Sleep Apnea and Reflux. Waking up in the middle of the night gasping for air is not always Obstructive Sleep Apnea (OSA).

Good sleep is critical to all physical and emotional functions. In search of good sleep, or as part of the remedies for poor sleep, consideration to reflux is often overlooked. Many medical research papers have discussed the association between sleep disorders and reflux, particularly the association between sleep apnea and acid reflux (Gastro-Oesophageal Reflux Symptoms are Related to the Presence and Severity of Obstructive Sleep Apnoea. J Sleep Res. 2010 Jun9. Shepherd KL, James AL, Musk AW, et al. Mechanism of Gastroesophageal Reflux in Patients with Obstructive Sleep Apnea Syndrome. Neurogastroenterol Motil. 2010 Jun; 22 (6) 611-e172. Epub 2010 Mar. Kuribayasi S, Kusan M, Kawamura Shimoyama Y, et al.)

Sleep Apnea And Reflux

Laryngo-pharyngeal reflux (LPR) can result in sleep disturbances by causing frightening awakenings every time a reflux episode occurs. These are frequently manifested by coughing fits and gasping for air in the middle of sleep. The underlying mechanism of apnea is likely laryngospasm from either acid or non-acidic reflux which causes an immediate closure of the true vocal folds (the “vocal cords”) and apnea. Sleep labs, and home sleep studies rarely monitor reflux episodes. Adding a nighttime reflux monitoring system to a home or lab sleep study would require a monitoring system that senses reflux episodes not only in the lower esophagus, but also at the level of the pharynx. Very few laboratories are equipped for this type of testing, and few patients are willing to undergo polysomnography, much less polysomnography with a tube in the nose! And rightly so, none of this testing is necessary except in severe cases where patients are un-responsive to standard treatment for sleep apnea and/or laryngopharyngeal reflux disease (LPR).
Very few health care professionals are aware that reflux may be causing these symptoms, and often attribute them to anxiety, asthma, or heart abnormalities. It is very important to consider that reflux may be the source of these nighttime events, and that treating reflux will certainly improve some aspects of sleep quality. So, the next time a patient tells you that they wake up in the middle of the night gasping for air, and it happens only a few times a week, or a few times a month, you should be thinking LPR, in addition to OSA. It is very helpful to have patients fill out a “Reflux Symptom Index” questionnaire (see below). The subjective patient symptoms are translated into a score that can be compared from visit to visit to see if reflux symptoms are improving. Treatment for LPR includes dietary changes as described in “Dropping Acid, The Reflux Diet Cookbook and Cure”, head of the bed elevation, and behavioral changes such as avoiding food and drink at least 3 hours before bedtime. Short courses of prescription antacids are sometimes helpful, and an upper GI endoscopy may be indicated to evaluate for any other pathology.

What is the association of reflux and sleep apnea and what is the mechanism?

In the publication by Shepherd et al., severe sleep apnea was found to be associated with reflux in a very large percentage of subjects that answered a questionnaire about their reflux symptoms. After treatment, reflux symptoms improved in most cases.

Kuribayasi et al. suggest that the association can be explained by the oxygen desaturations that accompany severe sleep apnea and causes smooth muscle relaxation. The relaxation of the smooth muscle of the lower esophageal sphincter (LES) in turn causes the reflux episodes.

This is what I tell patients:

“Sleep apnea can now be diagnosed in the comfort of your own home using devices smaller than mobile phones. Usually one night sleeping with the device will determine whether or not you are suffering from sleep apnea, and how severe it is. If you already have been diagnosed with sleep apnea, standard treatments (oral appliance therapy, CPAP, and/or upper airway surgery) in addition to treating your reflux will likely improve your sleep, and may decrease the severity of your sleep apnea. Of course losing weight will help both conditions, and the reflux diet will help with all: reflux, weight, and sleep apnea!

For patients suffering from reflux and diagnosed or not (yet) with sleep apnea I tell them this:

“If you have tried everything to control your reflux, including our reflux diet, you should probably have a sleep study to rule out sleep apnea as an underlying cause of your persistent reflux. You may even need to undergo simultaneous acid pH testing and sleep testing. Conversely, if you have sleep apnea, and are being treated but still suffer from poor quality sleep, make sure the cause is not un-controlled and un-treated reflux.”

Many patients successfully treated for LPR, report that not only are their reflux symptoms controlled, but also that they snore less. Indeed, the laryngeal, palatal, and uvular edema that accompanies severe LPR can cause snoring, and can certainly worsen OSA. Office nasolaryngoscopies that are routinely performed in these patients confirms severe arytenoid edema (the posterior larynx), edema of the vocal cords, and also benign hypertrophy of lingual tonsils. The combined effect is a narrowing of the airway.
What else should you know to tell your patients about sleep and reflux? “Avoid eating at least 3 hours before lying down, and make sure you have the head of your bed elevated. Remember that drinking enough alcohol to make you sleepy will also cause reflux, and also cause a subsequent alcohol withdrawal (hangover) about 4 hours into your sleep. You will wake up in the middle of the night feeling irritated or anxious, sweaty, thirsty, and you will have great difficulty falling back asleep. That’s why drinking alcohol to help you sleep (a night cap) is not recommended.”

Foods that help you sleep? There’s no magic. Even if some foods have substances in them such as melatonin that can help us fall asleep, we would have to eat so much (cherries for example – very bad for reflux) that the side effects of eating so much of the foods would be far worse for sleep problems. Chamomile (an herbal drink), or a warm glass of low fat milk (as long as you can tolerate milk and lactose), as part of your bedtime routine can be helpful.

The BlueSleep® dietary recommendations: “low fat, low acid, low caffeine, low alcohol”, for reflux are described by Dr. Stern and his co-authors Dr. Jamie Koufman and Chef Marc Bauer in their New York Times Best Seller: ‘Dropping Acid: the Reflux Diet Cookbook and Cure” available at Amazon.

http://www.amazon.com/Dropping-Acid-Reflux-Diet-Cookbook/dp/0982708319

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Dr. Jordan C. Stern is Founder and Director of the BlueSleep Snoring and Sleep Apnea Center in New York City’s Financial District. He is a best selling author and sleep expert board certified in Otolaryngology and Sleep Medicine. He has participated in the development and clinical trials of new home sleep testing devices, and has published and lectured widely on the subject of sleep apnea and head and neck cancer with over 100 publications and presentations to his name. At BlueSleep, Dr. Stern takes a comprehensive approach to the diagnosis and treatment of sleep apnea and snoring. The center is unique, offering home sleep testing and personalized treatments including: in office tongue-base radiofrequency treatments, custom-made oral appliance therapy; as well as tongue strengthening exercises, weight loss, relaxation music, insomnia treatments, silent acid reflux treatment, and CPAP for severe cases. The on-site sleep experts include medical, surgical, and dental sleep specialists, speech therapists, audiologists and CPAP specialists. Dr. Stern is co-author of Dropping Acid: The Reflux Diet Cookbook and Cure, a New York Times best seller available at Amazon.com. Correcting reflux can lead to reducing sleep apnea, and is often part of the recommendations to achieve sleep health. He has also produced a three volume set of relaxation sleep music: “Music for Dreams” created and performed by world renowned pianist Magdalena Baczewska, available at BlueSleepMusic.com and itunes.com.

Published July 1, 2015 SleepScholar.com