

Standardization of Spirometry 2019 Update An Official American Thoracic Society and European Respiratory Society Technical Statement: Executive Summary

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Relative Contraindications The forced expiratory maneuver used in spirometry will result in increased intrathoracic, intraabdominal, and intracranial pressures (3–7). Table 1 lists relative contraindications for spirometry. The previous contraindication of spirometry testing within 1 month of a myocardial infarction (2) was changed to 1 week.

Table 1. Relative Contraindications for Spirometry

Due to increases in myocardial demand or changes in blood pressure

- Acute myocardial infarction within 1 wk
- Systemic hypotension or severe hypertension
- Significant atrial/ventricular arrhythmia
- Noncompensated heart failure
- Uncontrolled pulmonary hypertension
- Acute cor pulmonale
- Clinically unstable pulmonary embolism
- History of syncope related to forced expiration/cough

Due to increases in intracranial/intraocular pressure

- Cerebral aneurysm
- Brain surgery within 4 wk
- Recent concussion with continuing symptoms
- Eye surgery within 1 wk

Due to increases in sinus and middle ear pressures

- Sinus surgery or middle ear surgery or infection within 1 wk

Due to increases in intrathoracic and intraabdominal pressure

- Presence of pneumothorax
- Thoracic surgery within 4 wk
- Abdominal surgery within 4 wk
- Late-term pregnancy

Infection control issues

- Active or suspected transmissible respiratory or systemic infection, including tuberculosis
- Physical conditions predisposing to transmission of infections, such as hemoptysis, significant secretions, or oral lesions or oral bleeding

Spirometry should be discontinued if the patient experiences pain during the maneuver. Relative contraindications do not preclude spirometry but should be considered when ordering spirometry. The decision to conduct spirometry is determined by the ordering healthcare professional on the basis of their evaluation of the risks and benefits of spirometry for the particular patient. Potential contraindications should be included in the request form for spirometry.

Table 3. Activities That Should Be Avoided before Lung Function Testing

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- Smoking and/or vaping and/or water pipe use within 1 h before testing (to avoid acute bronchoconstriction due to smoke inhalation)
 - Consuming intoxicants within 8 h before testing (to avoid problems in coordination, comprehension, and physical ability)
 - Performing vigorous exercise within 1 h before testing (to avoid potential exercise-induced bronchoconstriction)
 - Wearing clothing that substantially restricts full chest and abdominal expansion (to avoid external restrictions on lung function)
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