Unattended Home Studies
Terry Murphy
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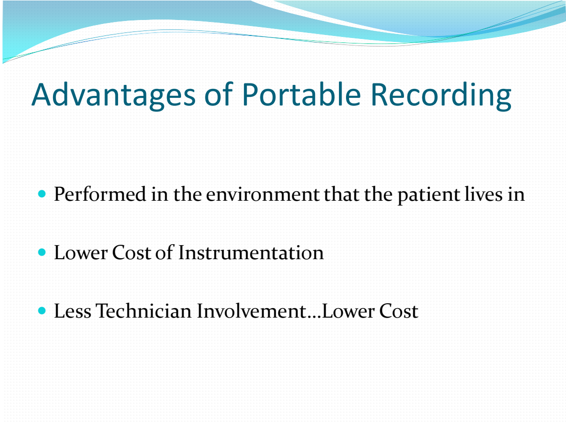
What We Will Discuss Today
A Brief History of Portable Physiologic Monitoring
The Evolution of Unattended Sleep Studies
The Rules
AASM
CMS
3rd Party Carriers
Reimbursement
What You Should Consider


Advantages of Portable Recording
Performed in the environment that the patient lives in
Lower Cost of Instrumentation
Less Technician Involvement…Lower Cost

Disadvantages of Portable Monitoring

- Lack of supervision during the recording
- No intervention if recording or medical problems occur
- Risk of damage or loss of expensive equipment

First Ambulatory Recording

Norman Holter

First commercial use 1961

Attempted to build Ambulatory EEG system

Worn as BackPack

50 years later

Ambulatory EEG

•1979 Oxford Medical Ltd 4 Channel EEG Recorder
•HDX 82 Head Mounted 1000 Gain Amplifier
•Slow Speed, C120 Tape Based, 24 Hour Recording

1985 8 Channel AEEG

16 Channel AEEG

If It Can Be Measured…

- Ambulatory Esophageal pH
- Ambulatory Blood Pressure
- Ambulatory Core Temperature
- Ambulatory Bowel Motility
- Cardio-respiratory Recording
- Actigraphy
- Oximetry
- Surface recorded EMG

Multi-parameter Recording

- Cardio-Respiratory Recording to validate monitoring of Infants at risk for Sudden Death.
- Actigraphy for Circadian Rhythm Evaluation
- 4 Channel, 1 EEG, 2 EOG, 1 EMG R&K sleep staging

American Sleep Disorders Association 1994

- Type I EEG, EOG, EMG sufficient to stage sleep
  ECG, Airflow, Respiratory Effort,Oximetry, Position
  Attended by a Technologist
- Type II Same as Type I but Unattended
- Type III Minimum of 4 channels to include: Airflow, Respiratory Effort, Oximetry and Pulse Rate/ECG
- Type IV 1 or 2 channels typically SpO_2 or Airflow

Medicare Evaluates Portables 2002

- AASM, ACCP, ATS publish independent studies
- All three agreed…Level III and IV were unacceptable based on a lack of evidence in peer reviewed journals compared to Level I testing.
- Level II testing was acceptable only under very restrictive circumstances.

Medicare 2004

- Commissioned study finds little change in a review of the literature and again Medicare declines to grant reimbursement for PAP therapy initiated following a positive Level III or IV test.
- All three societies concur but there are signs of dissent

CMS 2008

- Based on a request by American Board of Otolaryngology CMS opens a third review in 6 years
- AASM argues against accepting portable monitoring
- Other Societies urge adoption
- CMS does 180° and approves payment for PAP based on a positive finding from ALL levels of testing.
- CMS denies Lab based testing is Gold Standard
- CMS redefines Level IV and adds a new category for PAT and Novel Algorithms

NCD vs LCD

- Panic throughout the lab business
- Consolidations & Buyouts
- The forces opposed to HST work through the LCD's to Limit Adoption
- CMS Breaks the Delivery Chain
  - If you "touch" diagnostic component you cannot "touch" therapy UNLESS you are hospital based

3rd Party Carriers

- Aetna, United Healthcare, BC/BS, Cigna all have promoted the use of HST at one level or another.
- Requiring Pre Authorization for Full PSG
- Some have partnered with "Prefered Providers"
  - IDS, Sleep Solutions, Watermark, Virtuox
- A Positive study is Diagnostic.
- A follow-up Titration Study or APAP

Reimbursement National Government Services August 2011

- Type I, II, III, IV and other (WatchPat)
- Type II Monitors and records a minimum of seven (7) channels: EEG, EOG, EMG, ECG/heart rate, airflow, respiratory movement/effort and oxygen saturation
- Type III Monitors and records a minimum of four (4) channels: respiratory movement/effort, airflow, ECG/heart rate and oxygen saturation
- Type IV Monitors and records a minimum of three (3) channels, one of which is airflow

Reimbursement
National Government Services August 2011

- "The test must be ordered by the beneficiary's treating physician and conducted by an entity that qualifies as a Medicare provider of sleep tests and is in compliance with all applicable state regulatory requirements."
- The patient has a face-to-face clinical evaluation by the treating physician prior to the sleep test to assess the patient for obstructive sleep apnea.
- The AHI or RDI is greater than 15 or greater than five with symptoms

The T Codes

- Represent where CMS believes the test specifications are headed.
- Broader definitions which could lead to simpler, less tightly defined, testing devices
- At least 3 more years before we know the results

Reimbursement

- 95810 Full PSG, Level I Average in Indianapolis
  $2625 New Choice Health
- 95806 Level III
  - Medicare $180
  - Private $300

What You Should Consider

- What is my patient population?
- Adult
  - Contraindications : Beta Blockers, Atrial Fibrilation
- Pediatric
  - Is the device approved for Pediatric, size, available supplies
- Geriatric
  - Mental, Physical, Availability of Care giver

What You Should Consider

Equipment

- What are you trying to accomplish?
  - Establish Breathing Disorder
  - Movement Disorder
  - Initiating or Maintaining Somnolence
- Number of Channels
- Parameters Directly Recorded
- Parameters Indirectly Recorded
- Supplies
  - Cost per test
  - Proprietary
  - Power ...Battery or Rechargeable

What You Should Consider

Reimbursement

- Are you AASM or Joint Commission Accredited?
  - Must meet their requirements as well as Insurance Provider
- What is your Patient mix?
  - CMS / Private
- Will it open a New Revenue Stream?
  - Patients who currently refuse a study for cost or Inconvenience
- Additional revenue from follow-on care