

Physiologic Assessment for Lung Cancer Surgery

Careful physiologic assessment is an important part of patient risk stratification and selection for lung cancer surgery. With increasing limitations and access to pulmonary function testing during the COVID-19 pandemic, the purpose of this document is to provide a quick reference guide to summarize all available evidence based testing techniques. We are aware many institutions have already stopped offering PFT testing, which is the most ideal manner to assess patients for lung resection. Deviation from common, well accepted testing practices cannot be recommended unless these services are not available for a sufficient period of time that places a patient's health or chances of curative resection at risk. In regard to the decision for surgery, surgeons should discuss the consequences of delaying surgery in patients with cancer, where delay may be deleterious to the long-term survival of the patient. Shared decision-making with patients should discuss the potential for alternative, evidence-based treatment modalities.

- **Pulmonary Function Testing (PFT)¹**
 - **FEV₁ & DLCO >60% predicted**
 - **ppoFEV₁ & ppoDLCO >40% predicted**
- **Cardiopulmonary Exercise Testing (CPET)¹**
 - **V_{O2} peak >15-20 mL/kg/min**
- **6 minute Walk Test (6MWT)²**
 - **≥400 meters**
 - **DSP ≥350 m% (DSP = Distance Saturation Product)**
- **Stair climb >22 meters³**
- **Peak Expiratory Flow⁴**
 - **>300 L/min**

References:

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3. Brunelli A, Kim AW, Berger KI, Addrizzo-Harris DJ. Physiologic evaluation of the patient with lung cancer being considered for resectional surgery. *Diagnosis and management of lung cancer, 3rd ed.: American College of Chest Physicians evidence based practice guidelines. CHEST 2013; 143(5) (Suppl):e166S-e190S*
4. Lai Y, Wang X, Li P, Li J, Zhou K, Che G. Preoperative peak expiratory flow (PEF) for predicting postoperative pulmonary complications after lung cancer lobectomy: a prospective study with 725 cases. *J Thorac Dis*. 2018 Jul;10(7):4923-4301

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