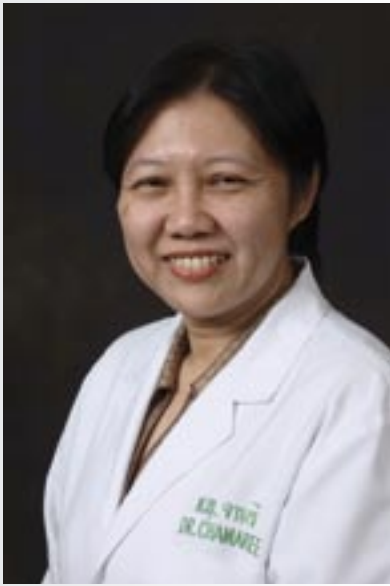


Bumrungrad International Bangkok, Thailand



More effective patient care with
premium diagnostic display technology



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**Chamaree Chuapetcharasopon
Senior Associate Medical Director**

Thailand is home to one of the leading healthcare providers in South-East Asia: the internationally renowned Bumrungrad International. Located in the heart of Bangkok, Bumrungrad is one of the largest private hospitals in the region. International patients comprise 40 percent of the one million patients served annually by Bumrungrad. These patients are not just unfortunate tourists. They make the trip to Thailand to visit Bumrungrad and benefit from its high-quality healthcare services at costs that are substantially lower than in their home country.

First-class healthcare

The 554-bed private hospital performs over 240,000 imaging exams each year and boasts a fully digital radiology department with state-of-the-art CR, Digital Spot Imaging, Digital Subtraction Angiography, ultrasound, 64-slice MDCT, 1.5T MRI and digital mammography equipment. The hospital employs 63 radiologists, of which 25 are full-time.

In 2000, Bumrungrad International became the beta site for the Hospital Information System (HIS) developed by Global Care Solutions (Bangkok). One year later, physicians began requesting digital images and the decision was made to invest in PACS. “We had more patients but also more film and expense, so we saw this as the best time to implement PACS,” said Chamaree Chuapetcharasopon, Senior Associate Medical Director, who was the chief of radiology at that time.

PACS was a new technology for Thailand in 2001. With challenges not typically faced and addressed by PACS software developed in the West – namely very

high patient volumes, restricted fiscal budgets and regional or cultural language requirements – the hospital decided to remain with Global Care Solutions as its preferred PACS supplier. “Our research uncovered the fact that next to the software, the other most important issue for successful implementation and use was the selection of reliable and high quality displays,” Dr. Chuapetcharasopon added.

Improving the quality of service

Bumrungrad International created a host of requirements for its medical image display solution. To ensure the accuracy of the diagnostic report, the critical criteria were first the resolution of the monitor, between 2 and 5 megapixels (MP), and second the brightness. “Image accuracy was most important, yet we were also concerned with cost, durability, domestic services and the reputation of the company,” Dr. Chuapetcharasopon explained. “To maintain and enhance the quality of our services, we had to be sure the monitor would provide as good or better information than conventional film.”

Global Care Solutions introduced Barco's softcopy imaging technology to Bumrungrad. Additionally, the company helped Barco understand the support and service requirements of the hospital. Together Global Care Solutions and Barco worked out the perfect combination of state-of-the-art technology and first-class support, which eventually led to the selection of Barco as preferred medical display vendor to Bumrungrad. "In our discussion with Barco, the company was able to provide in-house training to our engineering staff and guaranteed timely delivery of parts when needed," Dr. Chuapetcharasopon explained.

Leading technology

Today, Bumrungrad International has eight sets of dual-head Coronis 3MP portrait monitors for diagnostic reading. By the end of 2006, Bumrungrad will

acquire up to four more sets of dual-head portrait monitors as the number of procedures continues to increase. In addition, the facility has a pair of 5MP monitors for use with Full-Field Digital Mammography.

"We are able to treat more patients more effectively than before."

An important benefit of the Coronis monitors is the automated and intervention-free quality assurance (QA) and I-Guard technology. I-Guard is Barco's front-mounted sensor that ensures luminance output and continuous DICOM compliance without interrupting radiology procedures, further guaranteeing consistent image quality over time and across displays. Coronis offers fully automated image

QA without the need for human intervention by tracking, maintaining and logging display viewing performance, automating QA tasks, initiating display system calibration and setting up a precise DICOM Look-Up-Table calibration using 1024 shades of gray. According to Dr. Chuapetcharasopon, "It is easy to perform calibration and schedule QA tasks with Coronis, which is particularly valuable with multiple workstation configurations."

"The display automatically adjusts the brightness according to the ambient light level of the room," added Dr. Chuapetcharasopon. Many institutions have simply substituted view boxes for LCD monitors without considering the room setting. "For hardcopy reading, the brightness of the view box and quality of film affect the accuracy of the



radiologist's findings and subsequent report. However, with softcopy reading, brightness of the LCD, quality of the image acquisition and the ambient light level of the room are critical factors."

Treating patients more effectively

For Dr. Chuapetcharasopon and her colleagues, the quality of Coronis further increases diagnostic confidence. "With a reliable, consistent quality across all workstations, the productivity of the clinician has improved, even though we may spend more time magnifying and examining the image." She cites that for the past two years, patient volume increased 20 percent yearly, yet there is no corresponding increase in the number of physicians. "We are able to treat more patients more effectively than before," Dr. Chuapetcharasopon added.

Patient care is enhanced by the physician's ability to demonstrate and explain the procedure directly on a monitor. Prior to the digitization of the department, the interventional radiologist could only provide this

service in the angiography suite, thereby interrupting the daily caseload. "Since we can display the entire angiography series in an interventional radiology room to the patient and family, there is a greater understanding of the disease, the procedure and treatment."

With PACS, Dr. Chuapetcharasopon can use the software's features to enhance the quality of the image, resulting in fewer retakes and less radiation dose to patients. She can also conduct more advanced treatment planning prior to a procedure with the digital image versus one printed on film. "It is also helpful for in-depth collaboration with colleagues and as a teaching tool with junior residents to help them view and detect lesions." The reliability of the Coronis monitors with no downtime experienced at Bumrungrad further facilitates these educational experiences.

Future plans include the ICU, ER, OR and other main areas of the hospital where physicians will require access to diagnostic quality images.



Request more information

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