



# ARTP

Association for  
Respiratory Technology  
& Physiology

## **Masterclass Course**

**9<sup>th</sup> – 10<sup>th</sup> October 2017**

### **Session aims and Learning outcomes**

#### **Session 1: *Guidelines and reference equations***

##### **Aim of session**

To understand the role and application of national and international guidelines and reference equations for the measurement of respiratory physiology.

##### **Learning outcomes**

At the end of the session the delegates will:

- Critically review the guidelines available for the measurement of respiratory function
- Understand the application of the ARTP guidelines and their role in the ARTP professional examinations
- Critically review the reference values available for predicting lung function across the age spectrum
- Have an understanding of normal values, reference ranges and regression equations
- Have an understanding of basic statistics e.g. mean values, normal distribution and standard deviation
- Understand standardised residuals and Z scores
- Recognise factors affecting the use of reference values

#### **Session 2: *Indications and contraindications***

##### **Aim of session**

To understand the indications and contraindications for performing full lung function tests and reversibility.

##### **Learning outcomes**

At the end of the session the delegates will:

- Review the current evidence for indications and contraindications
- Know the current recommendations
- Understand the difference between a contraindication and a relative contraindication
- Understand the reasoning behind contraindications for lung function testing



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## **Session 3:    *Pre test procedures and preparation for testing***

### **Aim of session**

To understand the pre test requirements for routine lung function testing and how to prepare the patient appropriately.

### **Learning outcomes**

At the end of the session the delegates will:

- Review the current evidence with regard to pre test instructions
- Critically review the guidelines for preparation for testing
- Be able to describe the ARTP guidelines with regard to preparation for testing
- Understand the importance of accurate anthropometric measurements
- Be able to accurately record a patients smoking history
- Be able to identify common medications which could impact on patients results and when to document dosage
- Understand the importance of ambient conditions
- How to assess the environment for appropriateness for the investigations to be performed

## **Session 4:    *Dynamic lung volumes***

### **Aim of session**

To understand the range of equipment available for the measurement of spirometry and their principles of action. To understand the importance of accurate and reproducible spirometry measurements.

### **Learning outcomes**

At the end of the session the delegates will:

- Be able to define spirometry parameters
- Be able to describe the test termination criteria
- Be able to describe acceptability and reproducibility criteria
- Be able to differentiate between flow and volume measuring devices
- Have an understanding of how flow and volume measuring devices work
- Have an understanding of differentiation and integration
- Understand the differences between volume time and flow volume traces
- Be aware of the guidelines for performance of spirometry and application of the ARTP guidelines
- Be able to describe the components of forced expiratory manoeuvres and how ratios are derived



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## **Session 5:    *Reversibility studies***

### **Aim of session**

To understand the role of reversibility studies in the assessment of respiratory patients.

### **Learning outcomes**

At the end of the session the delegates will:

- Be able to recognise which patients may benefit from reversibility studies
- Understand how to undertake a reversibility test
- Understand the guidance for assessing the significance of a bronchodilator response

## **Session 6:    *Spot check oximetry***

### **Aim of session**

To understand the indications, role and limitations of spot check oximetry.

### **Learning outcomes**

At the end of the session the delegates will:

- Understand the measurement principles of pulse oximeters
- Understand the indications and limitations of measurements of oxygen saturation
- Understand the role of spot check oximetry in the respiratory department
- Understand the measured results

## **Session 7:    *Calibration and quality control***

### **Aim of session**

To understand the importance of calibration and quality control and its application in the respiratory physiology department

### **Learning outcomes**

At the end of the session the delegates will:

- Be aware of the ARTP recommendations with regard to calibration of equipment for full lung function testing
- Understand the differences between calibration, verification and quality control including BioQC
- Understand how to interpret results of BioQC and use data to track equipment performance



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## **Session 8: Lung volumes**

### **Aim of session**

To understand the range of equipment available for the measurement of lung volumes and their principles of action. To understand the importance of accurate and reproducible lung volume measurements.

### **Learning outcomes**

At the end of the session the delegates will:

- Have an understanding of the measurement techniques for the performance of lung volumes via helium dilution, nitrogen washout, body plethysmography and interrupter techniques.
- Be able to describe the advantages and disadvantages of different methods of measuring lung volumes
- Compare and contrast measurement techniques and explain differences in results obtained when using different techniques
- Have an understanding of the function of common gas analysers
- Be able to describe the test termination criteria for each measurement technique
- Be aware of the guidelines for performance of each technique and application of the ARTP guidelines
- Be able to describe the components of lung volumes and how they are calculated or derived

## **Session 9: Gas transfer**

### **Aim of session**

To understand the range of equipment available for the measurement of gas transfer and their principles of action. To understand the importance of accurate and reproducible gas transfer measurements.

### **Learning outcomes**

At the end of the session the delegates will:

- Have an understanding of the measurement techniques for the performance of gas transfer to include TLCO, TLNO and an awareness of other techniques
- Be aware of the gases available for the measurement of gas transfer
- Understand the terminology and units of measurement
- Be able to describe the test termination criteria and acceptability criteria
- Be aware of the guidelines for performance of gas transfer and application of the ARTP guidelines
- Understand the underlying principles of gas transfer and what it is measuring



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## **Session 10: Examination format and IRCP**

### **Aim of session**

To understand the format and process of the new ARTP examinations and the associated IRCP

### **Learning outcomes**

At the end of the session the delegates will:

- Have an understanding of the format of the ARTP associate and practitioner examinations
- Be able to identify which level examination they need to enrol for
- Understand the range of equipment available for examinations
- Understand the process of examinations to include enrolment and deferral requirements
- Understand the requirements of the IRCP
- Be aware of the scheduling of examinations

## **Session 11: Assessment**

### **Aim of session**

Delegates will be presented with an assessment/quiz to consolidate learning from first two days.

## **Session 12: Interpretation of results**

### **Aim of session**

The workshop leaders will guide delegates through a practical session considering how full lung function results should be interpreted correctly.

## **Session 13: Case studies**

### **Aim of session**

Delegates will be presented with a series of case studies for interpretation and discussion.