

The Cancer Center of Santa Barbara

For more than 50 years, the Cancer Center of Santa Barbara, California, has played an important role in caring for patients in Santa Barbara and surrounding communities. As a leading healthcare provider, the center focuses on delivering the newest and most effective cancer treatments, utilizing innovative technology such as a comprehensive oncology software management system that combines both clinical and administrative functions. And, while the oncology management system's medical image management software application has all but eliminated routine

use of x-ray film, the center still maintains an extensive x-ray film archive. Recently, however, the status of the old x-rays has begun to change — the center has embarked on a yearlong project to digitize its entire film archive.

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According to Jerry Weingartner, manager of the department of radiation therapy at the Cancer Center, the successful deployment and use of the Multi-ACCESS Oncology Management System, its ViewStation medical image management software, and the state-of-the-art VIDAR film digitizer, spurred the decision to scan the center's huge x-ray film archive.

Multi-ACCESS, from industry leader IMPAC Medical Systems, is a healthcare information system designed for oncology that combines electronic charting software for radiation, surgery, and chemotherapy, with innovative practice management applications

including registration, code capture, scheduling, billing, and accounts receivable. The ViewStation image management system integrates images from digitized film and digital simulation and portal image sources to provide an online image review and management tool, making patient images available to all clinicians through the patient's electronic chart. The Multi-ACCESS system features a VIDAR film digitizer, provided through a partnership agreement with market leader VIDAR Systems Corporation. The digitizer converts hard-copy x-ray, CT, ultrasound, and MRI films to high-quality digital images that can be electronically transmitted, viewed, and stored. IMPAC selected the VIDAR digitizer for inclusion in its system due to the digitizer's high image quality, reliability, and affordability.

The Cancer Center has been using the Multi-ACCESS system, ViewStation, and VIDAR's film digitizer for

VIDAR Systems Corporation, the leading manufacturer of x-ray film digitizers, is committed to providing high quality, reliable, and affordable digitizers to meet the needs of healthcare providers worldwide. The company also is committed to promoting an exchange of information that helps healthcare providers improve their delivery of care. In keeping with this philosophy, VIDAR has developed the VIDAR Case History Series to relate the experiences of healthcare organizations that have adopted its line of advanced film digitizers. For new and prospective users, these experiences illustrate how VIDAR's technology brings quality and value to their institutions and helps support the delivery of patient care.



Kevin Gallacher, therapist assistant/block cutter at the Cancer Center's film archive digitizer station.

two years and is very satisfied with their performance. “We are very pleased with the ability to streamline workflow and improve our data reporting using these technologies,” Weingartner said. “The ability to tie a high-quality electronic image to the patient’s computerized chart, whether by scanning x-ray film with a digitizer or by capturing a digital image, was a major improvement. Previously, these items were disconnected — you had to find the chart and go to the film storage area for x-rays. And, only one person at a time could view the film. Now, by maintaining electronic copies of x-rays, 10 people at different ViewStation systems can simultaneously review the same film.”

Digitizing the Film Archive

Having an affordable digitizer that provides superior performance is critical to the success of the center’s film archiving project. VIDAR’s digitizers have a well-deserved reputation for high quality, reliability, durability, and cost effectiveness, and the VIDAR digitizer at the Cancer Center has served it well. Using the digitizer, the center has begun to convert hard copy x-ray films from its archive into digital images. Weingartner said the 12-bit digitizer is meeting the center’s needs by providing high-quality images and reliable performance. In addition, he said the digitizer is efficient and easy to use. “We added an optional film feeder from VIDAR that allows our staff to stack and scan 10 films at a time,” he said. “This was very important for our archiving project.

The film feeder increases productivity by reducing staff time involved with digitizing our radiological studies.”

Weingartner said that when scanning the historical films, the images are broken down into simulation or portal categories. Because the films have stamps on them listing the patient’s name, date taken, physician’s name, and markers for orientation, that information is not added separately into the computer. “We decided it would be a horrendous effort to add that information when the film is not accessed often,” he said. “When the film is pulled up on the monitor at a desktop viewing station, the information can be read off the film.”

Online Film Archive — Benefits

According to Weingartner, the primary objectives of the project are to improve the delivery of patient care and increase the efficiency of the center’s staff. “We have seen some immediate benefits from having the film archive now available as high-quality electronic images,” he said. “We don’t have the problem of incorrectly filed films because the images are tied to the patient’s chart. Also, we don’t have duplicate film jackets, misspellings, or separation of film from a chart, either carried away or lost. These are problems that potentially could have occurred with hard-copy film.”

