

# First Impressions

## Quarterly<sup>™</sup>

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## Welcome to First Impressions Quarterly

### A Publication for Sleep Disorders Professionals

The first step in achieving positive patient outcomes is to make a good First Impression. As a sleep professional, you are in the unique position of introducing patients to sleep therapy for the first time. We want to help you make that first therapy experience a positive one. That is why we developed the First Impressions Program<sup>™</sup>. Designed to help shape long-term positive patient outcomes, the First Impressions Program provides you with resources and tools that help to promote patient education and enhance patient comfort.

*First Impressions Quarterly* is the newest addition to our First Impressions Program. It is filled with helpful information including mask-fitting tips, frequently asked questions, reimbursement news, sleep research recaps and much more. All information that we hope you find helpful in making your patient's first sleep therapy experience a positive one.

Together, we can make a great First Impression.

To find out more, visit us at [www.firstimpressions.respironics.com](http://www.firstimpressions.respironics.com).

## Educating Patients About Sleep

As we all know, the majority of OSA sufferers go through life undiagnosed and untreated. Recent studies have shown that if left untreated, OSA may lead to serious health conditions such as cardiovascular disease and stroke. That is why the need for increased awareness, diagnosis and treatment has never been more important. As a result, various members of the sleep community have launched several new websites designed to increase public awareness and drive sufferers to seek diagnosis and treatment.

### [www.sleepapneainfo.com](http://www.sleepapneainfo.com)

SleepApneaInfo.com strives to raise awareness of the health risks of OSA and to make progress toward increasing diagnosis and treatment rates. Visitors to the website will find resources designed to help OSA sufferers take control of their condition and achieve healthy sleep, including more information about treatment options, and a downloadable Self-Assessment Quiz to print and take to their doctor.

The site has also established a "Sleep Well, Be Healthy" Council, comprised of esteemed physician experts in the field of OSA and related public health risks, who voluntarily serve as able advisors to SleepApneaInfo.com.



### [www.sleepeducation.com](http://www.sleepeducation.com)



The American Academy of Sleep Medicine (AASM) recently launched a website focused on providing accurate and accessible information to audiences worldwide about sleep, sleep disorders and sleep medicine. SleepEducation.com is focused on educating people on the importance of sleep, how to recognize signs and symptoms and how to seek diagnosis and treatment for various types of sleep disorders. The site also features a Forum where people from all over the world can share information regarding their experiences with sleep.

### [www.talkaboutsleee.com](http://www.talkaboutsleee.com)

TalkAboutSleep.com is one of the first and foremost sites focused on public sleep disorder education. TalkAboutSleep seeks to educate the public about sleep disorders, helping to increase the number of sleep diagnoses and bring sleep disorders and sleep medicine into the medical mainstream. TalkAboutSleep.com also offers users online, RealTime support including Internet chats, message boards and toll-free hotlines.



# Important New Clinical Evidence on C-Flex™ and Bi-Flex® Technologies Presented at APSS

Several important new clinical studies demonstrate how PAP devices with C-Flex and Bi-Flex technologies may help to provide improved adherence and satisfaction with sleep apnea therapy.

Findings from the studies will be presented at the 19th Annual APSS Meeting being held June 18 - 23, 2005 in Denver, Colorado.

## Oral Presentations

### **(Presented during Session 025: CPAP in OSA: Beneficial Effects and Issues on Adherence)**

Randomized Multi-Center Trial to Improve Compliance in Non-Adherent OSA Patients Using CPAP vs. Novel Bi-Level Positive Airway Pressure (NBPAP). (Abstract #0625)

*Gay, PC, et al*

June 22, 2005. 5:30 -- 5:45 p.m.

International Multi-Center CPAP Study of Split-Night Titration and Expiratory Pressure Relief – Long-Term Effect on Compliance and Subjective Satisfaction. (Abstract #0628)

*Rosenthal, L, et al*

June 22, 2005. 5:45 – 6:00 p.m.

