Dear AADSM Anniversary Meeting Attendees:

As Chair of the AADSM Annual Meeting Committee, I welcome you to the AADSM 25th Anniversary Meeting.

We have an exciting event scheduled to mark this commemorative year! It is the hope of the Annual Meeting Committee that you are able to both renew and initiate relationships with colleagues from around the world while expanding your knowledge of dental sleep medicine. There are two educational courses being offered in 2016: an advanced course and an introductory course for attendees new to dental sleep medicine. Once again, we are offering two general session tracks with a wide variety of topics, as well as nine meet the professor sessions.

While at the meeting, be sure to visit the poster and oral abstract presentations area. The Research Committee will announce this year’s research winners at the start of the general session on Thursday afternoon. A number of invited lecturers, clinical workshops, symposia and discussion groups on clinical challenges and methods, and the latest research presented by expert dental practitioners, physicians and researchers will also take place at this year’s 25th Anniversary meeting.

Beyond the scientific program, there are several other events throughout our annual meeting. The AADSM exhibit hall, which will be open Thursday through Saturday, displays the newest dental sleep medicine products and services available. MicroDental Laboratories and EzSleep will be hosting networking and educational opportunities on Thursday night. The general membership meeting will take place on Saturday after the general session. Don’t miss the President’s Reception on Friday evening to celebrate the AADSM’s past presidents and the 2016 awardees of the Pierre Robin Award and the Distinguished Service Award. When you attend the President’s Reception remember to bring your free beverage tickets that were included in your registration packet.

As you delve further into this program booklet, keep in mind that this meeting is a truly unique opportunity to become involved with the AADSM. Welcome to Denver!

Sincerely,

Nelly Huynh, PhD
Chair, Annual Meeting Committee
Look inside this program to learn about the 25th Anniversary Meeting.

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Cover photos © Bob Ash, Stan Obert and VISIT DENVER

AADSM 25TH ANNIVERSARY MEETING

Location
Sheraton Denver Downtown
1550 Court Place
Denver, CO 80202
Phone: (303) 893-3333

Denver Tourism
For information on Denver visit www.denver.org.

Annual Meeting Committee
Nelly Huynh, PhD, Chair
Sheri Katz, DDS, Vice Chair
Alan Blanton, DDS
Jason Doucette, DMD
Katherine Phillips, DDS
Sue Ellen Richardson, DDS
Leslie Dort, DDS, Board Liaison
Kathleen Bennett, DDS, AADSM President, Ex Officio

Contact Information

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Continuing Education Questions
Beverly Basit, AADSM Coordinator
bbasit@aadsm.org
GENERAL INFORMATION

Registration Hours

The on-site registration hours at the Sheraton Denver Downtown are:

<table>
<thead>
<tr>
<th>Date</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Thursday, June 9, 2016</td>
<td>6:30am – 5:30pm</td>
</tr>
<tr>
<td>Friday, June 10, 2016</td>
<td>7:00am – 6:00pm</td>
</tr>
<tr>
<td>Saturday, June 11, 2016</td>
<td>7:00am – 3:30pm</td>
</tr>
</tbody>
</table>

The registration desk is located on the Concourse Level of the Plaza Building of the Sheraton Denver Downtown.

Your registration includes admission to:

- General Sessions (Thursday afternoon – Saturday)
- President’s Reception
- Industry Supported Events
- Exhibit Hall

Note: Educational Courses and Meet the Professor sessions require additional fees.

Exhibit Hall

The Exhibit Hall showcases booth displays of dental laboratories, appliance inventors and others. Exhibit Hall hours are:

<table>
<thead>
<tr>
<th>Date</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Thursday, June 9, 2016</td>
<td>10:00am – 4:00pm</td>
</tr>
<tr>
<td>Friday, June 10, 2016</td>
<td>10:00am – 4:00pm</td>
</tr>
<tr>
<td>Saturday, June 11, 2016</td>
<td>10:00am – 3:00pm</td>
</tr>
</tbody>
</table>

Photography/Recording

Photography and/or recording of any kind (other than by the AADSM or registered press approved by the AADSM) of sessions, speakers and the exhibit hall is strictly prohibited. No cameras will be allowed on the exhibit floor or in the meeting rooms at any time. Violation of this rule could result in the confiscation of the film or recording device and removal of individual from the meeting.

Society Information

Details about membership and products from the American Academy of Dental Sleep Medicine are available near the registration desk located on the Concourse Level of the Plaza Building of the Sheraton Denver Downtown.

Seating

General sessions are filled on a first-come, first-served basis. AADSM does its best to match room size with anticipated demand; however, interest in a topic occasionally exceeds seating capacity. Seating limits are strictly enforced by the Fire Marshal. We encourage you to arrive at meeting rooms as early as possible for best seating.

We Want Your Feedback

All attendees are encouraged to evaluate each session they attend throughout the conference. Visit www.aadsm.org/evaluations at any time during the meeting to rate the sessions you attend. The site will close on July 1, 2016.

The sole purpose of this site is to evaluate speakers and sessions that you attend at the AADSM Annual Meeting. The Annual Meeting Committee will use this information to plan future events. To claim credits from the meeting, complete and submit the credit claim form to the registration desk before you leave the meeting. The deadline to claim credit is October 1, 2016.
CONTINUING EDUCATION

Continuing Education Credit Hours (CE Hours)

The American Academy of Dental Sleep Medicine (AADSM) is an ADA CERP Recognized Provider.

ADA CERP is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CERP does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry.

Concerns or complaints about a CE provider may be directed to the provider or to ADA CERP at www.ADA.org/cerp.

The American Academy of Dental Sleep Medicine (AADSM) designates this activity for 20.25 continuing education credits.

The AADSM Program will be presented through lectures, panel discussions and open discussions.

Learning Objectives

- Acquire knowledge about the management of obstructive sleep apnea in both adults and children;
- Discuss state-of-the-art knowledge of recent advances in dental sleep medicine and sleep apnea treatment;
- Review the relationship between obstructive sleep apnea, cardiovascular disease and other associated co-morbidities;
- Understand the evidence regarding long-term oral appliance therapy, including potential side effects and options for managing complications in patients with snoring and/or OSA; and
- Apply best practices for building and developing a successful dental sleep medicine practice, including an overview of proper patient management and development of care plans; creating awareness about sleep related breathing disorders and their treatments; positioning your practice as a provider of dental sleep medicine; and proper medical insurance billing.

To claim credits from the meeting, complete and submit the credit claim form to the registration desk before you leave the meeting. The deadline to claim credit is October 1, 2016.

Session Format

C: Educational Courses
Intensive reviews of topics presented in a half-day session format prior to the scientific program

D: Discussion Groups
Forums for informal presentations of a specific topic, which may include conversations on controversial subjects or pro/con discussions and presentations

I: Invited Lecturers
One-hour lectures during which senior-level investigators/clinicians present in their areas of expertise

M: Meet the Professors
Small-group lunch sessions during which an expert in the field leads an informal discussion on a single topic

O: Oral Presentations
15-minute presentations during which investigators present their latest research and new ideas in the field

R: Case Reports
Review of challenging cases by an expert faculty

S: Symposia
Sessions focusing on the latest data and ideas in the field

W: Clinical Workshops
Reviews of the latest clinical challenges, presentations or discussions of controversial clinical topics or difficult clinical situations that demonstrate the critical thinking process in clinical dental sleep medicine

Look for this ticket icon to find ticketed sessions.
**SCHEDULE AT A GLANCE**

**Thursday, June 9, 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room</th>
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<tbody>
<tr>
<td>8:00am-12:15pm</td>
<td><strong>Educational Courses</strong>&lt;br&gt;Fee required&lt;br&gt;C01: Introduction to Dental Sleep Medicine&lt;br&gt;C02: Advanced Dental Sleep Medicine</td>
<td>Plaza ABC&lt;br&gt;Plaza DEF</td>
</tr>
<tr>
<td>10:00am-4:00pm</td>
<td><strong>Exhibit Hall Open</strong></td>
<td></td>
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<tr>
<td>12:15pm-1:30pm</td>
<td>Lunch on Your Own</td>
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<tr>
<td>12:15pm-1:30pm</td>
<td><strong>Meet the Professors</strong>&lt;br&gt;Fee required&lt;br&gt;M01: The Role of Sleep Bruxism in Obstructive Sleep Apnea&lt;br&gt;M02: The Best Questions to Ask to Find Sleep Disorders&lt;br&gt;M03: Titration Versus Treatment Success</td>
<td>Governor’s Square 11&lt;br&gt;Governor’s Square 16&lt;br&gt;Governor’s Square 17</td>
</tr>
<tr>
<td>1:30pm-2:15pm</td>
<td>Welcome Address and Awards</td>
<td>Plaza Ballroom</td>
</tr>
<tr>
<td>2:15pm-3:15pm</td>
<td>I01: Insights into the Pathogenesis and Management of OSA Utilizing Upper Airway Imaging</td>
<td>Plaza Ballroom</td>
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<tr>
<td>3:15pm-3:30pm</td>
<td>Refreshment Break</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>3:30pm-4:30pm</td>
<td>I02: A Look Back at 25 Years of Dental Sleep Medicine</td>
<td>Plaza Ballroom</td>
</tr>
<tr>
<td>4:30pm-5:30pm</td>
<td>I03: Measuring Quality in the Treatment of OSA/Oral Appliances</td>
<td>Plaza Ballroom</td>
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<tr>
<td>6:00pm-8:30pm</td>
<td>Industry Supported Events</td>
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**See You in Boston**

**June 2-4, 2017**

**Marriott Boston Copley Place**

**New for 2017! Meeting dates: Friday – Sunday**
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Room</th>
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<tbody>
<tr>
<td>7:00am-8:00am</td>
<td>First-Time Attendee Breakfast</td>
<td>Governor’s Square 14</td>
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<tr>
<td>8:00am-9:00am</td>
<td>D01: Turf War: Home Sleep Apnea Testing</td>
<td>Plaza ABC</td>
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<tr>
<td></td>
<td>W01: Titration: Where to Start?</td>
<td>Plaza DEF</td>
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<tr>
<td>9:00am-10:00am</td>
<td>S01: Year in Review</td>
<td>Plaza ABC</td>
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<td></td>
<td>I04: PSG: What Does the Dental Sleep Clinician Need to Know?</td>
<td>Plaza DEF</td>
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<tr>
<td>10:00am-4:00pm</td>
<td>Exhibit Hall Open</td>
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<tr>
<td>10:00am-10:30am</td>
<td>Refreshment Break and Poster Viewing</td>
<td>Exhibit Hall/Foyer</td>
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<tr>
<td>10:30am-11:30am</td>
<td>I05: Sleep Apnea and Cardiovascular Disease</td>
<td>Plaza ABC</td>
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<td></td>
<td>W02: Telemedicine</td>
<td>Plaza DEF</td>
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<tr>
<td>11:30am-12:30pm</td>
<td>R01: Challenging Cases</td>
<td>Plaza ABC</td>
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<td></td>
<td>S02: Sleep-Disordered Breathing and Cardiometabolic Interactions in Pregnancy and in the General Population</td>
<td>Plaza DEF</td>
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<tr>
<td>12:30pm-1:00pm</td>
<td>ABDSM Information Session</td>
<td>Plaza ABC</td>
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<tr>
<td>12:30pm-1:45pm</td>
<td>Lunch on Your Own</td>
<td></td>
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<tr>
<td>12:30pm-1:45pm</td>
<td>Meet the Professors [Fee required]</td>
<td></td>
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<tr>
<td>1:45pm-3:15pm</td>
<td>W03: PSG and HSAT: Diagnostics, Outcome Studies and Split Nights</td>
<td>Plaza ABC</td>
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<tr>
<td></td>
<td>W04: Modified Oral Appliance and Combination Therapy</td>
<td>Plaza DEF</td>
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<tr>
<td>3:15pm-3:45pm</td>
<td>Refreshment Break and Poster Viewing</td>
<td>Exhibit Hall/Foyer</td>
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<tr>
<td>3:45pm-4:45pm</td>
<td>S03: Basic Science of Sleep, Wakefulness and Upper Airway Tone</td>
<td>Plaza ABC</td>
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<td></td>
<td>O01: Oral Presentations</td>
<td>Plaza DEF</td>
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<tr>
<td>4:45pm-5:45pm</td>
<td>W05: Insurance Company Audits: How to be Prepared</td>
<td>Plaza ABC</td>
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<td></td>
<td>I06: Sleep Deprivation</td>
<td>Plaza DEF</td>
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<tr>
<td>5:45pm-7:00pm</td>
<td>25th Anniversary President’s Reception [Supported in part by Ez Sleep]</td>
<td>South Convention Lobby</td>
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<td>Time</td>
<td>Event Details</td>
<td>Room</td>
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<tr>
<td>8:00am-9:00am</td>
<td>S04: AADSM Accreditation: Impacting the Physician Sleep Specialist’s Network</td>
<td>Plaza ABC</td>
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<td>W06: Managing OSA: CPAP vs VPAP vs AutoPAP, Is There a Difference?</td>
<td>Plaza DEF</td>
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<tr>
<td>9:00am-10:00am</td>
<td>S05: Sleep and Chronic Pain</td>
<td>Plaza ABC</td>
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<td>S06: Midface Hypoplasia and Pediatric OSA: Causes, Correlations and Orthodontic Interventions</td>
<td>Plaza DEF</td>
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<tr>
<td>10:00am-3:30pm</td>
<td>Exhibit Hall Open</td>
<td>Exhibit Hall</td>
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<tr>
<td>10:00am-10:15am</td>
<td>Refreshment Break</td>
<td>Exhibit Hall</td>
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<tr>
<td>10:15am-11:15am</td>
<td>I07: Cognition, Behavior and OSA in Children</td>
<td>Plaza ABC</td>
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<td>S07: Insomnia and Sleep Apnea: Collaborative Approaches to This Comorbidity</td>
<td>Plaza DEF</td>
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<tr>
<td>11:15am-12:15pm</td>
<td>S08: Impact of Sleep Apnea on Neurocognition</td>
<td>Plaza ABC</td>
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<td>W07: Complementary and Alternative Therapies for Insomnia Disorder</td>
<td>Plaza DEF</td>
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<tr>
<td>12:15pm-1:30pm</td>
<td>M07: Understanding the Rules and Regulations Regarding Oral Appliance Use in Pilots and Commercial Drivers</td>
<td>Governor’s Square 11</td>
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<td>M08: Using Combination Therapy to Help Develop the Physician Referral Network</td>
<td>Governor’s Square 16</td>
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<td>M09: Sleep Medicine in 2036: Promise and Opportunities</td>
<td>Governor’s Square 17</td>
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<tr>
<td>1:30pm-2:30pm</td>
<td>W08: Phenotyping and Oral Appliances: Towards Individualized Strategies to Optimize Treatment Success According to Underlying Mechanisms</td>
<td>Plaza ABC</td>
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<td>S09: The PTSD and Sleep Apnea Connection</td>
<td>Plaza DEF</td>
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<tr>
<td>2:30pm-3:30pm</td>
<td>I08: Is Insomnia History? The Modernization of Sleep</td>
<td>Plaza ABC</td>
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<td></td>
<td>W09: Objective Compliance</td>
<td>Plaza DEF</td>
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<tr>
<td>3:30pm-4:00pm</td>
<td>AADSM Membership Meeting</td>
<td>Plaza ABC</td>
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AADSM 2016 AWARDS

HONORARY MEMBERSHIP AWARD
Richard Schwab, MD
Dr. Schwab’s research has focused on the pathogenesis and genetics of obstructive sleep apnea utilizing novel upper airway imaging techniques. The focus of his research is to understand the mechanisms leading to sleep apnea by evaluating the structure and function of the upper airway using physiologic imaging techniques.

His studies have started to elucidate the role of the motion of key structures of the upper airway in mediating airway closure. By examining dynamic state related changes in the upper airway and soft tissue structures surrounding the upper airway, he has begun to understand the biomechanics of apneic events. He has studied patients with both magnetic resonance imaging and electronic beam computed tomography during wakefulness and sleep.

Dr. Schwab is particularly interested in the relationship of obesity to sleep apnea. He is also studying novel treatment options for sleep apnea, including new oral appliances and hypoglossal nerve stimulation, and trying to understand the genetics of sleep apnea. Presently, Dr. Schwab leads the Pulmonary Imaging Center at the University of Pennsylvania in its investigation of the upper airway.

PIERRE ROBIN AWARD
Meir Kryger, MD
Dr. Kryger joined the Yale School of Medicine and the VA Connecticut Health System in November 2011 and was Professor of Medicine, University of Manitoba where he established the first clinical laboratory studying patients with sleep breathing problems in Canada. Dr. Kryger has published more than 200 research articles and book chapters. He is the Chief Editor of The Principles and Practice of Sleep Medicine, and the author of A Woman’s Guide to Sleep Disorders, The iGuide to Sleep, The Atlas of Clinical Sleep Medicine, and Kryger’s Sleep Medicine Review. He has been President of both the Canadian Sleep Society and the American Academy of Sleep Medicine. He is on the Board of Directors of the National Sleep Foundation. He received the William C. Dement Award for Academic Achievement in sleep medicine. In 2011, he received a Distinguished Scientist Award from the Canadian Sleep Society at the meeting of the World Association of Sleep Medicine. His primary areas of expertise include market development, strategic and tactical planning, leadership development, government relations, health care finance, real estate management, budgeting and administration.

Mr. Barrett is a graduate of the Institute for Organizational Management at the University of Notre Dame and holds a degree in economics from Lewis University. He has served as a director on the Board of Directors for a number of corporate and civic groups, and as a corporate business consultant for several other organizations. He is a member of numerous professional organizations, including the American Association of Medical Society Executives, the American Society of Association Executives, Association Forum of Chicagoland and the Military Officers Association of America.
INVITED LECTURERS

Keynote Speaker: Richard Schwab, MD

I01: Insights into the Pathogenesis and Management of OSA Utilizing Upper Airway Imaging
Thursday, June 9, 2016 | 2:15 PM | Plaza Ballroom | Sheraton Denver Downtown
Co-Director, Penn Sleep Center University of Pennsylvania Medical Center; Professor of Medicine at the Hospital of the University of Pennsylvania
Dr. Schwab’s research focuses on the pathogenesis and genetics of obstructive sleep apnea utilizing novel upper airway imaging techniques.

