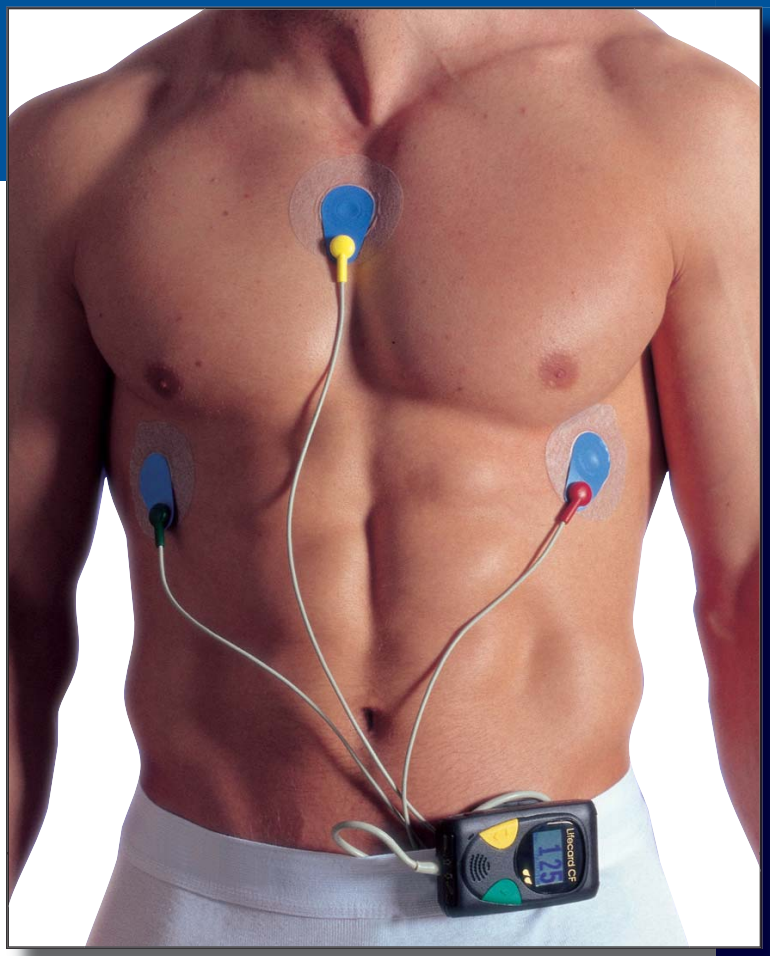
ResMed

LifeScreen Apnea™

Screening for Sleep-Disordered Breathing from Holter

BiancaMed

delmar Reynolds



Many of your patients have sleep-disordered breathing (SDB)

Sleep-disordered breathing, including obstructive sleep apnea (OSA), central sleep apnea (CSA), and Cheyne-Stokes respiration, is a common comorbidity of heart disease. Recently reported prevalences in clinical populations are:

- 50% in congestive heart failure
- 30% in coronary artery disease
- 35% in hypertension

so the ***chances are high that many of your patients suffer from SDB.***

Screen for SDB using only a Holter monitor

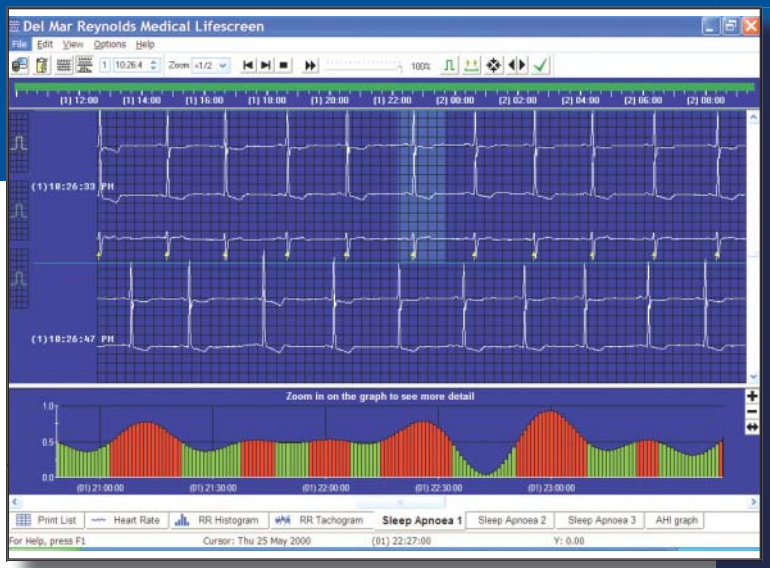
Recent research has shown that SDB is associated with characteristic changes in the ECG recorded by a Holter monitor. Del Mar Reynolds and BiancaMed have jointly developed the LifeScreen Apnea analysis option for their Holter systems that will allow physicians to ***screen effectively for sleep-disordered breathing*** using nothing more than a digital Holter recorder; there are no nasal sensors, just 3 electrodes for 3 channels of ECG. It is ideal for cardiologists who wish to work collaboratively with AASM Board-certified sleep physicians to address underlying sleep-disordered breathing in their patient populations, without the need for additional testing or equipment.

Improve patient outcomes by treating SDB

Nasal Continuous Positive Airway Pressure (CPAP) is the gold standard treatment for OSA. Moreover, ***the positive impact of CPAP treatment on patients with congestive heart failure and hypertension is well documented.*** You can work with your AASM-accredited sleep laboratory to ensure that your patients obtain appropriate diagnosis of, and treatment for their SDB.

RESMED

Use LifeScreen Apnea to determine apnea-hypopnea index (AHI)



Based on research originally carried out at University College Dublin, Ireland, BiancaMed has developed an algorithm that derives an ***estimated apnea-hypopnea index (AHI)*** from the ECG signal. This algorithm has been incorporated into the Del Mar Reynolds Lifescreen Holter analysis product and is fully compatible with their standard digital Holter recorders.

How it works

LifeScreen Apnea is used in conjunction with the Del Mar Reynolds digital Holter recorder, Lifecard CF. The Holter recording is carried out as normal. In the subsequent processing, LifeScreen Apnea analyzes the nighttime portion of the recordings and ***outputs the estimated AHI and a graphical representation of SDB epochs throughout the night on a minute-by-minute basis***. Cardiologists will be able to use this analysis to determine how likely it is that a patient has SDB.

This algorithm works by recognizing characteristic bradycardia and tachycardia patterns associated with apneas and recovery breaths. The algorithm also uses variations in measured ECG amplitude to estimate a respiratory signal that contains valuable information about the presence of sleep-disordered breathing.

Benefits

LifeScreen Apnea will enable cardiologists to estimate the apnea-hypopnea index familiar to sleep physicians and to view the time course of apneic events over a night's recording. Since sleep-disordered breathing has already been associated with increased incidence of arrhythmias, LifeScreen Apnea also provides a tool for examining the relationship between apneic events and arrhythmias.

Reimbursement

Holter monitoring is a well-established test with a variety of established CPT codes.

Table 1: CPT Reimbursement Codes

Test	CPT
ECG monitoring for 24 hours with super-imposition scanning; includes recording, scanning, analysis with report, physician review, and interpretation.	93224
Recording	93225
Scanning analysis with report	93226
Physician review and interpretation	93227
ECG monitoring for 24 hours without super-imposition scanning; includes recording, microprocessor-based analysis with report, physician review, and interpretation.	93230
Recording	93231
Microprocessor-based analysis with report	93232
Physician review and interpretation	93233

Note: FDA clearance granted January 2005.