

In our Editor's Choice paper, Burnett and colleagues explore the prevalence of exercise-induced bronchoconstriction (EIB) in healthy college athletes. A high proportion tested positive. Many EIB positive athletes were not using a respiratory medication. Weinberger and Abu-Hasan raise the provocative questions, "Is EIB of clinical importance in the absence of dyspnea?" and, "Is >10% decrease in FEV₁ subsequent to exercise, in the absence of clinical dyspnea, sufficient for the diagnosis of exercise-induced asthma?" These questions raise the issue of the clinical relevance of a modest degree of EIB in the absence of dyspnea or other symptoms of asthma.

Walsh et al characterized ribavirin aerosol with small particle aerosol generator (SPAG) and vibrating mesh nebulizer. Their findings support that a vibrating mesh nebulizer may provide an effective alternative to a SPAG in administration of ribavirin. Diot and Plantier point out that many steps are needed before firm conclusions can be drawn from these data. Until ribavirin is approved for use with a vibrating mesh nebulizer, clinicians should be cautious about this approach.

Shein et al explored the use of prophylactic nebulized hypertonic saline in mechanically ventilated children. They found that this therapy did not improve clinically relevant outcomes, including duration of mechanical ventilation. As pointed out by Restrepo and Serrato, evidence supporting prophylactic use of inhaled hypertonic saline for patients receiving mechanical ventilation is lacking. This study invites clinicians to take a closer look at the prophylactic role of mucoactive agents and their impact on important clinical outcomes such as duration of mechanical ventilation.

The objective of the study by Alismail et al was to evaluate healthcare providers' knowledge of inhaler devices and their ability to retain this knowledge for 3 months. They found that a sub-optimal number of medical professionals had the proper knowledge and technical skill to teach inhaler techniques. The authors suggest that industry could provide more uniformity for future inhaler devices.

The study by Ari and colleagues evaluated delivery efficiency of jet and mesh nebulizers, combined with different humidification systems, in a model of a spontaneously breathing adult with tracheostomy. The jet nebulizer was less efficient than the mesh nebulizer. Aerosol deposition was lowest with a heated humidifier and high flow. Exhaled humidity reduced inhaled drug dose.

Pryor et al measured pressure-flow characteristics and resistance of a range of tracheostomy tubes. Tube type and inner cannula selection imposed differing pressures and resistance to flow during inspiration and expiration. These differences may be important when selecting airway equipment or when setting parameters for monitoring.

Kaese and colleagues determined the effect of early percutaneous dilatational tracheostomy and cessation of sedation in severely obese subjects. Early tracheostomy with reduction of dead space ventilation and airway resistance, as well as cessation of sedation to enable spontaneous breathing, might be key factors in recovery from respiratory failure.

The objective of the study by Pham et al was to test the concept of a Public Private Partnership for the Promotion of Patient Safety (P5S) to advance our understanding of safety issues related to ventilator events. They found that through the development of a common taxonomy, adverse events from 3 reporting systems can be evaluated; the types of events reported in each database were related to the purpose of the database

and the source of the reports, resulting in significant differences in reported event categories across the three systems; and a public-private collaboration for investigating ventilator-related adverse events under the P5S model is feasible.

The aim of the study by Marjanovic and L'Her was to provide an ergonomic evaluation of emergency and transport ventilators, taking into account objective and subjective human-machine interface assessments and individual mental workload. The choice of device depends not only on its technical characteristics, but should take into account its clinical operational setting and ergonomics, in order to decrease mental workload. Only clinicians demonstrating expertise in mechanical ventilation should use sophisticated emergency and transport ventilators.

Chen and colleagues evaluated high-risk smoking behaviors and barriers to smoking cessation among homeless individuals. High-risk tobacco practices were common among smoking homeless individuals. Despite literature showing that non-nicotine tobacco cessation pharmacotherapies have higher smoking cessation rates, survey respondents perceived nicotine replacement monotherapy as more valuable. Social stressors and use of smoking to cope with homelessness were perceived as greater obstacles. Given the paucity of data on the long-term effects of the high-risk tobacco behaviors reported by homeless smokers, this study highlights the need for further investigations regarding tobacco use and tobacco cessation in this population.

Sharma et al evaluated the safety of flexible bronchoscopy in adults receiving ECMO. They found that flexible bronchoscopy can be used safely during ECMO, and is not associated with significant hemodynamics changes, bleeding, or mechanical complications.

Kreivi and colleagues evaluated upper airway symptoms before and after CPAP as well as their effect on CPAP adherence. The severity of upper airway symptoms prior to CPAP did not predict CPAP use at one year, whereas CPAP non-users at one year had smaller or no alleviation in symptoms scores during initiation than those who continued CPAP treatment.

The purpose of the study by Vernikos et al was to examine the performance of bronchoscopic findings and cytological analysis of bronchoalveolar lavage fluid (BALF) as an early diagnostic tool for ventilator-associated pneumonia (VAP). The diagnostic performance of classical clinical scores for VAP did not improve after combination with BALF cytology. A new composite score proved to be more accurate than previous scores in early VAP diagnosis.

Ben Moussa and colleagues compared submaximal exercise, quality of life (QOL), and oxidative stress biomarkers of smokers with and without COPD. Compared to the non-COPD group, those with COPD had a marked decrease in submaximal exercise data and in QOL score. Oxidative stress could be one explanation of incapacity and handicap observed in the COPD group.

Luo et al determined the nutritional status evaluated by fat free mass index (FFMI) according to the 2011 GOLD levels in stable subjects and the association between nutritional status and respiratory symptoms, exercise capacity, and respiratory muscle function. Malnutrition was highly prevalent in all COPD groups, particularly in Group D subjects, who warrant special attention for nutritional intervention and pulmonary rehabilitation. FFMI significantly correlated with the exercise capacity, dyspnea, respiratory muscle function, and pulmonary function.