



Insightful technology

Ambulatory monitoring systems that provide insight into your data monitoring needs

Our comprehensive line of ambulatory devices provides accurate, real-world, and objective measurement of your study outcome data providing you with long-term insight into drug efficacy not otherwise attainable. Used to assess quality-of-life indicators such as sleep/wake activity of daily living and other quantifiable physical motion parameters – such as temperature and physical activity – our devices have been successfully implemented in clinical studies related to sleep, depression, pain, and more. All of the systems are noninvasive, compact, and easily fit into subjects' normal lifestyles.

PHILIPS

RESPIRONICS



Actiwatch actigraphy system

The Actiwatch monitoring system provides a continuous, reliable, and objective sleep/wake history of your study subjects. Worn as a wristwatch, the Actiwatch captures data in real time – and can store weeks of information – without restricting subjects to a laboratory environment. The data collected enables your staff to correlate an objective measurement of response to drug administration.

Our validated* devices – including the advanced-featured Actiwatch 2 and Actiwatch Spectrum, and our Actiwatch Score for subjective response studies – help to ensure you have just the right device to meet your clinical study needs.



VitalSense

VitalSense is a telemetric physiological monitoring system that enables continuous monitoring of core body temperature, dermal temperature, and heart and respiration rate, all without wires

or probes. The VitalSense system helps you identify temperature changes in response to drug formulations while eliminating the need for a subject to undergo periodic temperature checks and maintain a temperature log.

To collect core body temperature data, the subject simply swallows a capsule that is easily passed a few days later. For dermal temperature, a patch is adhered to the subject's skin (almost anywhere on the body). For heart and respiration rate, the XHR-sensor is applied to the chest. Subjects can engage in normal activities while still being monitored.

*Lichstein, K.L., Stone, K.C., Donaldson, J., Nau, S.D., Soeffing, J.P., Murray, D. Lester, K., Aguillard, N. Actigraphy Validation with Insomnia. SLEEP, 2006; Vol. 29; No. 2; pp. 232-239.

Kushida, Clete A., Arthur Chang, Chirag Gadkary, Christian Guilleminault, Oscar Carrillo, William C. Dement. Comparison of actigraphic, polysomnographic, and subjective assessment of sleep parameters in sleep-disordered patients. Sleep Medicine, 2001; Vol. 2; pp. 389-396.



Actical

Actical is a small, omni-directional accelerometer that calculates and records active energy expenditure (AEE), metabolic equivalents per time, and step counts. It enables real-time ambulatory monitoring and is as efficient in quantifying energy expenditure as doubly-labeled water and VO₂ consumption, but at a fraction of the cost.**

Actical software provides detailed analysis reports on AEE occurring over time and, depending on the needs of your study, allows you to view data in a variety of different modes. Additionally, the data collection and analysis capabilities enable you to document changes in AEE patterns, tag specific events, and more.



PAM-RL

The PAM-RL device is an objective activity monitor specifically designed to record and analyze the quantity and frequency of periodic limb movements (PLMs). The compact, ankle-worn device provides

a quantifiable method for helping to assess the efficacy of drug formulations or treatment for restless legs syndrome (RLS) and other disorders in which PLMs may occur. The PAM-RL correlates highly with polysomnography†, but at a fraction of the cost. It can also monitor both legs over multiple nights.

**Blanton, C.A., Kretsch, M.J., Baer, D.J., Staples, R.C. Measuring physical activity energy expenditure in normal weight, premenopausal women. FASEB Journal, 2005; Vol. 17; p. A290.7.

†King, M. A., Jaffre, M-O., Morrish, E., Shneerson, J. M., Smith, I. E. The validation of a new actigraphy system for the measurement of periodic leg movements in sleep. Sleep Medicine. 2005.

Sforza, E., Johannes, M., Claudio, B. The PAM-RL ambulatory device for detection of periodic limb movements: a validation study. Sleep Medicine. 2005. 6:407-413

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