

University of Texas Medical Branch	Effective Date:	Mar 21
Pulmonary Function Clinic	Revised Date:	Jul 23
Policy 03-19 EIB Exercise Challenge	Review Date:	Jul 23

Patient Testing - Exercise Challenge (EIB)

Audience All personnel in the Pulmonary Function Clinic.

Purpose To describe the procedure for performing an Exercise-Induced Bronchospasm (EIB) Exercise Challenge.

Indications Patient experiences exercise-induced respiratory symptoms.

Contraindications

- Intense exercise less than 4 hours before testing.

Precaution The following precautions should be noted for the exercise challenge:

- Loose fitting clothing
- Non-skid shoes
- Ordering physician may require a short-acting preventative medication prior to or after exercise.

Procedure The following is the procedure for an exercise challenge:

- Check the physician's order and prepare all equipment including calibrating CPET machine and getting cycle to manual mode at 20 Watts. Therapist will confirm instructions with patient 1 business day prior to procedure. Therapist will also notify the current pulmonary fellow on rotation that testing is taking place.
- Explain the complete procedure to the patient and determine if patient was compliant with any pre-testing instructions such as withholding bronchodilator. If patient was non-compliant, notify ordering physician.
- Therapist will document pre-test vital signs including heart rate, blood pressure, respirations and saturation.
- Therapist will determine patient's predicted maximum heart rate (220-patient's age) and the 80-90% workload heart rate to maintain during testing.
- Following ATS guidelines, perform a pre-exercise FVC of at least two reproducible FVC/ FEV1 maneuvers. If patient's initial FEV1 is <60% predicted, then procedure will end, and therapist will give 2.5mg Albuterol for bronchodilator and perform Post bronchodilator FVC/FEV1 maneuver in compliance with Policy 03-12 (Bronchial Challenge). If FEV1 is >60%, testing will proceed. With a pulse oximeter on patient's finger, and nose clips on, the patient will begin to pedal on the cycle. The patient will be instructed to maintain a rate of 60 rpm or greater on the cycle to obtain a rapid increase in exercise intensity using the following schedule:
 - 20 watts for 1 minute
 - 40 watts for 1 minute
 - 60 watts for 1 minute

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- 80 watts for 1 minute
- 100 watts for 1 minute
- Continue to increase watts in 10 watt increments every 2 minutes seconds until patient reaches 80-90% of maximum heart rate.
- Once patient reaches within 5 beats of target heart rate, patient will pedal for 5 minutes. Therapist will continue to monitor and document heart rate and saturation at each minute.
- After 5 minutes of exercise the patient will perform an FVC maneuver and post - exercise FVC and FEV1 will be noted.
- A FVC maneuver will be performed and measured at 5, 10, 15 and 30 minutes after exercise, along with patient's heart rate and saturation. A maximum of 2 maneuvers can be performed at each interval. Post - exercise FVC and FEV1 will be noted for each time period.
- Therapist will document post-test vital signs including heart rate, blood pressure, respirations, and saturation at the 30-minute interval. Any adverse events will also be documented in the comments section.
- Therapist will notify pulmonary fellow of any adverse events, including tachycardia at 30 minutes of rest, chest pain, altered alertness, or syncope.
- Therapist will use the EIA protocol in Breeze for staging the procedure. A printout will be made for fellow to do interpretations, if requested by fellows or faculty.
- If the therapist assesses patient is in bronchospasm, the ordering physician may be contacted for an urgent bronchodilator. Therapist will use 2.5mg Albuterol if necessary. If patient chooses to use personal inhaler, that is acceptable. Therapist will notify rotating fellow for adverse events and will document in comments on test.

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
3/15	A. Duarte, MD Medical Director Pulmonary Laboratory New Policy	
8/16	A. Duarte, MD Medical Director Pulmonary Laboratory No changes to policy	
11/17	A. Duarte, MD Medical Director Pulmonary Laboratory No changes made to policy	

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8/19 **A. Duarte, MD**
Medical Director Pulmonary Laboratory
No changes made to the policy

3//21 **A. Duarte, MD**
Medical Director Pulmonary Laboratory
Changes to policy

8/21 **A. Duarte, MD**
Medical Director Pulmonary Laboratory
Changes to policy

7/23 **A. Duarte, MD**
Medical Director Pulmonary Laboratory
Changes to policy