

## OXYHOLTER® FROM NORTHEAST MONITORING, INC.

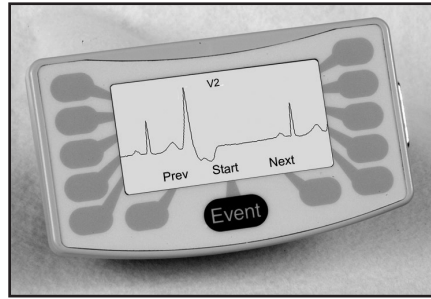
*Currently used for Long Term Oxygen Therapy (LTOT) and Obstructive Sleep Apnea Syndrome (OSAS), Addition of LX Sleep Software Will Add Apnea Hypopnea Index (AHI)*

The OxyHolter® recorder, a combination of the respected DR180+ Holter unit with a specialized cable for sensing SpO<sub>2</sub>, has long been used with LX Analysis software to provide the most accurate and complete ambulatory assessment of patients' requirements for LTOT.<sup>1</sup> From the synchronous combination of ECG and SpO<sub>2</sub> data, many doctors are also able to manually identify OSAS. Now, the OxyHolter® has taken a big step forward with the addition of specific sleep apnea detection software to automate that process.

Obstructive sleep apnea syndrome is more common than previously thought, affecting about 4 percent of adult men and 2 percent of adult women in America, although the prevalence is likely under-reported.<sup>2,3</sup> In children, estimates range from 1 to 3 percent, but these numbers are likely underestimated as well.<sup>4,5,6</sup> OSAS has been linked to a number of health problems, including angina,<sup>7</sup> nocturnal cardiac arrhythmias,<sup>8</sup> myocardial infarction,<sup>9</sup> stroke,<sup>10</sup> as well as motor vehicle crashes.<sup>11</sup>

According to Jordan C. Stern, MD, New York Otolaryngology Group (New York, NY), "no one knows the exact frequency of episodes of OSAS because there is no good tool that allows doctors to easily monitor their patients." In fact, it is estimated that 80 percent of OSAS cases in the U.S. are not diagnosed.<sup>12</sup> Poly-somnography (PSG) has been considered the "gold standard" for the diagnosis of OSAS, but the lack of accessibility to sleep centers and the high cost of the test limit use.<sup>13</sup> Dr. Stern further notes that "most patients don't want to go through this. It involves sleeping in a lab, being observed by a technician, and being connected to 12-20 electrodes, if not more. This is very subjective data being collected in a very unnatural sleeping environment, which is unlikely to capture a person's true sleep pattern. Home-based monitoring devices can be unreliable and cumbersome."

The ideal tool for evaluating patients with suspected OSAS should be convenient and easy to use; it should be portable, reliable and inexpensive.<sup>12</sup> The Solution: The time-tested technology represented by the FDA-approved **OxyHolter® Recorder** from **NorthEast Monitoring, Inc. (Maynard, MA)**. The OxyHolter® recorder, a DR180+ Holter unit with a specialized cable for



*OxyHolter® from Northeast Monitoring, Inc.*

sensing SpO<sub>2</sub>, has a unique ability to isolate or correlate cardiac pulmonary issues to aid in diagnosis or determine a need for further testing. ECG and SpO<sub>2</sub> can be measured concurrently with one ambulatory unit and directly analyzed by NorthEast Monitoring's proprietary **LX Analysis Software**. The OxyHolter® cable has 5 electrodes for ECG recording as well as a connector to accommodate the SpO<sub>2</sub> probe. The shielded cables provide high quality signal integrity and noise immunity. The OxyHolter® recorder is easily hooked up to a patient for an unattended, overnight study. The data, stored on a Compact Flash data card, can be transmitted from a remote location or returned to the physician for analysis and review.

NorthEast Monitoring has teamed with BiancaMed, Ltd. (Dublin, Ireland), to create an even more sophisticated sleep apnea detection tool, to be dubbed **LX Sleep**.<sup>\*</sup> Based on innovative algorithms from BiancaMed, this new software will utilize the high-quality ECG signal and SpO<sub>2</sub> to produce an Apnea Hypopnea Index (AHI) to identify patients with OSAS more accurately and less expensively than ever before. Conor Heneghan, PhD, of BiancaMed (Dublin, Ireland), is one of the developers of the software, and he points out, "By analyzing the combined data with our new software, you will get an accurate estimate of the AHI, the prime diagnostic tool used when evaluating a person for OSAS by way of a polysomnography." Dr. Heneghan continues, "The OxyHolter® device has been tested in the laboratory and compared to PSG and the numbers correlate very, very strongly." In his study, Dr. Heneghan and his colleagues used the OxyHolter® plus the prototype LX Sleep software to record and evaluate ECG and SpO<sub>2</sub> in patients simultaneously undergoing

PSG. The OxyHolter® / LX Sleep system classified all 60 subjects correctly (including one with central apneas), and the correlation between AHI by the two techniques was 0.95 (p<0.001).

Dr. Stern explains why he would recommend the OxyHolter® Recorder to detect OSAS: "It's very simple: My colleagues recognize the impact sleep apnea has on overall health. They also recognize that patients are reluctant to go to a sleep lab to be tested. Both doctors and patients would be more than willing to have a home-based test that is reliable and can determine within 24 hours whether or not they have obstructive sleep apnea or at risk of having it. I can't imagine why anyone would not want to do it. With the OxyHolter® device, patient compliance with home sleep studies will be much greater than at a sleep lab, therefore we may catch more problems earlier than before." ♦

*\*LX Sleep FDA approval pending.*

### To Learn More

For more information about NorthEast Monitoring, Inc. or its products, call 1-866-346-5837; email to [info@nemon.com](mailto:info@nemon.com); or visit the company's Web site at [www.nemon.com](http://www.nemon.com).

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