ZOLL

M Series

PULSE OXIMETRY

Defibrillator Monitor Pacemaker with Pulse Oximetry

The M Series — A Tool for All Vital Information

Now with a single, compact, portable defibrillator monitor pacemaker, you have the ability to completely assess your patient's oxygenation status as well as monitor ECG and other vital patient information. During resuscitation, critical care monitoring or emergency intervention, the ZOLL M Series with Pulse Oximetry provides a fast and accurate means of continually and non-invasively monitoring patients who are at risk for developing hypoxemia.

How Does Pulse Oximetry Work?

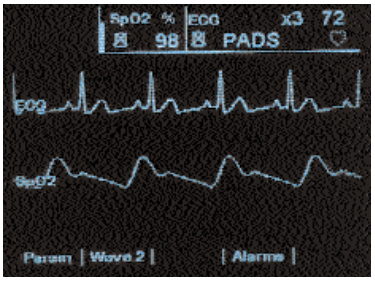
A small reusable or disposable probe placed on the patient's finger, toe or ear lobe transmits beams of red and infrared light through the tissue to a photodetector opposite the probe to measure the amount of oxygen that is being carried by hemoglobin. Oxygenated hemoglobin absorbs more infrared light, while deoxygenated blood absorbs more red light. In pulse oximetry, the ratio of red to infrared is calculated and converted to a SpO_2 percent value. Typically, normal values range from 95% to 97%.

While valuable tools, conventional pulse oximeters have limitations, often when SpO_2 values are needed the most. Measurements may be inaccurate or unavailable during patient motion. Readings during shock and low perfusion are sometimes unavailable or sporadic. Ambient light can affect the sensor, resulting in inaccuracy. When used with external pacing, most pulse oximeters cannot tolerate the motion artifact associated with pacing stimuli.

M Series Pulse Oximetry — Advantages with Critical Patients

The ZOLL M Series incorporates an innovative technology to overcome the limitations of conventional pulse oximeters for accurate and reliable SpO_2 measurements when they are needed the most. Masimo's SET® unique signal processing algorithm provides:

- More accurate measurements during motion
- Fewer false alarms
- Reliable SpO_2 values during external pacing
- Improved oximeter performance with patients in shock and low perfusion
- Combined adult, pediatric and neonatal capabilities
- Monitoring of both ECG rate and pulse rate when pacing



ZOLL's new FED screen clearly displays SpO_2 values, with or without a waveform, and offers superior visibility at any angle.

Tips for Accurate Pulse Oximetry Readings

- Choose a sensor that is appropriate for your patient's size. ZOLL LNOP™ sensors come in a wide variety of configurations from adult to neonate sizes.
- Select an appropriate location for the sensor, one that is least subject to motion and that has adequate circulation.
- Use an alcohol wipe to make sure the monitoring site is clean and dry.
- Align the LED and Photodetector markings on the sensor so they are exactly opposite each other.
- Evaluate the waveform and signal strength to assess the accuracy of data.

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It's about time.

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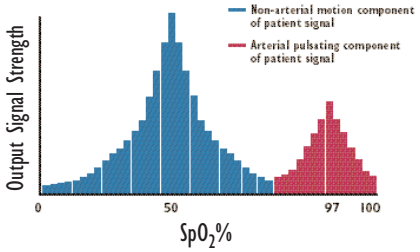
Pulse Oximetry with Masimo SET® Technology Assures Accurate, Reliable SpO_2 Measurements

The ZOLL M Series offers the "Best in Class" pulse oximetry with Masimo SET (Signal Extraction Technology), which substantially eliminates the motion and low perfusion problems associated with conventional pulse oximeters. In addition, a unique probe design reduces noise from motion, electromagnetic interference and ambient light, resulting in a cleaner, more artifact-free signal.

- Through a unique signal-processing algorithm, Masimo SET identifies and separates noise from the arterial signal, eliminating problems of motion artifact, low peripheral perfusion and weak signal-to-noise ratios during measurement.
- The Masimo SET LNOP™ (Low Noise Optical Probe) family of probes features an innovative optical sensor that is recessed away from the skin to stabilize the light emissions used in detecting oxygen saturation and reduce signal interference.
- Both a $\%SpO_2$ numeric value and waveform are clearly visible on the M Series' new Field Emission Display (FED), offering superior readability, contrast and angle of view.
- Easy-to-use controls with intuitive, direct-entry alarms allow for easy adjustment of limits and waveform displays.
- Documentation is easy on the M Series Multiple Application Printer that prints SpO_2 data along with all ECG, defibrillation, pacing, patient care and summary information.

Masimo SET Pulse Oximetry During Motion



During motion, Masimo's SET indentifies the non-arterial noise component of the patient signal (blue peak) and separates the noise from the arterial signal (red peak). It discards the noise data and reports the true arterial saturation (SpO_2), providing accurate data for clinicians.

M Series with Pulse Oximetry Specifications

General

Saturation (% SpO_2) Range: 1%-100%. • *Pulse Rate (bpm) Range:* 25-240. • *Saturation (% SpO_2) Accuracy During No Motion Conditions:* Adults - 70%-100% ± 2 digits, 0%-69% unspecified; Neonates - 70%-100% ± 3 digits, 0%-69% unspecified. • *Saturation (% SpO_2) Accuracy During Motion Conditions:* Adults - 70%-100% ± 3 digits, 0%-69% unspecified. • *Pulse (bpm) Accuracy During No Motion Conditions:* 25 to 240 ± 3 digits. • *Pulse (bpm) Accuracy During Motion Conditions:* 25 to 240 ± 5 digits. • *Saturation (% SpO_2) Resolution:* 1%. • *Pulse Rate (bpm) Resolution:* 1. • *Bio-Compatibility:* Patient contacting material meets requirements of ISO 10993-1, Biological Evaluation of Medical Device - Part 1, for external devices, intact surfaces and short-term exposure.

Note: The M Series Pulse Oximetry Option is calibrated for functional saturation.

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Subject to 510(k) clearance.
Specifications subject to change without notice.
Masimo SET is a registered trademark of and LNOP is a trademark of Masimo Corporation.

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