



ApneaLink™

Software version 7.0

NOW WITH CHEYNE-STOKES
RESPIRATION DETECTION

Powered by new software version 7.0, ApneaLink—the screening device for sleep-disordered breathing (SDB)—can now detect Cheyne-Stokes respiration (CSR).

Latest software version is compatible with all ApneaLink models*.



New features

- CSR detection and statistics
- Screenshot in extended report
- Enhanced desaturation detection
- EDF and CSV export capability
- Windows® Vista compatibility

Convenient screening

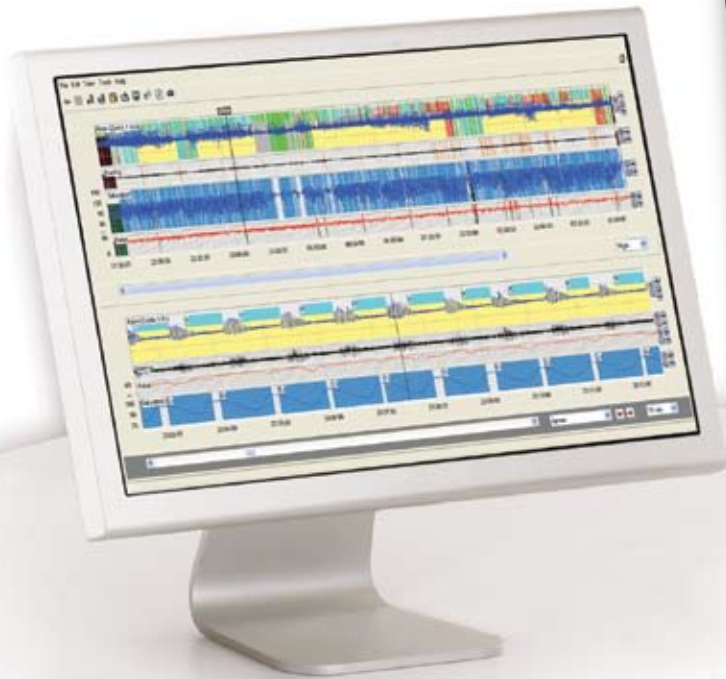
- Easy-to-use and accurate
- Graphic risk identifiers
—CSR flags and sleep apnea risk indicator
- Helps grade patient condition by severity and pathology
- Optional oximetry

Easy reporting

- Validated automatic analysis^{1,2}
- Single page summary report
- Extended reporting option (pulse oximetry trends for detailed assessment with screenshots)
- Electronic data exchange capability

* including microMESAM

ApneaLink screening device with software version 7.0: a handy way to detect Cheyne-Stokes respiration.



Detailed trends can be viewed online or printed.



Automatic reporting—all summary results on one page, plus optional page for oximetry trends with screenshots.

CSR detection algorithm

- The data recorded is divided into 30-minute epochs, with an overlap between epochs.
- The CSR algorithm uses digital signal processing and statistical pattern recognition to determine the occurrence of CSR in each 30-minute segment.

Proven CSR detection

- Using ApneaLink and a polygraph simultaneously, a study² compared data for 70 subjects including normal patients, those with obstructive sleep apnea (OSA) and those with CSR. Automatic analysis was compared with manual scoring.
- The results confirm ApneaLink provides reliable screening:
Sensitivity: 87% (75 – 99) Specificity: 95% (88 – 100)
Positive likelihood ratio: 17.0 Negative likelihood ratio: 0.14

CSR and heart failure (HF)

- 75% of HF patients have SDB.³
- CSR is believed to be the most prevalent form of SDB in HF patients.⁴
- CSR is associated with increased mortality in CHF patients.^{5,6}

Treating CSR

- ResMed's Adaptive Servo-Ventilation (ASV) technology has been designed specifically to help improve cardiac function and quality of life of CHF patients with CSR or central sleep apnea (CSA). It also improves quality of life for complex apnea patients.^{7,8,9}
- Various methods have been used to treat CSR—a study comparing the effects of one night of each of these therapies demonstrated superior results with ASV technology.^{10,11}

REFERENCES

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² Teschler, et al. 2007 (accepted for publication)

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⁴ Lanfranchi P, Somers V. *Respiratory physiology & neurobiology* 2003;136:153–165

⁵ Hanly P, Zuberi-Khokhar N. *Am J Respir Crit Care Med* 1996;153:272–276

⁶ Lanfranchi P, Braghiroli A, et al. *Circulation* 1999;99:1435–1440

⁷ Schädlich S, et al. Cardiac efficiency in patients with Cheyne-Stokes respiration as a result of heart insufficiency during long-term nasal respiratory treatment with adaptive servo ventilation (AutoSet CS) *Z Kardiol* 2004;93(6):454–62.

⁸ Zhang XL, et al. Efficacy of adaptive servoventilation in patients with congestive heart failure and Cheyne-Stokes respiration. *Chin Med J (Engl.)* 2006;119(8):622–7.

⁹ Pepperell JC, et al. A randomized controlled trial of adaptive ventilation for Cheyne-Stokes breathing in heart failure. *Am J Respir Crit Care Med* 2003;168(9):1109–14.

¹⁰ Teschler H, Dohring J, et al. *Am J Respir Crit Care Med* 2001;164:614–619

¹¹ Philippe C, Stoica-Herman M, et al. *Heart.* 2006, 92:337-342

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