## Poster Presentations

### **June 20, 2005. 1:30 – 2:15 p.m.**

The Efficacy of C-Flex at Improving Treatment Adherence in Obstructive Sleep Apnea (OSA). (Abstract #0503)

*Ruyak, PS, et al.*

The Effect of CPAP Titration Methodology on Six-month Compliance and Treatment Satisfaction. (Abstract #0528)

*Zachek, M, et al*

International Multi-Center Long Term Study of Treatment Satisfaction and Compliance in OSA: CPAP with Expiratory Pressure Relief vs. Conventional CPAP. (Abstract #0532)

*Rosenthal, L, et al*

Flexible CPAP with Expiratory Pressure Relief: An In-Laboratory, Polysomnographic Comparison with Conventional CPAP. (Abstract #0539)

*Duntley, S, et al*

# Clinical Study Shows C-Flex™ Difference is Real

## Title

### **Treatment Adherence and Outcomes in Flexible versus Standard Continuous Positive Airway Pressure Therapy**

## Authors

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## Journal

**Ninth International Symposium on Sleep & Breathing  
Newport, RI, USA, October, 2004**

## Brief Summary of Study

This study compares adherence, treatment outcomes, and attitudes toward the treatment of OSA in patients treated with traditional CPAP versus patients treated on C-Flex therapy. OSA was diagnosed via a full night PSG and adequate CPAP settings were determined on a separate full night titration study. The same home care provider initiated both C-Flex and CPAP therapies with heated humidification. The following data were evaluated at regular intervals during a 3-month period: hours of use per night, Epworth Sleepiness Scale (ESS), Functional Outcomes of Sleep Questionnaire (FOSQ), Self-Efficacy Scale. The Self-Efficacy Scale measures the patient's confidence in his/her ability to use PAP therapy, even under difficult circumstances (i.e., a higher score indicates greater confidence for use).

## Results

Subjects were similar for demographic and disease severity between both groups. The average hours of use/night was 0.7 hours longer (42 minutes) on patients with C-Flex at 2-4 week follow up:

**C-Flex: 4.2 ± 2.4 hrs vs. CPAP: 3.5 ± 2.8 hrs**

Average hours of use/night were significantly longer (1 hour, 42 minutes) on patients with C-Flex at 9-12 week follow up:

**C-Flex: 4.8 ± 2.4 hrs vs. CPAP: 3.1 ± 2.8 hrs (p<0.003)**

Self Efficacy scores trended higher at a 3-month follow up in those treated with C-Flex (p=0.06) No trends were noticed in other clinical outcomes, including FOSQ and ESS.

## Conclusions

C-Flex may, over 3-months, improve overall adherence to CPAP therapy compared to standard CPAP. Other measured clinical outcomes did not improve consistently, but C-Flex users may be more confident about their ability to adhere to treatment. Randomized clinical trials are needed to replicate these findings.

## Note

This study demonstrated how the choice of technology can enhance patient compliance, as seen during this systematic clinical trial. The study results were found during an NIH-funded study of sleep apnea therapy. The technology changes in therapy were made during the course of that study. All other aspects of the management of the patients were rigorously controlled. As suggested, the therapy itself may be responsible for a significant improvement in adherence to therapy at 3-months.

## Ask the Respironics Expert

**Q:** Will the prescribed pressure for CPAP with C-Flex™ be the same as traditional CPAP in treating Obstructive Sleep Apnea (OSA)?

**A:** Yes. CPAP devices with C-Flex will have the same prescribed pressure as traditional CPAP. C-Flex provides pressure relief at the **beginning** of exhalation and returns to the prescribed pressure before the end of exhalation (the point in which the airway is most unstable). Several studies have confirmed that CPAP with C-Flex is as efficacious as traditional CPAP in treating OSA.<sup>1,2,3</sup> A recent study has indicated that patients using CPAP with C-Flex sleep longer per night and tend to be more confident in their ability to manage their disease.<sup>4</sup>

<sup>1</sup> Penzel, T., et al., SLEEP, Volume 27, A421, 2004.

<sup>2</sup> Loube, D., et al., Swedish Medical Center, Seattle, WA.

<sup>3</sup> Strobel, R., et al., Lehigh Valley Hospital, Allentown, PA.

<sup>4</sup> Aloia, MS., et al., Ninth Annual Symposium on Sleep and Breathing, 2004.

**Q:** I hear discussion about PTT, but what is it measuring?

**A:** PTT is the acronym for Pulse Transit Time. This is a measurement of the time interval from the ECG R wave, to the Pulse wave as detected by Pulse Oximetry. This measurement is most accurately performed on a beat-to-beat basis with high sampling of the ECG and the Oximetry Pleth waveform. PTT is inversely proportional to the Blood Pressure. So as blood pressure rises (e.g.: sympathetic nervous system activation from an arousal), the PTT drops. PTT is being researched to understand the ways that this data can be useful in the clinical setting. One example would be to enhance arousal detection in Polysomnography, especially in subtle events like UARS, that may not satisfy traditional event parameters. The recently introduced Alice® 5 System records three variations of the PTT signal.

