

Customer Spotlight: Westmead Children's Hospital

The Children's Hospital at Westmead is the largest paediatric centre in NSW that is dedicated to caring for children from birth up to the age of 18 years. In 2018 over 155,000 sick and injured children were treated across the Sydney Children's Hospital Network with 80,000 of those being treated at the Westmead campus. Pathology services for the Westmead site are performed by the dedicated team that make up the Pathology department within Westmead Children's Hospital. Their blood bank department tests approx 6878 samples annually with >6000 units of blood being released each year. Previous to 2018 all testing in blood bank was performed manually using Column Agglutination Technology (CAT). Following installation of the Immucor Echo Lumena by Immulab, Westmead Children's are running with a fully automated blood bank analyser for all front-line testing. Here we shine a customer spotlight onto Westmead Children's first year with automation.

Westmead Children's existing platform was fully manual so having a fully automated instrument that could reduce hands-on time and utilise staff better was essential. With staff being multi skilled and covering other departments, "being able to free up staff from the bench to perform other tasks has been great" said Blood Bank Senior Margy Ogg. The Echo Lumena was able to give Westmead Children's the automation required within the same bench footprint that their manual workstation occupied. Echo has allowed them to automate not only their group and screen assays but also their donor group checks, Rh phenotyping, antibody ID panels, and IAT crossmatching. Being able to interface Echo to their Cerner system has also meant the risk of transcription errors has been eliminated.

In April 2018, the Echo Lumena was installed, with comprehensive training taking place onsite for all Primary and Secondary users. Differences between the existing CAT system to Immucor's Capture technology, which utilises microplates, can be perceived as daunting but Margy has said "whilst staff were cautious about the differences, staff have taken to it very easily. Given we chose to retain one manual CAT workstation there have not been any issues with staff confusing the two technologies."

Being a Children's hospital, it was also important that any automation was able to handle small volumes. According to Margy, the Echo Lumena has "easily handled the number of low volume samples we receive." Echo Lumena has the capacity to process these samples via a special paediatric rack which accommodates commonly used BD microtainer and BD microtainer MAP tubes as well as other paediatric tube brands. Feedback from Margy and the team since installation has been that the servicing and training has been great. "Troubleshooting the machine has been very easy and the support from Cheng and Nicole has been fantastic". Moving forward the ability to have service personnel remotely connect into the Echo will also be able to limit non-scheduled downtime.

As for serological performance of the Echo, Margy has been very happy with the sensitivity of the Capture technology and has found that the number of IgM antibodies has dropped since moving to Capture, especially Anti-M. Anti-M is one of the more common antibodies identified at the Children's hospital and since changing to Capture which is IgG specific, they've seen a decrease in the detection of Anti-M by 17%. That is, Westmead Children's is not detecting non-clinically significant (IgM) Anti-M antibodies.

Since changing to Immulab and Immucor automation, turnaround time for the majority of samples has decreased. Samples are not waiting to be batched for manual testing but rather they are loaded onto the Echo as they arrive. Retaining one CAT workstation for manual work has been a positive for Margy. Given Westmead Children's already owned their centrifuge and incubator they thought keeping this as a manual backup option complemented the Echo and gave them access to two different technologies.

What's next for Westmead Children's?

In October, Westmead Children's will be participating in Immulab's first User Group Meeting to be held in Melbourne. This will facilitate constructive dialogue amongst Immucor users within Australia and NZ. The event will include presentations from local and International Immucor Blood Bank Automation users, updates on next generation technology the opportunity to participate in workshops and discussions to get the most out of their system. In addition to participating in the User Group Meeting, additional educational tools are made available by Immucor through the online learning portal "LEARN" including Webinars to support further professional development. This is supplemented by Immulab with an extensive range of educational talks.

Overall, the addition of the Echo Lumena that has been christened "Rufus", has had a huge impact for Westmead Children's. Not only have efficiencies been gained through better staff utilisation and decreases in detection of IgM antibodies but patient safety has also been improved. Having results automatically transfer to the LIS and limiting steps that require human interaction has decreased the probability of human related errors and mistakes. In addition to these gains in efficiency and safety, turnaround time has also benefited from the implementation of Rufus, thus avoiding unnecessary delays in providing transfusions. Immulab look forward to ongoing partnership with Westmead Children's to help them achieve a quality pathology service that allows children and young people live their healthiest lives possible.