Thursday, June 9, 2016
3:30pm-4:30pm Plaza Ballroom
I02: A Look Back at 25 Years of Dental Sleep Medicine
Robert Rogers, DMD
President and Director of Clinical Services, Pittsburgh Dental Sleep Medicine

Friday, June 10, 2016
9:00am-10:00am Plaza DEF
I04: PSG: What Does the Dental Sleep Clinician Need to Know?
Richard Berry, MD
Medical Director, UF Health Sleep Center and Professor of Medicine at the University of Florida

Saturday, June 11, 2016
10:15am-11:15am Plaza ABC
I07: Cognition, Behavior and OSA in Children
Ronald Chervin, MD, MS
Director, Sleep Disorders Center; Michael S. Aldrich Collegiate Professor of Sleep Medicine, Professor of Neurology, University of Michigan

3:30pm-4:30pm Plaza Ballroom
I03: Measuring Quality in the Treatment of OSA/Oral Appliances
Timothy Morgenthaler, MD
Co-Director, Center for Sleep Medicine, Chief Patient Safety Officer, Mayo Clinic; Professor of Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine

10:30am-11:30am Plaza ABC
I05: Sleep Apnea and Cardiovascular Disease
Atul Malhotra, MD
Division Chief of Pulmonary and Critical Care Medicine, Director of Sleep Medicine and Kenneth M. Moser Professor of Medicine, University of California, San Diego

2:30pm-3:30pm Plaza ABC
I08: Is Insomnia History? The Modernization of Sleep
Roger Ekirch, PhD
Professor of History, Virginia Tech

4:45pm-5:45pm Plaza DEF
I06: Sleep Deprivation
David Dinges, PhD
Professor and Chief, Perelman School of Medicine, University of Pennsylvania
EDUCATIONAL COURSES

Thursday, June 9, 2016

AADSM Educational Courses are designed to promote personal and professional growth in a half-day format. These courses occur on the morning of Thursday, June 9, 2016 prior to the start of the AADSM 25th Anniversary Meeting general session, giving you a chance to fully explore ideas and concepts that will enhance your knowledge and improve your dental sleep medicine practice.

You must register for the AADSM 25th Anniversary Meeting general session to register for any Educational Courses. Space is limited and Educational Courses sell out quickly.

Electronic Materials

The AADSM will provide educational course materials in an electronic format only. Attendees were provided with the materials on a flash drive. Prior to the meeting, attendees WHO PRE-REGISTERED were allowed to download and print the course materials. Please note that the AADSM WILL NOT supply computers or tablets to view the material or power for computers or tablets. It is imperative that attendees wishing to view the course materials on their laptops or tablets have them sufficiently powered prior to arrival at the meeting each day.

Registration Fees

<table>
<thead>
<tr>
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<th>Member Fee</th>
<th>Nonmember Fee</th>
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<tbody>
<tr>
<td>Member Fee</td>
<td>$85</td>
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</tr>
<tr>
<td>Nonmember Fee</td>
<td>$125</td>
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</tbody>
</table>

Tickets are sold on a first-come, first-served basis; advance purchase of tickets is strongly encouraged. Check at the registration desk to see if seats are still available.

Visit SomnoMed’s Booth

#301

www.somnomed.com

SomnoMed
The Leader in COAT (Continuous Open Airway Therapy)
C01: Introduction to Dental Sleep Medicine

8:00am – 12:15pm | Plaza ABC

**Overview:** This educational course will provide an overview of and introduction to the most common issues seen in dental sleep medicine. Topics include: impression techniques and different bite registrations; oral appliance selection and potential complications; and components of an oral appliance

**Target Audience:** Dentists, dental hygienists, physicians and auxiliary staff

**Chair:** Katherine Phillips, DDS

**Faculty:** Donald Farquhar, DDS; James Hogg, DDS; and Kevin Postol, DDS

**Agenda:**

8:00am – 9:00am | Donald Farquhar, DDS
Obstructive Sleep Apnea: Pathophysiology, Diagnosis, Co-Morbidities

9:00am – 10:00am | Katherine Phillips, DDS
Oral Appliances: History, Types, Mechanism of Action

10:00am – 10:15am
Break

10:15am – 11:15am | Kevin Postol, DDS
The New Patient: Examination, Determination of Candidacy, Impressions and Bite Registrations

11:15am – 12:15pm | James Hogg, DDS
After Delivery: Titration, Follow-Up and Sequellae

C02: Advanced Dental Sleep Medicine

8:00am – 12:15pm | Plaza DEF

**Overview:** This educational course will improve the participants’ understanding of advanced concepts and improve their ability to critically evaluate the current literature and industry supported claims. Topics include: treatment of insomnia, mean disease alleviation, treatment outcomes as it relates to patients and otolaryngology advances in the treatment of OSA.

**Target Audience:** Advanced-level dentists, orthodontists, clinicians and researchers

**Chair:** Alan Blanton, DDS

**Faculty:** Marc Braem, DDS; Anne Bartolucci, PhD; Leslie Dort, DDS; and Ryan Soose, MD

**Agenda:**

8:00am – 9:00am | Anne Bartolucci, PhD
Cognitive-Behavioral Therapy - Treatment for Insomnia

9:00am – 10:00am | Leslie Dort, DDS
Beyond the AHI-Outcomes That Matter to Patients - Quality of Life in Clinical Practice

10:00am – 10:15am
Break

10:15am – 11:15am | Marc Braem, DDS
Mean Disease Alleviation

11:15am – 12:15pm | Ryan Soose, MD
Otolaryngology Advances in the Treatment of OSA
GENERAL SESSION – THURSDAY

Welcome to the AADSM 25th Anniversary Meeting in Denver, CO!

Meet the Professors

12:15pm – 1:30pm  |  Member: $65  |  Nonmember: $75

During these small-group sessions, an expert in dental sleep medicine will lead an informal discussion on a single topic. Pre-registration is required.

M01: The Role of Sleep Bruxism in Obstructive Sleep Apnea
Ghizlane Aarab, DDS, PhD
Governor’s Square 11

M02: The Best Questions to Ask to Find Sleep Disorders
Timothy Morgenthaler, MD
Governor’s Square 16

M03: Titration Versus Treatment Success
Marc Braem, DDS
Governor’s Square 17

Introduction and Awards

1:30pm – 2:15pm  |  Plaza Ballroom

Kathleen Bennett, DDS, Diplomate, ABDSM, AADSM President

Nelly Huynh, PhD, Chair, AADSM Annual Meeting Committee

Olivier Vanderveken, MD, PhD, Chair, AADSM Research Committee

Clinical Excellence Award
A mandibular positioning home sleep test prospectively predicts outcome of oral appliance therapy for OSA using retrospectively derived decision criteria
John Remmers, MD

Clinical Research Awards
Mandibular advancement splint as a comparable treatment to nasal continuous positive airway pressure in patients with positional obstructive sleep apnea
Yoshikazu Takaesu, MD, PhD

A New Oral Appliance Titration Protocol using the MicrO2 Sleep Device and Mandibular Positioning Home Sleep Test
Nikola Vranjes, DDS

Student Excellence Award
No increase in sleep bruxism or sustained orofacial muscle activity during sleep in mild traumatic brain injury patients: A controlled study
Yoshitaka Suzuki, PhD, DDS

Student Research Awards
Prevalence of subjective and objective residual excessive sleepiness during successful mandibular advancement device therapy for obstructive sleep apnea
Annelies Verbruggen, MD

The Prevalence of Pediatric Dentists who Screen for Obstructive Sleep Apnea
Nitya Reddy, MS
I01: Insights into the Pathogenesis and Management of OSA Utilizing Upper Airway Imaging

2:15pm – 3:15pm | Plaza Ballroom

Speaker: Richard Schwab, MD

Overview: Dr. Schwab will review the pathogenesis and management of OSA utilizing upper airway imaging.

Target Audience: Dentists, researchers and other providers

Objectives:

- Review findings on the upper airway physical examination to determine anatomic risk factors for OSA;
- Describe upper airway imaging to understand the pathogenesis of OSA; and
- Compare mechanisms related to improvement in upper airway anatomy with CPAP, oral appliances, weight loss, hypoglossal nerve stimulation and upper airway surgery.

Refreshment Break in Exhibit Hall
3:15pm – 3:30pm

I02: A Look Back at 25 Years of Dental Sleep Medicine

3:30pm – 4:30pm | Plaza Ballroom

Speaker: Robert Rogers, DMD

Overview: Dr. Rogers will discuss the inception and evolution of dental sleep medicine and begin to consider opportunities and responsibilities for the future.

Target Audience: Dentists, researchers and other providers

Objectives:

- Review the inception and evolution of dental sleep medicine;
- Describe the role of the dentist in dental sleep medicine and sleep disordered breathing; and
- Recognize future opportunities and responsibilities of the role of the dentist as a partner in treating sleep disordered breathing.

I03: Measuring Quality in the Treatment of OSA/Oral Appliances

4:30pm – 5:30pm | Plaza Ballroom

Speaker: Timothy Morgenthaler, MD

Overview: Dr. Morgenthaler will discuss providers need to be able to measure quality in ways that help them improve and that showcase the quality of their services in a time where patients and payers are seeking the highest value.

Target Audience: Dentists, researchers and other providers

Objectives:

- Recognize the importance of measuring quality of care in gaining and maintaining reputation and improving value;
- Describe the strengths and weaknesses of ways of measuring quality in healthcare;
- Interpret quality data in order to guide selection of appropriate improvement strategies; and
- Formulate a strategy for embracing on a sleep apnea quality improvement journey.
AADSM Congratulates New Diplomates of the ABDSM

Diplomate status in the ABDSM is a unique honor that recognizes special competency in dental sleep medicine and significant contributions to the field. The AADSM is pleased to welcome the following new ABDSM Diplomates:

- Salem Akkad, DDS, MS
- Kevin Barrett, DDS
- Gordon Bell, DDS
- Michael Bezbachchenko, DDS
- Premthip Chalidapongse, PhD, DDS
- Donald Crow, DDS
- Olivia Cukier, DMD
- Amparo David, DMD
- Gary Dempsey, DDS
- Sara Denzinger-Rowe, DDS
- Walter Dukes, DDS
- Richard Dunn, DDS
- Behzad Fareid, DDS
- Don Farquhar, DDS
- Nicholas Fazzini, DDS
- Janelle Ferber-Stumpf, DDS
- Nicole Ferrara, DDS
- Rosa Garcia, DDS
- Nannette Goyer, DDS
- Steven Greenman, DDS
- Tracy Guilford, DDS
- Thomas Hale, DDS
- Charles Hawkins, DDS
- Daniel Jammal, DMD
- Howard Jelinek, DDS
- Kary Karahadian, DDS
- Daniel Klauer, DDS
- James Kramer, DDS
- Tanya Kushner, DDS
- Stacey Layman, DDS
- Jennifer Le, DMD
- Sandra MacDonald, DMD
- Rashmi Parmar, DMD
- Benjamin Polan, DMD
- Pacita Pumilia, DDS
- Jose Rodriguez-Quesada, DDS
- Rosemarie Rohatgi, DMD
- Michael Selleck, DDS
- Shelley Shults RN, DDS
- James Striebel, DDS
- Erik Striebel, DDS

CONTINUE YOUR EDUCATION IN DENTAL SLEEP MEDICINE THIS FALL!

Essentials of Dental Sleep Medicine Course
September 17-18
November 5-6

Dental Sleep Medicine Staff Course
October 22

Practical Demonstration Course
October 22
December 3

Advances in Dental Sleep Medicine Course
November 5-6

Pick up a course catalogue at the product booth for more information.
INDUSTRY SUPPORTED EVENTS

MicroDental Laboratories

The Argument for Target Oriented Dental Sleep Medicine; Three Clinical Studies Reporting Outcomes

Thursday, June 9, 2016 | Plaza Ballroom ABC
6:00 – 6:30pm | Registration and Reception
6:30 – 8:00pm | Program

**Presenters:** Dr. Steve Carstensen, DDS; Dr. Shouresh Charkhandeh, DDS; Dr. David Carlton, III and Dr. Nikola Vranjes, DDS

**Overview:** Doctors will report on using the new generation of oral appliance, the MicrO2 Sleep Device, and methods for determining a customized therapeutic starting position while achieving excellent outcomes and with minimal titration steps. Doctors will review their procedures and how often they were able to treat the patient at the sleep bite taken without further titration. They will discuss patient acceptance and compliance, along with selecting patient types. As leaders in the field you will hear comparisons of bite taking techniques and new ways to incorporate intra oral scanners into the sleep practice and the benefits to clinical outcomes. The presentations will be followed by a panel discussion.

For more information and to register, email events@microdental.com or call (925) 803-8653 or stop by Booth #201.

MicroDental Laboratories

The Argument for Target Oriented Dental Sleep Medicine; Three Clinical Studies Reporting Outcomes

Thursday, June 9, 2016 | Plaza Ballroom ABC
6:00 – 6:30pm | Registration and Reception
6:30 – 8:00pm | Program

**Presenters:** Todd Morgan, DMD, ABDSM, Co-Inventor of Apnea Guard and John Graham, DDS, MD, Author, Inventor

**Overview of Program:**

Take The Guesswork Out Of Oral Appliance Therapy With Innovations Like CBCT, HST, Night Shift & Apnea Guard®

- How Airway applications of CBCT i-CAT 3D imaging can play a key role in your practice
- The benefits of Apnea Guard Trial Appliance and how to FIT-IT in 15 minutes. LIVE DEMO!
- How Night Shift wearable ensures non-supine sleep, resulting in better OAT outcomes

For more information and to register, call us at 888-240-7735 (Contact Person: Rachael Ellison) or email Rachael@ezsleepnetwork.com or stop by Booth #101.

Ez Sleep

Combining Technologies for Successful Outcomes

Thursday, June 9, 2016 | Plaza Ballroom DEF
6:00 – 6:30pm | Registration and Reception
6:30 – 8:00pm | Program

Join us for hors d’ oeuvres and refreshments while hearing from our panel of experts & inventors

**Presenters:** Todd Morgan, DMD, ABDSM, Co-Inventor of Apnea Guard and John Graham, DDS, MD, Author, Inventor

**Overview:**

Presenters: Todd Morgan, DMD, ABDSM, Co-Inventor of Apnea Guard and John Graham, DDS, MD, Author, Inventor

Overview of Program:

Take The Guesswork Out Of Oral Appliance Therapy With Innovations Like CBCT, HST, Night Shift & Apnea Guard®

- How Airway applications of CBCT i-CAT 3D imaging can play a key role in your practice
- The benefits of Apnea Guard Trial Appliance and how to FIT-IT in 15 minutes. LIVE DEMO!
- How Night Shift wearable ensures non-supine sleep, resulting in better OAT outcomes

For more information and to register, call us at 888-240-7735 (Contact Person: Rachael Ellison) or email Rachael@ezsleepnetwork.com or stop by Booth #101.
Combining Technologies for Successful Outcomes
From Screening, Trial to Treatment

Take The Guesswork Out of Oral Appliance Therapy
With Innovations Like CBCT, HST, Night Shift & Apnea Guard®

Learn About
— How Airway applications of CBCT i-CAT 3D imaging can play a key role in your practice
— The benefits of Apnea Guard Trial Appliance and how to FIT-IT in 15 minutes. LIVE DEMO!
— How Night Shift wearable ensures non-supine sleep, resulting in better OAT outcomes

Join us for hors d’oeuvres and refreshments
while hearing from our panel of experts & inventors!

SPEAKER
John Graham, DDS, MD
Author, Inventor

SPEAKER
Todd Morgan, DMD, ABDSM
Co-Inventor of Apnea Guard
Researcher

Register at Ez Sleep booth # 101
Receive A FREE Apnea Guard®
and learn how to “FIT-IT” — during this event.

Thursday, June 9, 2016 - Plaza Ballroom DEF, Sheraton Denver
6:00–6:30pm Registration/Reception, 6:30–8:15pm Program
Call us at 888-240-7735 or visit ezsleeptest.com

OPEN THE DOOR
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*FDA-cleared as OVENT rebranded as $O_2$Vent™
**D01: Turf War: Home Sleep Apnea Testing**

*8:00am – 9:00am | Plaza Ballroom ABC*

**Speakers:** B. Gail Demko, DMD; and Kelly Carden, MD

**Overview:** Drs. Demko and Carden will discuss home sleep apnea testing and the relationship between physicians and dentists.

**Target Audience:** Dentists and other providers

**Objectives:**
- Discuss Home Sleep Apnea Testing as an important tool in the armamentarium of dental sleep medicine providers;
- Review the relationship between physicians and dentists; and
- Describe the need for physicians and dentists to work as a team.

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**W01: Titration: Where to Start?**

*8:00am – 9:00am | Plaza Ballroom DEF*

**Speaker:** Ghizlane Aarab, DDS, PhD

**Overview:** Dr. Aarab will give a critical review of the effects of oral appliance titration in OSA patients.

**Target Audience:** Dentists, dental professionals, and physicians

**Objectives:**
- Review the current evidence of the relation between mandibular protrusion, efficacy, and side effects in OSA patients;
- Review the current evidence of the effects of the vertical dimension of mandibular advancement devices on efficacy and on compliance in OSA patients;
- Discuss the factors that may influence the determination of the most effective position of mandibular advancement devices; and
- Discuss the prediction of non-responders to oral appliance therapy.

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**S01: Year in Review**

*9:00am – 10:00am | Plaza Ballroom ABC*

**Speaker:** Marc Braem, DDS

**Overview:** Dr. Braem will present a structured review of literature of the past year, according to well-defined clinical aspects of oral appliance treatment of obstructive sleep apnea.

**Target Audience:** Dentists, physicians and other providers

**Objectives:**
- Discuss state-of-the-art knowledge of recent advances in dental sleep medicine and sleep apnea treatment;
- Describe the evidence regarding long-term oral appliance therapy, including potential side effects and options for managing complications in patients with snoring and/or OSA;
- Review the relationship between obstructive sleep apnea, cardiovascular disease and other associated co-morbidities; and
- Examine a state-of-the-art concept of mandibular advancement treatment of OSA.

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**First-Time Attendee Breakfast**

*7:00am – 8:00am | Governor’s Square 14*

The AADSM Board of Directors will host a breakfast for all first-time attendees at the 25th Anniversary Meeting. The breakfast will provide an opportunity for all first-time attendees to network with each other as well as gain some insight into the dental sleep medicine profession. All first-time attendees will receive a ticket with their registration materials, which will be required to gain entrance to the breakfast.

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I04: PSG: What Does a Dental Sleep Medicine Clinician Need to Know?

9:00am – 10:00am | Plaza DEF

Speaker: Richard Berry, MD

Overview: Dr. Berry will provide a practical overview of polysomnography and the information provided in sleep monitoring.

