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**APPLICATION OF PULMONARY PLETHYSMOGRAPHY TO ESTIMATE OF TOTAL LUNG CAPACITY**

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Pulmonary plethysmography is a test used to measure how much air you can hold in your lungs. Pulmonary plethysmography helps healthcare providers assess patients with lung diseases, which are often associated with a decrease in total lung capacity (TLC).

 Pulmonary plethysmography has been found to be more reliable than Spirometry, It can measure a person’s TLC, which is the total volume of air in the chest after they have inhaled as deeply as possible. Plethysmographic measurements are based on Boyle’s Law, a principle that describes the relationship between the pressure and volume of a gas.

Technique of this method. Patient will sit in a small, airtight room known as a body box and will breathe or pant against a mouthpiece. Clips will be put on his nose to shut off his nostrils. Depending on the information doctor is looking for, the mouthpiece may be open at first, and then closed.

Patient will breathe against the mouthpiece in both the open and closed positions. The positions give different information to the doctors. As patient’s chest moves while you breathe or pant, it changes the pressure and amount of air in the room and against the mouthpiece. From these changes, the doctor can get an accurate measure of the amount of air in patient’s lungs.

The main risks:

* anxiety from being in the closed box;
* dizziness;
* light-headedness;
* shortness of breath.