Bronchial Provocation Information for Patients

You are scheduled to undergo a methacholine challenge test (also known as a bronchial provocation test), which is designed to evaluate the irritability of your airways and help determine the cause of respiratory symptoms such as shortness of breath, cough, or chest discomfort. This test helps your healthcare provider diagnose conditions like asthma or other respiratory disorders by assessing how your airways react to methacholine . During the procedure, you will inhale mist containing various concentrations of methacholine through a nebulizer. After each inhalation, you will blow forcefully into a spirometer to measure your lung function.

Preparing for the Test:

- List of Medications: Please bring a complete list of all medications, including inhalers, pills, nasal sprays, or any other treatments you are currently taking. Certain medications can affect the test results. You will be asked to stop using specific medications before the test, especially inhaled bronchodilators, for a period of time. Be **sure to follow your healthcare provider's instructions regarding which medications to** stop and when.

- Fasting and Hydration: You will be asked to refrain from eating for a certain period before the test (usually 4-6 hours) to prevent nausea during the procedure. Drink plenty of water the day before and the morning of the test unless otherwise instructed.

- Clothing: Wear comfortable, loose-fitting clothing to allow for easy breathing during the test.

What to Expect During the Test:

1. Initial Lung Function Test: Before starting the methacholine inhalation, you will perform a spirometry test to measure your lung function at baseline.

2. Inhalation of Methacholine: You will inhale mist containing methacholine in gradually increasing concentrations. This substance is intended to stimulate an asthma-like reaction, causing potential airway narrowing. After each inhalation, you will be asked to blow forcefully into a spirometer to assess how your lung function changes.

3. Monitoring and Safety: The test typically takes about an hour. Throughout the procedure, your healthcare team will monitor your breathing closely to ensure your safety. If you experience significant symptoms, the test will be stopped, and treatment with a bronchodilator will be administered.

4. Post-Test Care: After the test, you will be monitored for a short period to ensure that any airway constriction is resolved, typically with the use of a bronchodilator to relax the airways.

Benefits of the Test:

While the test may not always provide a clear answer, it can assist in ruling out or confirming conditions such as asthma. This test is a helpful tool in diagnosing your condition and determining the appropriate treatment. Alternatives to this test may include empiric treatments or radiology tests, but your provider may have difficulty pinpointing the cause of your symptoms without this test being performed.

Discomforts and Risks:

While the Bronchial challenge test is generally safe, there are some potential discomforts and risks to be aware of:

- Mild symptoms: Some patients may experience mild shortness of breath, coughing, chest tightness, wheezing, or a headache during or after the test. These symptoms are usually brief and resolve after the inhalation of a bronchodilator medication.

- Severe airway narrowing (rare): In very rare cases, the inhalation of methacholine can cause severe narrowing of the airways, leading to significant shortness of breath. If this happens, immediate treatment will be provided. In the unlikely event that severe symptoms appear several hours after the test, you should seek immediate medical attention by going to the nearest emergency room or calling 911.

After the Test: You will receive discharge instructions. However, if you experience persistent or severe symptoms such as difficulty breathing or chest pain, seek medical attention immediately. Your healthcare provider will give you specific discharge instructions after the test.