Target Audience: Dentists and other providers

Objectives:

- Discuss the basics of sleep monitoring and what information is provided;
- Review the basics of reading a sleep study report;
- Determine the uses and pitfalls in home sleep apnea testing; and
- Discuss how to use a sleep study report to determine if oral appliance treatment is working.

Poster Viewing

10:00am – 10:30am

All posters are available for viewing outside the session rooms throughout the AADSM Annual Meeting. Presenters of the posters listed below are available for questions and comments from 10:00am – 10:30am on Friday, June 10, 2016.

Poster #001
LONGEVITY OF THORNTON CUSTOM MASK FOR COMBINATION THERAPY TREATMENT FOR OSA: NINE YEAR FOLLOW-UP
Prehn RS

Poster #003
EFFECTS OF SEDATION ON BREATHING IN PATIENTS UNDERGOING DENTAL OPERATION
Kohzuka Y, Isono S

Poster #005
IS IT POSSIBLE TO PREDICT THE SLEEP APNEA SEVERITY AND ANATOMICAL PATHOPHYSIOLOGY BY THE MAXILLOFACIAL CT IN JAPAN?
Arisaka T, Chiba S, Yagi T, Chiba S, Tonogi M, Ota F

Poster #007
THE PREVALENCE OF PEDIATRIC DENTISTS WHO SCREEN FOR OBSTRUCTIVE SLEEP APNEA
Reddy NG, Chiang HK, Best AM, Leszczyszyn DJ

Poster #009
MANDIBULAR ADVANCEMENT SPLINT AS A COMPARABLE TREATMENT TO NASAL CONTINUOUS POSITIVE AIRWAY PRESSURE IN PATIENTS WITH POSITIONAL OBSTRUCTIVE SLEEP APNEA
Takaesu Y, Tsuiki S, Kobayashi M, Komada Y, Inoue Y

Poster #011
EFFECTS OF A NOVEL MANDIBULAR ADVANCEMENT DEVICE ON AHI AND SNORING IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA: A PILOT STUDY.
Hart C, Lavery D, Czyniewski S, Beer F

Poster #013
PREVALENCE OF SUBJECTIVE AND OBJECTIVE RESIDUAL EXCESSIVE SLEEPINESS DURING SUCCESSFUL MANDIBULAR ADVANCEMENT DEVICE THERAPY FOR OBSTRUCTIVE SLEEP APNEA

Poster #015
A MANDIBULAR POSITIONING HOME SLEEP TEST PROSPECTIVELY PREDICTS OUTCOME OF ORAL APPLIANCE THERAPY FOR OSA USING RETROSPECTIVELY DERIVED DECISION CRITERIA

Poster #017
KNOWLEDGE AND CONCERN ABOUT OSA IN ADHERENT AND NON-ADHERENT OSA PATIENTS
Firestone AR, Maerz R, Pennington V, St. John M, Roth J, Jenkins A, Skulski B
Io5: Sleep Apnea and Cardiovascular Disease

10:30am – 11:30am | Plaza ABC

Speaker: Atul Malhotra, MD

Overview: This presentation will review the risks of sleep apnea and the importance of diagnosis and treatment.

Target Audience: Dentists, researchers and other healthcare professionals

Objectives:
• Review the risks of sleep apnea and the steps to diagnosis;
• Recognize the types of sleep apnea therapy and the benefits;
• Differentiate the mechanisms underlying causes of apnea complications; and
• Review the treatment outcomes after use of oral appliances.

Wo2: Telemedicine

10:30am – 11:30am | Plaza DEF

Speaker: Steve Van Hout

Overview: This session will review telemedicine and the steps to implementation.

Target Audience: Dentists and other healthcare professionals

Objectives:
• Discuss the definition of telemedicine and the differences between telemedicine and telehealth;
• Discuss the current complexities and barriers impacting use of telemedicine;
• Explore a model of coordinated care between a dentist and physician using telemedicine; and
• Demonstrate how AASM SleepTM can be utilized in facilitating a telemedicine encounter.

Ro1: Challenging Case Reports

11:30am — 12:30pm | Plaza ABC

During this session, challenging case reports will be presented and an expert panel will discuss their approach to diagnosis and treatment.

So2: Sleep-Disordered Breathing and Cardiometabolic Interactions in Pregnancy and in the General Population

11:30am – 12:30pm | Plaza DEF

Speaker: Sushmita Pamidi, MD

Overview: This session will review the interactions between sleep apnea in pregnancy and in the general population and cardiometabolic outcomes.

Target Audience: Dentists, researchers and dental staff

Objectives:
• Discuss the relationship between sleep apnea and cardiometabolic risk in the general population;
• Review randomized controlled trials investigating the effect of treatment of sleep apnea on cardiometabolic risk;
• Describe the epidemiology of sleep-disordered breathing in pregnancy; and
• Recognize the relationship between sleep-disordered breathing in pregnancy and adverse cardiometabolic outcomes.

ABDSM Informational Session

12:30pm – 1:00pm | Plaza ABC

Learn about the ABDSM certification process. Board members will be available to answer questions.

Lunch On Your Own

12:30pm - 1:45pm
Meet the Professors

12:30pm – 1:45pm | Member: $65 | Nonmember: $75

During these small-group sessions, an expert in dental sleep medicine will lead an informal discussion on a single topic. Pre-registration is required.

M04: Frequently Asked Questions about Sleep Apnea
Atul Malhotra, MD
Governor’s Square 11

M05: New Titration Protocols – How to Test Them Without Bias
Fernanda Almeida, DDS, PhD
Governor’s Square 16

M06: The Road to Personalized Medicine for Sleep Apnea: Challenges and Opportunities
Danny Eckert, PhD
Governor’s Square 17

W03: PSG and HST: Diagnostics, Outcome Studies and Split Nights
1:45pm – 3:15pm | Plaza ABC

Speaker: Max Hirshkowitz, PhD

Overview: This session will review current diagnostic procedures used to evaluate and/or titrate positive airway pressure therapy for patients with obstructive sleep apnea.

Target Audience: Dentists, physicians and other affiliated professionals

Objectives:

- Describe PSG and HST methods used to evaluate patients with OSA;
- Identify advantages and limitations of these methods; and
- Discuss the rationale for selecting and using these methods.

W04: Modified Oral Appliance and Combination Therapy
1:45pm – 3:15pm | Plaza DEF

Speakers: Katherine Phillips, DDS; and James Hogg, DDS

Overview: The presentation shall discuss various combination therapies that can be used to augment the efficacy of oral appliances.

Target Audience: Dentists and dental professionals

Objectives:

- Review the clinical rationale for use of combination therapies and identify the various patient situations where combination therapy may be appropriate;
- Discuss how to modify the oral appliance to become the CPAP interface, including chair side and lab fabricated options, and to identify which oral appliances are appropriate choices for these modifications;
- Describe how using Drug Induced Sleep Endoscopy (DISE) can identify area specific airway collapse after partially successful oral appliance therapy; and
- Examine how weight loss and/or positional therapy can influence oral appliance efficacy.

Refreshment Break in Exhibit Hall
3:15pm – 3:45pm
Friday, June 10, 2016 Continued

**Poster Viewing**

**3:15pm – 3:45pm**

All posters are available for viewing in outside the meeting rooms throughout the AADSM Annual Meeting. Presenters of the posters listed below are available for questions and comments from 3:15pm – 3:45pm on Friday, June 10, 2016.

**Poster #002**
ABOUT 45 CASES OF APPLICATION OF SOMNOSNORE MANDIBULAR ADVANCEMENT DEVICES IN SNORING TREATMENT
Besnainou G

**Poster #004**
NO INCREASE IN SLEEP BRUXISM OR SUSTAINED OROFACIAL MUSCLE ACTIVITY DURING SLEEP IN MILD TRAUMATIC BRAIN INJURY PATIENTS: A CONTROLLED STUDY
Suzuki Y, Khoury S, Giguere JF, Denis R, Lavigne G

**Poster #006**
THE PREVALENCE OF GENERAL DENTISTS WHO SCREEN FOR OBSTRUCTIVE SLEEP APNEA
Long A, Chiang H, Best A, Leszczyszyn D

**Poster #008**
The influence of the amount of degree of vertical opening in the design of mandibular advancement device MAD for obstructive sleep apnea patients
Mayoral P, Zarate D, Duran S, Borreguero DG, Cano I

**Poster #010**
LONG TERM EVALUATION OF OCCLUSAL CHANGES DURING TREATMENT WITH MANDIBULAR ADVANCE DEVICE FOR OBSTRUCTIVE SLEEP APNEA: PRELIMINARY REPORT
Mayoral P, Borreguero DG, Cano I, Mesa JI, Durán S

**Poster #012**
EFFECTS OF BIOMIMETIC ORAL APPLIANCE THERAPY ON EPWORTH SCORES IN ADULTS WITH OBSTRUCTIVE SLEEP APNEA
Liao F, Singh GD

**Poster #014**
A NEW ORAL APPLIANCE TITRATION PROTOCOL USING THE MICRO2 SLEEP DEVICE AND MANDIBULAR POSITIONING HOME SLEEP TEST

**Poster #016**
A RETROSPECTIVE STUDY OF DENTAL RECORDS OF PATIENTS TREATED OF OBSTRUCTIVE SLEEP APNEA WHO PREFERRED ORAL APPLIANCE INSTEAD OF CONTINUOUS POSITIVE AIR PRESSURE
Barbosa DF, Ferreira LDB, Panhan AC, Alves MC, Berzin F

**S03: The Basic Science of Sleep, Wakefulness and Upper Airway Tone**

**3:45pm – 4:45pm | Plaza ABC**

**Speaker:** Michael Decker, PhD

**Overview:** Dr. Decker will review brain mechanisms and pathways regulating sleep, wake and upper airway control as well as newly emerging treatments aimed at mitigating dysfunction within those pathways.

**Target Audience:** Dentists and researchers

**Objectives:**

- Review the primary neural mechanisms, pathways and neurotransmitter systems involved with the control sleep, wake, and control of breathing (as it relates to obstructive sleep apnea);
- Discuss state-of-the-art knowledge of recent advances in pharmaceutical, electroceutical and oral appliance treatments for key sleep disorders and obstructive sleep apnea; and
- Examine the evidence regarding efficacy of current therapeutic options, potential risks, side effects and how patient selection can enhance treatment outcomes.

**O01: Oral Abstract Presentations**

**3:45pm – 4:45pm | Plaza DEF**

The authors of the following six abstracts will present their research during this session. Authors selected for oral presentations are allotted an 8-minute time period to present their abstract, followed by a 2-minute time period for questions and answers. The three-digit poster ID number corresponds to the abstract listing on page 48.

**3:45pm - 3:55pm | Poster #004**
NO INCREASE IN SLEEP BRUXISM OR SUSTAINED OROFACIAL MUSCLE ACTIVITY DURING SLEEP IN MILD TRAUMATIC BRAIN INJURY PATIENTS: A CONTROLLED STUDY
Suzuki Y, Khoury S, Giguere JF, Denis R, Lavigne G
3:55pm - 4:05pm | Poster #013
PREVALENCE OF SUBJECTIVE AND OBJECTIVE RESIDUAL EXCESSIVE SLEEPINESS DURING SUCCESSFUL MANDIBULAR ADVANCEMENT DEVICE THERAPY FOR OBSTRUCTIVE SLEEP APNEA

4:05pm - 4:15pm | Poster #007
THE PREVALENCE OF PEDIATRIC DENTISTS WHO SCREEN FOR OBSTRUCTIVE SLEEP APNEA
Reddy NG, Chiang HK, Best AM, Leszczyszyn DJ

4:15pm - 4:25pm | Poster #015
A MANDIBULAR POSITIONING HOME SLEEP TEST PROSPECTIVELY PREDICTS OUTCOME OF ORAL APPLIANCE THERAPY FOR OSA USING RETROSPECTIVELY DERIVED DECISION CRITERIA

4:25pm - 4:35pm | Poster #009
MANDIBULAR ADVANCEMENT SPLINT AS A COMPARABLE TREATMENT TO NASAL CONTINUOUS POSITIVE AIRWAY PRESSURE IN PATIENTS WITH POSITIONAL OBSTRUCTIVE SLEEP APNEA
Takaesu Y, Tsuiki S, Kobayashi M, Komada Y, Inoue Y

4:35pm - 4:45pm | Poster #014
A NEW ORAL APPLIANCE TITRATION PROTOCOL USING THE MICRO2 SLEEP DEVICE AND MANDIBULAR POSITIONING HOME SLEEP TEST

W05: Insurance Company Audits: How to be Prepared
4:45pm – 5:45pm | Plaza ABC
Speaker: Mary Beth Rogers
Overview: This presentation will allow the DSM provider to apply best practices to be in compliance with laws and regulations as they apply to billing medical insurance and Medicare.

Target Audience: Dentists, dental staff and other dental professionals

Objectives:
- Review what a retrospective audit is and what triggers an audit;
- Identify documentation needed for an audit;
- Examine Recovery Audit Contractors (RAC) role in preventing fraud and abuse;
- Discuss the purpose of Compliance Plan and how to implement one in your DSM practice; and
- Apply best practices to a successful DSM practice to promote quality patient care and honest and responsible actions in your practice.

I06: Sleep Deprivation
4:45pm – 5:45pm | Plaza DEF
Speaker: David Dingess, PhD
Overview: Dr. Dingess will provide an overview of sleep deprivation and recovery its involvement in more than getting a good night’s sleep.

Target Audience: Dentists
Objectives:
- Review the range of effects of inadequate sleep on brain functions and behavior; and
- Discuss the dynamics of repeated cycling through sleep restriction and recovery sleep.

The AADSM Board of Directors invites all meeting attendees to the President’s Reception taking place on Friday, June 10 from 5:45-7:00pm at the Sheraton Denver Downtown. The President’s Reception is a social celebration featuring hors d’oeuvres, a full-service cash bar and more! Each attendee received two free drink tickets for use at the reception in honor of the 25th Anniversary.

The AADSM thanks Ez Sleep for their support of the 25th Anniversary President’s Reception.
S04: AADSM Accreditation: Impacting the Physician Sleep Specialist’s Network

8:00am – 9:00am | Plaza ABC

Speakers: Patricia Braga, DDS; Norman Blumenstock, DDS; and Jennifer Le, DMD

Overview: This presentation will explain how accreditation not only establishes and codifies the best and most up-to-date dental sleep medicine protocols also provides an opportunity to build and solidify a stable sleep physician referral network.

Target Audience: Dentist, physicians and dental staff

Objectives:
- Review the value of AADSM Facility Accreditation and realize that it represents a high level of dental sleep medicine credentialing;
- Learn to use AADSM Credentialing as a powerful tool to encourage sleep physician referrals to your facility over non-credentialed clinics;
- Discuss the Facility Accreditation and Board Certification guidelines and timelines for achieving both; and
- Review the new AADSM incentives for achieving Accreditation.

S05: Sleep and Chronic Pain

9:00am – 10:00am | Plaza ABC

Speaker: Michael Smith, PhD

Overview: This presentation will highlight the literature identifying sleep disruption as a risk factor for chronic pain, discuss potential mechanisms by which sleep loss amplifies pain, and discuss data suggesting that improved sleep may reduce pain.

Target Audience: Dentist, physicians and dental staff

Objectives:
- Review sleep as a risk factor for chronic pain;
- Examine potential mechanisms by which sleep disruption amplifies pain;
- Learn about important assessment and clinical issues in working with patients with sleep disorders and comorbid chronic pain; and
- Discuss preliminary literature evaluating whether treating sleep disturbances improves pain outcomes.

S06: Midface Hypoplasia and Pediatric OSA: Causes, Correlations, and Orthodontic Interventions

9:00am – 10:00am | Plaza DEF

Speakers: Soleil de Marsche Roberts, DMD

Overview: This presentation will provide an overview of maxillary involvement in obstructive sleep apnea and explore dental and orthodontic treatment options for the pediatric population.

Target Audience: Dentists, physicians and other healthcare professionals

Objectives:
- Describe various presentations of midface hypoplasia in the pediatric population (non-syndromic vs. syndromic) and possible causes;
- Discuss correlation between maxillary morphology and airway problems;
- Review methods for measuring and monitoring midface deficiency and associated airway problems in growing children; and
- Examine dental and orthodontic treatment options for children with mild, moderate, and severe midface hypoplasia with varying degrees of obstructive sleep apnea.
I07: Cognition, Behavior and OSA in Children

10:15am – 11:15am | Plaza ABC

Speaker: Ronald Chervin, MD, MS

Overview: Dr. Chervin will discuss how obstructive sleep apnea in childhood is often accompanied by cognitive and behavioral morbidity, and improvement in some, if not all of these challenges can motivate efforts to recognize and treat the sleep disorder.

Target Audience: Dentists and other health professionals

Objectives:

• Discuss what cognitive and behavioral problems commonly accompany obstructive sleep apnea in childhood;
• Review the evidence that supports, and does not support, a causal role for obstructive sleep apnea in the cognitive and behavioral morbidity seen in children with this sleep disorder;
• Examine what opportunities exist to improve behavior in children through treatment of obstructive sleep apnea; and
• Discuss what questions remain unanswered and should be prioritized to better understand the role OSA can play in the behavior and cognitive ability of children.

S07: Insomnia and Sleep Apnea: Collaborative Approaches to this Comorbidity

10:15am – 11:15pm | Plaza DEF

Speaker: Jason Ong, PhD

Overview: This session will discuss the challenges in the management of sleep apnea with comorbid insomnia and the opportunities for multidisciplinary collaboration.

Target Audience: Dentists and other health professionals

Objectives:

• Review the epidemiology and etiology of sleep apnea and comorbid insomnia;
• Summarize the research evidence for treatment approaches to sleep apnea and comorbid insomnia; and
• Discuss opportunities for multidisciplinary collaboration in the management of sleep apnea and comorbid insomnia.

S08: Impact of Sleep Apnea on Neurocognition

11:15am – 12:15pm | Plaza ABC

Speaker: Stuart Quan, MD

Overview: This presentation will review available data linking sleep apnea to impairment in neurocognition and the impact of treatment on mitigating these impairments.

Target Audience: Dentists and physicians

Objectives:

• Review the impact of sleep apnea on neurocognitive function; and
• Assess the effect of treatment of sleep apnea on neurocognitive function.
Wo7: Complementary and Alternative Therapies for Insomnia Disorder

11:15am – 12:15pm  |  Plaza DEF

Speaker: Jennifer Martin, PhD

Overview: This lecture will provide an overview of available evidence for the use of complementary and alternative therapies for insomnia disorder.

