Bond™ – Improving Cost, Workflow and Quality

Part of ProHealth Care, Waukesha Memorial Hospital in Wisconsin is a tertiary care hospital offering sophisticated technology and advanced diagnostic, surgical and critical care capabilities.

Deb VanEyck has been at Waukesha Memorial Hospital for over 15 years. She is an ASCP certified Cytotechnologist with over 30 years of experience including being a CoPath "super user" and setting up Waukesha's immunohistochemistry area. She continues to work in both IHC and Cytology although recently has concentrated on IHC as Waukesha's volume and complexity has developed and grown. She is QIHC certified and recently completed the Michigan State University Biomedical Laboratory Diagnostics Program.

In 2009 Waukesha Memorial Hospital installed a Bond-max immunostainer as a way to further standardize their laboratory process and reduce errors and manual processes.

Here, Deb VanEyck, Immunohistochemistry Team Leader, discusses how the Bond system has helped with cost, workflow and quality.

Leica
Firstly, can you explain a little about your lab?

Deb VanEyck
Annually, the lab processes about 23,000 surgical tissue cases. The IHC Laboratory processes more than 3,000 cases and 12,000 slides annually.

The lab stains over 150 single stains and 20-plus multiple stains. On a daily basis we run ER and PR, E-cadherin and myosin breast cases. On FNA's with tumors of unknown origin, we run keratins and many of the markers to aid in the diagnosis of possible primary: GCDFP, Mammoglobin, TTF, Surfactant A, CK 5, WT-1, AE1/AE3, CK 20 and CK 7. H Pylori is another daily stain.

Leica
When you were considering Bond, what were the benefits you were looking for?

Deb VanEyck
The number one benefit of any staining system must be the quality; it must produce a very high quality stain. Other factors also include TAT, cost of reagents and programmability with ease-of-use. The system should further standardize your laboratory process, eliminating errors and eliminating manual processes.

Leica
And has Bond delivered these benefits?

Deb VanEyck
Most definitely. The full automation has greatly improved our workflow. We are

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Living up to Life

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very lean as far as staffing this area, and we can now keep up with many tasks that were not being done in a timely manner, like manual maintenance, reagent management and inventory.

We use the overnight run feature and program the slides to be ready for our early am tech. The slides can be sitting on the Pathologist's desk ready for first screen, or ready to go out to another Pathologist with our first courier.

Leica
Was it easy switching to the Bond system?

Deb VanEyck
Yes. No one relishes change, there is always uncertainty, but with the help of our Leica technical rep it was a much easier transition than I imagined.

We had on-site training before and during go-live. And we had a very in-depth four day, hands-on class at Bannockburn [Leica USA head office] that covered all general aspects of the instrument and allowed us to ask questions and actually run slides and troubleshoot.

I was able to optimize every antibody, both single and double stains on the Bond, with excellent results. Our customer training was excellent, both on-site and at Bannockburn, and we have not had any issues that were not quickly and efficiently addressed.

Leica
Are you running Bond ready-to-use (RTU) antibodies?

Deb VanEyck
Approximately 2/3 of our antibodies are RTU's. This helps with standardization of the immuno process, less variability between techs handling the antibodies, and greater TAT when our number of antibodies in use is increased.

We validate all RTU's and as long as they are performing well and giving the desired results we continue to use them. Only if a "desired" or "preferred" clone is not available in the RTU format will we use a concentrated antibody.

Leica
How do you rate Bond's staining quality?

Deb VanEyck
Very clean, very high quality stains. Our quality was always good, we wouldn't hand in a stain that was problematic. I think using the Bond has reduced the number of variables that could effect your final product. I think the Covertile™ technology also helps retain tissue on the slide, and is a gentle process. This is especially noted on fatty tissues, or larger pieces of tissue.

Leica
You said you were looking for programmability and ease-of-use in a stainer, how have you benefited from Bond's flexibility?

Deb VanEyck
The use of two detection kits (Polymer Refine and Polymer Refine Red), HRP and AP and ease of optimization and programming has allowed me to develop many double stains that can be used in our workflow. Much of this optimization was done on the overnight runs so it doesn't interfere with any of our daily work flow.

Leica
Has the Bond system provided any other benefits?

Deb VanEyck
An additional large benefit is the cost savings. We use 150 µL of each reagent for the entire slide on every slide no matter how much of the slide has tissue. We don't use 100 µL although we know that is available on Bond-max. We had to vary reagent amount and drop zones to make sure we had tissue covered well on our old system. There is also a greatly reduced amount of hazardous waste used, and the bulk containers are easy to handle.

Leica
And finally, how do you find working with Bond on a daily basis?

Deb VanEyck
As a plus we all enjoy working with the instrument. We are able to focus on tweaking and making things even better, rather than feeling like we can barely manage to get it all done while running between the refrigerator, the sink, the oven, the pressure cooker and the stainer.

The ability to standardize and not be torn between so many manual tasks like the de-paraffinization of every case, juggling target retrievals, differing times and temperatures, looking up protocols and changing solutions, has made our work enjoyable.