

LEICA BIOSYSTEMS CASE STUDY

HIGH-VOLUME LAB SWITCHES FROM VIP TO THE HISTOCORE PELORIS 3 TISSUE PROCESSOR TO DELIVER FASTER TURNAROUND TIMES, EXPAND SERVICES



To survive in today's highly competitive clinical laboratory market, high-volume pathology labs have placed a precedent on productivity and profits. But at South Bend Medical Foundation, success is not just measured by the bottom line but by the lives of the patients they serve. South Bend Medical Foundation supports hundreds of hospitals and thousands of physicians throughout Northeast Indiana and the surrounding states by leveraging the most advanced technology to increase quality and efficiency and ultimately expand its services in cancer diagnostics.

Meeting Demanding Turnaround Times

What drives this nonprofit reference laboratory is the accurate and timely delivery of slides to pathologists, enabling rapid diagnosis and relief to patients anxiously awaiting their results.

As a 24-hour working lab, South Bend Medical Foundation processes large and small specimens ranging from gastrointestinal to skin samples to breast biopsies for an estimated 60,000 cases a year. Every day, the lab processes 800 to 1,000 blocks and 1,500 to 1,700 slides, according to Bradley H. Johnson H.T.(ASCP), Supervisor, Histology Department, South Bend Medical Foundation.

To expand its services and serve more patients, the lab has developed a plan to accelerate an already rigorous pace. As it phases out a fleet of six Sakura VIP tissue processors, it has strategically selected the Leica Biosystems HistoCore PELORIS 3 tissue processor to speed up turnaround times. The overall initiative, led by Johnson, involves the installation of a second HistoCore PELORIS 3 to bring the lab's capacity to the next level.

"One of the reasons we bought the PELORIS 3 was to help with turnaround time," says Johnson, "We have already reduced our turnaround time. We are getting smaller biopsies, GI biopsies, and other specimens grossed first thing in the morning, slides are getting processed in the afternoon, and our reports are going out the same day. It has worked out well for us."

Greater Flexibility to Run Multiple Protocols

One of the features unique to the HistoCore PELORIS 3 is the dual retort system, providing histologists with the flexibility to run multiple protocols simultaneously on specimens, including biopsies, large tissues and fatty tissues. With the capacity to process up to 600 cassettes per batch, the HistoCore PELORIS 3 assists labs in achieving faster overall turnaround times.

With the new instruments, technologists can process smaller GI biopsies in back-to-back cycles in one of the retorts, while running medium-sized tissues, such as appendix and gallbladder samples, in the other retort, according to Johnson. **"Those cycles end up finishing at the same time, so we're able to load another medium cycle or another short cycle," says Johnson. "That's what I like – we're able to make those adjustments to processing on the fly."**

Johnson has already redesigned workflow cycles in the lab, conducting short cycles in the morning and longer cycles in the afternoon. "With the addition of the second PELORIS, we are going to take a look at other processing schedules," says Johnson. **"The PELORIS is a workhorse. If I had three PELORIS, I could get rid of my VIPs without any problem. What would be interesting to see is if the second one will eliminate the need to process on those other VIPs."**

"If we get this second HistoCore PELORIS 3 processor, we can achieve a turnaround time in 24 hours – we can expand our services."

Bradley H. Johnson H.T.(ASCP), Supervisor,
Histology Department, South Bend Medical
Foundation

24-Hour Patient Diagnosis

With a single HistoCore PELORIS 3 tissue processor, the lab has accelerated its slide delivery time to pathologists from 1:00 in the afternoon to 8:00 in the morning, indicates Johnson. This enables pathologists to finish reports and deliver same-day diagnoses to patients.

“We are saving so much time turning around IHC and special stains in the morning. The pathologist can report out cases in the very same day - that speeds up turnaround time,” Johnson points out.

“Another big reason I went with the HistoCore PELORIS 3 is reagent costs and savings. We are at least at 10% savings on our reagent costs with the PELORIS, and I expect our savings to increase with our second PELORIS 3.”

Bradley H. Johnson H.T.(ASCP), Supervisor,
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Achieving faster turnaround times while maintaining quality is the formula that will allow South Bend Medical Foundation to expand its services. “If we get this second PELORIS processor, we may be pushing a lot more of that work into the night shift and early morning shift,” indicated Johnson. “We can expand our services in GI, IHC and special stains.”



Reduced Reagent Costs and Risk

With an increase in processing comes an increase in resource costs and potentially risk. Thanks to the Reagent Management System, the built-in Density Meters and Track and Trace capabilities available on the HistoCore PELORIS 3, Johnson can more effectively manage reagent usage and has already realized 10% savings on reagents costs.

“Another big reason I went with the PELORIS is reagent costs,” indicates Johnson. “As far as changing out the processors we have now, we really go through the reagents; whereas with the PELORIS, you change one alcohol or one xylene at a time and you’re good to go **–it saves tech time and saves in reagent costs.**”

The integrated Reagent Management System has been instrumental in driving savings on reagents costs– a decisive factor in choosing the HistoCore PELORIS 3 over a Sakura VIP. **“We looked at the new Sakura, but it wouldn’t improve our turnaround times or lower our reagent costs. With the PELORIS, we are at least at 10% savings on our reagent costs, and I expect our savings to increase with our second PELORIS 3,”** said Johnson.

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Increased Safety and Accountability

At South Bend Medical Foundation, lab managers also place a premium on safety, and the HistoCore PELORIS 3 provides additional quality control measures with its two built-in Density Meters specifically designed to reduce potential errors in reagent exchange and ensure greater reproducibility. The meters monitor reagent changes and alert users if there's an incorrect concentration to protect the integrity of the tissue. As a result, reagent change errors can be significantly reduced.

“Every lab has someone who fails to change the reagent, and that's where the density meter comes in –it is going to stop you from using that bottle the next time. It has checks and balances built into it – that makes everything so easy, and you've got a lot of confidence in running the instrument,” affirms Johnson.

Taking quality control a step further, the unique Track and Trace solution has a bar code scanner that records basket IDs, user IDs and reagent lot numbers. South Bend Medical Foundation has embraced this new technology and now requires employees to use their lab ID badge bar code when performing any operation, allowing lab managers to

quickly identify and resolve complications encountered in the workflow. “If there is patient tissue compromise, I can use that information to find out who caused the error and make a correction,” says Johnson.

The data captured by Track and Trace automatically populates the built-in Reporting Module, eliminating manual input, lessening the burden of documentation and compliance for CAP guidelines and lab accreditations, and ensuring accountability in the lab.

“Now I can create a reprocessing report to know the number of blocks I have and report on the total number of reprocessed tissues. I wasn't able to do that before,” notes Johnson, “and I plan on using this to its full capability.”

With the workflow fully optimized on the first HistoCore PELORIS 3, Johnson has already installed the second HistoCore PELORIS 3 as part of South Bend Medical Foundation's strategy to further reduce turnaround times, process more same-day slides and ultimately reach its goal of serving a broader patient population.