Attachment 10 Bronchodilator Test SOP

Form Approved
OMB NO. 0920-xxxx

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BRONCHODILATOR TEST

I. BACKGROUND

Bronchodilator (BD) administration can follow spirometry to detect reversible airways obstruction. Albuterol is the most commonly used form of bronchodilator for post - BD testing. For many projects, post-BD spirometry is only done for participants with abnormal pre-BD spirometry results (especially airway obstruction).

II. CONTRAINDICATIONS

Contraindications are the same as for baseline spirometry with the following exceptions.

- 1. Systolic BP >160 or diastolic BP >100 mmHg
- 2. Pulse >100 beats per minute

III. EQUIPMENT AND SUPPLIES

- 1. A spirometer
- 2. An albuterol metered-dose inhaler (MDI) that delivers 100mcg albuterol per puff
- 3. Disposable cardboard mouthpiece or 6" length of blue ventilator tubing to serve as spacer.

IV. TEST PROCEDURES

- 1. Prepare the bronchodilator administration equipment
 - a. Attach a spacer
 - b. Shake the MDI; if it has not been used for more than four (4) hours, activate the canister once to verify aerosol delivery.

2. Pre-test procedure

- a. Explain possible symptoms from test: "You may experience temporary jitteriness and/or rapid heart rate."
- 3. Test procedure.
 - a. Hold the MDI with a spacer 1 to 2 inches from the subject's open mouth.
 - b. Have the subject exhale fully.
 - c. Place the MDI with spacer in the subject's mouth.
 - d. While the subject is inhaling <u>slowly</u> activate the MDI while instructing the subject to continue to inhale slowly until they have inhaled fully over approximately 5 seconds.

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- e. Instruct the subject to hold his breath at total lung capacity (TLC) for 5 seconds and then to exhale slowly.
- f. Wait 30 seconds.
- g. Repeat procedure three additional times for a total of 4 metered doses being administered (400mcg total.)
- h. Wait 10 minutes.
- i. Repeat spirometry.

V. REFERENCES

- 1. Miller MR, Hankinson J, Brusasco V, et al, ATS/ERS Task Force. Standardisation of spirometry. Eur Respir J. 2005 Aug; 26(2):319-338.
- 2. AARC (American Association for Respiratory Care) clinical practice guideline. Spirometry: 1996 update. Respir Care 1996; 36:629-636.