

Course Name: Pulmonary Function Test - Interpretation and Application in clinical practice

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Laboratory Video - Pulmonary Function tests - Interpretation and application in clinical practice

This is a demonstration of the computerized spirometry technique. We are from the Department of Physiology, Chettinad Hospital and Research Institute, I am Dr. Rajam Krishna, Dr. Brinda and Dr. Rafi. Now, I am going to demonstrate the flow volume loop.

For the flow volume loop, subject has to be instructed to take the maximum inspiration, hold the breath and then blow through this spirometer, blow through this mouthpiece and the expiration has to be complete as quick as possible. You have to expire through the mouthpiece and then following expiration, inspiration has to be done through the mouthpiece without any gap. Do you understand? Yes. Yes, so shall we proceed. So, let us do three trials

The first trial let us start now. Yes. Yes. Take a deep inspiration.

The subject has to breathe through this mouthpiece quick. It has to be quick. Yes.

Do the inspiration. Yes.

So, this is the flow volume loop which has been obtained what you see in the graph

So, shall we start? Yes sir. So, you have to take a deep inspiration first. Hold your breath. Yes, blow through the mouthpiece. It has to be quick.

Yes, expiration has to be quick and complete? Now inspire through the mouthpiece. Yes. So, this is the second trial what we have done, you can do three trials and the best of the three can be taken and after that the report can be generated this is the report. So, from the report these are the values which can be interpreted the first vital capacity can be interpreted. So, the vital capacity is 3.68. So, that is the maximum volume of air which can be which has been expired during this maneuver and then the first expiratory volume in 1 second and the ratio and the average mid maximal flow can also be interpreted using this and you can see the peak expiratory flow. So, you can also be seen in the graph peak expiratory flow that is the peak flow or the highest flow which is obtained during the maneuver that is the peak expiratory flow and that occurs during the first 20 percentage of the FVC when that is expired itself the peak flow occurs in normal individuals and then the peak inspiratory flow can also be obtained. Similarly, the peak inspiratory flow

occurs midway between inspiration and expiration. So, what you see here is the normal flow volume. Thank you