Night-to-night comparisons of sleep quality using validated algorithms to assist the physician with editing and interpretation

- Electroencephalography
- Electroocculography
- Pulse rate
- Voice alerts to manage signal quality
- Electromyography
- Electrocardiography
- Quantitative snoring
- Head movement and position

Key sleep parameters are provided via web-based editing and report generation:

- Total time and percentage sleep, REM, and SWS
- Sleep, REM, and SWS latency
- Sleep efficiency
- Total and average hourly number of cortical, sympathetic, and behavioral arousals
- Awakening index and Wake After Sleep Onset
- Frequency and intensity of snoring
**CLINICAL HISTORY:** 52-year-old female presented with an Insomnia Severity Index of 15 and an Epworth sleepiness score of 7, a BMI of 28 with a 14.0 inch neck, a history of insomnia and depression, and symptoms of morning headaches.

**STUDY FINDINGS:** The patient underwent a two-night EEG study.

**Night One:** The recording time of 8.0 hours and total sleep time of 6.7 hours resulted in a sleep efficiency of 89.8%. The patient fell asleep 9 minutes after the lights were turned off, started her first REM cycle 70 minutes later, transitioned from sleep to wake on average 5.2 times per hour, and was awake for a total of 37 minutes after initially falling asleep. The patient experienced an average 22.3 cortical, 15.8 sympathetic, and 1.9 movement arousals per hour of sleep; and slept 11.8% stage N1, 46.0% N2, 19.5% in slow-wave sleep (stage N3), and 22.7% in REM, while sleeping 12.0% of time supine and snoring 11.3% of the night above 40dB and 8.9% above 50dB. The patient's percentage of time in stage N1 was in the bottom 10th percentile as compared to normal gender-matched subjects; while the awakening index and the percentage of time in stage N1 were in the bottom 10th percentile when compared to normal age-matched subjects.