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Each year we continue to make advances in diagnosing and treating patients. Through this quarterly newsletter, we wish to share with you some of the factors that make this possible, as well as open communication with your office.

Please let us know if you would like to see a specific topic covered in our next issue. It is our goal to provide as much information as possible to better serve your patients. We appreciate the trust you place in us by allowing us to participate in the care of your patients.

Christopher P. Mathews
PRESIDENT & CEO

Utility of Home Oximetry as a Screening Test for Patients with Moderate to Severe Symptoms of Obstructive Sleep Apnea

Golpe R, Jiménez A, et al.
Sleep. 1999 Nov 1;22(7):932-7.

The purpose of this study was to determine the value of home oximetry as a screening test in patients with moderate to severe symptoms of obstructive sleep apnea (OSA). One hundred and sixteen patients were referred for evaluation of moderate to severe symptoms of OSA in which both home oximetry and polysomnography (PSG) were performed. Three numerical oximetry indices were evaluated: average of desaturations $\geq 4\%$ and average of resaturations $\geq 3\%$ per hour of analysis time (DI4% and RI3%, respectively); and cumulative percentages of time spent at saturations below 90% (CT90%). A qualitative assessment was also performed. Oximetry indices were compared

with apnea/hypopnea index (AHI) by appropriate statistical analyses. Optimal cut-off points, in terms of sensitivity and specificity, for the oximetry indices were searched using ROC analysis, at an AHI threshold of ≥ 10 .

The correlation between AHI and the desaturation indices was $r = 0.50$ for CT90%, $r = 0.60$ for DI4%, and $r = 0.58$ for RI3%. No bias was found between PSG and oximetry indices in Bland-Altman plots. Neither the numerical indices nor the qualitative analysis achieved statistical significance. A CT90% < 0.79 excluded OSA with 84% sensitivity. A DI4% ≥ 31.4 or a RI3% ≥ 40.5 diagnosed OSA with 97% specificity. Using these values, 38% of the patients would have been correctly classified by oximetry alone, 10% would have been incorrectly classified, and 50% could not have been classified with certainty. Eleven (15%) OSA patients would have been missed by oximetry. The authors concluded that the correlation between home oximetry and PSG was not high. Oximetry was more useful to confirm than to exclude OSA in this study. Qualitative assessment was not better than numerical analysis. The greatest value of oximetry in this setting seems to be as a tool to rapidly recognize and treat more severe OSA patients in waiting list for PSG.

Anxiety and Depression in COPD...

Maurer J, Rebbapragada V, et al.
Chest. 2008 Oct;134:43S-56.

Approximately 60 million people in the United States live with one of four chronic conditions: heart disease, diabetes, chronic respiratory disease, and major depression. Anxiety and depression are very common comorbidities in COPD and have significant impact on patients, their families, society, and the course of the disease. The authors reported the proceedings of a multidisciplinary workshop on anxiety and depression in COPD that aimed to shed light

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Anxiety and Depression ...continued

on the current understanding of these comorbidities, and outline unanswered questions and areas of future research needs.

Estimates of prevalence of anxiety and depression in COPD vary widely but are generally higher than those reported in some other advanced chronic diseases. Untreated and undetected anxiety and depressive symptoms may increase physical disability, morbidity, and health-care utilization. Several patient, physician, and system barriers contribute to the underdiagnosis of these disorders in patients with COPD. While few published studies demonstrate that these disorders associated with COPD respond well to appropriate pharmacologic and nonpharmacologic therapy, only a small proportion of COPD patients with these disorders receive effective treatment. *The authors conclude that future research is needed to address the impact, early detection, and management of anxiety and depression in COPD.*

The Roles of Bronchodilators, Supplemental Oxygen, and Ventilatory Assistance in the Pulmonary Rehabilitation of Patients with Chronic Obstructive Pulmonary Disease

ZuWallack RL.
Respir Care. 2008 Sep;53(9):1190-5.

In patients with chronic obstructive pulmonary disease, pulmonary rehabilitation significantly improves dyspnea, exercise capacity, quality of life, and health-resource utilization. These benefits result from a combination of education (especially in the promotion of collaborative self-management strategies and physical activity), exercise training, and psychosocial support.

Exercise training increases exercise capacity and reduces dyspnea. Positive outcomes from exercise training may be enhanced by 3 interventions that permit the patient to exercise train at a higher intensity: bronchodilators, supplemental oxygen (even for the nonhypoxemic patient), and noninvasive ventilatory support.

Good Night's Sleep May Have Role in Staying Slim

Ilya Petrou, M.D.
Family Practice News Vol 38 Issue 13 42-48

A good night's sleep of 7–8 hours may be a key factor in staying slim, and any deviations from this ideal could cause weight gain, results of a 6-year prospective study suggest. Of 276 adults who participated in the study, 31% had a weight gain of at least 5 kg during the follow-up period. Short-duration (5–6 hours) and long-duration (9–10 hours) sleepers were 35% and 25% more likely, respectively, to have a 5-kg weight gain, compared with those who slept for 7–8 hours. “Both shorter and longer sleep duration times can predict higher body weight and fat gain in adults, independent of baseline weight or other covariates,” Jean-Philippe Chaput of Laval University, Quebec City, said at the 16th European Congress on Obesity.

Sleep duration should be added to the list of determinants that contribute to weight gain and obesity, he noted. The investigators evaluated the relationship between sleep duration and subsequent body weight and fat gain in the participants, who were aged 21–64 years. Changes in adiposity indices, including body mass index, waist circumference, percent body fat, and fat mass, were compared. The risk of developing obesity was elevated for short- and long-duration sleepers, compared with average-duration sleepers, with a 27% and 21% increase in risk, respectively. The data were adjusted for covariates including resting metabolic rate, physical activity, and smoking habits. Compared with those in the normal-duration sleep group, short and long sleepers had greater increases in waist circumference (58% and 47% more, respectively) and greater weight gain (1.8 kg and 1.5 kg, respectively). According to Mr. Chaput, the most plausible explanation for the sleep and body weight association is an alteration of hormones, such as leptin and ghrelin. Short sleepers are characterized by low leptin levels and high ghrelin levels, suggesting that a positive caloric balance might occur which could lead to weight gain over time. The researchers previously investigated the effect of sleep duration on weight in children, finding that short sleep duration increases the risk of overweight and obesity in this population as well. “Furthermore, short sleep duration favors abdominal adiposity rather than total adiposity in children. This suggests the impact of short sleep duration might be more deleterious than previously thought,” Mr. Chaput said, adding that short sleep duration was the most important risk factor for obesity or overweight in children, followed by parental obesity, watching TV, and physical inactivity.