

The **SOUND SLEEPER**

The quarterly newsletter of the Sleep Apnea Patient Support Group of Central Contra Costa County
~ our 17th year ~

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The "Sound Sleeper" is the newsletter of the Central Contra Costa County Sleep Apnea Patient Support Group founded in 1994. The name "Sound Sleeper" comes from the euphoric sensation of awaking from a sound night's sleep once Sleep Apnea treatment has commenced. It is available as a .pdf document via e-mail. To be placed on the e-mailing list send your request to "Amy" at: contracostasleepcenter@hotmail.com To offer editorial comment contact Dick Griffiths at: r.b.griff@sbcglobal.net

THE SUPPORT GROUP

The Sleep Apnea support group provides to those diagnosed as having Sleep Apnea, a variety of services in the areas of education and patient support so that the full health benefits of their prescribed individual treatment may be achieved through "compliance" with prescribed treatment. The support group is open to all patients and their families in Central Contra Costa County.

SUPPORT GROUP MEETINGS

There is no membership fee for participation in the Support Group meetings held in the Ball Auditorium, John Muir Medical Center, 1601 Ygnacio Valley Road, Walnut Creek from 7:00 - 8:30 PM on the 3rd Thursday in January, April, July and October. These meetings are sponsored by: the John Muir Medical Center and the Contra Costa Sleep Center.

WHAT IS SLEEP APNEA?

Simply stated, Sleep Apnea is a very common physical disorder that causes some people to frequently cease breathing while sleeping. Sleep Apnea is a very serious health problem if left untreated! It has been estimated that 90% of people who have Sleep Apnea don't know they have it!

YOU COULD SAVE A LIFE!

Do you know someone who you think may have Sleep Apnea? If so, suggest they contact a Respiratory Physician or the American Sleep Apnea Association at: 1424 K Street, NW, Suite 302, Washington, DC 20005 and they will send a packet of information. You may also call them at (202) 293-3650, FAX at (202) 293-3656, or via the internet at: www.sleepapnea.org

SCIENTISTS TO ZAP TONGUE TO STOP SLEEP APNEA

(from AP 12.28.10)

Scientists are testing whether an implanted pacemaker-like device might help Sleep Apnea patients keep their airways open by zapping the tongue during sleep. As one of the main causes of obstructive sleep apnea is that the tongue and throat muscles relax too much during sleep, stimulating the nerve that controls the base of the tongue with a mild electric current during sleep will enable it to stay toned as during waking hours.

Three companies are developing implants and one plans to start actual patient studies early in 2011.

SUPPORT GROUP 17 YEARS AND STILL GOING STRONG!

The first formal meeting of the Sleep Apnea Support Group of Central Contra Costa County was held in January 1994. Your editor was diagnosed with a "Severe Case of Obstructive Sleep Apnea" shortly thereafter and joined the group in July of that year. In 1996, my 2nd retirement allowed me the time and the first issue of "The Sound Sleeper" was published. As of this reading there have been 56 issues containing 210 articles of interest (hopefully!).

It is time to catch our breath and remind ourselves where we have been and the road we have traveled. The Sound Sleeper will continue as long as there are those interested in reading it. The Doctors MacDannald and Cohen have contributed to "The Physician's Corner" and Support Group members have contributed articles, ideas for articles and questions in need of answer. To those of you who have been with us from the beginning kudos for your perseverance! To those just coming on board -

we hope to make your journey more pleasant!

NEW CPAP MACHINES GO HIGH TECH

The very first Sullivan CPAP machine (circa 1985) was a large, noisy device that could deliver a pre-set pressure continuously to the patient. It was robust but totally lacking in intelligence.

With the development of Bi-PAP, air delivered through a mask could be set at one pressure for inhaling and another for exhaling. But still no real intelligence.

For almost a decade this was it and the manufacturers concentrated on quieter machines and more comfortable masks.

The breakthrough in intelligence came with the application of the microprocessor to CPAP. This enabled the CPAP machine to detect breathing abnormalities as they start to occur and react in a preventative manner rather than merely correcting what has already taken place.

All of the major manufacturers now offer various types of intelligent CPAP algorithms in addition to the normal "ramp-up."

As an example here is what ResMed's CPAP machines now provide in what they call Expiratory Pressure Relief (EPR) and Auto Set Technology.

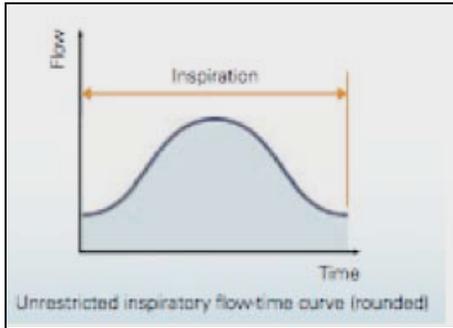
Expiratory Pressure Relief (EPR) maintains optimal treatment for the patient during inhalation and reduces the delivered mask pressure during exhalation by up to 3cm H₂O.

Auto Set Technology (AST) recognizes that the treatment pressure required may vary due to changes in sleep state, body position and airway resistance. With AutoSet mode, the device provides only that amount of mask pressure required to maintain upper airway functioning.

