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# Emphysema's Holy Grail, The Quest for Endobronchial Lung Volume Reduction

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## Letter to Editor,

Bronchoscopic lung volume reduction has become the Holy Grail of pulmonologists who treat COPD in both the United States and abroad. In some ways this is fitting as "chronic lower respiratory disease" is now the fourth leading cause of death in the US [1]. In addition, COPD severely impacts quality of life and is a significant cost burden [2]. It is now more than five years ago Drs Ernst and Anantham published their review of Bronchoscopic lung volume reduction in *Clinical Chest Medicine* [3]. At that time endobronchial valve, airway bypass stent and biologic LVR trials had occurred though none proved to be of sufficient clinical value to warrant inclusion in standard COPD treatment algorithms. The most recent iteration of this quest is documented in *JAMA* regarding the RENEW endobronchial coil study. This technology was exciting as traction providing coils would not be subject to the cross-ventilation which has been implicated in the limited effect of endobronchial valves [4]. Unfortunately, Dr. Scirba and colleagues found that the benefits derived by the study patients with the treatment was of "uncertain clinical importance, with a higher likelihood of major complications" [5]. Like all thoracic surgeons who treat COPD, we sympathize with the authors as major complications are something with which we are all too familiar. My colleagues and I have reported the short term outcomes of Lung Volume Reduction Surgery (LVRS) from Society of Thoracic Surgery database review from 2003-2011, confirming that surgical intervention has risk of morbidity and mortality [6]. However, along with the risk of the procedure comes a documented significant benefit, demonstrated in exercise capacity, subjective dyspnea and FEV1 [7,8]. Most importantly, Dr. Naunheim and colleagues found that in the upper lobe predominant, low exercise capacity sub group 5-year survival was improved over best medical management [8]. Though this data is readily available and relevant with the increasing numbers of severe emphysema patients, overall limited organ availability, and shift in lung allocation toward the fibrotic lung population, LVRS is still met with skepticism in the pulmonology community. As a group we must decide if we believe that reducing the volume of hyper-expanded COPD patients is

effective in treating their symptoms and improving their quality, and perhaps quantity of life. The data certainly suggests this is the case. Despite this the volume of LVRS in the United States is surprisingly low relative to the prevalence of COPD. Education and discussion is needed between the thoracic surgical and medical community so that patients are given the opportunity to investigate their treatment options. While continuing the quest in a systematic and responsible way for the grail of an endoscopic approach, surgical LVRS remains an option in appropriately chosen patients at high volume centers with multidisciplinary programs.

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