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Sharp Electronics and Fletcher Allen Health Care

A Case Study

SHARP / FLETCHER ALLEN HEALTH CARE CASE STUDY

Fletcher Allen Health Care Improves Radiology and Operating Room Efficiency with Sharp Professional LCD Monitors

Modern medical facilities are constantly looking for more efficient ways to improve quality of care and operational facilities. With new patient care technologies such as the electronic medical record on the horizon, hospitals and health care facilities need to integrate digital records and images. An important technology that aids in medical imaging is a program called PACS (picture archiving and communications system), which allows medical professionals to view images such as CT scans, MRI images or X-rays digitally on a monitor from anywhere. As flat panel displays become larger and more affordably-priced, the health care industry is beginning to use workstations outside the radiology department, in operating rooms, emergency departments and intensive care units to view these types of images on various types of displays.

But this is only one part of the story. In medical facilities, it is critical for doctors to have the most precise picture possible for accurate diagnosis and treatment.

Vermont-based Fletcher Allen Health Care recently renovated their PACS by installing high-definition LCD monitors in operating rooms and the radiology department. After testing several monitors, the facility chose Sharp's PN-455 45-inch LCD monitors, which provides two-megapixel "1080p" resolution, the most advanced available high-definition resolution on the market.

Fletcher Allen Health Care, in alliance with the University of Vermont College of Medicine, is Vermont's only academic health center and is one of 125 in the country. Fletcher Allen also serves as the community hospital for the greater Burlington area.

"We have been using McKesson's Horizon Medical Imaging™ PACS in our radiology department but had been viewing the X-rays and CT scans on small computer monitors. While this was sufficient for radiology, our operating rooms needed larger monitors with a resolution that would allow us to examine X-rays without any detail loss," said Dr. George Ebert, vice chairman of radiology at Fletcher Allen Health Care and associate professor at the University of Vermont College of Medicine. "The Sharp 1080p monitor's superior resolution met the needs of our operating rooms and improved our PACS installation's capabilities by giving doctors the ability to view actual size images."

The resulting system, based on the cooperation between Sharp and McKesson, delivers significant benefits supporting the care of Fletcher Allen Health Care's patients.



Saving Time and Money *Bruce Leavitt, M.D., thoracic and cardiac surgeon**

In just the first year since installation, the combination of PACS with Sharp LCD monitors also helped Fletcher Allen save money. By switching to a digital imaging system, the need for X-ray film is eliminated, greatly reducing overall costs. A single sheet of X-ray film costs roughly three dollars, which adds up to thousands of dollars in film every year. While many facilities look at cost savings when making a large investment like this, the real value is improved patient care. For example, a surgeon can display the precise MRI slices, films or Angio clip and at any critical moment in the surgical field, can view exactly what they need to see. Prior to the Sharp monitors installation, surgeons would need to leave the surgical field to view a large sheet of small MRI slices. This could be quite time consuming and could waste critical time.

Equally important, the risk of losing patient records can be reduced significantly. PACS allows orthopedic surgeons to select related studies and simultaneously view previous images on a monitor for comparison, instead of waiting for radiographs or searching through the patient's X-ray folder for needed images. Doctors can review examination images at any workstation, at any time and location, even offsite.

"Time is of the essence in many trauma cases and having digital X-rays at our fingertips helps minimize or eliminate delays in patient care," said Dr. Michael Ricci, vice president of Clinical Services at Fletcher Allen. "For example, with the large-screen Sharp monitors, we can walk into surgery and instantly view a patient's angiogram in real time. This immediate access is key to diagnosing a patient and could make the difference between life and death in critical cases."

Improved Image Quality

Fletcher Allen's surgeons have noticed a difference in picture quality. The Sharp LCD monitor's high contrast ratio provides a bright picture that can stand up to the operating room's well-lit environment. The images remain clear even in the harsh lighting and the two-megapixel resolution allows doctors to see the screen clearly even at a distance. Additionally, X-rays that are too light or dark no longer have to be reshot or taken over to a hot lamp for better viewing.

"We designed this professional monitor for image-critical environments like the medical industry, delivering one of the only commercial-grade LCD monitors capable of displaying full native 1920 x 1080 resolution," said John Beconsall, director, Professional Display Products, Sharp. "We also developed features like the optional protective overlay for high traffic areas, which is especially important in a medical environment where the monitor may need to be cleaned between surgeries."



*Clarence Shearer, Certified Scrub Technician (left) and Bruce Leavitt, M.D., thoracic and cardiac surgeon. All employees of Fletcher Allen Health Care, Burlington, Vt. 05401.**

Looking Forward

The pairing of Sharp's PN-455 45-inch monitors with PACS at Fletcher Allen is just the beginning of this advancement in medical imaging technology. One of the things that PACS can achieve is patching together segmented images of a spine to create a single, full-size, adult spine X-ray doctors can review as a single picture for more precise and faster health care diagnosis. As LCD monitors grow in size, this will become increasingly helpful, greatly aiding in treatment for back injuries and scoliosis. Sharp's LCD lineup also includes a professional 65-inch monitor, the largest professional LCD available, which can display images up to 56.375- x 31.75-inches.

Sharp PN-455 Professional LCD Monitor Delivers Exceptional Images

The Sharp PN-455 45-inch monitor has a full two-megapixel 1920 x 1080 HD resolution with more than six million pixel elements for exceptionally accurate and precise image reproduction. Anti-glare and low-reflection properties enable Sharp monitors to be placed in brighter areas where other screens might appear washed out. Higher contrast lets viewers discern details they might otherwise miss, particularly when viewing darker content. The 170-degree viewing angles help the monitors display a crisp picture that can be seen from virtually anywhere in the room. A Black TFT/Bright Pixel Elimination feature ensures that if a failed pixel occurs, it is effectively invisible to the viewer. Sharp LCD monitors virtually eliminate the risk of "ghost" or burn-in images that can occasionally appear on plasma and CRT monitors. The monitors can also display any content with ease, from DVD to varying PC resolutions thanks to their full complement of input and output connectors.

Sharp's LCD monitors are produced at the company's Kameyama factory in Japan, the most advanced LCD factory in the world, enabling the company to create larger screens at a more affordable price. The panels produced at Kameyama take LCD performance to the next level with an enhanced version of Sharp's proprietary Advanced Super View (ASV) panel for incredible contrast ratios and amazing pixel response times for stellar picture quality.

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About Fletcher Allen Health Care:

Fletcher Allen Health Care, in alliance with the University of Vermont College of Medicine, is Vermont's only academic health center and is one of 125 in the country. Fletcher Allen also serves as the community hospital for the greater Burlington area. Fletcher Allen has more than 6,000 employees and serves one million people in Vermont and northern New York through more than 40 patient care sites and 100 outreach clinics.

About Sharp:

Sharp Electronics Corporation is the Mahwah, N.J.-based marketing and sales subsidiary of Japan's Sharp Corporation, a worldwide developer of the core technologies that are integral to shaping the next generation of home entertainment products, appliances, networked, multifunctional office solutions, solar energy and mobile communication and information tools. Leading brands include AQUOS® Liquid Crystal Televisions, 1-Bit™ digital audio products, SharpVision® projection products, Carousel® microwaves, IMAGER™ digital multifunctional systems, and Notevision® multimedia projectors. Sharp Electronics Corporation employs approximately 2,000 people throughout the U.S. supporting more than 50 product lines. For online product information, visit Sharp's Web site at sharpusa.com.