Target Audience: Dentists, physicians and dental staff

Objectives:

- Review the diagnostic criteria for insomnia disorder and be able to apply this to their patients with and without other sleep disorders;
- Define complementary and alternative therapies and understand how they fit into traditional medical and dental practice related to sleep;
- Discuss and apply the limited available evidence related to the use of herbal agents in the treatment of insomnia; and
- Identify other alternative therapies, including yoga and tai chi.

Lunch On Your Own
12:15pm - 1:30pm

Meet the Professors 🎓

12:15pm – 1:30pm  |  Member: $65  |  Nonmember: $75

During these small-group sessions, an expert in dental sleep medicine will lead an informal discussion on a single topic. Pre-registration is required.

M07: Understanding the Rules and Regulations Regarding Oral Appliance Use in Pilots and Commercial Drivers
Christopher Lettieri, MD
Governor’s Square 11

M08: Using Combination Therapy to Help Develop the Physician Referral Network
Patricia Braga, DDS
Governor’s Square 16

M09: Sleep Medicine in 2036: Promise and Opportunities
Ronald Chervin, MD, MS
Governor’s Square 17

Wo8: Phenotyping and Oral Appliances: Towards Individualized Strategies to Optimize Treatment Success According to Underlying Mechanisms

1:30pm – 2:30pm  |  Plaza ABC

Speaker: Danny Eckert, PhD

Overview: This presentation will highlight the multifactorial causes of sleep apnea, the potential mechanisms by which oral appliances work and how phenotyping approaches could be used to optimize oral appliance treatment success.

Target Audience: Dentists, sleep scientists, sleep physicians and other health professionals

Objectives:

- Review recent advances in dental sleep medicine and sleep apnea treatment; and
- Discuss new individualized approaches to managing of obstructive sleep apnea in adults

S09: The PTSD and Sleep Apnea Connection

1:30pm – 2:30pm  |  Plaza DEF

Speaker: Ali El Solh, MD

Overview: Dr. El Solh will discuss how sleep disturbances are long lasting aspects of post traumatic stress disorders and while the mechanism underlying the relationship between sleep and PTSD remains unclear, treatment of sleep disorders ameliorates PTSD symptoms.

Target Audience: Dentists, physicians and dental staff

Objectives:

- Review the prevalence of sleep apnea in PTSD;
- Explore the pathophysiology linking sleep apnea and PTSD; and
- Discuss the management of sleep apnea in patients with PTSD.
Io8: Is Insomnia History? The Modernization of Sleep

2:30pm – 3:30pm  |  Plaza ABC

**Speaker:** Roger Ekirch, PhD

**Overview:** This presentation will address the transition from segmented to consolidated sleep in western societies and its implications for a deeper understanding of MOTN insomnia.

**Target Audience:** Dentists and other health professionals

**Objectives:**
- Discuss the history of sleep and its pertinence and oral preset;
- Review segmented sleep;
- Identify the transition from segmented to consolidated sleep; and
- Examine the possible origins of MOTN insomnia.

W09: Objective Compliance

2:30pm – 3:30pm  |  Plaza DEF

**Speaker:** Fernanda Almeida, DDS, PhD

**Overview:** This session will provide attendees the knowledge on the importance and use of compliance monitors for oral appliance therapy.

**Target Audience:** Dentists, clinicians, dental hygienists, physicians and researchers

**Objectives:**
- Discuss the effectiveness of oral appliance therapy;
- Review the importance of compliance in the mean disease alleviation; and
- Explain how to use compliance monitors in oral appliances, advantages and limitations.

AADSM General Membership Meeting

3:30pm – 4:00pm  |  Plaza ABC

The AADSM Board of Directors invites all members to come and learn about the recent activities and initiatives of the AADSM. The AADSM Secretary/Treasurer will discuss the financial state of the Academy. New members of the AADSM Board of Directors will be introduced.

Demonstrate Your Expertise in Dental Sleep Medicine

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Rose Nierman  Dr. Mayoor Patel  Dr. Charkhandeh  Dr. Ken Berley  Dr. Todd Morgan

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When we developed the first CAD/CAM oral appliance for the treatment of obstructive sleep apnea, we packed our biggest ideas into our smallest device. Today, Narval CC continues to revolutionize oral appliance therapy with its advanced technology, its proven track record of compliance and efficacy, and its compact, lightweight design. As experts in sleep, we couldn’t be prouder to offer our very best in dental sleep.

Visit us at AADSM, booth #200
Contact us at narval@resmed.com.
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Exhibit Hall hours are:

**Thursday, June 9, 2016**
10:00am – 4:00pm

**Friday, June 10, 2016**
10:00am – 4:00pm

**Saturday, June 11, 2016**
10:00am – 3:00pm
Booth Number: 513
Academy of Orofacial Myofunctional Therapy
Pacific Palisades, CA
www.aomtinfo.org

The Academy of Orofacial Myofunctional Therapy (AOMT) is a private institute that facilitates research and post-graduate training in the area of orofacial myofunctional therapy. The AOMT currently leads research efforts in the USA and has trained the majority of those who work in this field in North America.

Booth Number: 204
Airway Management
Carrollton, TX
866-264-7667 | www.tapintosleep.com

Airway Management offers products that improve the health and quality of life for people who suffer from sleep-disordered breathing. From predictor appliance to custom solutions, the TAP System from Airway Management is a range of advanced devices covering the full spectrum of sleep-disordered breathing.

Booth Number: 107
Airway Metrics LLC
Tacoma, WA
www.airwaymetrics.com

A premier screening and bite registration system for treating obstructive sleep apnea. Identify a target treatment position and comfortable starting position in both anterior/vertical alignment. Obtain bite registration. Document AP/V bite for mandible's optimum airway position with selected appliance. Systems includes Snore Screener, Mandibular Positioning Simulators, Bitefork and Handle.

Booth Number: 508
American Dental Software
Beaverton, OR
888-869-9980 | www.americandentalsoftware.com

American Dental Software offers custom and instant dental websites, patient education videos, HIPAA forms, internet marketing, dental directory, and much more. Stop by our booth or call 1.888.869.9980.

Booth Number: 514
BioModeling Solutions, Inc.
Beaverton, OR
www.dnaappliance.com

BioModeling Solutions trains and educates doctors in becoming a Certified Provider of the DNA appliance system. The DNA appliance is a FDA registered Biomimetic oral appliance which harnesses the body's natural ability for self-correction. It involves no surgery, no drugs, and no injections, relying instead on natural and physiological processes.

Booth Number: 416
BlueSom
Orvault, France
www.bluepro.pro

BlueSom is the manufacturer of the mandibular advancement device BluePro. BluePro is a first-line oral appliance in snoring and obstructive sleep apnea (OSA). Sold exclusively to health professionals e.g. dentists, stomatologists, otolaryngologists, BluePro has 3 key features required for successful treatment: retention, titration, maintaining. For further information visit www.bluepro.pro.

Booth Number: 401
BQ Ergonomics LLC
Overland Park, KS
877-938-9034 | www.bqe-usa.com

Ergonomic stools and chairs for the entire office.

Booth Number: 304
BRAEBON Home Sleep Testing
Kanata, ON, Canada
888-462-4841 | www.braebon.com

BRAEBON introduces the new DentiTrac micro-recorder for the objective measurement of oral appliance compliance. This powerful micro-recorder is embedded within an oral appliance and data are uploaded to the new BRAEBON cloud portal. BRAEBON also introduces improved versions of software for our best-in-class Type 3 MediByte Jr and MediByte recorders.
Booth Number: 316
Classic Sleepcare LLC

Classic Sleepcare LLC
Healthy Sleep. Beautiful Smiles.

Agoura Hills, CA
888-707-2454 | www.classicsleepcare.com

Our "concierge" keeps you informed through the entire process, providing insurance verification, scheduling, and live patient support with a HST trained licensed registered nurse. Our reps across the country hand-deliver, provide in-person training, and pick up the unit once the study is complete to ensure a timely result. A report from a board-certified sleep physician is delivered on an average of 5-7 business days.

Booth Number: 210
Crystal Billing Services, Inc.

Glendale, AZ
866-807-4586 | www.crystalclaim.com

Crystal Billing Services offers professional medical billing or your dental practice for obstructive sleep apnea. Our services fit your budget and pay for themselves through increased revenue. Let our 20+ years of experience be your advantage. Benefits, auths, claim filing, claims appeals - we do it all! Medical billing made crystal clear.

Booth Number: 207
Dental Prosthetic Services

Cedar Rapids, IA
800-332-3341 | www.DPSdental.com

Dental Prosthetic Services is an industry leader in equipping dentists to successfully practice dental sleep medicine. We feature 11 FDA-cleared appliances including the Adjustable PM Positioner™, EMA®, O2 OASYS™, Narval™ CC, Somnodent®, and TAP®. We offer patient and practice support, as well as outstanding craftsmanship and service.

Booth Number: 415
Dental Sleep Practice

Scottsdale, AZ
866-579-9496 | www.dentalsleeppractice.com

Quarterly publication promoting dental sleep apnea education. Featuring a unique blend of editorial content including clinical techniques, case studies, legal information, technology features, new product information, practice management features, and office spotlights.

Booth Number: 100
Dental Sleep Solutions

Bradenton, FL
www.dentalsleepsolutions.com

Dental Sleep Solutions is the key to dental sleep medicine success. Whether you’re new or a veteran to DSM, our proven system provides an intuitive cloud-based solution to manage all aspects of your sleep practice from screening and testing to treatment and billing.

Booth Number: 406
Dental Warranty Corp

Irving, TX
800-691-7234 | www.DentalWarranty.net

How do you stand behind your work? Dental Warranty is not insurance, but it does protect cosmetic and restorative dentistry for tens of thousands of patients with nationwide, no-fault protection. This is the highest standard of peace-of-mind available in dentistry today.
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Doctor.com is the definitive marketing automation platform for medical practices. More than 11,000 healthcare providers rely on Doctor.com services to acquire new patients, develop and protect their online reputation, and maintain a strong online presence.

Booth Number: 310
DynaFlex

DynaFlex is the go to manufacturer for dental sleep devices with 13 different FDA cleared devices, three have Medicare code verification for reimbursement. All devices are fabricated with the highest quality materials in the United States and include our exclusive “Digital Sleep Package”, exceptional customer service and fair competitive pricing.

Booth Number: 101
Ez Sleep

Ez Sleep™ is a leading national provider of innovative home sleep testing diagnostic services for the medical and dental community. Our concierge level service and product offerings increase patient/ provider engagement. Through our strategic partnerships, we offer a proven comprehensive end-to-end solution for practices to screen, test, trial and treat patients.

Booth Number: 104
Frantz Design Inc - Myerson Tooth Co.
Austin, TX
800-588-7898  |  www.openairway.com

The EMA Oral Appliance from Myerson increases airway space by advancing the mandible using interchangeable straps. FDA cleared for the treatment of snoring and obstructive sleep apnea, EMA’s patient friendly design offers advantages not found in other oral appliances.

Booth Number: 410
Gendex, NOMAD, SOREDEX, Instrumentarium
Charlotte, NC
www.KavoKerrGroup.com

Gendex, NOMAD, SOREDEX, and Instrumentarium manufacture and market a complete line of dental imaging solutions. From the GXS-700 digital sensors to the innovative NOMAD intraoral hand-held x-ray, from the CRANEX D panoramic to the OP300 3-in 1 panoramic, cephalometric, and cone beam 3D, we can fit every dental practitioners imaging needs.

Booth Number: 409
General Sleep Corporation
Euclid, OH
888-330-4424  |  www.GeneralSleep.com

General Sleep Corporation introduces our latest product, the Zmachine Insight HST. Combining traditional respiratory variables and body position with our patient-applied, single-channel, EEG technology and automated sleep staging, the Zmachine Insight HST can report an AHI based on actual sleep time for improved accuracy, especially in less severe patients.

Booth Number: 510
Gergens Sleep Appliance Lab
Phoenix, AZ
866-437-4361  |  www.Gergensortho.com

Gergens Ortho and Sleep Appliance Lab is family owned and has serviced the United States since 1985. We fabricate ortho, pedo, TMJ and sleep apnea appliances. We have built our reputation on great quality, customer service, and having knowledgeable technicians. Our customers genuinely care about their patients and want them to have the finest dental appliances available.
Booth Number: 313
Glidewell Laboratories
Newport Beach, CA
800-854-7256 | www.glidewelldental.com

Glidewell Laboratories is a privately owned corporation with more than 46 years experience as a restorative dental laboratory. The company offers a wide range of snoring and/or sleep apnea devices including the popular Silent Night® sl, TAP® 3 Elite, EMA® and aveo TSD® (tongue stabilizing device). Learn more at www.glidewelldental.com.

Booth Number: 403
GoGo Billing Medical Billing for Dentists
Scottsdale, AZ
877-874-4646 | www.gogobilling.com

As a seven year exhibitor at the AADSM, GoGo Billing has garnered immense experience working for hundreds of dentists on their OAT and TMD claims. With new systems to expedite claims processing and ensure responsive communication, GoGo Billing is ready to help your practice succeed.

Booth Number: 312
Great Lakes Orthodontics, Ltd.
Tonawanda, NY
800-828-7626 | www.greatlakesortho.com

For over 20 years, Great Lakes has been providing the most effective, clinically proven sleep appliances, diagnostic tools, and technical support to dentists for their patients with snoring and obstructive sleep apnea. Stop by our booth to see the Narval CC(tm)- the first and only CAD/CAM custom made MRD.

Booth Number: 413
Healthy Start
Winnetka, IL
800-541-6612 | www.thehealthystart.com

The Healthy Start System addresses the symptoms of sleep-disordered breathing, development of the dentition, development of the jaws and facial profile, opening up the airway, straightening teeth, arch expansion, tongue thrust, positioning and training of tongue for proper swallowing habits and nasal breathing, correcting overbite, overjet, crowding, spacing, cross-bite, and gummy smiles.

Booth Number: 515
Henry Schein Sleep Complete
Melville, NY
800-372-4346 | www.sleepcomplete.com

Henry Schein Sleep Complete is the turnkey program that delivers all of the education and products necessary for the successful implementation of dental sleep medicine in your practice. With a practical approach and dedicated focus from a highly experienced team and industry leaders, we are your comprehensive solution.

Booth Number: 314
i-CAT
Charlotte, NC
www.KavoKerrGroup.com

i-CAT offers the most comprehensive 3D treatment solutions, featuring clinical control and optimized patient care, comprehensive treatment tools and greater predictability. The i-CAT FLX and the new i-CAT FLX MV allow for clinical control over scan size, resolution, modality and dose, including low-dose settings, while Tx STUDIO provides integrated surgical treatment tools.

Booth Number: 108
Itamar Medical
Franklin, MA
888-748-2627 | www.itamar-medical.com

Itamar Medical, a medical technology company developing state-of-the-art biomedical products based on peripheral arterial tone (PAT®) a platform signal for obstructive sleep apnea. The WatchPAT™ is a home sleep apnea test utilizing innovative technology, accurate screening, detection and diagnosis of OSA. The WatchPAT’s sleep breathing indices are based on true sleep time improving accuracy. The Cloud-PAT™ application allows for remote interpretation and reporting. The WatchPAT™ is simple, accurate and reliable.
Booth Number: 105
Johns Dental Laboratories
Terre Haute, IN
800-457-0504  |  www.johnsdental.com

Johns Dental Lab is a full service lab which has maintained their “family business” for 75 years. Johns is engaged in: fabricating TMJ splints, sleep apnea, full & partial dentures, crown & bridge and, fixed & removable orthodontic appliances. All appliances are proudly made in the USA and are FDA approved.

Booth Number: 509
KEGO
Lexington, KY
800-600-1390  |  www.kegodiagnostics.com

KEGO is an international distributor of sleep and neurodiagnostic supplies. With locations in the USA and Canada, KEGO is your national “one stop shop”, representing major manufacturers of sleep and neurodiagnostic products. Check out the full line of KEGO products at www.kegodiagnostics.com. What can KEGO do for you today?

Booth Number: 212
Keller Laboratories, Inc.
Fenton, MO
800-325-3056  |  www.kellerlab.com

The Keller team is focused on making your life easier by providing esthetic and functional restorations and offering friendly and timely customer service, all at a remarkable value. Located in St. Louis MO, Keller has a complete line of products, including crowns, bridges, implants, partials, dentures as well as parafunction, sleep apnea and anti-snorning appliances.

Booth Number: 308
Kettenbach
Huntington Beach, CA
877-532-2123  |  www.kettenbachusa.com

Kettenbach® is a direct company, selling a large product line which allows many choices to suit your specific needs. In addition to classic silicone impression materials, bite registration, and a new restorative line including, provisional resin material, BPA free & veneer chairside system. 877-532-2123, visit our web shop www.kettenbachusa.com.

Booth Number: 311
Lending Club Patient Solutions
Westborough, MA
800-630-1663  |  www.lendingclub.com/patientsolutions

Patient-friendly financing, especially true no-interest plans, offered through Lending Club Patients Solutions, formerly Springstone Patient Financing, lets you do more for patients. They’ll enjoy higher approval rates through extended plans, increased financing amounts and much more. To learn about the new Lending Club Patient Solutions call 800-630-1663 or visit www.lendingclub.com/patientsolutions.

Booth Number: 208
Luco Hybrid OSA Appliance Inc.
Kingston, ON Canada
www.lucohybridosa.com

The Luco Hybrid OSA Appliance, an FDA cleared OSA appliance, treats adults with mild to moderate sleep apnea (and severe if CPAP cannot be tolerated) as well as primary snoring. The reduced size and bulk allow the patient to sleep in complete comfort.

Booth Number: 414
Medical Billing for Dentists
Modesto, CA
www.MedicalBillingForDentists.com

Medical Billing For Dentists provides your team with unique and successful financial and medical insurance strategies. Our billing team has “A to Pay” expertise from our own dental sleep practices. We offer much more than billing! No software and no headaches — talk to us to hear the difference.
MicroDental Laboratories
Dublin, CA
800-229-0936  |  www.microdental.com

MicroDental is one of the leading dental laboratories, servicing dentists in the United States, Canada, and other parts of the world. MicroDental is DAMAS accredited and a certified dental laboratory that offers a full-service portfolio that includes the award-winning and FDA cleared MicrO2 sleep and snore device.

