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Hospital says goodbye to film

By Ross Willis
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Stephens County Hospital's Radiology Department is making a major technological jump.

The use of film for x-rays, mammograms, CT scans and other such applications is out; the use of the new digital PACS system is in.

The PACS system, or Picture Archiving and Computer Systems, is the latest in technology that makes the use of the very familiar x-ray film obsolete.

Not only will the improvement in technology vastly benefit patients and physicians with more detailed and accurate medical study and examination, but it will save the hospital time and money for many radiological procedures.

According to hospital controller Jeff Laird's cost-benefit analysis comparing the PACS system with the current hard-copy film method, the PACS system will pay for itself within two years.

Although the price tag of the system is $391,541, the benefits far outweigh the monetary cost of changing to the new system and upgrading the Radiology Department's technology, according to Laird.

According to Laird's analysis that was presented to the Stephens County Hospital Authority on Aug. 16, the hospital spent $96,486 for film alone during the past 10 months. Laird annualized that cost and determined that approximately $115,783 would be spent on film by the end of the 12-month period.
The cost of processing the film for the 12-month period was estimated by Laird to be $21,226, bringing to total cost spent on the current system of film usage to be $137,009 per year.

Laird's study compared that expense with the cost of purchasing the PACS system ($286,490) with a discount from the system's manufacturer of $87,149 which brought the cost of the system down to $199,341.

Additional costs associated with the PACS system were estimated to be approximately $192,200 (for training and travel for personnel, digital cassettes and other expansions on the system and peripherals) by Laird, which brought the total complete cost of PACS to $391,541.

Laird told authority members that in the not too distant future, the hospital would be forced to buy two new film processors to replace the rapidly aging current ones at a cost of $120,000. He said that because this is an unavoidable expense if the authority chose to continue with its current practice of film usage and not purchase the PACS system, then the $120,000 cost for processor replacement could be deducted from the expense of the PACS, reducing the total cost for the new technology to $271,541.

Taking this factor into account, Laird said that continuing with the current system would cost the hospital $137,009 while changing to the PACS system would cost $271,541, meaning that it would take approximately 1.98 years for the new system to pay for itself.

In addition to the cost associated with the proposed new system, authority members wanted to know all of the benefits associated with the latest technological advancement before making any decision on the matter.

Radiologist Dr. Anand Lalaji addressed that issue.

In his presentation, Lalaji told authority members that the Radiology Department's various modalities would be integrated through the PACS system, meaning that fluoroscopy, ultrasound, mammography, MRIs and x-rays would all take advantage of the system without the need for film.

He said that not only would film be completely eliminated, but the digital images produced from these various medical procedures would be in much greater detail, clearer and could be rotated on the computer screen so that physicians could get a more exact picture than otherwise possible with film.

"Although this technology has been around for about 10 years, it is only in the last three years that it has become clinically applicable," Lalaji said during a later interview.

"There are couple of other reasons that patients and physicians will really like the PACS system. One, it will allow patients to get in and out of an exam a lot quicker because there will be no need for film -- which is slower -- and you can make sure that the pictures are done properly. Two, the quality of the image reading by physicians will increase because you can manipulate the image and pick up and see things we weren't able to before with film, and three, you can make a copy of the images on a CD and take it anywhere without having to have film copies," the hospital's newest radiologist explained.

Lalaji said that many main academic centers in the country have the most highly skilled radiologists and technology available. So, why can't Stephens County have the same level of medical doctors and technology.
"Personally, I say that rural areas have just as much right to that level of care and technology as the big cities have, because comparing the urban and rural area's populations throughout the nation, the total number of people living in all of the rural areas is almost equal to the number living in the urban areas," Lalaji said.

"Those living in small communities are entitled to that special care, too. That is my goal. My goal is to provide that level of care and technology to those in rural areas like we have here in Stephens County," he said.

The radiologist went on to say that the current system of radiological care is incredibly slow compared to what is offered through PACS.

"The traditional way is that a film shot is taken, then interpreted, then the radiologist has to dictate the findings, then the recording is put in line with all the other reports for the transcriptionist who has to type each of the reports up one by one, then print it on paper and put in a stack to be edited and reviewed by a radiologist who has to sign off on it, then it is faxed, couriered or mailed to a physician's office. That process takes anywhere from 12-36 hours," Lalaji said.

"The problem is that all of the radiological modalities are changing so quickly that keeping up with technology is an issue. With PACS, there is voice recognition software that is used to dictate the findings which are input into a computer where the radiologist can edit as they go and sign off on it when done electronically. That report can then be printed and it is put into the system along with the pictures taken during the exam right next to it. A clinician then can access the system or get a fax of it, so that means a greatly reduced turnaround time of around two hours instead of 12-36 hours," he said.

Not only is the PACS system a wonderful advancement for physicians and radiologist at Stephens County Hospital, doctors in other locales will be able to access the hospital's system and review a patient's report and medical images with associated radiologist voice comments, according to Lalaji.

"Or, all of that can be loaded onto a CD to be taken to a physician who is somewhere else. What that means is that if, for instance, I am on call, but I am at home and a patient comes in for one of the Radiology Department's procedures, I can be notified and actually examine the photos from my computer at home and relay my findings immediately. That will be a big plus for patients," Lalaji said.

"My goal is to provide the best and most quality service in radiology in northeast Georgia and make Stephens County the epicenter of that service. I want to provide the level of care here found elsewhere and use technology to do that. There are good things to come for the people of Stephens County in medical care. Over the next 12-18 months, there will be a lot of good surprises coming out of Stephens County Hospital and the Radiology Department," he said.

The new technology will be available and in use by Oct. 1, the doctor said.

Prior to that start-up date for the PACS system, the hospital's new MRI and digital mammography systems will be in service on Sept. 15.

Hospital administrator Ed Gambrell said that he is very excited about the new technologies being implemented in the Radiology Department.

"These are all wonderful things for our patients. This PACS system is the equivalent of a digital camera compared to a film-based camera. There are a lot of internal advantages associated with it, because you don't have to pay for developer, store film, there are no chemicals and no film," Gambrell said.
"That means that the new system is more efficient and will save a lot of money down the road, especially when you consider the increased volume of patients and associated film costs and the clinical capability of the new MRI. We have spent a lot of money recently on technological advancements, but they will all pay for themselves within 2-3 years and greatly improve the clinical capability in the meantime. We're very excited about it," he said.