

Sleeping Your Way to Cardiac Health

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With links to numerous co-morbidities, the burgeoning sleep apnea epidemic will require a multi-pronged approach that puts the patient first.

Dr. Dov Rubin the CEO of Itamar-Medical Ltd, believes the modern age of sleep medicine is quickly developing into an era where turf battles are tossed aside and patients take center stage. While reimbursement issues have largely focused on the diagnostic utility of ambulatory sleep studies, innovations such as his company's PAT™ (peripheral arterial tone) signal technology have a distinct place among a variety of options.

HYPERTENSION AND OBSTRUCTIVE SLEEP APNEA

With hypertension affecting roughly 50 million Americans, and sleep apnea pegged as one of the contributing factors, the stakes are high, and cooperation is essential. "We want to start with the common understanding among sleep physicians that ambulatory sleep monitoring is their ally," says Rubin, who holds a doctorate in biomedical engineering from the University of Southern California. "We are trying to show sleep physicians that ambulatory sleep studies are an adjunct to what they do, and behave not much differently from what they do today. Sleep physicians still have the 6 to 8 channels of polysomnographic data, and they analyze it just as they would any other polysomnograph."

At the recent Sleep 2009 show in Seattle, Rubin sought to educate attendees about the widely used PAT technology, which Itamar describes as a non-invasive "window" to the cardiovascular and autonomic nervous systems. Honing in on the cardiovascular implications of sleep apnea, Rubin points out that clinicians are getting the message, thanks largely to new research that shows the undeniable harm of endothelial dysfunction (disorders stemming from the endothelial cells that line the inner surface of all blood vessels).

Made worse by diseases such as hypertension, endothelial problems can lead to a variety of cardiovascular conditions.

SPREADING AWARENESS

Between research programs and Itamar's own efforts to spread awareness, Rubin believes that successful sleep apnea treatment can improve endothelial problems and reverse resulting conditions such as atherosclerosis, congestive heart failure, and cardiac rhythm disturbances. With an estimated 80% of sleep apnea sufferers still undiagnosed, the business side of the equation is sizable, and home sleep testing is often an option for the uncomplicated non-Medicare patient.

"My vision is that unattended sleep studies should be accessible to the masses," says Rubin. "Snoring was once viewed as something laughable, but snoring can be quite serious. As you become older, the arteries start to stiffen, more weight is gained, and snoring starts to develop into apnea."

OPENING UP THE FIELD TO AMBULATORY MONITORING

Sleep physicians interested in learning more about Itamar's WatchPAT device can utilize the company's software analysis tool. By viewing sample raw data, or even taking the test themselves, clinicians can experience the entire process firsthand. "Opening up ambulatory sleep monitoring will open up the field in general and should be welcomed with open arms," says Rubin. "I know that change in any field is a hard thing, especially when you have sleep labs who fear losing control—but I think that physicians are discovering that one solution does not fit all, one therapy does not fit all. At the end of the day, we need to treat the patient and not get enamored with the technology."

Primary care physicians, pulmonologists, ENTs, dentists, cardiologists, anesthesiologists, and endocrinologists are just a few of the specialties on the growing list of sleep-relevant fields. For dentists with a keen understanding of the human jaw, the ability to consult on sleep apnea has been a welcome professional experience. "Conventional wisdom said you are either going to have a dental appliance, undergo ENT surgery, or try a CPAP machine," says Rubin. "What they are realizing now is that each therapy may actually complement each other to offer the best result for the patient. CPAP, for example, is probably the right solution for a lot of people but, realistically, some people are just not going to wear the mask. The happy medium, to broaden this example, may be to use a dental appliance when you travel and a CPAP device when you are home."

THE NEW REALITIES OF SLEEP MEDICINE

Ultimately, the willingness of clinicians to explore different options for patients reflects a new appreciation for the realities of sleep medicine. Itamar's goal of opening unattended sleep studies to a larger patient population is undoubtedly much closer now, and the demand for comprehensive sleep apnea solutions will only grow. With Itamar and others paving the way with reliable diagnostic tools, Rubin believes acceptance of ambulatory studies will only continue to grow, and patients and clinicians alike will reap the benefits.

For more information, please visit www.itamar-medical.com

Dr. Dov Rubin is President & CEO of Itamar Medical, a company developing state-of-the-art biomedical products involved in early, non-invasive, detection of heart disease & obstructive sleep apnea. He has a Ph.D. in Biomedical Engineering from the University of Southern California and an M.Sc. from Case Western Reserve University. He was a pioneer in the development of the first transcutaneous oxygen sensor as well as the first microprocessor-based patient ventilator with Puritan Bennett.