Our Editor's Choice, by Johnston et al, is a study comparing albuterol administered by metered dose inhaler (MDI) versus endotracheal liquid bolus for the treatment of bronchoconstriction. They found that albuterol lavage might be a viable option to reverse bronchoconstriction in intubated patients with limited response to traditional aerosolized albuterol via MDI. Op't Holt suggests that intratracheal instillation of albuterol might be considered second- or third-line therapy in the treatment of a severe asthma attack.

Metcalf and colleagues report patterns and factors associated with respiratory care protocol use. From their survey, they found that the most commonly used protocols were for oxygen titration and ventilator weaning. Hospital features that were associated with overall protocol use were stakeholder support for protocol use and high-quality hospital information systems. As emphasized by Ford, after reading this paper, perhaps all of us will examine the characteristics within our own settings that serve as barriers to protocols and, in light of new healthcare reforms, develop strategies to implement and expand respiratory care protocols.

The objective of the study by Todd Tzanetos et al was to determine if the implementation of an inhaled nitric oxide (INO) protocol in a pediatric intensive care unit (PICU) would reduce cost without negatively impacting patient outcomes. They found that implementation of an INO setup and weaning protocol in a PICU reduced the cost associated with its use without a significant difference in mortality. Walsh and Rettig raise the provocative question, should we protocolize the use of INO when there is insufficient evidence for its therapeutic benefit?

The purpose of the study by Lee and colleagues was to assess the influences of the timing of tracheostomy on the incidence of complications following surgical tracheostomy in subjects with stroke. They found no significant difference in the incidence of complications in subjects undergoing early versus standard tracheotomy.

Some patients with sleep apnea syndrome remove the CPAP interface during sleep. Yamaguchi et al hypothesized that body position changes and oxygen desaturations may be associated with patient removal of the interface. They found that most good CPAP adherers make frequent body position changes without removal of the CPAP device, suggesting that the patients can adapt to CPAP therapy at the time of body position changes.

Bingol et al aimed to evaluate the differences between obesity hypoventilation syndrome (OHS) and obstructive sleep apnea (OSA), to determine clinical predictors of OHS in obese subjects. They found that serum bicarbonate level and nadir saturation during sleep were independent predictive factors for the diagnosis of OHS.

The objectives of the study by Colucci and colleagues were to estimate changes in cough efficacy after upper abdominal surgery through the assessment of cough peak flow, and the extent to which cough impairment is associated with postoperative pain, FVC, and risk of postoperative pulmonary complications (PPC). Although there was no significant association between cough peak flow and PPC, the impairment of cough might result in clinically significant consequences in a high-risk population.

Liu et al evaluated changes in the concentrations of mediators of inflammation and oxidative stress in exhaled breath condensate (EBC) during liver transplantation and their relation to postoperative ARDS. Their results suggest that EBC analysis is a noninvasive method for detecting mediators of inflammation and oxidative stress from the lungs, which could be used to predict the higher incidence of ARDS induced by orthotopic liver transplantation.

The purpose of the study of Kanezaki and colleagues was to investigate the effect of distractive auditory stimuli (DAS) on the perception of dyspnea induced by a low intensity of constant load exercise in elderly subjects with COPD. Their results suggest that DAS is a non-pharmacologic therapy that might be used to reduce the sensation of dyspnea in elderly patients with COPD.

The objective of the study by Rose et al was to generate national data profiling service providers, users, types of services, criteria for initiation and monitoring, ventilator servicing arrangements, education, and barriers to home transition. They found that, in Canada, ventilator support in the community appears well established, with most individuals managed with NIV. Although caregiver competencies are a prerequisite to discharge, ongoing assessment and retraining was infrequent. Funding and caregiver availability were important barriers to transition home.

Takaki and colleagues aimed to compare end-tidal P_{CO_2} using an oxygen mask with a CO_2 sampling port and P_{aCO_2} in extubated subjects who had undergone abdominal surgery. They found that it was possible to measure end-tidal P_{CO_2} under varying breathing patterns with the oxygen mask in subjects receiving oxygen supplementation after extubation.

The influence of ambient music on the perceived exertion during a pulmonary rehabilitation session was evaluated by Reychler et al. They found that perceived exertion during one session of pulmonary rehabilitation was not influenced by ambient music, but a positive effect was observed on anxiety.

Smallwood et al aimed to describe the range of $\dot{V}_{CO_2}$ and $\dot{V}_{O_2}$ values observed in mechanically ventilated children. $\dot{V}_{CO_2}$ and $\dot{V}_{O_2}$ measurements correlated with subject height and age. Smaller and younger subjects produced larger amounts of CO_2 and consumed more O_2 per unit of body weight. The use of a 5-min period when $\dot{V}_{CO_2}$ varied <5% predicted standard steady state.

The objective of the study by Ramos et al was to evaluate the effectiveness of postural drainage, percussion, cough technique, and huffing in subjects with bronchiectasis, and to assess the quantity and quality of bronchial mucus produced. Postural drainage, percussion, and cough technique led to the greatest removal of mucus in the shortest time, two 20-min periods separated by 10 min of rest.

Georgiopoulou and colleagues studied the impact of spirometric parameters on outcomes in subjects with Stage D heart failure listed for heart transplantation. In contrast to subjects with Stage C heart failure, spirometric parameters were not associated with outcomes in a homogenous population of subjects with Stage D heart failure.

Torre-Bouscoulet et al evaluated spirometry quality in adults with very severe lung function impairment. Poor spirometry quality was associated with a very low FVC and a low body mass index, but not older age. Thus, severe lung disease should not be used as an excuse for not meeting spirometry quality goals.