

CAD PRO® Advantage Digitizer Provides Mammography Workflow Solution for Innovative Radiology Practice

For more than 50 years, Diagnostic Radiology Consultants (DRC) has pioneered imaging services in the tri-state area of Tennessee, Georgia, and Alabama. The innovative group, including 11 radiologists at 12 sites, often is the first to offer emerging technologies that positively impact patients and physicians in the community, including the area's first full-body CT scanner and first all-digital outpatient imaging center.

In 2006, the practice expanded its women's imaging services by installing full-field digital mammography (FFDM) at DRC/Gunbarrel Road imaging center, complementing digital mammography offerings at several of its other sites. During the process, DRC had to address the need to view patients' prior film studies as part of the reading workflow, an important but often-overlooked issue. For DRC, a large portion of its prior studies were analog films coming from other facilities. DRC turned to VIDAR Systems Corporation for its film digitizing expertise, experience designing efficiency into the digital mammography workflow, and exceptional customer service. The center acquired VIDAR's CAD PRO Advantage and ClinicalExpress® software to streamline the integration of mammography priors, maximizing the benefits of FFDM.

Benefits & Challenges of Digital Mammography

James Busch, M.D., director of informatics at DRC, said there were several reasons to expand the practice's FFDM offerings. "Digital mammography provides many benefits, including improved patient care, enhanced patient and staff satisfaction, as well as improved workflow and productivity," he said. "Utilizing cutting-edge imaging technologies also is a prerequisite for recruiting talented radiologists and establishing referring physician partnerships."

Significant workflow issues, however, arise from the need to review and compare current digital studies with prior analog films. Radiologists have limited time for reading exams, and the need to move or shift attention from a digital workstation to a lightbox is cumbersome and time-consuming, creating a less-than-ideal clinical environment that may adversely impact diagnostic accuracy. There also are important cost and resource considerations, such as the staff time needed to retrieve and hang film.

"Analog priors diminish the benefits of digital imaging," Dr. Busch said. "Digitizing prior studies eliminates the need for cumbersome, distracting 'dual reading' environments. Facilities should address this critical workflow issue in the planning stages so they can maximize digital workflow from day one."

Establishing a Digital Mammography Facility

The practice learned firsthand the value of planning mammography workflow when opening the new digital imaging center. According to lead mammographer Amy Caldwell, when DRC opened the facility, it did not have a film digitizer on site for 18 months. As a result, workflow was complicated.

Customer at a Glance

Diagnostic Radiology Consultants
Location: Chattanooga, TN

VIDAR Solutions:

CAD PRO® Advantage Film Digitizer

ClinicalExpress® DICOM Film Acquisition Software

Key Benefits

- Address mammography workflow issues
- Achieve high-quality digital mammography priors
- Eliminate cumbersome "dual-reading" environment
- Improve radiologist & staff productivity
- Improve patient & staff satisfaction
- Maximize the benefits of FFDM

At first radiologists read digital studies on a workstation and then utilized traditional mammography equipment to view prior analog studies on a light box. Caldwell said this significantly interrupted reading workflow. Dr. Busch said it also was distracting for radiologists, and the significant difference in the illuminance and luminance of a light box versus a monitor makes comparing mammograms difficult, negatively impacting interpretation quality.

To resolve this problem, prior studies were couriered to another imaging center for digitizing and then sent electronically to TIVC review, resulting in at least a one-day delay in reading studies. DRC's solution was the acquisition of a CAD PRO *Advantage* digitizer and ClinicalExpress software.

"For DRC, VIDAR's CAD PRO Advantage digitizer and ClinicalExpress software are key pieces of a successful digital mammography solution."

Integrating Mammography Priors

The CAD PRO *Advantage* meets the highest standards of quality and reliability to quickly digitize film-based prior studies. The ClinicalExpress software, with its dedicated user interface for digitizing and transporting mammography priors, uses the DICOM MG standard to identify the specific view contained on each film. Prior film-based studies are correctly displayed on mammography workstations alongside current digital studies, increasing efficiency and productivity.

"Workflow efficiencies increased two to three times when comparing current and prior-year digital studies side-by-side," Dr. Busch said. "With the CAD PRO *Advantage*, the analog priors become fully digitized and fit seamlessly into the automated hanging protocols, with labeling for various types of images and radiologist preference to further enhance the reading workflow, eliminating the outdated task of manually sorting and putting images in the hanging protocol for review."

Caldwell agreed that workflow is improved with the VIDAR digitizer and is pleased with the impact it has had on daily operations. "The CAD PRO *Advantage*

made our workflow much smoother and more efficient," she said. "I would tell anyone looking to switch to digital mammography that a digitizer with the right capabilities is a critical requirement."

Quality Considerations

Dr. Busch said the image quality of the CAD PRO *Advantage* easily meets the needs of radiologists for reviewing mammography priors. The image quality of the digitizer was confirmed in a comparative study conducted at the Johns Hopkins Medical Institutions and published in the *Journal of Digital Imaging*. Results showed no statistically significant differences between the interpretations of film mammography examinations and softcopy exams digitized by the CAD PRO *Advantage*.

"The quality of the digitized images works very well for comparing current and prior mammograms," Dr. Busch said. "Film digitizing is not a reimbursable procedure, so choosing an affordable digitizer that provides high-quality images and workflow efficiencies is key. I have used more expensive digitizers, and VIDAR's CAD PRO *Advantage* provides similar image quality. Therefore, there is no reason to go with a more expensive solution."

VIDAR is the world's leading provider of high-quality medical film digitizers. Proven customer benefits of VIDAR's digitizers include better integration into department workflow, more uptime, increased revenue, reduced maintenance costs, and—most important—improved clinical confidence. Its line of clinically proven digitizers and software, combined with exceptional customer support, helps hospitals and imaging centers enhance patient care and improve efficiency.



VIDAR's CAD PRO® Advantage

Dr. Busch said that imaging facilities and their patients stand to reap many benefits from the transition to FFD, but workflow considerations are critical. Analog priors don't have to be an obstacle as long as facilities plan for digitizing prior studies in order to maximize the benefits of digital mammography for patients, staff, and the center's bottom line. For DRC, VIDAR's CAD PRO *Advantage* digitizer and ClinicalExpress software are key pieces of a successful digital mammography solution.