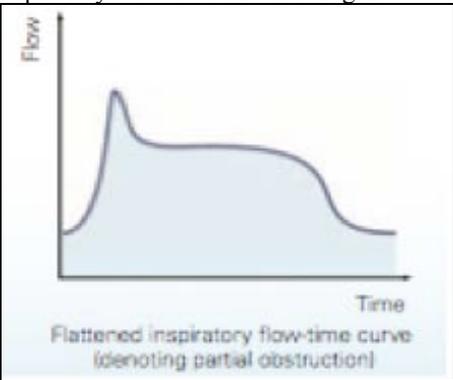
The device analyzes the state of your upper airway on a breath-by-breath basis and delivers pressure within the allowed range

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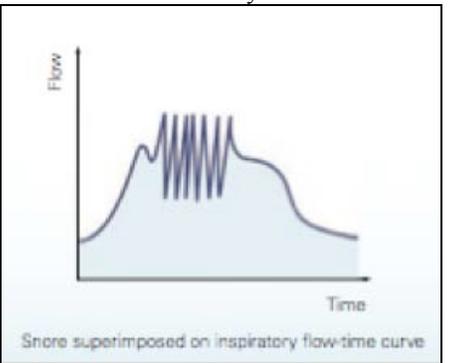
according to the degree of obstruction. The AutoSet algorithm adjusts treatment pressure as a function of three measured parameters: inspiratory, flow limitation, snore, and apnea. When you are breathing normally, the inspiratory flow measured by the device is a function of time showing a typically rounded curve for each breath.



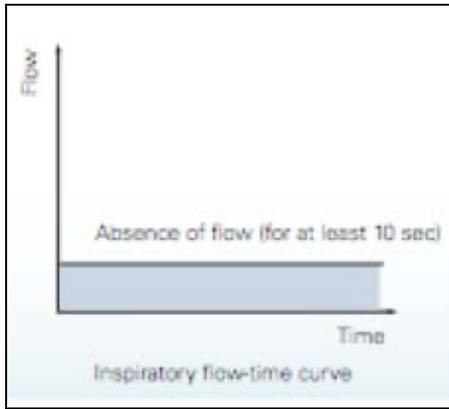
As the upper airway begins to collapse due to Obstructive Sleep Apnea, the shape of the inspiratory flow-time curve changes.



Snoring is sound generated by vibrations of the walls of the upper airway. It is often preceded by flow limitation or a partial obstruction of the airway.



The AutoSet algorithm detects both obstructive and central apneas. If an apnea occurs, the device responds appropriately. An obstructive apnea is when the upper airway becomes severely limited and/or completely obstructed. AutoSet generally prevents obstructive apneas from occurring by responding first to flow limitation and snoring. If an obstructive apnea occurs, the device will respond by increasing pressure.



During a central apnea, the airway will remain open, but there still is no flow. When a central apnea is detected, the device responds appropriately by logging the event but not increasing pressure.

The detection of these changes in breathing are detected and analyzed instantly by the micro-processors and the appropriate CPAP machine response is delivered. Significant improvement in the number of apneas experienced results. (your editor has noted approximately a 50% reduction in apnea/hypopneas recorded). [Charts and descriptions courtesy of ResMed.]

SLEEP APNEA IMPACTS REACTION TIME LIKE ALCOHOL

(from Stanford University's On-line Report) In a study involving 293 patients, researchers at the Stanford Sleep Disorders Clinic and Research Center, concluded that people who were tired because of mild to moderate sleep disturbances performed about as poorly in a NASA developed test of reaction times as subjects who were legally drunk.

213 patients were recruited with mild to moderate (untreated) sleep apnea and their reaction times were compared with 80 subjects who had slept well the previous three nights. Members of the later group took the reaction time test sober to provide baseline data and then gradually got drunk and performed the test three additional times once at a blood alcohol level of 0.057%, again at 0.08% and finally at 0.083%. (0.08% is the legal limit for driving a car in California).

Comparing the two groups on seven measures of reaction time --including averagetime, maximum time and average of ten fastest times - - showed a surprising degree of impairment in the apnea patients.

On all seven measures, their results were worse than those of the drinking group at a blood alcohol level of 0.057%! On three measures, the Sleep Apnea patients scored as badly or worse than the drinkers who were legally drunk (0.08%).

Reaction times for those with 0.057% blood alcohol level were 263 milliseconds, at 0.08% it was 276ms. The untreated Sleep Apnea patients averaged 266ms!!!!!!



THE PHYSICIAN'S CORNER

by Harry J MacDannald MD

Surgery & Sleep Apnea

Patient diagnosed with sleep apnea should always inform their anesthesiologist and surgeon that they have sleep apnea so that extra precautions can be taken both during surgery and in the post-operative recovery period. Sleep apnea patients take longer to recover from the anesthetic and may have more dangerous airway blockages with anesthesia. Patients require pain relief medications and sedatives following surgery and these agents as well as anesthesia medications all depress breathing and increase collapsibility of the airway in the back of the throat, especially behind the tongue. If the treating physicians are aware of sleep apnea ahead of time then precautions can be taken throughout the care period to insure that the patient is safely taken care of. Patients with known sleep apnea are much less of a challenge than the undiagnosed sleep apnea patients. Undiagnosed sleep apnea of course is a major risk factor for complications with surgery and anesthesia. Approximately 80% of persons with sleep apnea are still not diagnosed so when they present for surgical procedures, they are at increased risk for complications and more prolonged and unanticipated care. Anesthesia physicians are much more attuned to sleep apnea nowadays and ask the **STOP-BANG** questions. **S** - snoring, **T** - tiredness during the day, **O** - observed sleep apnea & interrupted breathing, **P** - pressure elevation of the blood and the second word, **B** - body weight excess, **A** - age older, **N** - neck size larger, **G** - gender is male. The more a person has these findings the higher the risk for sleep apnea and the more cautious the care should be. Hopefully, awareness in the community will continue to increase and more patients will be diagnosed and get the benefit of treatment.

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