Leica CEREBRO – Protecting New Zealand Patients

Leica CEREBRO helped Pathlab in New Zealand achieve significant improvements in patient safety and laboratory productivity. Using a unique “hub and spoke” architecture, Leica CEREBRO also integrated two Pathlabs sites to create a single cohesive specimen tracking solution.

Pathlab – caring for 4,500 patients each day

Pathlab is a Pathologist-owned laboratory servicing over 4,500 patients per day. It has operated in New Zealand for over 50 years, starting in 1958 as a community lab and expanding into different locations, with four sites, including two major hospitals at Tauranga and Whakatane. Pathlab provides a broad range of pathology services including a recent expansion into molecular oncology, servicing around half a million citizens.

Leica CEREBRO: More than a sample tracking system

Leica CEREBRO is a sample tracking system that follows each sample through each step of the pathology process by assigning it a unique identifier.

“More than a 2D bar code, CEREBRO’s system provides the safety that we require. CEREBRO makes sure that every item has its own identity and is tracked throughout the laboratory.”

Dr Richard Massey, Director of Pathology Associates Limited.

Reducing errors

How Leica CEREBRO is helping Pathlab

Since installing Leica CEREBRO, Pathlab laboratories has reported no incidents or issues. They attribute this great result to the consistently great safety and quality control data provided by the CEREBRO system. These results are exceptional in comparison to industry averages presented in the study by Nakhleh et al. 2011. This level of performance is achieved with rigorous procedures and very high standards of quality tracking.

“We believe a sample tracking system should become the standard of care”

Corinne Hill, Lead Scientist of Histopathology

Demonstrated improvements in critical areas

Pathlab shared their internally developed risk management data. They measured a clear risk reduction attributable to Leica CEREBRO.

Pathlab regularly assess the risks associated with each area. Their data indicated that the grossing and sorting stations were the highest risk areas. Assessments done after the CEREBRO installation showed a significant risk reduction.
A unique hub-and-spoke architecture

Pathlab’s management team elected to proactively implement the Leica CEREBRO tracking system as they were well aware of the risks associated with highly manual activities. Pathlab sites began using Leica CEREBRO on the 12th of December 2012. Due to the geographical distance between sites, CEREBRO was installed in a hub and spoke architecture. This allowed each site to be individually managed while also allowing for all information to be pooled into one central data management repository.

Increased productivity: Pathlab broadens their scope of work thanks to Leica CEREBRO enabled time savings

The risk data shows that before installing Leica CEREBRO the site’s excellent patient safety results were achieved through heavy staff involvement, the implementation of Leica CEREBRO freed capacity and saved time.

“As an example, previously if a pathologist was to raise a query about a specimen, let’s say they were looking down the microscope and what they see is not what they were expecting because of the clinical details on the form. The amount of work, time and effort that would go into proving or disproving that, could take hours, I had one the other day, it took me 30 seconds, because I was able to look at the CEREBRO tracking information, and I could say without any doubt that the specimen that was in front of the pathologist was the correct specimen.”, Corinne Hill

Leica CEREBRO saved an average of 2.5 hours of lab manager time each day.

The greatest time gained was on audits and checking possible mismatches. Leica CEREBRO communicates directly with the Leica BOND immunostainers, negating any need to re-label slides. Additionally, a precise tracking system allows the management team to spend more time effectively managing their staff’s time. These time savings have allowed the Laboratory to easily cope with unplanned staff leave or rush times.

“We are busier lab, the workload has increased, not only in terms of quantity but also in terms of complexity. We needed to think on how we would cope if we were to take on more work, this would not mean take on more staff but work smarter in a day. CEREBRO allows us to manage the work flow smoother.” Corinne Hill.

Cerebro helps to improve planning and anticipation

Leica CEREBRO facilitates better organization and anticipation as Pathlab can now easily trace slides moving from one lab to another. CEREBRO has also allowed Pathlab to better understand the seasonality of their business. As an example, Matt Collier, 2IC Histopathology manager, discovered that May was their busiest month so far. These types of business analytics will allow Pathlab to better plan for these changes in case load next year by anticipating required staffing levels and reagent stocks.

Leica CEREBRO is constantly evolving, it is not a static software package. With new updates being released periodically CEREBRO is constantly evolving and improving right alongside the histology lab making CEREBRO the sample tracking system of choice.

