

-state of the pathology profession-

KEY TREND 10

Full Digitization of Images and Info Will Transform Anatomic Pathology

NEW DIGITAL technology is changing the way pathologists work. Rather than having to be in the same room with specimens, this technology allows pathologists to work remotely. Viewing digital images allows a pathologist to pan and zoom just as one would do when working with a glass slide under a microscope.

But also, the technology has significant implications for an industry facing a labor shortage because viewing digital images eliminates travel and saves shipping costs. “A pathologist who spends his morning at one hospital and then goes across town to read slides at another facility may not have to make that drive anymore,” said Ole Eichhorn, Chief Technology Officer of **Aperio Technologies Inc.**, a company in Vista, California, that specializes in digital pathology. “Pathologists in rural areas who literally spend every day of the week in a different location don’t have to do that anymore. It has the potential to have a significant impact on the pathology profession as more pathologists become familiar with it.”

One thing that sets this generation of technology apart from earlier telepathology/pathology digitization products is the ability to pull in only the data sets needed by the pathologist. Eichhorn says, “think Google Maps! You start by panning and zooming across a large image in Google maps. You don’t have to download the entire dataset of Google maps to find the nearest pizzeria. The same thing happens with digitized pathology images. Pathologists don’t need to see the whole image at high resolution. They can pan

the image at lower resolution, then zoom in on areas of interest.”

One factor that will drive acceptance of digitized pathology images and information is its use in academic and tertiary care centers for teaching and research purposes. In fact, pathology professors are reporting that some medical school students lack proficiency at using a microscope, because all of their learning is coming from digitized pathology images. The widespread use of digital pathology images in medical school guarantees that newly graduated pathologists will be intimately familiar with working from digitized images and sharing cases with their peers.

This technology trend may also help smaller, local pathology groups. Because the pathologist doesn’t have to physically move to a location where the glass slides are located, digitized pathology images can support a “virtual practice.” It can allow a pathologist in any locale to read and report out any case that is presented in digital form. Further, full digitization of pathology images makes it possible for a nationally prominent subspecialist pathologist to maintain a successful practice in any geographic location, so long as there is access to the Internet and telecommunications.

This key trend is another example of how technology and clinical practices can evolve in ways that support smaller pathology group practices. To gain advantage, however, such groups will need to invest in the technology needed to incorporate digital pathology images into their practice routine.