**Policy Statement**

Pulmonary function testing is to be ordered according to these regimes or as individual procedures. All tests may be ordered individually.

**Purpose of Policy**

To standardize the ordering procedures for pulmonary function testing.

**Procedure**

1. **Pulmonary Function Test I:**
   a. **Nitrogen washout test:** Determination
      - Functional Residual Capacity (FRC)
      - Indirect calculation of Residual Volume (RV)
      - In conjunction with the Slow Vital Capacity, determination of all lung volumes.

   b. Carbon **Monoxide single breath test:**
      - Determination of diffusing capacity (DLCO-sb)

   c. **Slow Vital Capacity:** determination of
      - Slow Vital Capacity (SVC)
      - Expiratory Reserve Volume (ERV)
      - Inspiratory Capacity (IC)

   d. **Flow/Volume Loop:** determination of the mechanics of breathing:
      - Forced Vital Capacity (FVC).
      - Forced Expiratory Volume in one second (FEV-1) %FEV-1/FVC
      - Average Forced Expiratory Flow between 25% and 75% of vital capacity (FEF 25-75%)
      - Maximum Forced Expiratory Flow (FEF-max)
      - Forced Expiratory Flow at 25%, 50% and 75% of vital capacity (FEF 25%, FEF 50%, FEF 75%)
      - Forced Inspiratory Vital Capacity (FIVC)
      - Average Forced Inspiratory Flow between 25% and 75% of FIVC (FIF 25-75%),
        Forced Inspiratory Flow at 25%, 50% and 75% of FIVC (FIF 25%, FIF 50%, FIF 75%)
      - FIVC/FVC ratio
      - FIF 50/FEF 50 ratio
e. Maximum Voluntary Ventilation (MVV)

f. Body Plethysmograph
   • Function Residual Capacity (FRC).
   • Airway Resistance (RAW)
   • Total Thoracic Gas Volume (VTG) determination in conjunction with slow vital capacity

g. Resting Arterial Blood Gas (ABG)

h. Maximum Inspiratory Pressure (MIP) and Maximum Expiratory Pressure (MEP)

2. Pulmonary Function Test II: Same as complete pulmonary function study I, with deletion of lung volumes and airway resistance by body plethysmography.

3. Pulmonary Function Test III: (recommended for pre-op patients)
   • Slow Vital Capacity
   • Flow/Volume Loop
   • Maximum Voluntary Ventilation
   • Resting Arterial Blood Gas

4. Pulmonary Function Screening IV: (laboratory)
   • Flow/Volume Loop

5. Post-Bronchodilator PFT -II, III and IV:
   • Same as PFT II, III, & IV with the addition of Flow/Volume Loop

6. Post-Bronchodilator PFT -I: Same as PFT -I with the additions of:
   • Flow/Volume Loop
   • Airway Resistance and Lung Volume measured in the body plethysmograph

8. Oxygen Saturation Monitoring
   Ear or Pulse Oximetry

9. Challenge Test
   Methacholine

10. Special Studies:
    • Exercise Study
    • Exercise Induced Asthma Study
### Approved by:

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<th>Michael Taylor</th>
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<tr>
<td>Director, Respiratory Care</td>
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Review/Revision Completed By:
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**Next Review Date:** 3/1/2020

### Policies Superseded by This Policy:

*It is the responsibility of the reader to verify with the responsible agent that this is the most current version of the policy.*