Modern Dental Laboratory USA
Troy, MI
877-711-8778  |  www.moderndentalusa.com

Modern Dental Laboratory is proud to offer you the best in dental sleep medicine. The unique design of The Moses® appliance incorporates an open anterior, maximum tongue space, and mandibular advancement to enlarge the airway. Effective and comfortable, The Moses® will add another dimension to your oral appliance therapy.

Nierman Practice Management
Tequesta, FL
800-879-6468  |  www.DentalWriter.com

28 years ago, Rose Nierman laid the foundation for dentists billing medical insurance when she wrote the first medical billing in dentistry manual. Over the last quarter century, Nierman Practice Management has led medical billing in dentistry by continuously developing innovative products and providing exceptional training and education.

Nonin Medical, Inc
Plymouth, MN
800-356-8874  |  www.nonin.com

Nonin Medical, the inventor of finger pulse oximetry, specializes in the design and manufacturing of noninvasive physiological monitoring solutions. Nonin distributes its pulse and regional oximeters, capnographs, sensors and software to healthcare professionals and consumers in more than 125 countries and has more than 200 OEM partners worldwide.

OASYS/Dream Systems
Roseville, CA
(916) 865-4528  |  www.dreamsystemsdentallab.com

Dream Systems Dental Sleep Laboratory is the research and development lab for the OASYS Oral/Nasal Airway System and the Medicare approved OASYS Hinge Appliance, and also fabricates the Medicare Telescopic Herbst, the EMA, plus options for combination therapy.

OravanOSA
West Orange, NJ
866-543-5100  |  www.OravanOSA.com

OravanOSA manufactures and sells FDA cleared, patented, custom-fit oral appliances with a truly open anterior design for the treatment of obstructive sleep apnea and snoring. The Oravan™ and Oravan™ Herbst encourage natural protrusion of the tongue, maximum patient comfort, and less clinical chair time at the fitting session.

OSA University
Bolingbrook, IL
844-OSA-UNIV  |  www.OSAuniversity.com

OSA University provides a practical and documented implementation and training strategy that enables every dentist and team to learn and successfully implement dental sleep medicine.
Booth Number: 209
Oventus

Brisbane, QLD Australia
www.oventus.com.au

Oventus is an oral appliance company offering a range of innovative solutions to treat people with sleep apnea, particularly people with nasal obstruction. Developed by dentists, Oventus offers a suite of 3D-printed products that combine mandibular advancement with a breathing airway that bypasses tongue, soft palate and nasal obstructions.

Booth Number: 113
Panthera Dental
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ABSTRACTS

POSTER #001
LONGEVITY OF FUSION CUSTOM MASK FOR COMBINATION THERAPY TREATMENT FOR OSA: NINE YEAR FOLLOW-UP
Prehn RS1,2,3,4
1Director, Restore TMJ & Sleep Therapy, The Woodlands, TX, USA; 2Adjunct Professor, University of Texas School of Dentistry, Houston, TX, USA; 3Inspire Research and Education, The Woodlands, TX USA; 4Diplomate American Board of Dental Sleep Medicine

Introduction: The purpose of this study was to investigate the longevity of the Fusion Custom Mask (FCM) used in combination therapy to treat OSA in patients who presented to a dental sleep center. Being a new therapeutic option, it is unknown how long a FCM will last and if it is cost effective.

Methods: The FCM is a custom CPAP face mask that is fabricated from an impression of the face. This FCM is then connected to the post attached to an oral appliance. This strapless CPAP face mask features a CPAP interface with mandibular stabilization. A retrospective chart review of 75 FCM patients on combination therapy from 2006-2012 was conducted in 2015 to determine the current therapeutic disposition. All 75 patients were contacted by phone and interviewed.

Results: Current status as of 75 patients in 2015 is as follows: Unable to contact (#19 which left 56 remaining); Still wearing Custom mask #44 (78% of contacted patients); Went back to stock CPAP #5 (10%); Lost weight/ OSA resolved #3 (4%); Surgery/OSA resolved #2 (4%); Bad CPAP side effect #1 (2%); Deceased #1 (2%). Cost of 1.CPAP Mask vs 2.FCM is as follows: 1) Stock CPAP mask ($150 AirFit™ F10 Full Face Mask); Annual cost $800 (mask/tubing); 5 year cost $4000. 2) FCM ($3600); Annual cost $80.00 (tubing); 5 year cost $3600. Many of these patients with FCM were given their masks in 2006 and some every year since. That makes some of these custom masks over 9 years old. Longevity is clearly established in this survey. A few of these patients had to have their mask relined as they lost significant weight that caused leakage. But all 44 patients still wearing the mask were satisfied and in treatment. The actual life span of these masks have yet to be determined since they are still functioning after 9 years in some of these patients. The longevity of this device also makes the initial cost of the device comparable to stock CPAP mask when considered how long this mask lasts. The hose replacement is the only annual cost to the CM. Then the consideration that many of these patients remain in therapy saving lives and improving the health of these patients is a savings yet to be determined.

Conclusion: Not only is a CM effective in the long term in combination therapy, especially those on the severe end of the spectrum, but is also cost effective. The CM should be considered when other therapeutic methods of treating OSA have failed or when CPAP pressures or the CPAP mask are intolerable to the patient.

POSTER #002
ABOUT 45 CASES OF APPLICATION OF SOMNOSNORE MANDIBULAR ADVANCEMENT DEVICES IN SNORING TREATMENT
Besnainou G
Lariboisière Hospital, Paris, France

The mandibular advancement appliances used today in France represent devices with an adjustment system which adapts the mandibular propulsion to the patient’s symptoms, but this system has the disadvantage of taking up space in the mouth.

My experience of over 500 mandibular advancement devices (MAD) used in SAS or snoring treatment showed that snoring disappears since the first titration.

Objective: The purpose of this study was to find out whether, in snoring, the good initial titration could prevent us from using titratable mandibular advancement splints mm/mm, which would simplify and ease their usage and thereby improve patient’s comfort.

A single-center prospective study of 45 patients, from November 2014 to June 2015, has been carried out.

Demographics: 25 men and 20 women. Average age: 43 years [24-72]

MAD Type: The SOMNOSNORE MAD, manufactured by Somnomed laboratory, was used for this study. It is identical to the Somnodent MAD but has no control cylinder. Contrariwise, this MAD is supplied with a top gutter and two bottom gutters: the first one with the desired titration and the second one with a supplementary protrusion of 2 mm.

Titration: The initial titration was of 70% of the maximum active propulsion (MAP). Measuring of the titration was carried out with a George Gauge. This easy to use tool allows the most precise measurement of the progress to be made, and moreover, the protrusion is done exactly in the position requested by the recording range.

Discussion and Conclusions: In total, among 44 patients, which completed the study, 43 subjects stopped snoring. The use of the SOMNOSNORE MAD allowed to achieve the full result in snoring treatment.
This MAD is easy to produce, and, if the initial titration is well performed, the result is immediate and the follow-up is simplified.

In future, the oral appliances with integrated control system could probably be replaced by less bulky devices with preset and easily interchangeable gutters to fit the patient’s symptomatology.

**POSTER #003**

**EFFECTS OF SEDATION ON BREATHING IN PATIENTS UNDERGOING DENTAL OPERATION**

Kohzuka Y, Isono S

Department of Anesthesiology, Graduate School of Medicine, Chiba University, Tokyo, Japan

**Introduction:** Sedation for dental treatments is often applied to patients with strong anxiety and vomiting reflex, and undergoing major dental surgeries. Severe cardio-respiratory complications including deaths were reported under dental sedations. Under sedation which depresses the upper airway functions such as airway maintenance and airway protective reflexes, use of water during the treatment may block oral breathing and wider mouth opening may impair nasal airway patency. Furthermore, the water may be aspirated and induce the upper airway reflexes. We therefore tested a hypothesis that adverse respiratory events occur during dental sedation even in healthy adults.

**Methods:** Six adult patients scheduled for dental extraction under dental sedation were enrolled in this study (2 males and 4 females). In addition to a routine cardiorespiratory monitor, a type3 portable sleep apnea monitor was used to measure breathing through the nose, respiratory efforts, and oxygen saturation before and during the sedation. Conscious sedation was targeted by bolus intravenous injection of midazolam (1mg), bolus (10 mg) and continuous infusions of propofol (1-3mg/kg/hour). We analyzed the measured tracings during sedation to identify respiratory adverse events such as apnea, hypopnea, desaturation, sigh and cough reflex.

**Results:** Participants were middle-aged (47±12 yrs) and non-obese (24±4 kg/m2) except one with BMI 31 kg/m2. Dental extraction was successfully accomplished in all participants without apparent adverse complications (57±24 minutes). Desaturations occurred in association with apnea or hypopnea (12±14 episodes/hour), and were more common in patients without oxygen administration (n=2) than those receiving 3 liter/min oxygen (n=4). Apnea and hypopnea occurred more frequently than the desaturation episodes (14±12 episodes/hour, 23±20 episodes/hour, respectively).

Recovery from apnea and hypopnea often occurred in association with a coughing (20±25 episodes/hour) or sigh (11±5 episodes/hour) event. Interestingly, there is a positive correlation between the apnea/hypopnea index and frequency of cough reflex (r=0.89, P=0.017).

**Conclusions:** The results support the hypothesis and there were many abnormal respiratory events during dental sedation for healthy adults.

**Support:** This study was supported by Japanese grant-in-aid (4390363) from the Ministry of Education, Culture, Sports, Science and Technology, Tokyo, Japan.

**POSTER #004**

**NO INCREASE IN SLEEP BRUXISM OR SUSTAINED OROFACIAL MUSCLE ACTIVITY DURING SLEEP IN MILD TRAUMATIC BRAIN INJURY PATIENTS: A CONTROLLED STUDY**

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Surgery department, Hôpital du Sacré-Cœur de Montréal and Faculté de médecine dentaire, Université de Montréal, Canada

**Introduction:** Traumatic brain injury (TBI) is an acute condition caused by mechanical energy transfer to the head by an external physical force, resulting from sports, vehicle accidents, assaults, falls, etc. About 15% of mild TBI (mTBI) cases lead to headache, widespread pain, or various sleep disorders (e.g., insomnia, apnea). However, although bruxism and dystonia are occasionally reported after TBI, it is unknown whether mTBI also leads to sleep bruxism (SB). The aim of this study was to assess the frequency and severity of orofacial muscle activity in mTBI patients compared to control subjects at one month post-trauma.

**Method:** Polysomnography (PSG) recordings (EEG, EOG, ECG, EMG) were conducted on the chin/suprahyoid, right masseter, and leg/anterior tibialis of subjects for two consecutive nights. Nineteen mTBI patients were recruited at our trauma center at one month post-trauma and compared to 16 controls without sleep bruxism or pain. The first night was for habituation and the second was for data analysis of: 1) rhythmic masticatory muscle activity (RMMA), a biomarker of SB, detected in the masseter EMG and scored according to International Classification of Sleep Disorders (ICSD-3, 2014) criteria; and 2) muscle tone of the chin, masseter, and anterior leg/tibialis, calculated as the root mean square amplitude of 20 stable epochs without movement or arousal per sleep stage. Group differences were compared using Student’s t-test.
Results: PSG analysis revealed that mTBI patients slept significantly less than controls (6.7 vs. 7.5hrs) and had lower sleep efficiency (89.8 vs. 94.8%) and longer sleep latency (22.0 vs. 9.3min), although differences were within normal clinical range (P<0.05 for all comparisons). 1) For SB analysis, the sample included 19 mTBI patients (M:10, F:9; mean age: 37yrs) and 16 controls (M:6, F:10; 28yrs). No significant between-group differences were found in the frequency of RMMA SB-related outcome measures (e.g., RMMA index of 1.0 and 0.8 for mTBI and controls, respectively; NS; P=0.55). 2) For the sustained muscle tone analysis, the sample included 16 mTBI patients (M:7, F:9; 38yrs) and the same 16 controls. Although chin and masseter muscle tone did not differ between groups, mild TBI patients showed higher anterior tibialis muscle tone for each non-REM sleep stage (P<0.05), and slightly higher in wake time before sleep and REM sleep (P=0.06).

Conclusion: Patients with mTBI showed no evidence of SB or increased orofacial muscle tone. However, increased leg muscle tone in the non-REM sleep of TBI patients may reflect a hyperarousal state (Khoury S, J Neurotrauma 2013).

Study supported by the FRQS Pain Res Network and Canada Research Chair (GL).

POSTER #005

IS IT POSSIBLE TO PREDICT THE SLEEP APNEA SEVERITY AND ANATOMICAL PATHOPHYSIOLOGY BY THE MAXILLOFACIAL CT IN JAPAN?
Arisaka T, Chiba S, Yagi T, Chiba S, Tonogi M, Ota F
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Introduction: Obstructive sleep apnea (OSA) is known as a social problem in Japan. It develops a cardiovascular disease, a traffic accident by daytime sleepiness and more by sleep breathing disorders. It is necessary to Polysomnography (PSG) testing in the diagnosis of OSA. However all facility can’t be PSG testing. On the other hand, Japan has CT scanners by the highest number per capita. And It is conceivable that the frequency of the CT imaging is large number. Therefore the CT imaging has been investigated whether it is possible predict the OSA severity and is it useful to understand anatomical pathophysiology of OSA.

Methods: We enrolled consecutive 451 OSA patients who diagnosed by PSG and got consent to CT imaging, from April 2014 to March 2015 in Ota memorial sleep center (Kanagawa, Japan). We measured detail of maxillofacial structure from three-dimensional construction by DICOM data of CT. Each measurement, clinical findings and patient background was evaluated using multiple regression analysis.

Result: In the group of male were 371 cases. Independent predictors were the hyoid position, BMI, mandibular body length, angle of mandible, size of tonsil, facial axis, soft palate length and thickness, anteroposterior length of cranium and Lateral length of maxilla (R2=0.448). In the group of female were 80 cases. Selected independent predictors were the BMI, hyoid position, size of tonsil, age and anteroposterior length of cranium (R2=0.523). Prediction equation that was created from the cephalometric analysis of the same group of male were less accuracy (R2=0.356).

Conclusion: By using a prediction equation created from the data of the maxillofacial CT, it was possible to predict the OSA severity with high accuracy. And also, we can understand anatomical pathophysiology of each case in Japanese male. In the future, we have the propose of standardization of CT analysis in Japan from these data.

POSTER #006

THE PREVALENCE OF GENERAL DENTISTS WHO SCREEN FOR OBSTRUCTIVE SLEEP APNEA
Long A, Chiang H, Best A, Leszczysyn D
VCU School of Dentistry, Richmond, VA

Introduction: Obstructive sleep apnea (OSA) is a common condition involving up to 17% of adult males and 9% of adult females, many of which go undiagnosed for prolonged amounts of time. This fact is likely due to the lack of screening methods or overall minimal screening considerations by health care professionals. The adult population visits a general dentist up to 25% more often than a primary care physician. In order to provide greater awareness and improved outcomes of sleep apnea, a knowledge of general dentist involvement of OSA detection is imperative in aiding diagnosis and subsequent treatment.

Methods: A brief, 12-item questionnaire was electronically sent to one-thousand General Dentists across the United States. The questionnaire consisted of a short demographic section followed by a series of questions regarding screening methods and preferences for OSA.

Results: Seventy-five dentists responded to the questionnaire. According to the results, approximately 70% of general dentists report participation in some type of screening for OSA. Only 40% of those who do screen report routine screening for at least 8 out of 10 patients.
There are three main modalities to screen for OSA: patient interview, written questionnaire, and identification of anatomical parameters. The patient interview modality has the most frequent utilization at 70% of responders with most all identifying snoring and daytime fatigue. Next, is the identification of anatomical parameters at 53% of responders, in which most all examine tonsils/adenoids and neck circumference. Last, is the written questionnaire at only 38% of responders, with the most popular being the Epworth questionnaire. Nearly half of those who routinely screen for OSA utilize the patient interview as their preferred screening modality.

On a scale from 1 – 5 (1=uncomfortable, 5=confident), dentists were asked to rate their confidence in screening for OSA. The majority (53%) of responders rated themselves 3 or less.

The results demonstrate a well-rounded sample of the General Dentist population including representation of 28 states with at least one responder and 33 unique dental school training representation. The city size the dentists practice in is also represented very evenly, ranging from less than 20,000 to more than 500,000. Dentists who responded represented a broad range of dental experience (5-30+ years), while nearly half (48%) of responders reported over 30 years practicing dentistry. Roughly all responders (98%) reported practicing general dentistry in a private practice. 88% of those who suspect patients with OSA refer to physicians for evaluation.

Conclusions: The results show that 28% of dentists screen for OSA in at least 8 out of 10 patients. The patient interview is the widely preferred screening modality, followed by a written questionnaire and identification of anatomical parameters. The majority of general dentists report some level of discomfort in confidently screening for OSA. This data demonstrates the need for general dentists to become more aware and better trained to help accurately and confidently screen for OSA.

POSTER #007
THE PREVALENCE OF PEDIATRIC DENTISTS WHO SCREEN FOR OBSTRUCTIVE SLEEP APNEA
Reddy NG1, Chiang HK1, Best AM1, Leszczyszn DJ2
1Schools of Dentistry and 2Medicine, Virginia Commonwealth University, Richmond, VA

Introduction: Obstructive Sleep Apnea (OSA) is a sleep disorder characterized by repeated episodes of upper airway obstruction for more than 10 seconds while sleeping. This results in pauses or apneas in breathing, which leads to interruptions in sleep. OSA affects 1-10% of children, and has significant sequelae when left untreated. It is estimated that children visit their dentist four times more often than their primary care physician, which provides a greater opportunity for pediatric dentists to screen for OSA. While there is ample research available on treatments and screening methods, there is limited research available on the prevalence of screening among pediatric dentists.

Methods: A brief questionnaire was electronically sent to approximately 5,500 Pediatric Dentists who are members of the American Academy of Pediatric Dentistry using REDcap.

Results: 448 pediatric dentists responded to the questionnaire. According to the results, 63% of pediatric dentists report participation in some type of screening for OSA but only 29% of those who do screen report routine screening 100% of their patients.

There are three main modalities to screen for OSA: patient interview, written questionnaire, and identification of anatomical parameters. The patient interview modality has the most frequent utilization at 55% of pediatric dentists with most identifying snoring, daytime fatigue, and mouth breathing. Next, is the identification of anatomical parameters at 53%, in which most all examine tonsils/adenoids size. Last, is the written questionnaire at only 5%. Nearly half of those who routinely screen for OSA utilize the patient interview as their preferred screening modality.

