

Use of Aperio Whole Slide Imaging System to Capture and Utilize Digital Virtual Slides for Pathology Education

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Digital whole slide imaging is the technique of digitizing an entire microscope slide at the highest resolution to produce a “digital virtual microscope slide” with high image quality. This digital image can be viewed in three to four fields, from low to high power, a feature commonly used by pathologists. This digital virtual slide can be used in conjunction with image processing software (both windows-based and browser-based) to view, manipulate, position, and specify the magnification of the image on a screen as if using a regular microscope to view the original glass slide. As the slide is captured in a virtual format, it is possible to use the image for archiving, copying, transferring over networks, distant consultation, as well as integration for educational use on the web and/or DVD. In this study, we captured all C603 and C604 sophomore pathology teaching slides in the general and systemic pathology course for viewing and learning through the Aperio ImageScope viewer. The resulting digital images possessed greater ease of use, were quicker to scan and allowed easier location of pathologic lesions in the slides. The ImageScope viewer allowed students to quickly zoom in and out of the slides at multiple fields of magnification. Instructors that have switched to the Aperio system from the old Bliss system found the Aperio system allowed the instructor to open up to 8 slides at one time, allowing side by side comparison to be completed on the same screen. The system also allows one to measure the size of the cells and to capture detailed images of tumor cells, inflammatory cells, and/or necrosis (cell death). This system is available for use on desktop, laptop, and most digital devices (such as smart phones or tablets). Compared to the old Bliss system, which is unable to perform these functions.

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