

Queen Alexandra Hospital Finds Improved Speed, Accuracy and Productivity with Remisol 2000

Laboratory Profile:

- Queen Alexandra Hospital, Portsmouth, United Kingdom
- Haematology and Blood Transfusion Laboratory
- Operates 24 hours a day, seven days a week
- Employs 32 staff members
- Performs more than 300,000 tests per year
- Equipped with Remisol 2000 Data Management System and three COULTER® Gen•S™ haematology analysers

When the laboratory at Queen Alexandra Hospital in Portsmouth, Hampshire, United Kingdom, set out to find a new data management system, it had a specific goal in mind: simplify the retrieval of test results.

“With our previous analysers, we could only search for results in numerical bar-code blocks,” says Michael Hickton, Head Biomedical Scientist for the laboratory. “We had to enter several parameters to even come close to finding the result we wanted. It was a complicated process.”

Now, with its Remisol 2000 Data Management System, the laboratory can retrieve patient results numerically, alphabetically or even reverse-alphabetically. But that’s just the beginning, says Mr. Hickton. With Remisol, the laboratory is no longer constrained by the limitations of its legacy laboratory instrument system (LIS). Also, thanks to Remisol, the lab can manage data more effectively and maximize the value of its instruments – all while extending the life of its existing LIS.*

And that’s far more than the laboratory ever expected.

Data, Data Everywhere

At Queen Alexandra Hospital, a heavy workload is a fact of life. The hospital's Accident and Emergency Department is the busiest on the south coast of England and serves approximately 100,000 people each year. In addition, Queen Alexandra is part of Portsmouth Hospital's NHS Trust, the seventh largest pathology service in the United Kingdom, and serves a population of more than 650,000.

To support this bustling environment, the laboratory at Queen Alexandra had been operating two COULTER Gen•S haematology analyser. Then the group decided to add a third Gen•S – and suddenly the issue of data management took centre stage.

“We were concerned we would potentially have to spend more time and effort to track samples on a total of three instruments,” says Mr. Hickton.

In addition, the lab would not be able to interface all three instruments on one console. These issues, plus the need to retrieve test results quickly, left a gap that only a powerful data management system could fill. Remisol, says Mr. Hickton, was a natural fit.

“Our lab has a long-standing relationship with Beckman Coulter,” he says. “We know we can trust the service and support. We also liked that the system would easily interface with our existing Gen•S analysers.”

After a simple configuration and set-up process, the laboratory was up and running with its new data management capabilities. Right away, lab

Laboratory Goals	Laboratory Results
<ul style="list-style-type: none"> • Simplify retrieval of test results 	<ul style="list-style-type: none"> • Replaced cumbersome and imprecise search process of the hospital's LIS, enabling lab workers to locate a specific sample quickly and efficiently.
<ul style="list-style-type: none"> • Deliver accurate results quickly 	<ul style="list-style-type: none"> • Technologists now validate results quickly and accurately. The laboratory has saved up to two hours a day and improved turnaround time.
<ul style="list-style-type: none"> • Prepare for future growth 	<ul style="list-style-type: none"> • Fewer blood films and retests, as well as the ability to locate samples and results quickly, have positioned the laboratory to take on larger workloads, which will result when Queen Alexandra Hospital merges with a sister hospital.

*Marketed as DL2000 in some countries.



workers noticed a change: With Remisol, patient samples were much easier to track.

In Plain Sight

The process is simple and straightforward: As sample data are uploaded into the LIS, they appear on Remisol's screen. Then the system tracks the tubes throughout the testing process. If a sample doesn't make it to the intended analyser, Remisol

alerts the operator. And when a physician adds a test, a message pops up to direct the technologist to the right sample tube.

Previously, says Mr. Hickton, when technologists were looking for a misplaced sample tube, they had to search each instrument physically – certainly not desirable in a busy environment. But now they can locate it with just a few keystrokes.

"The system is very user friendly," says Mr. Hickton. "It makes it easy to track the testing progress and locate tubes."

Plus, with the system's intranet and networking capabilities, the haematology medical consultants can access Remisol at their workstations; they don't have to visit the lab in order to retrieve information on a patient's result.

In addition, with Remisol capturing and managing data, the laboratory has extended the life of its LIS. It can bring new instruments online and maximize their value without requiring major upgrades to the LIS platform.

But these aren't the only features lab workers value. They also appreciate the breadth of information Remisol captures.

Insight into Test Results

When a test result is abnormal or seems questionable, technologists can use Remisol to check dot plots – or scatterplots and diff plots – as well as histogram information. These data can be a preliminary indicator for the source of the abnormality and help determine if a retest is required.

"Our LIS system is unable to store dot plot and histogram information," says Mr. Hickton. "Before Remisol, this made it difficult to validate test results properly."

The dot plots and histograms are automatically stored in Remisol as tests move through the Gen•S systems. Technologists can access the data at any time, compare

them with previous results from that patient and spot potential medical conditions early. For instance, certain dot plot configurations can serve as preliminary indicators of mononucleosis or glandular fever.

"This information is important, because it means we aren't conducting our work blind," says Mr. Hickton. "We can see the big picture and this helps us provide the right insight for each individual case."

The extra information not only improves patient care, it saves time and lowers costs. With more data available, the lab is able to determine the root cause of many abnormal test results – without retesting the sample.

The additional data capabilities have reduced the need for follow-up blood films by 20 to 30 per day. The savings add up, since it takes roughly one minute to create film and up to three minutes to review the film, not to mention the cost of supplies.

And soon, says Mr. Hickton, the lab will save even more time, thanks to Remisol's auto-validation capabilities.

Next Step: Auto-validation

Later this year, the laboratory will transfer decision rules from the LIS to Remisol – a move that will improve patient safety and save time.

"Remisol will allow us to validate our results before they reach the LIS," says Mr. Hickton. "And we will be able to use more specific decision rules, which will improve the review process."

With auto-validation, normal results are released while abnormal results are flagged for review. At Queen Alexandra, this will improve turnaround time because haematology samples will be validated right away; they won't have to wait in line as the LIS validates samples from other departments.

As a result, turnaround will be consistent and physicians will receive results quickly. This will enable them to make informed medical decisions faster – a benefit that measurably improves patient care. The risk of errors is reduced as well, since the process is completely automated.

All of these benefits – from faster turnaround time to higher productivity levels – are helping the laboratory adjust to an even larger workload. Over the next 18 months, Queen Alexandra hospital will merge with its sister hospital, St. Mary's. The new, 1,800-bed facility will stand as one of the top pathology institutions in the country – and the laboratory will continue to rely on Remisol.

"Once we've merged, we're expecting 8 percent growth every year," says Mr. Hickton. "It's nice to know we have the systems in place to support this growth."

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Michael Hickton

Head Biomedical Scientist



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