



# ARTP

Association for  
Respiratory Technology  
& Physiology

## **Masterclass Course**

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

### **Course Overview**

This course is aimed at A4C Bands 3-5 level staff as a standalone assessment of professional competence. The course is designed to support the ARTP Practitioner and Associate professional examinations providing the candidate with all the underpinning knowledge required for these examinations.

### **Target Audience:**

PTP graduates

STP direct entry students

Respiratory physiologists and assistants working at Bands 3-5 level

### **Learning Outcomes:**

By the end of the course delegates will be able to:

- Understand the role and application of reference values and national and international guidelines
- To be able to recognise the requirements for routine lung function testing
- To be able to prepare a patient appropriately for routine lung function testing
- Understand the theory and practice of measurements of spirometry, lung volumes (via gas dilution and body plethysmography), gas transfer and spot check oximetry.
- To understand the role and application of reversibility studies
- To be able to accurately deliver inhaled therapy using a range of devices
- To be able to technically interpret results of full lung function testing, reversibility and spot check oximetry.
- Understand the examination process and format

### **Speakers:**

NM	Nola McAlinden
PB	Paul Burns
JS	Joanna Shakespeare

\*All speakers subject to change

### **Course Support Team:**

Administration	EBS
Support Faculty	Nola McAlinden and Joanna Shakespeare

### **Course Programme:**



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## Masterclass Course

Monday 9<sup>th</sup> October 2017

### Day 1

Time	Session	Speaker
<b>09:00</b>	<b>Registration and Coffee</b>	
09:30	Introduction to the course	NM
09:45	Guidelines and reference equations	PB
10:15	Indications & Contraindications to testing	NM
10:30	Pre-test procedures & preparation for testing	NM
<b>11:00</b>	<b>Break</b>	
11:30	Dynamic lung volumes - Equipment	PB
11:45	Dynamic lung volumes – Performance	PB
<b>12:30</b>	<b>Lunch</b>	
13.30	Reversibility studies	NM
14:00	Spirometry and Reversibility Interpretation	JS
<b>15:00</b>	<b>Break</b>	
15:30	Spot check oximetry – Equipment & performance	PB
16:00	QC & Calibration	PB
16:30	Questions	All
16:45	Close Day 1	



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<b><u>Masterclass Course</u></b>		
<b><u>Tuesday 10<sup>th</sup> October 2017</u></b>		
<b><u>Day 2</u></b>		
<b>Time</b>	<b>Session</b>	<b>Speaker</b>
<b>08:30</b>	<b>Registration and coffee</b>	
09:00	Lung Volumes	PB
<b>10:00</b>	<b>Break</b>	
10:15	Gas Transfer	JS
11:30	Outline of new exams and IRCP	JS
	<b>Close of day for those undertaking the associate level examination</b>	
<b>12:00</b>	<b>Lunch</b>	
12:45	Assessment	
13:00	Interpretation of results	PB/JS
<b>14:00</b>	<b>Break</b>	
14:15	Case studies	All
16:00	Questions	All
16:30	Close Day 2	



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## 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

### **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.



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## **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

## **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:



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- 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

## **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.





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## **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

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

### **Aim of session**

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



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## **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.