**Q:** Why is it important to have an adjustable forehead arm on nasal and full face masks?

**A:** Without an adjustable forehead arm, leaks or pressure points are more likely to occur. An adjustable forehead arm allows a patient to obtain the appropriate level of seal and stability without excessive tightening of the headgear.



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# Reimbursement Review

## CMS Considers Coverage for Portable Sleep Testing

Over the past year, the Centers for Medicare and Medicaid Services (CMS) conducted an evaluation of the use of, and coverage for, portable multi-channel home sleep testing devices as an alternative to facility-based polysomnography (PSG) in the evaluation of Obstructive Sleep Apnea (OSA). On April 4, 2005, CMS issued their final decision memorandum re-affirming the position taken in their proposed decision memorandum, published on January 7, 2005.

In the April 4th memo outlining the process and subsequent decision of non-coverage, CMS concluded that there was insufficient clinical evidence to support the use of unattended portable multi-channel sleep testing in the diagnosis of OSA. Therefore portable testing for the purpose of diagnosing OSA will remain non-covered under the Medicare program.

Review of the national coverage determination (NCD) began in April 2004 when CMS posted a January 2004 letter from Terence M. Davidson, MD, of

the University of California San Diego, School of Medicine requesting that CMS consider allowing coverage of home sleep testing. In his letter, Dr. Davidson justified his request by stating that “SDB is grossly under diagnosed in large part due to a limited number of sleep diagnostic facilities” and that “the outputs from PSG and multi-channel home sleep tests are not very different.” The American Academy of Sleep Medicine (AASM) has disputed both of the claims made by Dr. Davidson. Previously, the AASM had published in SLEEP, Vol. 26, No. 7, 2003 “Practice Parameters for the Use of Portable Monitoring Devices in the Investigation of Suspected Obstructive Sleep Apnea in Adults”, which supports their position.

In the months following Dr. Davidson’s request, two open public comment periods and a meeting of the Medicare Coverage Advisory

Committee (MCAC) were held in addition to the completion of an independent Technology Assessment Report. All led to the decision of non-coverage for unattended portable multi-channel sleep testing.

Many in the industry believe that CMS will re-visit this issue in the future, should published clinical studies that support the use of portable sleep testing become available. However, others believe that attended, facility-based PSG is the only acceptable means to diagnose OSA and other related disorders. At this time, the literature, and the CMS coverage policy, agree.

Visit the CMS website at <http://www.cms.hhs.gov/mcd/viewtrackingsheet.asp?id=110> for more details on this national coverage determination review.

Visit [www.aasmnet.org](http://www.aasmnet.org) for more information about the American Academy of Sleep Medicine.

## Upcoming Tradeshows and Events

### APSS 2005 19th Annual Meeting of the Associated Professional Sleep Societies, LLC

June 18-23  
Colorado Convention Center  
Denver, Colorado  
For more information visit:  
[www.apss.org](http://www.apss.org)

## Respironics Resource Corner

Education plays a crucial role in increasing patient awareness, diagnosis and compliance. Therefore, Respironics offers a variety of educational materials, marketing tools and continuing education programs to help you better manage your patients and your business.

### This Quarter’s feature resource: First Impressions Workshop.

This interactive workshop is designed to help sleep technologists and homecare providers better understand the importance of providing patients with a “great first impression” to therapy and how this can impact patients’ acceptance, tolerance and response to therapy, as well as business operations of the sleep lab and homecare provider. Attendees will also learn about PAP therapy using C-Flex™ and Bi-Flex® technology, and titration protocols for the treatment of Obstructive Sleep Apnea. Upon completion, attendees will earn 3 AARC/APT credits.

For a complete list of our workshops and resource materials, visit us at [www.firstimpressions.respironics.com](http://www.firstimpressions.respironics.com).

# Mask Fitting Tips

## Adjusting the Forehead Arm to Help Control Leaks

As a rule of thumb, an adjustable forehead arm should be adjusted in the opposite direction of a leak. If a patient experiences a leak into the eyes, the arm should be adjusted downward to apply additional support to the top of the cushion to minimize or eliminate the leak. If a patient experiences a leak under the nose or mouth, the arm should be adjusted upward to apply additional support to the base of the cushion and to minimize or eliminate the leak.



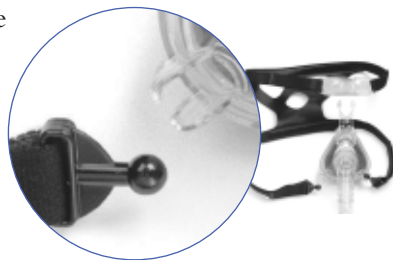
Leak at top of mask.



