



## The *Heart* of the Matter

Cardiology Associates, P.C.

Wednesday, April 13

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### A Message from Cardiology Associates, P.C.

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Welcome to the April, 2011 issue of the Cardiology Associates' Referring Physician newsletter. This issue focuses on the clinically important and often undiagnosed condition of obstructive sleep apnea (OSA). OSA is now considered by many to be a highly influential cardiovascular risk factor, a component of "the cardiometabolic syndrome," and one of the most prevalent, yet underrecognized, diseases in the "at risk" population. Dr. Joel Rosenberg provides a brief summary of the cardiovascular impact of OSA, and a description of the Cardiology Associates' experience with home sleep testing for the detection of OSA in cardiovascular patients.

Dr. Joel Rosenberg is a founding member of Cardiology Associates, P.C. He is a board-certified cardiologist with longstanding special interests in preventive cardiology, mind-body medicine, sleep medicine, and interventional cardiology. Dr. Rosenberg is Clinical Professor of Medicine at the George Washington University Medical Center, Director of Clinical Cardiology at the George Washington University Hospital, and Senior Attending Physician at the Washington Hospital Center. He is a Fellow of the American College of Cardiology and a Member of the American Academy of Cardiovascular Sleep Medicine.

### Obstructive Apnea: The Sleeping Epidemic

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#### Presentation of Case

- Patient A is a 53-year-old truck driver with a longstanding history of diabetes, hypertension, and dyslipidemia. He weighs 200 pounds at a height of 5 ft 9 in and his BMI is 31. Patient A usually drinks 2 cups of coffee every morning and one or two later in the day. He has been observed by his wife to snore loudly, even to the extent that they sometimes sleep in different rooms. He has also occasionally heard himself snore while dozing off.

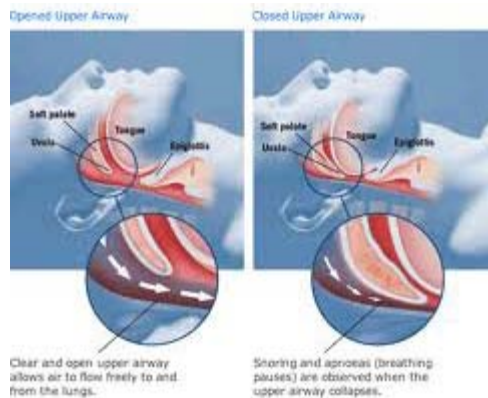
Sometimes, Patient A awakens gasping or snorting. He sleeps a total of 7 hours with 2-3 interruptions to urinate, and usually awakens still feeling tired. He often finds it difficult to stay awake during the day, especially in the afternoon. Home sleep testing demonstrated him to have severe obstructive sleep apnea.

- Patient B is a 46-year-old woman with a long history of hypertension and tobacco use, who drinks 2 cups of coffee every morning and consumes 2-3 glasses of wine most nights. She is 5 ft 4 in tall, weighs 145 pounds and has a BMI of 24.9. Aside from rather frequent palpitations, Patient B is asymptomatic. She does however, have a brother who is known to have sleep apnea. She falls asleep quickly, sleeps 5-6 hours nightly, and wakes up once to use the restroom. Patient B often awakens with a dry mouth and sometimes with a headache. Based on her own observations and those of her husband, she has no history of snoring. She recently presented with newly discovered atrial fibrillation. Home sleep testing demonstrated her to have moderately severe obstructive sleep apnea.

## Discussion

Obstructive sleep apnea (OSA) is an extraordinarily common, usually unrecognized, and highly morbid condition. Approximately 20-25% of the adult U.S. population have at least mild sleep apnea, and 7% of the population have moderate or severe sleep apnea. OSA is 2-3 times more common in those individuals with cardiovascular disease, and is present in over half of diabetic patients. OSA causes 38,000 cardiovascular deaths and accounts for \$42 million in hospitalizations annually. It increases the risk of heart failure by a factor of 2.5, stroke by 1.6 and coronary heart disease by 1.3. Yet, more than 85% of people with clinically significant and treatable OSA are undiagnosed. While it is true that male gender doubles and obesity triples the risk of developing OSA (Patient A), it is also common in women and the non-obese (Patient B).

OSA is characterized by repetitive upper airway obstruction, or collapse, during sleep due to the relaxation of velopharyngeal muscle tone. This results in hypoxemia, increased sympathetic activity, heart rate, blood pressure, oxidative stress, endothelial dysfunction, platelet activation, and hemodynamic stress on the heart and aorta. Additionally, OSA leads to increased propensity to develop cardiac dysrhythmias, insulin resistance, and a host of other biochemical and physiological distortions, as well as memory and cognitive impairment. Although OSA occurs only during sleep (in contrast to other disordered breathing that can occur during wakefulness), the physiological and biochemical effects of OSA persist throughout the entire 24-hour period.

