



ARTP

Association for
Respiratory Technology
& Physiology

Blood Gas Sampling & Interpretation Course

Thursday 4th – Friday 5th June 2026

Location: Birmingham City Centre

Target Audience

Clinical Physiologists/Clinical Scientists and other healthcare professionals undertaking the performance and interpretation of blood gases as either as a standalone service or as part of a home oxygen team or NIV Service Speciality Trainee medical professionals.

Aim

To provide healthcare professionals with:

- The underpinning knowledge and practical skills to safely develop competence in arterial and arterialisised capillary blood gas sampling.
- A framework to accurately interpret blood gas values.
- The theoretical background and practical application of blood gas values in the clinical context.

Learning Outcomes

By the end of Day One, delegates will be able to:

1. Identify suitable and unsuitable sites for blood gas sampling.
2. Understand the advantages and disadvantages of arterial and arterialisised blood gas sampling.
3. Correctly perform and be aware of dangers and complications of blood gas sampling.
4. Demonstrate an understanding of their legal and professional responsibilities with respect to blood gas sampling.
5. Understand how to work towards competence using an appropriate skills logbook.

By the end of Day two, delegates will be able to:

1. Identify the key differences between arterial and arterialised blood gas sampling and the clinical relevance of these differences.
2. Understand the indices obtained from a blood gas sample, be aware of additional clinically useful equations and be able to identify respiratory failure (Type 1 and Type 2).
3. Interpret blood gas values in the context of the clinical information available using a 5-step approach.
4. Describe respiratory and non-respiratory causes of altered blood gases.
5. Analyse blood gas results and suggest appropriate management strategies within scope of practice.
6. Consider blood gas results in the context of the provision of long-term oxygen therapy.

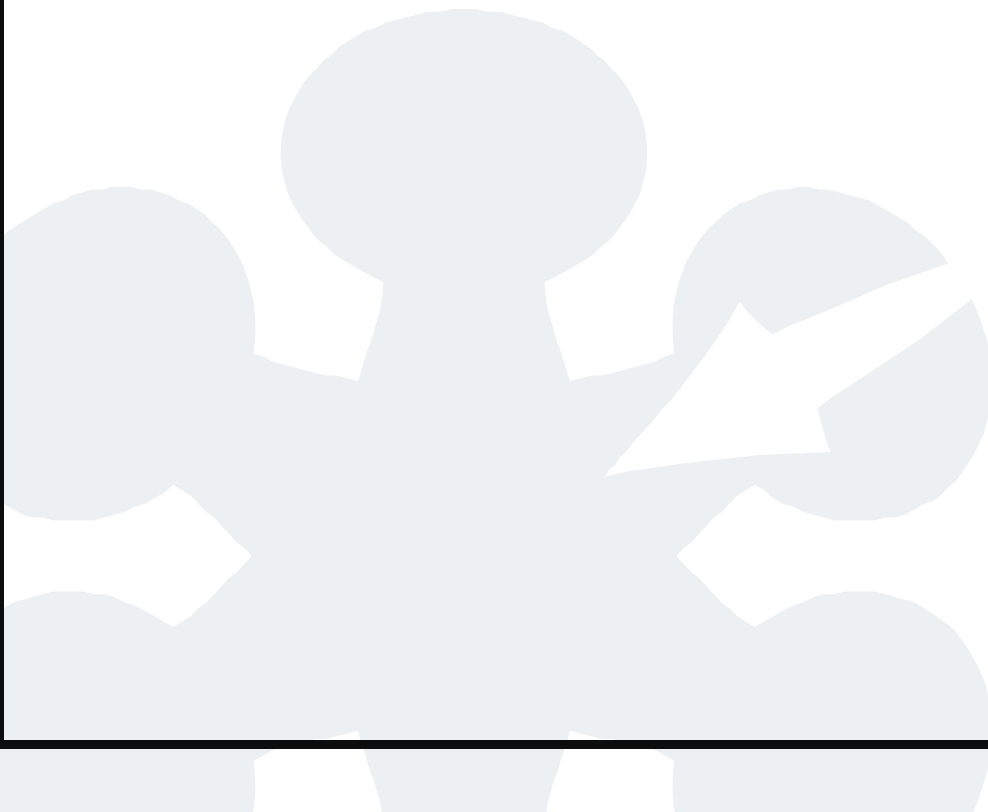
Speakers:

- Dr Julie Lloyd, Consultant Clinical Scientist, Good Hope Hospital
- Megan Beacham, Clinical Scientist and Deputy Service Lead, Wolverhampton Respiratory Centre
- Jackie Swindells, Highly Specialist Respiratory Physiologist, Wolverhampton Respiratory Centre
- Richard Glover, Clinical Scientist and Deputy Service Lead, Good Hope Hospital





Course Programme



Day One – Blood Gas Sampling – Thursday 4th June 2026

Time	Session	Speaker
09.00	Registration & Refreshments	
09.30	Welcome and Introduction to the day	Julie
09.40	Review of relevant anatomy and physiology for blood gasses	Megan
09.55	Site selection and Allen's test Practical: <ul style="list-style-type: none"> • Identifying suitable sites • Modified Allen's test 	Julie
10.40	Infection control in the context of blood gas sampling	Megan
11.00	Comfort Break & Refreshments	
11.20	Equipment Selection	Julie
11:40	Complications and inaccuracies of Blood Gas Sampling	Megan
12.00	Performing an arterialised capillary blood gas	Jackie
12.20	Performing an arterial blood gas (Radial artery)	Julie
12.40	Practical supervision and working towards competence	Julie
13.00	Lunch	
13.45	Practical blood gas sampling sessions <ul style="list-style-type: none"> • Delegates will be split in groups for hands on practical skills training in both or either sampling technique 	Julie, Jackie, Megan
15.00	Comfort Break & Refreshments	
15.15	Practical blood gas sampling sessions (continued)	Julie, Jackie, Megan
16.00	Discussion, questions and evaluation of the day	Julie, Jackie, Megan
16.15	Close	



Day Two – Blood Gas Interpretation – Friday 5th June 2026

Time	Session	Speaker
09.00	Registration & Refreshments	
09.30	Introduction to the day	Julie
09.45	Review of arterial and arterialisised capillary blood gas sampling techniques and comparison of results obtained from each	Julie
10.15	Introduction to a 5-step approach to blood gas interpretation.	Richard
10:30	Fundamentals of blood gas interpretation: <ul style="list-style-type: none">• key indices• equations Type I and Type II Respiratory Failure	Richard
11.15	Comfort Break & Refreshments	
11.45	Respiratory and non-respiratory causes of altered blood gases including: <ul style="list-style-type: none">• Chest wall disease• Obesity hypoventilation• Cardiac disease• CNS disorders	Richard
12.30	Clinical Case studies (1)	All
13.00	Lunch	
14.00	The blood gas result and its impact on diagnosis and treatment rationale	Megan
14.30	Blood gases in the context of long-term oxygen (LTOT & AOT)	Julie
15.00	Comfort Break & Refreshments	
15.15	Clinical Case studies (2)	All
16.00	Discussion, questions and evaluation of the day	Julie & Megan
16.15	Close	