Treating nocturnal asthma poses challenges

Nocturnal asthma occurs commonly in patients with asthma.[1] Potential causes include exposure to dust mites and a late-phase reaction to this exposure; the effects of posture or sleep stage on airway tone and airway cooling; reflux-mediated bronchospasm; increased nocturnal vagal tone; impaired ciliary clearance; and circadian changes in the levels of circulating hormones.[2] Treating nocturnal asthma is difficult, a point well taken in the study by Dr Brown and colleagues, featured on page **321** in this issue of *JAOA*. Although their study comprises a small population, the protocol is uniform and the patient population well defined. These researchers convincingly demonstrate—through chronobiologic techniques—that patients often continue to have reductions in nocturnal airflow despite long-term treatment with inhaled beta-agonists alone or in combination with theophylline.

Moreover, in this study population, patients who were treated with beta-agonists alone more frequently needed nocturnal rescue therapy with isoproterenol. As expected, the need for rescue therapy correlated with greater day-night variability in the peak expiratory flow rate (PEFR). An important finding, this correlation between greater day-night variability in PEFR and the need for rescue beta-agonist therapy emphasizes the importance of daily PEFR measurements. Ideally, this measurement should be taken in the morning and afternoon. Fluctuations in the PEFR measurement of greater than 20% indicate a suboptimal level of asthma control; more aggressive therapy is warranted in such instances.

Optimal treatment for nocturnal asthma has not yet been established; however, nocturnal oral dosing of sustained-release (SR) theophylline appears more effective than conventional therapy.[3-5] Nocturnal oral dosing of SR-albuterol also provides effective therapy.[6] Recent reports indicate that the use of inhaled corticosteroids,[7,8] anticholinergic agents,[9] and cromolyn sodium[10] may also play a role in some patients. Until definitive studies are conducted, patients who still have nocturnal asthma despite the use of inhaled beta-agonists should be given nocturnal oral doses of either SR-theophylline or SR-albuterol on a trial basis. If this therapy fails or is not tolerated, then anti-inflammatory therapy with inhaled steroids or cromolyn might be effective.

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Outcomes assessment: 'Buzz words' in medical education whose time has come

Outcomes assessment have become the new "buzz words" not only in healthcare delivery but also in

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medical education. Drs Cope and Baker address this issue in their article, beginning on page **353** in this issue of *JAOA*. They write that outcomes assessment is the process of collecting information about the attainment of an outcome of an academic endeavor. Outcomes assessment is contrasted with techniques that review the structure and process.

Historically, when evaluating healthcare and medical education, we have focused on structure and process. Now, with outcomes assessment, we are focusing on the *results* of the process and procedures. This emphasis is good; it should be this way.

Drs Cope and Baker describe the West Virginia School of Osteopathic Medicine (WVSOM) assessment program in detail, including the assessemnt levels for students, curriculum, faculty, and postgraduate endeavors. The authors also detail one of the first initiatives in this assessment program: identifying the characteristics of the "ideal" postgraduate, including his or her osteopathic medical orientation, skills, and abilities. The experience of WVSOM's assessment program will be of interest to all of the colleges of osteopathic medicine and the graduate medical education programs in general.

In the near future, clinical competence evaluation will be conducted at various levels of undergraduate and graduate medical education. Although the traditional measures of process have essential value, the objective assessment of medical students' and physicians' competence is clearly a concept whose time has come.

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