Leak at bottom of mask.

## Using the Ball-and-Socket Headgear Connections to Alleviate Discomfort Across the Back of the Neck

The ball-and-socket headgear connections (on ComfortGel™, ComfortSelect™ and ComfortFull™) have a distinct advantage for patients that complain of headgear irritation on the back of the neck. Since the socket connections rotate freely, the lower headgear straps can be folded upward as necessary to alleviate any discomfort caused by resting too low across the neck.



# Sleep Tech Tips

We have dedicated the “Sleep Tech Tips” section to helpful hints that you would like to share with your peers.\* If you have discovered ways to improve diagnostic procedures, to make your patients more comfortable during their sleep study, or to increase patient compliance, email them to us at [marketingcommunications@respironics.com](mailto:marketingcommunications@respironics.com). Please put “Sleep Tech Tips” in the subject line and be sure to include your name, your title, the name of your facility and your phone number. If we use your tip, we will send you a small gift of appreciation.

\*By submitting your tips you are granting Respironics the right to publish and use your information in any way Respironics deems appropriate, without obligation beyond the free gift mentioned here.

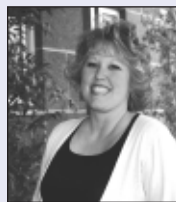
## Come to APSS and Meet the Sleep VIP Coordinators

Janet Bellini and Tracy Hillegas, your Sleep VIP Program Coordinators, will be at Respironics’ Booth #501 at this year’s APSS. They will be available to answer your questions, discuss important VIP Program issues, and work with you to identify future needs.

Janet Bellini has been with Respironics for over 5 years. She began her career at Respironics as a Marketing & Sales Liaison, working closely with Account Managers to help support sleep lab and sleep center customers. Before coming to Respironics, Janet held several other Customer Support positions. Janet holds a BS in Business Management from Indiana University of Pennsylvania.



Janet Bellini



Tracy Hillegas, RRT, PSGT

Tracy Hillegas is a Registered Respiratory Therapist and a Sleep Technician with 20 years of clinical experience in various aspects of Respiratory Care. Ten of those years were spent working in a sleep lab – two years as a Sleep Technician and eight years as a Supervisor. Tracy started her career at Respironics almost a year ago as an Inside Sales Representative. Tracy holds an Associate Degree in Respiratory Care from the University of Pittsburgh at Johnstown.

Janet’s customer service experience and Tracy’s clinical experience, provide you with valuable insight, a breadth of knowledge and a skill-set tailor-made for customer support. Our Sleep VIP Coordinator team is there for you, so come and introduce yourself at Respironics’ Booth #501.

You can also contact Janet and Tracy, Monday through Friday 8 a.m. to 8 p.m. EST at 1-800-345-6443, Option 2 then Option 5 or at [sleepvip@respironics.com](mailto:sleepvip@respironics.com).

## Did You Know?

Recently Respironics introduced the **Sleep Ventilation Interface Purchasing (VIP) Program**. The program provides our sleep lab and sleep center customers with the best Respironics products and services available. If you haven’t heard of this Program please contact your Respironics Account Representative or stop by APSS Booth #501 to learn more.

**First Impressions**  
Quarterly™

## Product Introductions

### Alice® 5 Polysomnography System

The Alice 5 Diagnostic Sleep System sets new standards for sleep labs eager to customize powerful features today but interested in flexible architecture to accommodate tomorrow's growth. Alice 5 features: fully integrated sleep laboratory system over a network cable or wireless; expanded channel capability to 55 total channels; high quality ECG with 6 channels and pulse transit time, and real time impedance display.



### REMstar® Pro 2 with C-Flex™

The new REMstar Pro 2 is our most powerful tool for promoting patient compliance with OSA therapy. Not only does it provide the revolutionary comfort of our C-Flex™ technology, it also captures enhanced compliance data (AHI, leak, and snoring) with the Encore® Pro SmartCard® and Data Management Software. This combination of our most sophisticated technologies allows you to better manage your patients to help ensure effective therapy and long-term compliance.



### REMstar® Auto with C-Flex™

We've combined auto-titration with C-Flex to introduce the REMstar Auto with C-Flex, so your patients can experience C-Flex in a whole new way. REMstar Auto is an ideal flow-based smart CPAP for use in the lab or home. Its proactive algorithm looks for and adjusts to patients' needs based on optimal and critical pressure levels. And, the Encore® Pro SmartCard® and Data Management Software allow you to track events like snoring, elevated leak levels and apnea/hypopnea index.

