

University of Texas Medical Branch Pulmonary Function Clinic Policy 03-20 Impulse Oscillometry	Effective Date: Revised Date: Review Date:	Nov 16 Nov 21 Aug 23
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Patient Testing - Impulse Oscillometry (IOS)

Audience	All personnel in the Pulmonary Function Clinic.
Purpose	To describe the procedure for performing Impulse Oscillometry (IOS)/ FOT.
Indications	Patients unable to perform adequate spirometry results and suspicious increased airway resistance.
Precaution	The following should be reviewed for IOS testing: <ul style="list-style-type: none"> • Previous spirometry results, if available. • Physician orders for specific instructions
Calibration	The following is the procedure for IOS Calibration and Verification: <ul style="list-style-type: none"> • Power unit on by pushing power button located in back of unit, allow to power up and select measurement icon, and unit will indicate calibration is required. • Select calibration check link at bottom. When prompted, Enter last 4 digits of the Test Object code. • Remove calibration device(test object) from package, carefully attach it to unit's inlet, click Start and allow 90 seconds to calibrate, once passed, disconnect and return device to package. • For a new patient, click "Create new patient' and enter patient demographics. For returning patient, after pressing 'Measurement', 'Patient Search' screen will be displayed. Type in patient information. Press Next. • Select desired label for the measurement, PRE or POST (if POST is selected, three more options will be displayed: Bronchoconstrictor, Bronchodilator and Other). • Connect a single-use bacterial/viral filter to inlet on the device. • Select 'Keep this value' to apply filter correction indicated or select 'Measure filter' to measure impedance of a new filter. Insert filter before pressing the button. Do not attach anything to it. • Once filter has been measured, the instructions for execution of the measurement will display.
Procedure	The following is the procedure for IOS/FOT: <ul style="list-style-type: none"> • Obtain patient's height, weight without shoes or armspan, and inquire for symptoms. • Introduce self, make sure patient fully understands test and is aware of experience of air movement during test. Explain test in simple terms, demonstrating holding cheeks, and normal breathing.

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- Image on screen will remind you to insert filter, wear the nose-clip, hold the cheeks, and let patient breathe normally through the filter.
- Press 'Start measurement' to begin measurement. Allow 10 consistent normal breaths from patients before ending measurement. RT will watch screen during patient testing for any artifact.
- A minimum of 3 tests & max 5 tests per patient visit or session. Coefficient values (CoV) for children 15% or less and Adults 10% or less for acceptable criteria (good quality).
- For bronchodilator administration, Rrs total 5 Hz or Rrs total 9 Hz or Rrs total 11 Hz are $\geq 150\%$ predicted.
- Export FOT/IOS report to USB drive by selecting 'Export report' icon to print report for physicians' review.
- Scan report to Pulmonary fellow on rotation.
- Once final review is received, therapist will scan testing and final results and email to medical records to be placed in patients' Epic chart.

This form documents the approval and history of the policies and procedures for the Pulmonary Function Laboratory. The Medical Director signs all policies verifying initial approval. Annually thereafter, the Director and/or designee may approve reviews and revisions.

Date	Approved by:	Signature
11/17	A. Duarte, MD Medical Director Pulmonary Laboratory New policy	
8/19	A. Duarte, MD Medical Director Pulmonary Laboratory New policy	
8/21	A. Duarte, MD Medical Director Pulmonary Laboratory Changes to policy	
11/21	A. Duarte, MD Medical Director Pulmonary Laboratory Changes to policy	
8/23	A. Duarte, MD Medical Director Pulmonary Laboratory No changes to policy	

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