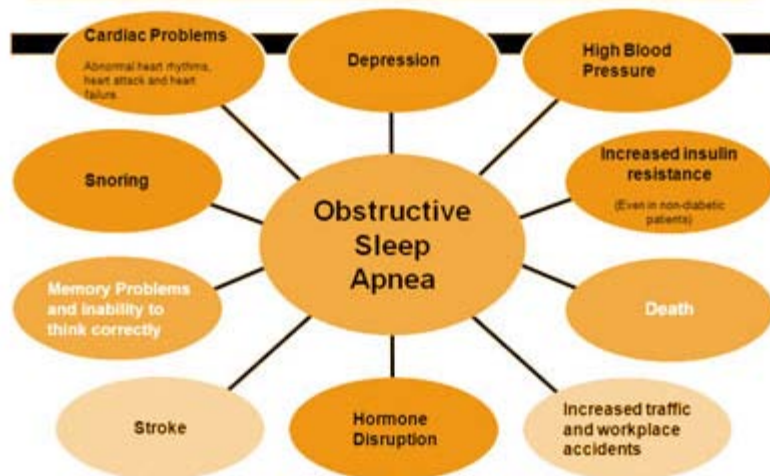


OSA is an acknowledged component of "the cardiometabolic syndrome," which also includes abdominal obesity, systemic hypertension, insulin resistance, hypertriglyceridemia/low HDL, proinflammatory and prothrombotic states, endothelial dysfunction, and microalbuminuria. OSA has been shown to adversely affect all other components of "the cardiometabolic syndrome," and treatment of OSA has been shown to improve them. Treatment of OSA has also been demonstrated to improve cardiovascular hemodynamics, and to reduce the risk of heart failure, coronary disease, stroke and dysrhythmia.

Depending upon the severity of the OSA, treatment may consist of the use of positive airway pressure (CPAP), which "splints" the upper airway to maintain patency during sleep, or a dental appliance that moves the tongue forward and/or otherwise alters the pharyngeal architecture to mechanically open the airway. In obese patients, weight loss can significantly improve OSA, as can reduction of alcohol intake and tobacco use. OSA is often, but not always, worse in the supine position; so positional therapy may be considered, but is not often successful. OSA is also more severe in REM sleep, when the body is essentially in a state of paralysis. Intermittent or chronic sleep deprivation, or drugs that reduce REM sleep, such as alcohol or benzodiazepines, can result in "REM catch-up," which may be accompanied by more severe OSA.

# Snoring and Sleep Apnea

What are the effects?



Since last summer, the Cardiology Associates K Street office has performed home sleep testing on over 300 patients with suspected OSA, using technology that has been validated by comparison with traditional polysomnography. Of these patients, 28% were found to have mild, 34% moderate and 35% severe OSA, which is consistent with the acknowledged prevalence of OSA in the cardiovascular population. In collaboration with other colleagues in the sleep medicine community, all OSA patients have been treated according to accepted guidelines. The majority of our patients have reported experiencing less-disrupted and more restful sleep, higher energy levels, and increased commitment to recommended lifestyle modifications. Unlike a clinical trial, the effects of OSA treatment on cardiovascular co-morbidities have not been recorded in our facility. However the favorable cumulative anecdotal results are consistent with expectations based on the available body of science (increased stability of hemodynamics and cardiac rhythm, improved glucose tolerance, etc.). The results of our initial pilot experience with home sleep testing in this high-risk population suggest that we are providing a new intervention for our patients that conveniently and reliably identifies the pervasive, under-recognized, and clinically potent condition of obstructive sleep apnea. We look forward to expanding this service to all of our patients and referring physicians throughout our practice in Washington D.C. and Maryland.

## REFERENCES

1. Association of Incident Cardiovascular Disease With Progression of Sleep-Disordered Breathing. *Circulation* (2011; 123: 1280-1286)
2. Obstructive Sleep Apnea: Implications for Cardiac and Vascular Disease. *Chest* (2008; 133: 793-804)
3. Sleep Apnea and Cardiovascular Disease: AHA/ACC Foundation Scientific Statement. *Circulation* (2008; 118: 1080-1111)
4. Sleep-Disordered Breathing and Heart Disease [Editorial]. *Circulation* (2011; 123: 1265-1266)
5. Sleep Heart Health Study
6. Wisconsin Sleep Cohort Study

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## Our Locations

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### **Annapolis Cardiology Office**

2002 Medical Parkway, Suite 500  
Annapolis, MD 21401  
Phone: 410-573-6480  
Fax: 410-573-9413

### **Bowie Office**

4175 N. Hanson Court  
Suite 100  
Bowie, MD 20716  
Phone: 301-809-6880  
Fax: 301-805-4233

### **Kent Island Office**

1630 Main Street  
Suite 208  
Chester, MD 21619  
Phone: 410-643-3186  
Fax: 410-643-4098

### **Olney Office**

18109 Prince Philip Drive  
Suite 225  
Olney, MD 20832  
Phone: 301-774-5810  
Fax: 301-774-0188

### **Annapolis Vascular Office**

2002 Medical Parkway, Suite 520  
Annapolis, MD 21401  
Phone: 410-571-8430  
Fax: 410-573-5981

### **Irving Street 4800N**

106 Irving Street, NW  
Suite 4800N  
Washington, DC 20010  
Phone: 202-726-5484  
Fax: 202-726-4587

### **K Street Office**

2131 K Street, NW  
Suite 800  
Washington, DC 20037  
Phone: 202-822-9356  
Fax: 202-331-0451

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