



HEALTH HOLDING  
HAFER ALBATIN HEALTH  
CLUSTER  
MATERNITY AND  
CHILDREN HOSPITAL

<b>Department:</b>	Respiratory Care Services		
<b>Document:</b>	Departmental Policy and Procedure		
<b>Title:</b>	Pulmonary Function Testing (PFT)		
<b>Applies To:</b>	Respiratory Therapy Staff		
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## 1. PURPOSE:

- 1.1 To assess ventilator function
- 1.2 To identify the severity of impairment

## 2. DEFINITIONS:

- 2.1 Pulmonary Function Testing (PFT) —is a complete evaluation of the respiratory system including patient history, physical examinations, chest X— ray examination, arterial blood gas analysis, and test of pulmonary function

## 3. POLICY:

- 3.1 Pulmonary function testing has diagnostic and therapeutic roles and helps clinicians answer some general question about patients with lung disease
  - 3.1.1 PFT will be done to patients who meets the established indications
  - 3.1.2 To determine lung dysfunction suggested by the physician, medical history or physical indicators such as age, smoking history, family history of lung disease, chronic cough, other abnormal diagnostic tests.
  - 3.1.3 To quantify the severity of a known lung disease.
    - 3.1.3.1 Assess changes in lung disease over time or following the administration or change of therapy.
    - 3.1.3.2 Assess the risk for surgical procedures known to affect lung function.
- 3.2 Absolute Contraindications:
  - 3.2.1 AMI (3 —5 Days)
  - 3.2.2 Unstable Angina
  - 3.2.3 Uncontrolled Arrhythmia Causing Symptoms or HD Compromised
  - 3.2.4 Syncope
  - 3.2.5 Active Endocarditis
  - 3.2.6 Symptomatic Severe Aortic Stenosis
  - 3.2.7 Acute Myocarditis and Pericarditis
- 3.3 Relative Contraindications:
  - 3.3.1 Hemoptysis
  - 3.3.2 Untreated Pneumothorax
  - 3.3.3 Unstable Cardiovascular Status
  - 3.3.4 Thoracic, Abdominal, or Cerebral Aneurysm
  - 3.3.5 Recent Eye Surgery
  - 3.3.6 Presence of an acute disease process may interfere with test performance (e.g. nausea and vomiting).
- 3.4 Adverse Reactions:
  - 3.4.1 Bronchospasm
  - 3.4.2 Increased intracranial Pressure Syncope, Dizziness, Light-Headedness and Chest Pain



- 3.4.3 Bronchospasm
- 3.4.4 Paroxysmal Coughing
- 3.4.5 Contraction of Nosocomial Infection
- 3.5 Candidates should avoid the following before procedure:
  - 3.5.1 Smoking within 1 hour prior to test.
  - 3.5.2 Consuming alcohol within 4 hours of test.
  - 3.5.3 Performing vigorous exercise/ activity within 30 minutes of test.
  - 3.5.4 Wearing tight clothes or any garments that restricts the chest or abdomen.
  - 3.5.4 Eating large meal within 2 hours prior to test.

#### 4. PROCEDURE:

- 4.1 Limitations of Methodology/ Validation of Results:
  - 4.1.1 PFT is an effort —dependent test that require proper instructions and the cooperation of the patient.
  - 4.1.2 In ability to perform acceptable maneuvers may be due to poor subject motivation or failure to understand instructions.
  - 4.1.3 Physically impaired may also limit the subject's ability to perform spirometry maneuvers.
  - 4.1.4 The test should still be attempted with these limiting factors noted and taken into consideration when the results are interpreted.
- 4.2 Acceptability:
  - 4.2.1 At least three acceptable FVC maneuvers should be performed. If the patient is unable to perform a single acceptable maneuver after eight attempts, test can be discontinued.
  - 4.2.2 An acceptable test is:
    - 4.2.2.1 No hesitation or false starts.
    - 4.2.2.2 Absence of artifact during procedure (cough, leak, obstructed mouthpiece).
    - 4.2.2.3 No early termination of exhalation.
    - 4.2.2.4 Good start, good end.
- 4.3 Steps
  - 4.3.1 Explain the purpose of the test, and the procedure of the patient.
  - 4.3.2 Obtain PFT machine with new sensor.
  - 4.3.3 Prepare patient for test:
    - 4.3.3.1 Have the patient.
    - 4.3.3.2 Loosen tight clothing
    - 4.3.3.3 Removes Dentures.
    - 4.3.3.4 Elevate chin and extend neck slightly use nose clip if necessary.
  - 4.4.1 Demonstrate the test yourself.
  - 4.4.2 Instruct the patient to:
    - 4.4.2.1 Place teeth and lips around pneumotach sensor.
    - 4.4.2.2 Do not block the opening with the tongue.
    - 4.4.2.3 Take the deepest breath possible.
    - 4.4.2.4 Then blow out as hard as fast and as completely as possible.
    - 4.4.2.5 Instruct the patient to rest and wait before starting the next deep inspiration.
- 4.4 Enter Data: age, height, and gender are the key factors that help with determination of a normal PFT.
- 4.5 Use patient's last numbers for identifications.
- 4.6 Follow manufacturing guidelines for running the test. For Post Medication Testing:
- 4.7 Coach the patient during the test Take a big breath. Now blast out keep blowing harder that's good get it all out Good Job!"
- 4.8 PFT equipment may be removed from the base and taken to patient exam rooms. Delete previous information.
  - 4.8.1 After completing all the pre-medication (baseline) testing and administering the Medication (2.5albuterol per nebulization treatment (wait 5-10 minutes) and repeat testing.
- 4.9 Print copy of results and give to provider. PFT Machine is calibrated monthly.



- 4.10 Documenting the progression of pulmonary disease —restrictive or obstructive. Documenting the effectiveness of therapeutic intervention.

**5. MATERIALS AND EQUIPMENT:**

- 5.1 Spirometer  
5.2 Spirometers with electronics signal outputs (pneumotachs)

**6. RESPONSIBILITIES:**

- 6.1 Respiratory therapist




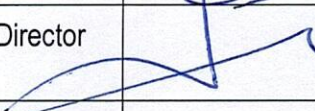
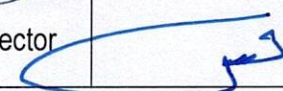
**7. APPENDICES:**

N/A

**8. REFERENCES:**

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8.3 Morris OF, Koski a, Johnson LC. Spirometric standards for healthy non-smoking adults. AM Rev Respir Dis 1971; 103:57.

**9. APPROVALS:**

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