

Dyspnea and Fatigue Following Video-assisted Thoracic Surgery for Pulmonary Lobectomy: Measuring Scales to Optimize the Allocation of Resources

Massimiliano Polastri¹, Andrea Dell'Amore², Giampiero Dolci², Niccolò Daddi²

¹Medical Department of Continuity of Care and Disability, Physical Medicine and Rehabilitation, University Hospital St. Orsola-Malpighi, Bologna 40138, Italy

²Department of Cardiac-Thoracic and Vascular Diseases, Thoracic Surgery, University Hospital St. Orsola-Malpighi, Bologna 40138, Italy

To the Editor: The efficacy of minimally invasive techniques for pulmonary lobectomy is gaining a great interest in literature. Recently, new surgical strategies and technical improvements have been reported for video-assisted thoracic surgery (VATS).^[1] Furthermore, postoperative physiotherapeutic aspects are a source of interest; it has been observed that the walking distance, calculated as the mean score on the 6-min walk test (6MWT) preoperatively, represents a predictive measure for the onset of possible postoperative complications following pulmonary lobectomy.^[2] Nevertheless, the suitability of the 6MWT during the early postoperative period is limited by common functional limitations that are normally present after surgery, including the possible need for oxygen supplementation during the first days postoperatively and the presence of thoracic drainage.

Thus, to quantify the individual motor performance needed to restore daily activities, if not physical exercise, during the immediate postoperative timeframe, it is necessary to apply more appropriate evaluation tools to best capture the clinical characteristics of patients who undergo VATS for pulmonary lobectomy. These tools should be sensitive to the common limitations normally present during the initial days postoperatively; at the same time, they must be simple and easily learned, and must quantify the individual level of difficulty, focusing on two major areas of physical interest, namely dyspnea and fatigue. These areas are commonly evaluated in rehabilitation settings with the aim of monitoring exercise intensity. At the same time, pain intensity can be easily quantified using a 0–10 numerical rating scale or a visual analog scale. To date, no studies have evaluated the intensity of dyspnea and fatigue in adults who have undergone VATS for lobectomy during the immediate postoperative period, and no studies have measured the intensity of dyspnea and fatigue when patients are discharged after surgery. The analysis of these two variables will be particularly useful in facilitating patient profiling aimed at optimizing resource allocation postoperatively, with close attention to the rehabilitative context. It is expected that postoperative physiotherapy will only be necessary in a limited number of cases, thanks to reductions

in the length of stay, postoperative complications, and rates of morbidity and mortality following VATS. In summary, the use of appropriate evaluation tools can enhance the understanding of patients' clinical characteristics, allowing a more effective therapeutic process within which physiotherapy should be indicated only when necessary. Conversely, perioperative complications can be predicted considering the preoperative clinical values such as forced expiratory volume in 1 s and/or carbon monoxide-diffusing capacity or using composite scores such as the Charlson comorbidity index and the Clavien–Dindo classification. Furthermore, the preoperative performance of the stair-climbing test has proven effective in predicting cardiopulmonary complications and evaluating maximum aerobic capacity after lung resection.^[3,4]

The cost-effectiveness of a postoperative physiotherapeutic intervention should be evaluated, and outcome measures will contribute greatly to achieving optimal resource allocation. Stratification of patients' clinical characteristics following VATS for lobectomy might also contribute to clearer identification of patients who are more prone to delays in achieving a full recovery.

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Conflicts of interest

There are no conflicts of interest.

Address for correspondence: Dr. Massimiliano Polastri, Medical Department of Continuity of Care and Disability, Physical Medicine and Rehabilitation, University Hospital St. Orsola-Malpighi, Via G. Massarenti 9, Bologna 40138, Italy
E-Mail: gbptap1@gmail.com

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