The College of American Pathologists’ Q-probe Study quantified mislabelling rates across 136 institutions of cases (0.11%), specimens (0.1%), blocks (0.17%), and slides (0.11%). Errors in labelling appear nearly equally throughout the system of accessioning, gross pathology processing, and tissue cutting. Errors are typically detected in the immediate steps after the errors occurred, reinforcing the need for quality checks throughout the system.

A smooth implementation

“We were pleased with the overall installation of the CEREBRO system, because Pathlab was the first site in Australasia, we were initially concerned about implementing the technology but the commitment from Leica was really encouraging. And the process itself ended up being really seamless”. Matt Collier, 2IC Histopathology

“When we had CEREBRO in for the first time, it was quite a change for the physical aspect of it, the job remains the same, but all of a sudden you have to scan a block in. At the embedding station, we initially kept on missing the scanning step, but in just a few days, everyone got used to it really rapidly. As an illustration, one month after the installation of Cerebro, the server went down because of an external power cut, and instinctively, everybody was trying to scan, it’s become so natural, so ingrained into you. We cannot imagine life without CEREBRO now.

The thought of having to write a slide out feels so archaic now, why would you do that?

The staff in temporary contracts or locums with us will have to move to another department, they will not have CEREBRO, they will struggle as they’ve been really spoilt.” Corinne Hill

Having experienced big changes in laboratory processes before, Corinne Hill, the Laboratory manager, was worried about the staff and how they would react to the implementation of CEREBRO. A focused and strategic implementation process removed all these concerns and resulted in smiles all around the lab.

“Even the initially less keen persons could rapidly see the positive change”. Corinne Hill

Driving Risk Reduction –

Dianne McQueen, Chief Executive Officer

“From management’s point of view, the goal of implementing any Specimen Tracking System was to minimize risk and maximize productivity. The histology process is especially at risk of errors due to the large number of repetitive manual steps relying on scientists to be engaged and attentive at every moment. The decision to upgrade to Leica CEREBRO was the result of Pathlab’s ongoing process improvement program. A recent external Lean Sigma analysis of the Laboratory itself discovered that Pathlab have developed quality tracking systems so efficient that only automation could improve both the risk reduction and productivity.

The board is more than happy with the installation of Leica’s CEREBRO. The risk reduction and zero incident report has lived up to Pathlab’s expectations. A key performance indicator Pathlab used to measure the effectiveness of CEREBRO was cassette labeling. The risk of mistakes in this area has been significantly reduced which helps mitigate mistakes that could have resulted in significant adverse events.”

Many reasons to choose Leica CEREBRO

On top of patient safety and time management tools, the following are key reasons that Leica CEREBRO was chosen:

» The handling of each section of the laboratory (sectioning, embedding etc.) could be tracked, making it possible to have a detailed history for each specimen (step, lab personnel, etc.)

» Interface to AP software and pathologists

» Overall cost of package

» The fact that the software was locked down was critical, as any variance can allow loopholes that impact patient safety

» Expertise and relationship of the provider, the key in-depth support was a major argument.

“It is now unthinkable to have a histology lab without a sample tracking system.” Dianne McQueen
The Pathologist’s view – providing confidence
Dr Richard Massey, Director of Pathology Associates Limited.

“From a Pathologist’s perspective, when we are given the samples, we can now have certainty that we are looking at the right slide that has been processed the right way. This confidence is a critical component to diagnosis since each report is signed off by the pathologist.

A momentary lapse in concentration can lead to samples being misidentified and incorrect or insufficient labeling can have devastating consequences for patients. By investing in Leica CEREBRO we are taking all possible steps to eliminate the potential for this to happen.

In addition to that, I can now move on with my work, I do not have to put something on hold while the lab is checking a labelling query.

Finally, what I could observe in the lab is that Lab staff seem calmer, it reduced their stress level.”

The IT perspective – seamless installation
David Scarrow, DMLS Manager, Information Systems

“We found it very simple, mainly because Leica formed a relationship with our Lab services and LIS provider. After getting to know each other, the two technical teams worked well together. The installation of the system was seamless. Our IT department had very little involvement in the whole project and the entire installation was managed by the Leica team. This is a good thing as we found in different Laboratories that this gives them more control.

Since the installation, only minor troubleshooting has been required and in all instance the problems have been resolved rapidly.

Six months following the installation there have been no IT technical incidents to report, only one minor point was raised and the Leica team in Australia quickly addressed and resolved the issue.”

“Patient tracking system is an evolution process that has reached histology.”

Dianne McQueen, CEO of Pathlab

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