

Case Study University of Oxford

Compact clinical chemistry for research applications

For today's biochemistry research, laboratories increasingly require a more flexible and easy to use clinical chemistry analyser capable of processing low sample volumes. Additionally, a compact system that provides same day results is the practical solution to expensive outsourcing. The ABX Pentra 400 clinical chemistry analyser can perform almost all parameters based on liquid chemistries on a single workstation.

This case study discusses how the ABX Pentra 400 can enable researchers to expand their research through quicker turnaround of routine and specific research tests.

"I love my ABX Pentra 400 and would not hesitate to recommend it to anyone working in biochemistry research"

Emma Carter,
Laboratory Manager at the
Department of Physiology, Anatomy
and Genetics,
Oxford University



High precision clinical chemistry analyses for routine and specialist tests

Following the recent installation of an ABX Pentra 400 chemistry analyser at the University of Oxford, researchers in the Department of Physiology, Anatomy and Genetics are already feeling the benefits. Researching the role of diet and exercise on heart function, the team at the University of Oxford daily analyses plasma metabolite levels, lactate, triglycerides, ketones and fatty acids in blood. The ABX Pentra 400 has become invaluable to the laboratory's cardiac metabolism research, enabling faster turnaround of results and facilitating the use of smaller sample sizes. Prior to the installation of the ABX Pentra 400 at the University of Oxford, tests were often performed manually at the bench where possible or grouped together into batches before being sent for analysis at the Churchill Hospital, often creating a delay of weeks in receiving results. Now, same day results are achieved on the ABX Pentra 400.

"Installing the ABX Pentra 400 has enabled us to bring all our work on-site where previously we were outsourcing costly assays to the NHS," explains Emma Carter, Laboratory Manager at the Department of Physiology, Anatomy and Genetics. In doing so, consistency and reliability is maintained across all research areas. "Florence, as our ABX Pentra 400 is known, has become invaluable to our research. Having the analyser has enabled rapid delivery of results, enabling researchers to continue working with the minimum of delay," continues Emma. As an extended project, Emma has been using the ABX Pentra 400 to look at how quickly ketones are metabolised in blood. By spiking blood samples with a ketone ester developed in the laboratory, she has been able to monitor the rate of metabolism every 5 minutes by analysing small samples on the ABX Pentra 400. "I can have

my waterbath right next to the analyser and monitor my results during the experiment, something that would have been impossible with our previous manual set up," explains Emma. By bringing all their analysis resource on-site with the ABX Pentra 400, the team at the University of Oxford has been able to expand their research to new avenues, taking on smaller projects requiring quicker return of results. As with any change of analyser and technology there is a learning curve. However the team at the University of Oxford found the ABX Pentra 400 easy to adapt to, as Emma explains, "Although things were different to start with, it all became second nature quite quickly. I received excellent 1:1 training from HORIBA ABX which has in-turn enabled me to train others in the laboratory to use the machine."

Analysis **Anywhere**

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