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A secondary and long-term benefit of digitizing the film archive will be the acquisition of usable space in the center’s crowded facility. Weingartner said the film archive is extensive, dating back 10 years or more, and estimates that it currently occupies about 100 square feet. “We have outgrown our facility, and space is at a premium,” he said. “We can increase usable space by eliminating x-ray films, which line several hallways, by scanning them into the electronic record.”





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—Jerry Weingartner
Manager, Department of Radiation Therapy, Cancer Center

According to Weingartner, additional staff was not required for the project. “It is a huge project, but the nice thing is that it can be done efficiently on a gradual basis,” he said. “One therapy assistant has been using the VIDAR digitizer and its film feeder to scan x-rays, as time allows. It will take about one year to complete.”

Weingartner added that because the project is ongoing, no formal economic review has been made in connection with the scanning and archiving of the old film. He noted, however, that assumptions about the economic benefits of an online film archive could be made from improved efficiency alone. “I find it intriguing that more providers don’t use an image management application,” he said. “For example, the ViewStation allows the physician and therapist to communicate efficiently and effectively regarding the acquisition and review of new images, or necessary changes to existing ones. It efficiently ties together the feedback loop that previously was a labor-intensive service fraught with opportunities to forget an action item or misplace hard-copy films.”

Paperless Environment

Becoming a paperless environment is a natural transition for the Cancer Center. “We have been working with information management technology for several years, serving as a beta site [for new IMPAC developments] and gaining experience with the modality,” Weingartner said. “In addition, we have a very progressive physician staff and administration, and our therapists are motivated to make this transition work. The paperless, filmless environment is an effort

to take advantage of the power that digitizers and computers bring to our department. It is easy to see how they can improve the quality of care and reduce costs by economically providing high-quality electronic images. These electronic images can improve efficiency by reducing errors of omission and standardizing care.

“Improved quality of care also comes about by reducing the clerical function of highly trained therapists. In our institution, most therapists have 10 years or more experience. In a paperless environment, they can spend more time with patients and less time handling hard-copy film, filing paperwork, and completing other clerical tasks that often are a large part of medical care.”

Weingartner added that the successful scanning of the center’s film archive with the VIDAR digitizer and the day-to-day use of the Multi-ACCESS system and ViewStation occur because the technologies work. “That is a key point,” he said. “These are really very good, reliable, and economic technologies, and we think they are only going to get better.” ●

Cancer Center of Santa Barbara

The Cancer Center of Santa Barbara is an independent, nonprofit cancer treatment center. The center, founded in 1949, was one of the first independent radiation centers in the United States. The center is comprised of three medical departments serving the central coast area of California. The departments include radiation oncology, hematology/medical oncology, and nuclear medicine. The Cancer Center has more than 33,000 patient visits per year and approximately 100–150 patients per day. The center is housed in three facilities, with more than 50 employees based at its main treatment center in Santa Barbara. The center also provides treatment to chemotherapy patients in nearby Solvang, Lompoc, and Santa Maria, and nuclear medicine services at two local hospitals.

IMPAC

IMPAC Medical Systems, Inc., a privately held company based in Mountain View, California, is the leading provider of integrated oncology management systems worldwide. Specializing in the development of practice management, electronic medical record, image management, cancer registry, and decision support software solutions, IMPAC has an installed customer base of 1,300 cancer sites in 45 countries worldwide. More than 20,000 healthcare workers use IMPAC software to manage the care of more than 50,000 cancer patients daily. For more information about IMPAC Medical Systems' products and services, call (888) GO-IMPAC toll-free or visit the IMPAC Web site at www.impac.com.

The VIDAR Family of Film Digitizers

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VIDAR Systems Corporation offers a family of award winning, high-quality film digitizers designed for a variety of clinical applications. The image quality of VIDAR's digitizers has been proven in clinical studies at leading centers around the world. VIDAR's family of film digitizers serves the PACS, teleradiology, mammography, and oncology treatment planning markets. In addition, its ASSURE™ Quality Control Software is the first system capable of automatically assessing the performance of film digitizers and was designed to improve patient care, quality control, and regulatory compliance efforts of radiology groups and hospitals. VIDAR's oncology product line includes the VXR-16™ and the VXR-16 DosimetryPro™. For more information about VIDAR's medical imaging products and services, call 1-800-471-SCAN or visit www.filmdigitizer.com.



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