Only 7% of pediatric dentists provide treatment for their patients with OSA. Of the 7%, 76% focus on providing treatment for both the maxilla and mandible with the most common appliance being the rapid palatal expander.

On a scale from 1 – 5 (1=uncomfortable, 5=confident), dentists were asked to rate their confidence in screening for OSA. The majority, 71% of pediatric dentists, rated themselves 3 or less.

The results demonstrate a well-rounded sample of the pediatric dentist population including representation of 48 states and 57 dental schools. The city size the dentists practice in is also represented very evenly, ranging from less than 20,000 to more than 500,000. Dentists who responded represented a broad range of dental experience (5-30+ years). Approximately 90% of those who suspect patients with OSA refer to physicians for further evaluation.

Conclusions: The results show that more than one third of pediatric dentists do not screen their patients for OSA, which is significant portion of the pediatric population. Furthermore, the majority of dentists report some level of discomfort in confidently screening for OSA.
and 93% do not provide treatment for OSA. This data demonstrates the need for pediatric dentists to become more aware and better trained to help accurately and confidently screen for OSA.

**POSTER #008**

**THE INFLUENCE OF THE AMOUNT OF DEGREE OF VERTICAL OPENING IN THE DESIGN OF MANDIBULAR ADVANCEMENT DEVICE MAD FOR OBSTRUCTIVE SLEEP APNEA PATIENTS**  
Mayoral P, Zarate D, Duran S, Borreguero DG, Cano I  
Instituto del Sueño Madrid, Madrid, Spain

**Introduction:** Opening of the bite occurs during MAD treatment as all appliances have a given thickness causing vertical jaw displacement. Increased vertical mouth opening has an adverse effect on upper airway patency in the majority of OSA patients.

The purposes of this study were to estimate the effect of vertical opening in the mandibular advancement and to evaluate the influence of the amount of vertical opening in the efficacy of MAD for obstructive sleep apnea (OSA) patients.

**Methods:** From the patients who were diagnosed as OSA by polysomnographic study at Instituto del Sueño de Madrid from January 2009 to February 2013, 225 patients who chose MAD as treatment option were included in this study. All the patients’ data including clinical records and polysomnographic studies (both pre- and post-treatment) were reviewed and analyzed.

Two degrees of vertical opening 2 and 5 mm were studied. Maximum protrusion and maximum retrusion was measured in each patient with George Gauge. The statistical analysis was made with the Wilcoxon signed-rank test for paired data.

**Results:** Mandibular total advance was 1.42 mm longer with 2mm compared with 5mm vertical opening (2mm 12.92 vs 5mm 11.5). 66% of maximum protrusion was 0.945mm longer for 2mm vertical opening (2mm 8.604 vs 5mm 7.659).

**Conclusion:** Total advance allowed 1.5mm more advance and 66% of maximum protrusion allowed 1mm with 2mm vs 5mm vertical opening. Amount of bite opening should be minimized to improve patient tolerance and increase the beneficial effect on upper airway dimensions.

MAD was effective treatment option for the OSA patients regardless of severity. For the prevention of potential dental complications, the amount of vertical opening should be considered at the time of MAD treatment.

**References:**  


**POSTER #009**

**MANDIBULAR ADVANCEMENT SPLINT AS A COMPARABLE TREATMENT TO NASAL CONTINUOUS POSITIVE AIRWAY PRESSURE IN PATIENTS WITH POSITIONAL OBSTRUCTIVE SLEEP APNEA**  
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**Introduction:** In clinical settings, many patients with obstructive sleep apnea (OSA) experience more severe OSA while asleep in the supine position than in the lateral position. Oksenberg et al. (2014) reported that these individuals called positional OSA is present in approximately 50%-60% of OSA patients who undergo polysomnography. Chung et al. (2010) interestingly suggested that positional OSA patients responded better to a mandibular advancement splint (MAS) than patients with non-positional OSA. Since positional OSA is likely to be a common OSA phenotype that can be detected by diagnostic polysomnography, MAS treatment for positional OSA patients may result in increased treatment efficacy and offer a patient-tailored approach to OSA. Accordingly, we hypothesized that the efficacy of an MAS is comparable to that of nasal continuous positive airway pressure (nCPAP) when used in patients with positional OSA.

**Methods:** The study protocol was approved by the ethics committee of the Foundation of Sleep and Health Sciences. Amongst patients diagnosed with OSA at a single sleep center from January 2008 to May 2014, male subjects with moderate OSA were recruited and stringently categorized as having positional OSA when the ratio of their lateral apnea-hypopnea index (AHI) to supine AHI was 0.5 or less, their lateral sleep time was longer than 60 minutes, and their lateral rapid eye
movement sleep time was longer than 10 minutes. Treatment efficacy in terms of AHI was compared between positional OSA subjects with an MAS (N=34) and those with nCPAP (N=34) by the unpaired t-test after matching for age, body-mass index, and baseline AHI. A p-value of less than 0.05 was considered to indicate a statistically significant difference between groups.

Results: There were no significant differences in age (p=0.81) or in body-mass index (p=0.07) between the 2 treatment groups. Also there were no significant differences in baseline AHI (MAS : nCPAP=20.6±3.9/hr : 21.3±1.7/hr, p=0.35) or in follow-up AHI (MAS : nCPAP=4.7±3.5/hr : 3.4±3.7/hr, p=0.12) between the groups. Hence the AHI was lowered with MAS to the same extent as nCPAP.

Conclusions: This is the first demonstration that an MAS is as efficacious as nCPAP for positional OSA patients. We conclude that MAS treatment for this specific phenotype, positional OSA, may be a promising patient-tailored and first-line approach to OSA. The information on positional dependency should also be useful for determining the type of treatment to use immediately after OSA diagnosis.

POSTER #010
LONG TERM EVALUATION OF OCCLUSAL CHANGES DURING TREATMENT WITH MANDIBULAR ADVANCE DEVICE FOR OBSTRUCTIVE SLEEP APNEA: PRELIMINARY REPORT
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Introduction: The purpose of this study was to evaluate the magnitude and progression of dental changes associated with long-term mandibular advancement device (MAD) treatment of obstructive sleep apnea (OSA).

Methods: Prospective study of adults treated for primary snoring or mild to severe OSA with MAS for 6 months, 2, 4 and 8 years. The series of dental casts of patients were analyzed with a 3Shape 3D Orthodontic analysis for changes in overbite, overjet, dental arch crowding and width, and inter-arch relationships. The progression of these changes will be determined and initial patient and dental characteristics will be evaluated as predictors of the observed dental side effects of treatment. From the patients who were diagnosed as OSA by polysomnographic study at Instituto del Sueño de Madrid from January 2015 to June 2015, 245 patients who chose MAD as treatment option were included in this study. All the patients’ data including clinical records and polysomnographic studies (both pre- and post-treatment) were reviewed and analyzed.

A total of 245 patients (average age at start of treatment: 45.4 ± 9.8 years, 175 males) were included in this study. The average treatment length was 6.1 ± 1.4 months.

Results: In the preliminary 6 months interval evaluated there was a minimal reduction in the overbite (0.1 ± 0.05 mm), overjet (0.2 ± 0.6 mm). A corresponding increase of mandibular intercanine (0.1 ± 0.4 mm) and intermolar (0.1 ± 0.3 mm) width.

Conclusion: After an average preliminary observation period of 6 months, no clinically significant changes in occlusion were observed. The monoblock MAD used had no dental side effects. Further evaluation in time will be made 2, 4 and 8 years treatment follow-up.

MAD was effective treatment option for the OSA patients regardless of severity. For the prevention of potential dental complications, a stable occlusion in advance given by the device should be considered at the time of MAD treatment.


POSTER #011
EFFECTS OF A NOVEL MANDIBULAR ADVANCEMENT DEVICE ON AHI AND SNORING IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA: A PILOT STUDY
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Introduction: This prospective, single-arm, single-centre pilot trial was performed to establish the safety and efficacy of the Oventus device in treating obstructive sleep apnea (OSA) and snoring. The device is designed to provide mandibular advancement, and provide a passage from the front to rear of the mouth within the device for breathing. The method of bypassing any obstructions of the soft palate and nasal cavity, could provide an alternative treatment option for all patients, especially those with nasal congestion.
POSTER #012

EFFECTS OF BIOMIMETIC ORAL APPLIANCE THERAPY ON EPWORTH SCORES IN ADULTS WITH OBSTRUCTIVE SLEEP APNEA
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Introduction: Biomimetic oral appliance therapy (BOAT) differs from conventional mandibular advancement devices (MADs) that are currently deployed for the management of mild and moderate cases of obstructive sleep apnea (OSA) in adults, as it attempts to avoid unwanted tooth movements, temporo-mandibular joint issues and undesired facial profile changes that may be associated with long-term MAD use. Indeed, BOAT aims to correct the upper airway through midfacial redevelopment followed by mandibular correction, which may resolve OSA in adults. In this investigation, we test the hypothesis that perceived daytime sleepiness in adults with mild to moderate OSA can be addressed without primary mandibular advancement using BOAT.

Methods: In this preliminary study, we included 13 consecutive adults aged >21yrs. that had been diagnosed with mild to moderate OSA, following an overnight sleep study that had been interpreted by a board certified sleep physician. Prior to treatment each subject that participated in this pilot study completed an Epworth sleepiness scale (ESS) questionnaire. Each subject was treated by a dentist with advanced training in dental sleep medicine. At each monthly follow-up visit, examination for progress and adjustments of the devices were performed to optimize their efficacy. Post-treatment, each subject completed a follow-up ESS questionnaire. The mean ESS scores of the study sample was calculated prior to and after BOAT. The findings were subjected to statistical analysis, using paired t-tests.

Results: There were 7 females and 6 males that were included in this preliminary study. The mean age of the sample was 50 yrs. ± 12. Prior to treatment the mean ESS score of the study subjects was 8.2 ± 6. A further follow ESS questionnaire was done at a mean of 29.3 mos. ± 21.5 after BOAT. At this time, the mean ESS score decreased significantly (p < 0.05) to a value of 4.2 ± 3.6 after BOAT, which represents a fall in the mean ESS score by 51.4% for the study sample.

Conclusions: BOAT may be a useful method of managing adults with OSA who are seeking an alternative to long-term CPAP and MAD use. Although ESS is a discriminating test of daytime sleepiness, further data on specificity and sensitivity on these initial findings will be obtained using a larger sample size in long-term future studies.

Methods: The trial consisted of 30 participants with OSA, diagnosed by baseline ambulatory polysomnography (PSG). All PSGs in the trial were scored independently by one RPSGT. Nasal congestion was measured at baseline. Additionally, subjective sleep questionnaires were completed pre and post treatment. The protocol design included a baseline PSG and dental requirements, fabrication and delivery of the appliance. Following 3-5 weeks of acclimatisation, a PSG was performed with the device in-situ. As per the protocol, the device could be manipulated increasing the mandibular protrusion (max 85%) two more times. Hence three follow-up PSGs with the device in-situ were permitted. Participants with a >50% reduction in AHI were classed as responders.

Results: Of the 30 participants, 29 completed at least one follow-up PSG to assess the level of titration. One participant withdrew prior to completing any follow-up PSGs.

On average the AHI decrease by 62.5% from baseline (m= 41.0, sd = 26.4) to the final PSG (m=16.2, sd = 15.4). The mean difference was 25.7 (sd=16.8, p<0.001). Overall 22 (75.9%, 95%CI 59%-92%) participants were responders, which is statistically significant.

Subgroup analysis was performed by nasal congestion (NC; n=17) vs. no congestion (NNC; n=12). The median percentage difference in AHI was 69.6% vs. 63.2% respectively for NC and NNC. Similarly, the proportion of responders was 76.5% vs. 75.0%. Although the study wasn’t powered to detect a statistical difference - it appears those with nasal congestion can expect similar decreases in AHI and response rates.

At baseline, the median percentage of time <90%Sp02 was 6.2% for responders vs. 2.1% for non-responders. After the final PSG with the device, the time <90%Sp02 was reduced <1% of total sleep time for all participants. This decrease, following treatment, appears independent of changes in AHI or nasal congestion. On treatment all participants spend <1% of time below 90% oxygen saturation.

Conclusions: In summary, this device is statistically significant in treating OSA. Additionally participants with nasal congestion responded in a similar way to those without nasal congestion, which supports a hypothesis that this device could be successfully used in patients with nasal congestion, which will be further analysed in future trials. An unexpected finding was that there was a reduction in the amount of time spent below 90% oxygen saturation irrespective of nasal congestion or AHI response.
POSTER #013

PREVALENCE OF SUBJECTIVE AND OBJECTIVE RESIDUAL EXCESSIVE SLEEPINESS DURING SUCCESSFUL MANDIBULAR ADVANCEMENT DEVICE THERAPY FOR OBSTRUCTIVE SLEEP APNEA

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Introduction: A mandibular advancement device (OAm) effectively reduces the apnea-hypopnea index (AHI) in patients with obstructive sleep apnea (OSA). Some patients, however, show little or no improvement in their daytime sleepiness with OAm, despite a significant reduction in AHI. Little is known about the prevalence of such residual excessive sleepiness (RES) despite effective OAm treatment.

We aimed to determine the prevalence of subjective and objective RES in patients treated with a titratable custom-made duobloc OAm in a fixed protrusion of 75% of the maximal mandibular protrusion.

Methods: A prospective prevalence study was performed collecting data from 70 OSA-patients (men/women ratio 59/11; age 48 ± 10 years; body mass index 28 ± 3 kg/m², baseline Epworth Sleepiness Score (ESS) 9 ± 5 and baseline AHI 19 ± 12/h) undergoing OAm treatment. All patients underwent full-night polysomnography (PSG) with ESS scoring before starting and after 3 months of treatment, each time followed by multiple sleep latency tests (MSLT). Subjective and objective daytime sleepiness were assessed using the ESS and MSLT, respectively. Subjective RES is defined as a score on the ESS of ≥11/24, mild objective RES as a mean MSLT score < 10 minutes and pathological objective RES as a mean MSLT score < 5 minutes.

Results: Out of 70 patients, 33 patients showed success with OAm as compared to baseline PSG, defined as a “decrease in AHI ≥ 50% or AHI < 5/h”. Despite this success, 6 out of 33 patients (18%) showed subjective RES, based on an ESS > 11/24. Eleven out of 33 patients (33%) demonstrated mild objective RES (mean MSLT score < 10 minutes) whereas 2 out of 33 patients (6%) had pathological objective RES with mean MSLT scores < 5 minutes. A combination of subjective and mild objective RES was found in 4 out of 33 patients (12%) whereas 2 (6%) out of 33 patients showed a combination of subjective and pathological objective RES.

Conclusion: Based on subjective and objective data, RES under OAm therapy showed a prevalence ranging from 6 to 33%, depending on the used definition.

Support: The study was funded by a 3 year grant of the Flemish government agency for Innovation by Science and Technology (IWT-090864).

POSTER #014

A NEW ORAL APPLIANCE TITRATION PROTOCOL USING THE MICRO2 SLEEP DEVICE AND MANDIBULAR POSITIONING HOME SLEEP TEST


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Introduction: A new oral appliance and titration protocol was evaluated for treatment of obstructive sleep apnea based on efficacy, titration efficiency and patient preference. The goal of this study was to show that with a well-qualified target position for efficacious treatment, patients can be treated quickly, with few titration steps, and tolerate 1mm advancements using a comfortable, lingual-less sleep device. The MicrO2 Sleep Device by Microdental Laboratories (Dublin, CA) is the first CAD/CAM manufactured appliance with sets of upper and lower trays milled from control cured grade PMMA. Combinations of the sets of trays provide for a titration protocol that protrudes the mandible to a treated position.

Methods: A mandibular positioning home sleep test (mpHST) developed by Zephyr Sleep Technologies (Calgary, AB) was used to automatically advance the patient’s mandible in response to automatically detected respiratory events during a home sleep study to select patients that would be successful with oral appliance therapy and to provide a predicted efficacious mandibular position (target position, or PEMP). All participants (n=50; AHI>10 hr-1; BMI<45kg/m²) received the mpHST in the home for a 2-3 night study and a binary prediction of outcome. With a target provided by the mpHST and range of motion (ROM) measured by the dentist, a specific MicrO2 series were made for all participants. The design was based on a goal of 1mm increments from the target to maximum. The patient was set immediately to the target position (or less than target at the discretion of the dentist). If treatment was unsuccessful as determined by
HST (Remmers recorder, Sagatech), the position was advanced in 1-2 mm increments toward the maximum. Patients were classified a therapeutic success if they reached less than 10 events per hour and a 50% reduction from their baseline.

Results: Preliminary data included 31 males and 5 females, with a mean age of 48 years and BMI of 33 kg/m². Overall, 71% were treated by the MicrO2. By the mpHST test, 58% of patients were predicted to be successfully treated with OA therapy (predicted responders) and all of these were successfully treated by the MicrO2 (PPV = 100%). Of the predicted responders, 81% were treated at target and did not require further protrusion: The remaining 4 subjects were successfully treated within 1-4 titration steps using 1mm advancements. All participants with targets less than 90% of ROM accepted their target immediately, targets >90% were advanced in 1 mm increments to their target within an average of 33 days. Continued titration resulted in 48% of predicted responders achieving an AHI <5. Further, 24% of predicted responders had severe OSA (AHI>30) and 40% of these patients were treated at an AHI <5 by the MicrO2.

Conclusions: The mpHST test enabled immediately effective treatment for the majority of patients with the MicrO2 and the remaining patients achieved treatment in 1 mm adjustments.

POSTER #015
A MANDIBULAR POSITIONING HOME SLEEP TEST PROspectively predicts outcome of ORAL APPLIANCE THERAPY for OSA using RETrospectively derived decision criteria
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Introduction: Because of the inconsistent efficacy of oral appliance therapy (OAT) in treating OSA, efficient use of this therapy requires for patient selection for the therapy. We have previously evaluated the accuracy of a mandibular positioning home sleep test (mpHST) in making such selection. The present study evaluates possible improvement in selection accuracy made possible by using new decision criteria derived from our experience in the previous study.

Methods: We have carried out two clinical trials using a 2-3 night mp9:13 AMHST in which a computer positions the mandible in response to observed respiratory events. All participants (ODI>10 hr⁻¹; BMI<40kg/m²) received the mpHST and a custom, mandibular protruding oral appliance. Decision criteria applied to the mpHST results yielded a binary prediction of therapeutic outcome. The first trial (n=122; SomnoMed G2 appliance) used decision algorithms derived from a pilot study. The second trial (n=28; MicroDental Laboratories, MicrO2 appliance) prospectively used new algorithms derived from machine learning analysis of the results of the first study. Each mpHST supplied a predicted efficacious mandibular position (PEMP). Analysis was completed using both apnea-hypopnea index (AHI) and oxyhemoglobin desaturation index (ODI4%), and <10 events per hour was taken to indicate successful therapy with the custom OA.

