

Dear Sirs,

I am writing to express my opinions and experiences with the Aperio Digital Pathology imaging system. I am currently a board certified Anatomic and Clinical pathologist employed with Laboratory Diagnostics Medical Group servicing Scripps Memorial Hospital –La Jolla and Encinitas (private/community practice). I am fellowship trained in Surgical Pathology at University of California, San Diego, following a 5 year residency at the University of Nebraska Medical Center. My first experience with digital microscopy came while in residency (approximately 8 years ago) where we would scan frozen section slides for liver transplant cases and the staff pathologist would interpret the results from the comfort of their home. The scanning of the single slide took 15 minutes and the image capacity per case was one slide. Image quality, on the infantile viewer platform, was marginal. Annotations and measurement methods were cumbersome and changing magnification was glacially slow. Much has changed...

Today, I am pleased to have been involved in a primary diagnosis validation study for breast cases using the Aperio Scanscope/Spectrum applications and have no reservations in recommending it for use in primary diagnosis in general practice. The research protocol, for the project, called for 150 random breast cases to be pulled from our daily work flow, followed by blind screening, diagnosis using both the “digital microscope” and the light microscope. The diagnoses were selected from the College of American Pathologist approved checklist for breast cases. A corresponding diagnosis recording tool (DRT) was made to attempt standardization of diagnosis. Analysis of the data followed three digital reads and three conventional microscope reads. The data was surprising, yet consistent with prior studies looking at intraobserver variability of certain entities seen in breast pathology. **In short, the ability to render accurate and consistent diagnosis using the digital platform paralleled (and even surpassed in some areas) the conventional light microscope.** Because the cases were blindly selected from the general daily work flow, intraobserver variability was seen with certain standout difficult cases (specifically: papillary lesions, and grading of epithelial atypia). This variability was consistently seen for both digital reads and conventional reads, thus highlighting the discrepancy was not related to the platform, rather the complexity and difficulty of the diagnosis itself. Once we (myself, and two pathologist colleagues with greater than 40 years of combined experience) reviewed the cases at a multi-headed microscope, a consensus regarding the final “gold standard” diagnosis was rendered, which were often decided by heated discussions.

Image quality of the digital system is superb. Larger fields of view, seamless changing of magnification, continuous crystal clear focusing and easy to use, accurate measuring applications highlight just some of the digital pathology platform strengths.

I thank you for entertaining my thoughts and hope that your agency can support this exciting technology.

Sincerely,

Kurt Mathews MD
Laboratory Diagnostic Medical Group
Scripps Memorial Hospital
9888 Genesee Ave
La Jolla, Ca 92037
(858)626-6024