Out of Center Testing - Home Sleep Apnea Testing (HST/HSATs)

Objectives

- To provide an overview of the current trends in sleep testing outside of the sleep center
- To define HSTs and their role as a diagnostic tool
- Clarify requirements for in-lab vs. home testing
- To outline the responsibilities of the sleep center and sleep technologist
Timeline

• In 1996, AASM accredited 337 sleep centers.
• The number grew to 2,461 as of the end of June 2012
• Hospitals and physician groups have responded to the growing recognition that sleep disorders are serious health issues.
• Sleep disorders are more common as the population ages and with an increase in obesity rate.

• American Medical News: [http://www.ama-assn.org/amednews/2012/07/30/bil10730.htm](http://www.ama-assn.org/amednews/2012/07/30/bil10730.htm)

Available Options

• In lab sleep testing
• Home Sleep Testing (HST)
• Oximetry
• Auto-PAP devices
• Actigraphy – wearable technology devices
• Audio/video recordings
• Patient Sleep Diaries/CBT Cognitive Behavioral Therapy
• Commercial: snore strips
In-Lab Testing

Home Sleep Testing
Auto PAP Devices

Overnight Oximetry Reports

Overnight Oximetry
Actigraphy – wearable technology

Snores Strips/Nasal Dilators
HST Advantages

- For patients not wanting to sleep in the sleep center
- For patients not wanting to use CPAP
- Less expensive: focuses on cost-efficient management
- Primarily to evaluate OSA
Disadvantages/Contraindications

- Moderate or Severe COPD
- Severe congestive heart failure, CHF
- Oxygen dependent
- Cognitive impairment (unable to follow simple instructions)
- Neuromuscular impairment; needs assistance for daily living
- V-fib/Sustained V-Tach/Hx of arrhythmias
- Previous cerebral accident > 1 month ago
- Under 18 years of age

Types of Sleep Studies

- Type IV- minimum 3 channels, ability to quantify RDI or AHI - code G0400
- Type III- minimum 4 channels, respiratory effort, airflow, ECG/HR and SaO2- code G0399
- Type II- at least 7 channels, EEG, EOG, EMG, ECG/HR, airflow respiratory effort and SaO2 - code G0398
- Type I- in lab sleep study
Lab HST Practices and Policies

- Type to best suit your sleep center’s needs
- Cost
- Documentation
- Medical director
- Interpreting physician: who is qualified?
- Staff: technical, scoring, on call coverage

HST Concerns

- Appropriate patient population
- Lower reimbursement rates
- Validity of the recordings
- Which device to choose and model
- Proper training
- Staff roles
HST Policy and Procedures

HST includes:
• Procedures
• Protocols
• Equipment maintenance
• Equipment cleaning and infection
• Prevention and control
• Emergency intervention/protocols

HST Patient Records

• Must maintain an appropriate medical chart or EMR
• Applicable ICD-10 and CPT codes must be utilized
• Who has the raw data?
• Records must be maintained to meet your states requirements
• How should data be stored/destroyed
New Role for the Sleep Technologist

- Equipment set up
- Patient education
- Data management and scoring
- Equipment maintenance
- Compliance and follow-up

Equipment Set Up

- Program equipment with patient data/info
- Pt training and demonstration of equipment
- Have patient practice home hookup in lab with tech
- Demonstrate starting/ending recording
- Remind patient to complete all paperwork
- Remind patient to return equipment on time
- Give pt a timeline for results/recommendations
Patient Education

- Patient tools and information
- Pre and post questionnaire
- Audio – visual demonstration
- Frequently asked questions
- Equipment forms/insurance forms
- Program assessment

Data and Scoring/Reports

- Maintain appropriate medical chart or EMR
- Scoring of raw data/calculation of AHI or REI
- Generate reports for physician interpretation
- Contact patients with results
- Gather information for ordering equipment (PAP)
- Send information/order to DME company for setup
Equipment Maintenance

- Proper cleaning/disinfection of equipment
- Dispose of non-reusable parts/pieces
- Order equipment as needed
- Maintain/store equipment
Compliance and Follow up

- Explain compliance to patients and family members
- Emphasize importance of meeting goals
- Most insurances follow Medicare guidelines
  - 70% or greater usage in the first 90 days
  - Averages out to 4 hours or greater 28 days per month
  - Meeting compliance requirements assures that pt’s equipment will be covered by insurance.
- Non-compliance will put insurance coverage in jeopardy
- Tech have a very large role in compliance
- Some practices have a dedicated compliance officer

Compliance Report

AutoPAP Compliance Report

<table>
<thead>
<tr>
<th>Compliance Summary</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily usage</td>
<td>62/100 (62%)</td>
</tr>
<tr>
<td>Average usage</td>
<td>7.9 hours</td>
</tr>
<tr>
<td>Minimum usage</td>
<td>5.6 hours</td>
</tr>
<tr>
<td>Maximum usage</td>
<td>11.2 hours</td>
</tr>
<tr>
<td>Average usage with usage &gt; 4 hours</td>
<td>8.4 hours</td>
</tr>
<tr>
<td>Total usage time</td>
<td>31 days</td>
</tr>
</tbody>
</table>

Auto CPAP Summary (Phillips Respironics)

- Auto CPAP per average pressure: 26.2 cmH20
- Auto CPAP per average leakage: 1.8 L/min
- Average time in large leak per day: 2 mins
What Does This All Mean For Sleep Techs?

- Complex patients with comorbidities are testing in the sleep center
- Most ‘healthy’ patients may be required to home test per insurance requirements
- Tech will need computer/technical skills
- Tech needs flexibility and a wide range of knowledge
- Techs should keep up with current trends in sleep and look towards higher education

Future of Sleep Technology

- Field continues to grow and evolve
- Sleep technologists need to become knowledgeable in relevant disciplines:
  - Computer technology
  - Health informatics technology
  - Coding, insurance & billing
  - DME
- Emphasis on continuing and higher levels of education
Summary

- Sleep Medicine and Technology are growing, advancing and evolving
- Sleep technologists need to become knowledgeable in relevant disciplines:
  - Computer technology
  - Health information technology
  - Coding, insurance & billing
  - DME
  - Home Sleep Testing

Any Questions?
Thank You!

References

- American Academy of Sleep Medicine
- Board of Registered Polysomnographic Technologists
- Standards for Accreditation of Home Sleep Apnea Testing (HSAT) in Adult Patients
- American Medical News: amednews.com