Results: Predictive accuracy of the mpHST using either outcome measure was as follows: From trial #1 to trial #2, AHI4% sensitivity increased from 0.78 to 0.88, specificity increased from 0.62 to 0.83, positive predictive value increased from 0.83 to 0.88, negative predictive value increased from 0.55 to 0.83, error rate decreased from 0.27 to 0.14, and success rate decreased from 0.70 to 0.57. From trial #1 to trial #2, ODI4% sensitivity increased from 0.78 to 0.80, specificity increased from 0.81 to 1.00, positive predictive value increased from 0.94 to 1.00, negative predictive value increased from 0.50 to 0.67, error rate decreased from 0.21 to 0.14, and success rate decreased from 0.79 to 0.71. Predictive accuracy for PEMP decreased from 91% to 81% from trial #1 to trial #2.

Conclusions: Each index of predictive accuracy, except PEMP, improved in trial #2 compared to trial #1, and the overall error rate decreased from 27% (AHI4%) or 21% (ODI4%) to 14%. The mpHST provides a robust prediction of OAT success.

POSTER #016
A RETrospective study of dental records of patients treated of obstructive sleep apnea who Preferred Oral Appliance instead of Continuous positive air pressure
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Introduction: Obstructive sleep apnea (OSA) is a chronic disorder and effective long-term treatment is necessary to prevent associated health risks. OSA is associated with higher levels of excessive daytime sleepiness (EDS), attributed to several factors such as increased arousal index (AI) and apnea hypopnea index (AHI) which can increase cardiovascular risk and affect the quality of sleep. The two most common therapies used to treat OSA are 1) continuous positive air pressure (CPAP), standard treatment which is highly efficacious, but has limitations, with suboptimal patient acceptance and adherence rates, which in turn obviates the desired health...
benefits. 2) The oral appliance (OA), alternative treatment where the mandibular advancement splint is the most commonly used. Patients often report preferring OA to CPAP therapy. Such therapies contribute to improving the patient’s health.

**Methods:** A retrospective study of dental records of 14 patients with OSA, middle-aged and body mass index (BMI) 29.67 (5.17). Three polysomnography tests are used to compare before (baseline) and after (CPAP and OA) therapy. The OA used in this study is DIORS® - Dispositivo Intra Oral Restaurador do Sono. It modifies the upper airway, changing both the jaw and tongue posture. Its constructive is grounded in Functional Jaw Orthopedics concepts. Variance analysis for repeated measurements are applied to compare the results with 5% significance level. The IAH 31.57 (32.00) is evaluated by the American Academy of Sleep Medicine criteria (AHI <5); the snore, by snoring score 3.5 (0.65); EDS, by Epworth Sleepiness Scale (ESS) 10:43 (5.87); and the quality of sleep, by sleep efficiency (ES) 80.86 (11.41) and AI 27.18 (26.36); cardiovascular health, cardiac beat major (CBmajor) 89.26 (27.60).

**Results:** The study provides evidence of improvement in snoring (p-value 0.0038). BMI variations may have important role in OSA and were evaluated before other parameters (p-value 0.0065). There is an increase in mean BMI 30.37 (4.67), suggesting not be reasonable to assume that improvements have been caused by the reduction in body mass, and so it is assessed three parameters associated with sleep quality. Despite the significant increase in BMI, ESS (p-value 0.047) and ES (p-value 0.040) and AI (p-value 0.042) showed significant improvements of patients’ health. Noteworthy is the successful treatment for patients distribution according to the classification of AHI <5, 10 patients for CPAP and 12 for the OA (p-value 0.23). A highly significant finding is observed in the OA CBmajor 76.90 (13.50) compared to CPAP CBmajor 108.00 (59.5) with p-value 00029.

**Conclusions:** Among patients with OSA, despite the increase in BMI, both the CPAP and OA therapy suggest improvement in patient’s health, but due to preference for AO, this appeared more efficiency and effectiveness. It is recommended further studies to evaluate these results with the OA used.

**POSTER #017**

**KNOWLEDGE AND CONCERN ABOUT OSA IN ADHERENT AND NON-ADHERENT OSA PATIENTS**

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**Objectives:** Sleep-disordered breathing is associated with significant morbidity and mortality. A major problem with those who are diagnosed and begin treatment is a low rate of adherence to treatment. One approach to increasing adherence to treatment has been to educate patients about obstructive sleep apnea, its causes, treatments and consequences if not treated. The aim of this research was to survey patients who had been given an oral appliance for obstructive sleep apnea for their perceived level of knowledge of-, and concern about OSA.

**Methods:** The Ohio State University Institutional Review Board approved this study. All patients who had received an oral appliance between October 2008 and March 2015 in one university associated private practice were contacted by phone and asked to respond to a series of questions regarding their appliance.

**Results:** Of the 242 eligible patients, 80 responded to the phone call invitation. Fifty-eight reported that they were adherent with their oral appliance therapy and 22 reported that they were no longer using an oral appliance. The mean age, and initial BMI were 58.1 years, BMI 30, and 59.3 years and BMI 28.7 for the adherent and non-adherent groups respectively. Females were 36% in the adherent group and 45% in the non-adherent group. In the non-adherent group, 12 of the 22 reported that they were currently using CPAP. The mean knowledge on a scale of 0 (No knowledge) to 10 (Knowledgeable) was 7.7 in the adherent group and 8.1 in the non-adherent group. The mean concern on a scale of 0 (Unconcerned) to 10 (Concerned) about the consequences of untreated sleep apnea, was 8.4 for the adherent group and 7.1 for the non-adherent group. Within the 22 patients who were no longer wearing their oral appliances, 12 were using CPAP and 10 were not using any treatment. The scores for the CPAP and No-treatment patients were 8.1 and 8.3 for knowledge and 8.0 and 5.5 for concern, respectively.

The two groups were similar in age and BMI. There was no large difference in their professed knowledge about OSA, but there was a larger difference in their reported concern about the consequences of untreated OSA. This disparity in concern about the consequences of untreated OSA was even greater when patients who were not treating their obstructive sleep apnea were compared with those who were undertaking some treatment. This could be a reason why the non-adherent group did not continue treatment, or it could be a justification for why they were non-adherent.

**Conclusions:** It does appear that one factor that could lead to increased adherence to oral appliance therapy for sleep apnea is patient education focused on the consequences of untreated OSA.
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Fernanda Almeida, DDS, PhD is an associate professor at the University of British Columbia, Vancouver. She dedicates her career to research on the dental sleep medicine field, and also sees patients in a private practice restricted to the treatment of sleep disordered breathing. Dr. Almeida is board certified by the ABDSM, associate editor for the Journal of Dental Sleep Medicine and Sleep & Breathing.

Anne Bartolucci, PhD, CBSM is a licensed psychologist in the state of Georgia and a certified behavioral sleep medicine specialist through the American Academy of Sleep Medicine. She is a founding member of the Society of Behavioral Sleep Medicine and also belongs to the American Academy of Sleep Medicine and the Association for Behavioral and Cognitive Therapies. She was the clinical director of the Sleep Disorders Centers of Southeastern Lung Care from 2005 to 2008, when she founded Atlanta Insomnia & Behavioral Health Services, P.C. Approximately 80-90% of her practice at any one time is sleep-focused treatment, mostly patients with insomnia. Dr. Bartolucci is a versatile speaker and has been invited to talk about sleep and other aspects of psychology to audiences with a wide range of experience and expertise. She is adjunct faculty in the sleep fellowship program at Emory University, and she presents annually on psychopathology and sleep as well as insomnia treatment to the fellows. She has also lectured to the Internal Medicine/Psychiatry residents at Emory University, the United Advanced Practice Registered Nurses, and as part of the Advanced Management of Sleep Disorders for NP’s and PA’s course through the Atlanta School of Sleep Medicine. She has presented at national conferences and as part of panels on the business side of behavioral sleep medicine.

Richard B. Berry, MD is a Professor of Medicine at the University of Florida in Gainesville, Florida and Medical Director of the UF Health Sleep Center. He is also Sleep Medicine Fellowship Director and a member of the division of Pulmonary, Critical Care and Sleep Medicine. Dr Berry is currently chair of the AASM Scoring Manual Editorial Board and an Associate Editor of the Journal of Clinical Sleep Medicine. In the past he served on the AASM Board of Directors and is a past president of the American Sleep Medicine Foundation. He was awarded the 2010 AASM Excellence in Education award and is the author of several popular sleep medicine textbooks including the Fundamentals of Sleep Medicine and Sleep Medicine Pearls. Dr. Berry has over 90 peer review publications in sleep medicine. His research interests include sleep monitoring, home sleep testing, and positive airway pressure treatment of sleep apnea.

Norm Blumenstock, DDS graduated dental school from Columbia University in 1975. Prior to entering private practice, he did a general practice residency at Montefiore Hospital and Medical Center in New York City. He is proud to have earned both Fellowship and Mastership awards from the Academy of General Dentistry. He received his training in TMD and Oral Facial Pain from UMDNJ in 1991. For the past 25 years, he has focused on dental sleep medicine. Since 1991, Dr. Blumenstock has attended the weekly sleep clinic sessions at the medical school where he is currently appointed to the Medical Department as an Assistant Clinical Professor at Rutgers University - Robert Wood Johnson Medical School. As an attending staff member at the Dental Department of Robert Wood Johnson University Hospital, where he shares his dental sleep medicine knowledge with dental residents. Dr. Blumenstock is a charter member of the American Academy of Dental Sleep Medicine (formerly the Sleep Disorder Dental Society in 1991) and is a Diplomate of the American Board of Dental Sleep Medicine. His office is the first accredited dental sleep medicine office in New Jersey. Dr. Blumenstock served on the task force for structuring the AADSM facility accreditation program and subsequently served as Chairman for the Accreditation Committee for 3 years. He has participated in the consensus conference for formulating the definition of an oral appliance for dental sleep medicine. In 2013, he was the recipient of the Distinguished Service Award from the American Academy of Dental Sleep Medicine.

Patricia Braga, DDS graduated from the University of Minnesota School of Dentistry and is one of the founding partners of Cahill Dental Care in Inver Grove Heights, Minnesota. Cahill Dental Care is a full service dental clinic consisting of 5 general practitioners and specialists. She has practiced in the Twin Cities from 1983 to the present. In 2006 Dr. Braga entered the field of dental sleep medicine and became a Diplomate in 2013. She is also
Marc Braem, DDS graduated in 1975 as a general dentist and defended this PhD thesis in 1980 in the field of dental composites and non-destructive mechanical testing. This research topic gradually shifted towards fatigue testing of both composites and dental adhesives. Since 1980 he became affiliated with the University of Antwerp (Belgium) where he is now full professor and head of the Dental Materials Lab that is involved with mechanical testing of oral appliances and 3D-printing applications. He is appointed as the head of the dental special care unit at the Antwerp University Hospital that is primarily involved with multidisciplinary clinical treatment and research in patients diagnosed with obstructive sleep apnea. This multidisciplinary team has secured substantial research funding from the Flemish Government, from national scientific organizations as well as the industry and has been recognized several national as well as international rewards related to their research on obstructive sleep apnea. He has published in the leading peer-reviewed scientific journals and is often appointed as a reviewer of submitted papers, he lectures on national and international meetings, and is involved with medico-legal issues as an expert appointed by the Court. Finally he is the current president of the European Academy of Dental Sleep Medicine that has recently installed a dental sleep medicine accreditation program to join with national dental sleep medicine societies in Europe.

Kelly A. Carden, MD, MBA is a nationally known educational course director, author, and lecturer of sleep medicine. She has achieved board certification in Internal Medicine, Pulmonary Disease, Critical Care Medicine and Sleep Medicine; however she now commits all her professional time to the field of sleep medicine. She completed her fellowship training including her sleep medicine fellowship at Harvard Medical School. She is actively involved in the American Academy of Sleep Medicine (on the Board of Directors), the American Board of Sleep Medicine (as President), and the American Sleep Medicine Foundation (on the Board of Directors). She is a physician champion for the American Academy of Dental Sleep Medicine (AADSM) for whom she lectures regularly. She has served as the President and the Vice-President of the Tennessee Sleep Society, has been a member of the advisory board of Wake Up Narcolepsy, and continues to her advocacy efforts to educate the public about the importance of sleep and the impact of sleep disorders. Dr Carden currently works with Saint Thomas Medical Partners - Sleep Specialists in Nashville, TN.

Ronald D. Chervin, MD, MS is the president-elect of the American Academy of Sleep Medicine (AASM) and is board-certified in sleep medicine and neurology. He is a professor of neurology and sleep medicine at the University of Michigan and director of the University of Michigan Sleep Disorders Center. Dr. Chervin is a deputy editor of SLEEP and also serves on the editorial boards for Journal of Clinical Sleep Medicine and Sleep Medicine. Dr. Chervin has expertise in adult and child sleep disorders including obstructive sleep apnea, insomnia, parasomnias, and restless legs syndrome. He completed his fellowship in sleep medicine at Stanford University and residency in neurology at Cornell University in New York City. Dr. Chervin earned his medical degree from Stanford University and his master’s degree in clinical research from the University of Michigan School of Public Health.

Leslie Dort, DDS, MSc is a Calgary dentist whose practice is limited to treating sleep disordered breathing and TMJ issues. She works in a multi-disciplinary sleep center in conjunction with physicians and respiratory therapists. She is affiliated with the University of Calgary and is involved in research related to oral appliance therapy for sleep disorders and the development of best practice guidelines in dental sleep medicine. She was a member of the joint AASM/AADSM task force that updated the guidelines for oral appliance therapy. She is currently Editor-in-Chief of the Journal of Dental Sleep Medicine.

Michael Decker, PhD, DABSM is trained as a systems neuroscientist and clinician, and is an Associate Professor at Case Western Reserve University. His former appointments include Emory School of Medicine, Department of Neurology followed by the Centers for Disease Control and Prevention. His laboratory focuses upon sleep-related disorders, their etiology and corollary neurochemical, cognitive, and behavioral sequelae. Complimentary and translational studies include preclinical evaluation of pharmaceutical compounds, Phase I-IV clinical research trials, and development and testing of new biotechnologies, including electroceuticals. His ongoing research has been funded by the National Institutes of Health, the Centers for Disease Control and Prevention, along both Pharmaceutical and Biomedical Research companies. He has published over 60 peer-reviewed papers, book chapters, and clinical guidelines.
Speaker Index Continued

Gail Demko, DMD is the immediate past president of the American Academy of Dental Sleep Medicine and is in her 11th year as the expert advisor to the FDA on oral device therapy for sleep apnea. She edits for various journals (Headache, J of Clinical Sleep Medicine, Sleep and Breathing, etc), lectures extensively and maintains a private Dental Sleep Medicine practice in Weston, MA. She has an office accredited by the AADSM and passed the Board exam of the ABDSM in 1999.

David F. Dinges, PhD Professor and Chief, Division of Sleep and Chronobiology, Director of the Unit for Experimental Psychiatry, Vice Chair for Faculty Affairs and Professional Development, Department of Psychiatry, Perelman School of Medicine, University of Pennsylvania. Dr. Dinges’ research science focuses on neurobehavioral and physiological regulation of health and behavior by sleep, and the acute and chronic effects of sleep loss. He has made seminal discoveries related to the neurobehavioral, inflammatory, endocrine and immune responses to sleep loss. He invented the Psychomotor Vigilance Test (PVT), which is the most widely used behavioral assay for detecting sleep loss effects on the brain. His research has been funded by NIH, NASA, DoD, DoT and other federal agencies. His Sleep & Chronobiology isolation laboratory in the Hospital of the University of Pennsylvania addresses fundamental and practical questions of human sleep need, the recovery and recycle rates of human neurobehavioral functions. He has published 206 scientific papers; 159 chapters, technical reports and editorials; 2 books; and more than 400 abstracts. His papers have appeared in Science, New England Journal of Medicine, JAMA, PNAS, and Journal of the American College of Cardiology, Current Biology, Biological Psychiatry, Psychological Bulletin, Annals of Neurology, Neurology and SLEEP.

Danny J. Eckert, PhD heads the multidisciplinary upper airway physiology and sleep research program at Neuroscience Research Australia (NeuRA) in Sydney. Dr Eckert is a RD Wright Fellow of the National Health and Medical Research Council of Australia, is an Associate Professor at the University of New South Wales, is on the board and chairs the Research Committee for the Australasian Sleep Association. Dr Eckert trained at the Adelaide Institute for Sleep Health in human sleep and respiratory physiology and then spent 5.5 years at the Brigham and Women’s Hospital/Harvard Medical School in Boston where he was an Assistant Professor before returning to Australia to set up his laboratory at NeuRA in late 2011. His work focuses on understanding the multiple causes of sleep-disordered breathing, identifying novel therapeutic targets, developing new targeted therapies and optimizing success rates of existing therapies using novel individualized phenotyping approaches.

Roger Ekirch, PhD is an award-winning author and a professor of history at Virginia Tech. Born in Washington, D.C., he graduated cum laude with highest distinction in history from Dartmouth College in 1972 and obtained his M.A. and Ph.D. degrees from Johns Hopkins University. In addition to scholarly articles and five books, his writing has appeared in the New York Times, Harper’s Magazine and the Wall Street Journal, for which he is a regular book reviewer. His prize-winning book, At Day’s Close: Night in Times Past (Norton, 2005), now in its eighth printing, has been translated into seven languages. Professor Ekirch has been a frequent guest on NPR, the BBC, and the CBC. His path-breaking work on the history of segmented sleep has revamped traditional assumptions about normal human slumber. The government of Japan has incorporated his research into national guidelines for sleep hygiene, as has the United Kingdom Sleep Council. In an article in Scientific American Mind, Walter A. Brown, M.D. of Brown University Medical School marveled, “The source of this new assault on conventional thinking comes not from a drug company or a university research program but from a historian.” Among other honors, he was the first Paul Mellon Fellow at Cambridge University, a Guggenheim Fellow in 1998, and a National Endowment for the Humanities Fellow on four occasions.

