

Purpose:

The lung volume bag is used to measure the vital capacity, the volume of air a person can expel after taking the deepest possible breath.

Materials:

- Lung Volume Bags x 4
- Mouthpiece with Holders x 4
- Rubber bands x 4

Procedure:

To assemble the materials:

- Insert the mouthpiece holder (the holders are of a larger diameter than the mouth pieces) into the end of the lung volume bag
- Fold the bag neatly around the holder to insure the airtightness of the bag – leaving about one inch of the holder protruding from the bag. (see illustration 1)
- Loop a rubber band three times around the folded part of the bag to securely fasten the bag to the holder (see illustration 2)
- Use a disinfectant such as dilute bleach solution or 70% alcohol solution to sterilize the mouthpiece; then rinse it in water and dry it with a clean paper towel

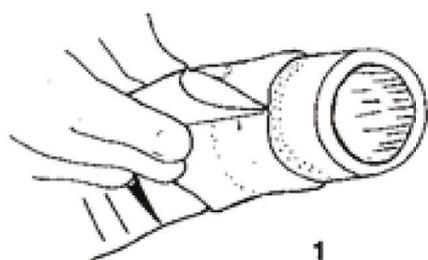
- Insert the disinfected mouthpiece into the holder that is attached to the bag as shown in Illustration 3

To take measurement:

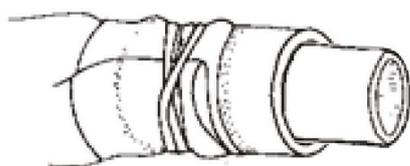
- Make sure that the bag is entirely empty of air by flattening it against your thigh with one hand and pulling it through with the other – see illustration 4
- Hold the bag near your mouth, take the deepest breath possible, place the mouth piece in your mouth and blow all of your breath in one blow into the bag
- Immediately grasp the bag just below the holder and twist it to trap the exhaled air
- Wrap the bag tightly around your hand until the bag becomes stiff. See Illustration 5
- Read the volume from the scale on the bag

Results:

The volume of air trapped in the bag is measured in litres and for all practical purposes represents a persons lung volume although a small amount of air will always remain in the lungs. Comparisons can be made between person's lung volumes and such factors as height, age, physical activity and habit of smoking.



1



2

Loop the rubber band three times.



3