

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

agents, caffeine and CNS stimulants (amphetamine), and the wake-promoting agents modafinil and armodafinil. However, most studies evaluating pharmacological therapies and nonpharmacological interventions simulate night-shift work under conditions that may not accurately reflect real-world activities.

Pharmacological and nonpharmacological countermeasures evaluated mostly in simulated laboratory conditions have been shown to improve alertness or sleep in shift workers but have not yet been evaluated in patients with SWSD. To date, three randomized, double-blind clinical studies have evaluated pharmacological therapies in patients with SWSD. These studies showed that modafinil and armodafinil significantly improve the ability to sustain wakefulness during waking activities (e.g. working, driving), overall clinical condition, and sustained attention or memory in patients with SWSD. *In conclusion, SWSD is a common condition that remains underdiagnosed and undertreated. Further research is needed to evaluate different treatment approaches for this condition, to clarify the substantial health and economic consequences of SWSD, and to determine the potential for interventions or treatments to reduce the negative consequences of this condition.*

Approaches to Management of Shift Work Sleep Disorder

Schwartz JR, Roth T.
Drugs 2007;66(18):2357-70

More than 6 million Americans work night shifts on a regular or rotating basis. The negative consequences of shift work have been established, and recent evidence suggests that patients with shift work sleep disorder (SWSD) are at increased risk of these consequences and co-morbidities. SWSD is relatively common but underdiagnosed, and hence undertreated, condition with potentially serious medical, social, economic and quality-of-life consequences. *In addition to increased risk of gastrointestinal and cardiovascular disease, patients with SWSD experience clinically significant excessive sleepiness or insomnia associated with work during normal sleep times, which has important safety implications.* A number of studies have evaluated countermeasures or interventions in shift workers; proposed treatments include chronobiotic interventions, such as light exposure, melatonin, hypnotic

Extrapulmonary Effects of Chronic Obstructive Pulmonary Disease on Physical Activity

Watz H, Waschki B, et al.
Am J Respir Crit Care Med. 2007 Nov 29

Physical activity is reduced in patients with chronic obstructive pulmonary disease (COPD). COPD has a systemic component that includes significant extrapulmonary effects that may contribute to its severity in individual patients. The authors in this study wanted to investigate the association of extrapulmonary effects of the disease and its comorbidities with reduced physical activity in patients with COPD. In a cross-sectional study, 170 outpatients with COPD (GOLD stages I-IV; BODE score 0 - 10) underwent a series of

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Extrapulmonary Effects...continued

tests. Physical activity was assessed over 5 to 6 consecutive days by using a multisensor accelerometer armband that records steps per day and the physical activity level (total daily energy expenditure divided by whole-night sleeping energy expenditure). Cardiovascular status was assessed by echocardiography, vascular Doppler sonography, and levels of N-terminal pro-B-type natriuretic peptide. Mental status, metabolic/muscular status, systemic inflammation, and anemia were assessed by Beck Depression Inventory, bioelectrical impedance analysis, handgrip strength, high-sensitivity C-reactive protein/fibrinogen, and hemoglobin, respectively.

Through the use of appropriate statistical analysis, using either steps per day or physical activity level as a dependent variable, the extrapulmonary parameters that were associated with reduced physical activity in patients with COPD independently of GOLD stages or BODE score were N-terminal pro-B-type natriuretic peptide levels, echocardiographically measured left ventricular diastolic function, and systemic inflammation. *The authors concluded that higher values of systemic inflammation and left cardiac dysfunction are associated with reduced physical activity in patients with COPD.*

Pregnancy Outcomes after Bariatric Surgery

Abodeely A, Roye GD, et al.
Surg Obes Relat Dis. 2007 Oct 30

Obesity is now the most prevalent disease of children and young adults in the USA. Obese women who become pregnant face many health risks, including gestational diabetes, pregnancy-induced hypertension, and pre-eclampsia. These women also have a greater incidence of preterm labor, cesarean sections, and perioperative morbidity. Infants born to obese women have increased rates of macrosomia and congenital anomalies, as well as life-long complications such as obesity and its associated morbidities. With the increase in numbers of weight loss operations being performed in women of child-bearing age, physicians will have to address patient concerns regarding the safety of pregnancy after surgery. Many of the proposed health benefits of weight loss after surgery could translate to decreased rates of complications experienced by obese pregnant women.

Case reports and small series have emerged documenting pregnancy courses after bariatric surgery. The authors

reviewed the studies that reported pregnancy outcomes compiled from PubMed and Ovid databases to help draw conclusions regarding the maternal, fetal, and infant safety in women after bariatric surgery. The observations from these studies have shown that the health risks experienced by obese women during pregnancy are reduced after weight loss surgery. Additionally, there does not appear to be any increased risk regarding fetal or infant outcome.

Relationship of Metabolic Syndrome and Obstructive Sleep Apnea

Parish JM, Adam T, et al.
J Clin Sleep Med. 2007 Aug 15;3(5):467-72.

Obstructive sleep apnea (OSA) and metabolic syndrome represent significant risk factors for the development of cardiovascular disease. The purpose of this study was to see how frequently metabolic syndrome occurred in patients with OSA and whether the presence of metabolic syndrome was correlated with age, sex, or severity of OSA. The authors examined the records of 250 consecutive patients referred to a sleep disorders center to have polysomnography for the evaluation of OSA and extracted clinical data from the patients' medical records. The investigators compared the proportion of patients with OSA and metabolic syndrome, hypertension, diabetes, or dyslipidemia to the group without OSA. Subgroup analysis was done by age and sex.

A total of 228 patients were included in the study. Of 146 patients with OSA, 88 (60%) had metabolic syndrome, whereas 33 of 82 patients (40%) without significant OSA had metabolic syndrome. The proportion with hypertension was significantly higher in the OSA group (77% vs 51%). The proportion of patients with hyperglycemia and dyslipidemia was not significantly different between the 2 groups. In men older than age 50 years, there was a significantly higher than expected proportion of OSA patients with metabolic syndrome and in the proportion with hypertension but not with a diagnosis of diabetes or dyslipidemia. In women (both older and younger than age 50), and in men younger than age 50, there was not an independent relationship between metabolic syndrome and OSA. *The authors concluded that patients with OSA have a high prevalence of metabolic syndrome. The prevalence of metabolic syndrome and hypertension was significantly greater in the OSA group. No significant differences were noted between the 2 groups in the proportion of patients with diabetes and dyslipidemia.*