Ali El Solh, MD is Professor of Medicine, Anesthesiology, and Social and Preventive Medicine at the University at Buffalo. His research focuses on the association between sleep apnea and cardiovascular diseases. His laboratory examines the burden of oxidative stress on endothelial function and the link to endothelial apoptosis. As part of a VA merit review grant, the group is engaged in determining the impact of obstructive sleep apnea on the manifestations of post-traumatic stress disorder (PTSD) in veterans and whether treatment of sleep apnea alleviates the debilitating symptoms of PTSD. Toward that goal, they have adopted a patented screening tool to identify patients with sleep apnea. Dr. El Solh’s research in the critical care arena involves the epidemiology and risk factors of Pseudomonas infections with the type III secretory system. The goal is to develop a rapid diagnostic tool to identify these organisms early in the course of infection. His other projects include studying the role of adjuvant treatment with corticosteroids in the management of severe community acquired pneumonia, such as nursing home acquired pneumonia, the management of morbidity in critically ill patients and the long-term outcomes of elderly patients after treatment from a critical care ailment.

Don Farquhar, DDS obtained his dental degree from the University of Western Ontario and maintains a large practice in Midland, Ontario. He has integrated dental sleep medicine into his general dental practice since
2003. He is a Diplomate of the American Board of Dental Sleep Medicine and chair of the AADSM’s Essentials of Dental Sleep Medicine Course in 2016.

Max Hirshkowitz, PhD is an internationally recognized sleep expert with 40 years of experience in sleep research and sleep disorders. A graduate of Tufts University (PhD and MS), Polytechnic Institute of Brooklyn (BS), and Stuyvesant High School, he is a Diplomat of the American Board of Sleep Medicine and winner of the lifetime achievement award from the Texas Society of Sleep Professionals (2012) and distinguished service award from the World Association of Sleep Medicine (2015). His academic credentials are: Consulting Professor, Stanford University and Full Professor (Emeritus), Baylor College of Medicine Department of Medicine. Until his retirement from Baylor College of Medicine, he was: Director of Sleep Disorders and Research Center at the Michael E. DeBakey Veteran Affairs Medical Center in Houston and Training Director of the Baylor Sleep Medicine Fellowship Training Program in which he trained and/or mentored 111 Sleep Medicine Fellows, Post-doctorate Research Fellows, and Doctoral Candidates. Current National/International positions include: Chairman of the Board of Directors of the National Sleep Foundation and Field Editor for the journal Sleep Medicine. He has several publications, including editing or co-editing the books Sleep Medicine Clinics: Sleep-Related Breathing Disorders and Positive Airway Pressure Therapy in Adults (2006); Focus on Sleep Medicine (2009); Sleep Medicine Clinics: Sleep Medicine Clinics: Fatigue (2013); Sleep Medicine Clinics: Sleep and Psychiatry in Adults (2015); and Sleep Medicine Clinics: Sleep and Psychiatry in Children (2015). He also was the Methodology Section Editor for Principles and Practice of Sleep Medicine (2000, 2005, 2010, and 2016) and the lead author on the popular book Sleep Disorders for Dummies (2004). He is a sought after speaker and promoter of “Sleep Health” awareness.

James Hogg, DDS received his DDS from the University of Illinois College of Dentistry. He was a Clinical Instructor at the school in the Fixed Prosthodontics Department. He practiced general dentistry in his own dental office for 25 years and entered into the field of Dental Sleep Medicine in 2007. He became a Diplomate of the American Board of Dental Sleep Medicine in 2010. Dr. Hogg joined Midwest Dental Sleep Center in 2009, where his practice is now limited to the treatment of patients diagnosed with Sleep Disordered Breathing. He is the Dental Director of their AADSM Accredited Dental Sleep Center in Oak Brook, IL. He has worked with ten different oral appliances in this office and delivered over 2,000 devices. Dr. Hogg has served on the AADSM Dental School Curriculum Committee, Accreditation Committee and the Education Committee. He is currently the Chairman of the Education Committee and former Chairman of the Essentials of Dental Sleep Medicine Course. He is a frequent speaker for the AADSM and has presented several times at their Annual Meeting. He lectures nationally to dentists, physicians and the general public on the topic of Dental Sleep Medicine.

Jennifer Le, DMD, CPCC, ACC, received her dental degree from the University of Pittsburgh in Pennsylvania. She is currently completing a leadership program in Integrative Healthcare at Duke University, North Carolina. Dr. Le is passionate about the role of dentists in the team approach to the management of OSA patients. She is a Diplomate of the American Board of Dental Sleep Medicine and serves on the AADSM Accreditation Committee.

Christopher J. Lettieri, MD is a Professor of Medicine and currently serves as the Pulmonary & Critical Care Medicine Consultant to the Army Surgeon General and the Sleep Medicine Fellowship Program Director at the National Capital Consortium. Dr. Lettieri received his Doctor of Medicine degree from the Uniformed Services University of the Health Sciences. He completed his residency in Internal Medicine at Tripler Army Medical Center and received his fellowship training in Pulmonary, Critical Care and Sleep Medicine at Walter Reed Army Medical Center. Prior to his current position, Dr. Lettieri has served as the Chief of Medical Residents, medical liaison to the US Secret Service and FBI Hostage Rescue Team, a team leader for the US Army Special Medical Augmentation Team, Chief of Critical Care for the 14th Combat Support Hospital during Operation Enduring Freedom, Chief of Walter Reed’s Sleep Disorders Center, and Chief of Medicine for the 31st Combat Support Hospital. Most recently, he served as the Assistant Deputy Commander for Medical Services at the Walter Reed National Military Medical Center. He was previously the Chair of the American Thoracic Society’s section of Terrorism and Disaster Medicine; the Chair of the American Academy of Sleep Medicine’s Education Committee; and has served on numerous task forces and working groups for Pulmonary, Critical Care, and Sleep medicine topics. Dr. Lettieri has received several teaching, research and achievement awards. Most recently, these include the Surgeon General’s Physician Recognition Award, the Admiral James Zimble Award for the Outstanding Program Director, The Major General Lewis A. Mologne Award for Outstanding Academic Medicine, the William Crosby Excellence in Research Award, and several Faculty Teacher of the Year Awards. He is a recipient of the US Army’s “A” proficiency designator and was selected into both the Order of Military Medical Merit and Alpha Omega Alpha Honors Society.

Atul Malhotra, MD is a board-certified pulmonologist, intensivist and chief of Pulmonary, Critical Care and Sleep Medicine. He is active clinically in pulmonary, critical care and sleep medicine. In the sleep clinic, he provides a full spectrum of diagnostic and therapeutic services
to patients with sleep-related disorders, including sleep apnea, insomnia, restless leg syndrome, narcolepsy and sleep disorders associated with medical or psychiatric conditions. He has a special interest in the treatment of sleep apnea. Dr. Malhotra is the president of the American Thoracic Society. He has taught and presented his research on sleep-related disorders locally, regionally, nationally and internationally. He has published more than 200 original manuscripts in leading journals. He is a principal- and co-investigator on numerous projects relating to sleep apnea and serves as an ad hoc reviewer for many leading journals including the New England Journal of Medicine, Mayo Clinic Proceedings, Sleep and the Journal of American Medical Association.

Jennifer L. Martin, PhD is a sleep psychologist in the Los Angeles area. She is an Associate Professor at the David Geffen School of Medicine at UCLA where she teaches about caring for patients with sleep disorders. Dr. Martin is also a Research Scientist and Psychologist at the VA Greater Los Angeles Healthcare System (VAGLAHS) where she runs a Behavioral Sleep Medicine Program and serves as a National Expert Trainer in Cognitive-Behavioral Therapy for Insomnia. Dr. Martin speaks to healthcare providers, patients and the public on diverse topics related to sleep and sleep disorders. She has a strong scientific research program focused on improving sleep as a key aspect of improving mental and physical health. Dr. Martin also serves on numerous task forces and committees at the national level and is on the Board of Directors of the American Academy of Sleep Medicine and the American Sleep Medicine Foundation.

Timothy Morgenthaler, MD serves as the Co-Director of the Center for Sleep Medicine and as Chief Patient Safety Officer for Mayo Clinic. He is a Professor of Medicine in the Division of Pulmonary, Critical Care, and Sleep Medicine. He is the Immediate Past President of the American Academy of Sleep Medicine and a Director of the Minnesota Alliance for Patient Safety. He has co-authored two books and over 100 peer reviewed publications.

Jason Ong, PhD is an Associate Professor of Behavioral Sciences and Director of the Behavioral Sleep Medicine Training Program at Rush University Medical Center. He received his PhD in Psychology from Virginia Commonwealth University and completed a fellowship in Behavioral Sleep Medicine at Stanford University Medical Center. Dr. Ong has also served on the Board of Directors for the Society of Behavioral Sleep Medicine since 2013. His primary research and clinical interests involve behavioral treatments for insomnia and other sleep disorders, in particular sleep-related breathing disorders and chronic hypersomnia. Other research interests include the impact of sleep disturbance on chronic health conditions. Dr. Ong’s research has been funded by the National Institutes of Health and the American Sleep Medicine Foundation.

Sushmita Pamidi, MD is a sleep physician and pulmonologist in Montreal, Canada. She is an assistant professor at McGill University where she researches the relationship between sleep-disordered breathing and cardiometabolic implications in the general population and in pregnancy. She is also involved in randomized controlled trials examining the effects of treatment of sleep-disordered breathing and clinical outcomes.

Katherine Phillips, DDS received her undergraduate degree from the University of Michigan and her dental degree from the University of Detroit Mercy School of Dentistry. Following her graduation from UDM in 2008, she practiced general dentistry before joining a practice dedicated solely to Dental Sleep Medicine in December of 2008. Dr. Phillips became a Diplomate of the American Board of Dental Sleep Medicine in 2010. She currently serves on the Annual Meeting Committee for the American Academy of Dental Sleep Medicine (AADSM), has facilitated study club webinars to teach the principles of Dental Sleep Medicine, served as Chair of the Essentials of Dental Sleep Medicine Course offered by the AADSM, participated in the consensus conference to develop a formal definition for an Oral Appliance, is a co-writer of the accompanying support paper, has lectured to multiple sleep physicians and participated in a Dental Sleep Medicine shadowing program for Sleep Physician Fellows at Northwestern University.

Kevin Postol, DDS received his dental degree from the University of Missouri-Kansas City in 1991 and completed a GPR at the University of Iowa. He has practiced general dentistry since 1992. In 2007, he entered the field of dental sleep medicine and became a Diplomate of the ABDSM in 2011. He is presently a Director-at-Large on the Board of Directors of the AADSM and past chairman of the Essentials of Dental Sleep Medicine Course. He has also served on numerous committees for the AADSM. Dr. Postol maintains a combination of a general dental practice and dental sleep medicine practice simultaneously in St. Louis MO.

Stuart F. Quan, MD is a graduate of the University of California, San Francisco School of Medicine. He did residency training in Internal Medicine at the University of Wisconsin, and fellowships in Critical Care Medicine and Pulmonary Medicine at the University of California, San Francisco and University of Arizona respectively. He moved to Harvard Medical School and Brigham and Women’s Hospital in 2007 where he currently is the Gerald E. McGinnis Professor of Sleep Medicine at Harvard Medical School and Senior Physician and Clinical Director of the Division of Sleep and Circadian
Disorders at Brigham and Women’s Hospital. In addition, he is Professor Emeritus of Medicine at the University of Arizona where he was Chief of Pulmonary and Critical Care Medicine, Associate Head of the Department of Medicine, Program Director of the GCRC and Director of the Sleep Disorders Center. He was the founding editor-in-chief of the Journal of Clinical Sleep Medicine (2004-2014) and is the initial recipient of an award for editorial excellence named in his honor. Dr. Quan also has served as the president of the American Academy of Sleep Medicine (1999-2000), been on the board of directors of the American Board of Sleep Medicine (1990-1996), a member of the Residency Review Committee for Internal Medicine of the Accreditation Council for Graduate Medical Education; and chair of the Sleep Medicine examination committee for the American Board of Internal Medicine. Recently, he was a member of the Steering Committee that developed the new sleep scoring manual for the American Academy of Sleep Medicine and is currently the Editor of the Sleep and Health Education Program at Harvard Medical School’s Division of Sleep Medicine, Associate Editor of the Southwest Journal of Pulmonary and Critical Care and Deputy Editor of Sleep. He is the recipient of the Nathaniel Kleitman Distinguished Service and William C. Dement Academic Achievement Awards, both conferred by the American Academy of Sleep Medicine. Dr. Quan’s current research activities focus on the epidemiology of sleep and sleep disorders, particularly sleep disordered breathing.

Soleil de Marsche Roberts, DMD, MSD is a Board Certified orthodontic specialist with advanced training in Craniofacial Orthodontics. She received her BA and DMD from the University of Pennsylvania and went on to complete an orthodontic residency at the University of Washington, receiving a Master’s Degree in Dentistry for her research on the skeletal effects of nPAP therapy on the developing midface. She then completed an 18-month sub-specialty fellowship in Craniofacial Orthodontics at Seattle Children’s Hospital with a focus on orthodontic and surgical management of children with cleft lip/palate and craniofacial conditions. She won the Charley Schultz Resident Scholar Award in 2015 and recently spoke at the International Society of Craniofacial Surgery Congress in Tokyo, Japan. Her research and academic interests include dental and orthodontic strategies for obstructive sleep apnea, craniofacial development and evolutionary oral medicine, 3D orthognathic surgical planning and airway assessment, and advancements in cleft/craniofacial orthodontic treatment.

Mary Beth Rogers became the executive director of the newly formed Sleep Disorders Dental Society, a non-profit professional educational association of dentists and physicians. Under her direction, the Society came together to promote the legitimate acceptance of oral appliance therapy by the medical profession and expand the role of dentists in the practice of sleep medicine. The organization is now known as the American Academy of Dental Sleep Medicine. Mary Beth was the first recipient of the academy’s Distinguished Service Award. Currently, Mary Beth manages Pittsburgh Dental Sleep Medicine, PC which is limited to dental sleep medicine services. Mary Beth has expertise in medical insurance contracting, accreditation and all aspects of administrative services for the dental sleep medicine practice. She is also a member of the Medicare Provider Outreach Education Advisory Group.

Robert R. Rogers, DMD has had a special interest in the treatment of sleep-disordered breathing since 1990 and treats patients in conjunction with many regional sleep centers. Presently, he is President and Director of Clinical Services for Pittsburgh Dental Sleep Medicine, PC and limits his practice to dental sleep medicine. Dr. Rogers is the founding president of the American Academy of Dental Sleep Medicine (AADSM) and served again as president in 1995 and 1999. In addition to being a long-term member of the Board of Directors, he has participated in committee work on a consistent basis. Dr. Rogers is a Diplomate of the American Board of Dental Sleep Medicine and is a recipient of the AADSM Distinguished Service Award. Dr. Rogers was a member of the task force for the revision of the American Academy of Sleep Medicine Position Paper and Practice Parameters on Oral Appliance Therapy. He also co-authored the American Academy of Sleep Medicine Guidelines for the Evaluation, Management and Long-term Care of Adult Obstructive Sleep Apnea. In addition, he is a consultant for the National Institutes of Health regarding oral appliances as related to the treatment of sleep-disordered breathing. Dr. Rogers is a frequent speaker at the AADSM Annual Meetings and has presented lectures on oral appliance therapy to physicians, dentists and patient groups throughout the United States and Europe.

Richard Schwab, MD research has focused on the pathogenesis and genetics of obstructive sleep apnea utilizing novel upper airway imaging techniques. The focus of his research is to understand the mechanisms leading to sleep apnea by evaluating the structure and function of the upper airway using physiologic imaging techniques. His studies have started to elucidate the role of the motion of key structures of the upper airway in mediating airway closure. By examining dynamic state related changes in the upper airway and soft tissue structures surrounding the upper airway, he has begun to understand the biomechanics of apneic events. He has studied patients with both magnetic resonance imaging and electronic beam computed tomography during wakefulness and sleep. Dr. Schwab is particularly interested in the relationship of obesity to sleep apnea. He is also studying novel treatment options for sleep apnea, including new oral appliances and hypoglossal
nerve stimulation, and trying to understand the genetics of sleep apnea. Presently, Dr. Schwab leads the Pulmonary Imaging Center at the University of Pennsylvania in its investigation of the upper airway.

Michael Smith, PhD serves as Professor of Psychiatry and Behavioral Sciences at Johns Hopkins University, where he is also Director of the Center for Behavior and Health; Director of the Behavioral Sleep Medicine program and Co-Director of the Johns Hopkins Center for Sleep-Related Symptom Science. Dr. Smith earned his PhD in Clinical Psychology at Alliant International University in San Francisco, California and completed his general clinical psychology internship and fellowship training programs in both pain management and sleep disorders research at the University of Rochester, School of Medicine. His NIH funded research focuses on the neurobehavioral causes, consequences, and treatments of insomnia and sleep loss with an emphasis on the interface between sleep and pain. Dr. Smith serves on several editorial boards, governmental advisory panels and NIH research study sections. He is a co-founder and current President of the Society of Behavioral Sleep Medicine.

Ryan Soose, MD is the Director of the UPMC Division of Sleep Medicine and Upper Airway Surgery and Assistant Professor in the Department of Otolaryngology at the University of Pittsburgh School of Medicine. He earned his undergraduate degree from the University of Notre Dame and completed medical and surgical training at UPMC. Board-certified in both otolaryngology and sleep medicine, Dr. Soose specializes in the medical and surgical treatment of snoring and obstructive sleep apnea. He is an appointed member of the Sleep Disorders Committee of the American Academy of Otolaryngology – Head & Neck Surgery (AAO-HNS), and is an active member of the American Academy of Sleep Medicine (AASM) and the International Surgical Sleep Society (ISSS). Dr. Soose has a special interest in sedated endoscopy and neurostimulation therapy in the management of patients with sleep apnea.

Steve Van Hout has worked for the American Academy of Sleep Medicine for more than 15 years, currently as assistant executive director. Mr. Van Hout played an integral role in the creation and launch of AASM SleepTM, serving as designer and visionary for the first and only complete telemedicine platform devoted to the field of sleep medicine. He previously developed the AASM’s Inter-scorer Reliability (ISR) program, an innovative, web-based assessment system currently used by more than 3,600 sleep study scorers. Mr. Van Hout has led the creation, re-design and optimization of numerous AASM technology resources, including its IT infrastructure, websites, online journal and mobile apps. Mr. Van Hout has a degree in computer science from Indiana University and is a member of the American Society of Association Executives, American Association of Medical Society Executives, Healthcare Information and Management Systems Society, and the American Telemedicine Association.
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