Weight (kg):** 0.37

**Dimensions:** 158mm x 76mm x 36mm

**Consumables:** Disposable batteries and sensor

**Lifetime:** 5 years

**Retail price (USD):** 600

**Price of consumables (USD):** 6

**Year of commercialization:** 2014

**Currently sold in:** France, Italy, Germany, Spain, United

Kingdom, Central and South America, Sweden, Switzerland, Turkey, Argentina, Australia, Canada, China, Japan, Finland, Guam, Hong Kong, India, Iraq, Israel, Italy, Jordan, Kenya, Kuwait, New Zealand, Nigeria, Qatar, Africa, Spain, US, Saudi Arabia, Belgium, Singapore, Norway, Sri Lanka

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