

The Association for Respiratory Technology & Physiology

Breathing Inspiration and Quality into Respiratory Healthcare

Introductory Price

£275

Spirometry in practice

Welcome to Spirometry in practice the online version of the 'ARTP Spirometry Handbook'. This course will provide you with the knowledge required to move onto the assessment part of the ARTP/BTS Certificate in Spirometry.

Respiratory disorders can cause changes within a person's lungs and airways, and the most important effects are on airways calibre and lung elastic recoil. Straightforward tests, such as dynamic lung volumes, commonly called spirometry, where volumes and flows are measured during forced expiratory and inspiratory manoeuvres, are valuable in the detection of some of these abnormalities associated with respiratory disorders. This online course will look at the anatomy and physiology of lung disease, and the theory, performance and interpretation of spirometry, including equipment usage and maintenance.

This programme is presented in three main parts.

Click for more information.

How can I get started?

One way to begin is to visit Personal Profile to find out what your learning style is and decide what you want to learn. You can then explore the topics by visiting the Learning Centre, where you will discover the learning activities.

The My Progress button on the left-hand navigation panel will show you where you have already been at any time, and if you get stuck, you can click on Help.

Spirometry in practice

Procedure example

During this correctly performed spirometry manoeuvre, we can see that the operator clearly explains what he expects from the patient. He also talks them through it, offering plenty of encouragement and support.

The patient is seated for safety, and is wearing noseclips. If you can observe the graph, you can see that they achieve an initial sharp rise to peak flow, and are encouraged to keep blowing until they are completely empty. Once empty, they are encouraged to inspire maximally until they are full.

Two more manoeuvres likely this, with the FEV₁ and FVC being reproducible, and this spirometry session is complete.

For comparative purposes, the following is the example of poorly performed spirometry:

Spirometry in practice

How can I interpret PEF measurements?

In healthy subjects peak flow is mainly an index of resistance to flow through the larger airways, bronchi and the larger bronchioles, which are subject to reflex bronchoconstriction in the hyper-responsive patient. It is not independent of respiratory effort; therefore it may be unsuitable for debilitated patients.

A vast number of respiratory abnormalities and diseases will have the effect of reducing peak flow. Click on the arrow icons below to see some examples:

- 1 Diseases that cause obstruction in the upper airway (trachea and main bronchus), i.e. bronchial carcinoma, goitre.
- 2 Obstructive airways disease, i.e. asthma, COPD.
- 3 Restrictive lung disease, i.e. fibrosing alveolitis, rheumatoid lung.
- 4 Chest wall abnormalities, i.e. neuromuscular disease, scoliosis.

By far the most common cause of reduction of peak flow is obstructive airways disease. A differential diagnosis cannot be made from peak flow results alone and further investigations such as spirometry have to be employed when this is needed.

Unfortunately, we cannot assume that a patient with a normal peak flow is free of respiratory disease. This is due to the fact that peak flow is reached very early in a blow and represents the air blown from the central airways. Many diseases will only affect the peripheral (small) airways especially early on in the disease process.

SPIROMETRY IN PRACTICE

A comprehensive overview of spirometry performance and interpretation

This online course is designed for those healthcare professionals working in either a primary or secondary care setting, and will provide you with a comprehensive overview of the complexities of spirometry.

It is ideal for those who may have difficulty in attending a spirometry training centre, and allows registrants to sign in or log out at their convenience.

It is broken down into 7 modules, with the completion certificate automatically updating itself depending on which module assessments have been taken. Therefore if you are only interested in certain modules, you only have to complete those module assessments. This flexibility gives registrants complete control over their training needs.

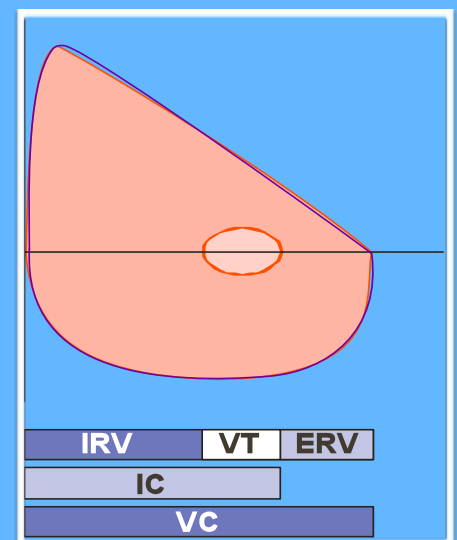
This course can be used as part of other ARTP/BTS courses or certificates, or as a stand-alone course to enhance your learning.

Modules Covered:

- Anatomy and Physiology
- Pathophysiology of Lung Disease
- Making the Measurement
- Reference Values
- Interpreting the Results
- Assessing the Bronchodilator Response
- Cleaning, Quality and Maintenance

And coming soon....

- Measuring Spirometry in Children



For further information, please email: admin@artp.org.uk or download an application form from www.artp.org.uk