



The impact real-time scanning, leading-edge technology, and outstanding service can have on a rural hospital.

Bear River Valley Hospital

Case Study

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SIEMENS



Key Benefits



Clinical:

Dose modulation made easy with CARE Dose4D which protects the patient from unnecessary dose.



Workflow:

Real-time scanning enables information acquisition without repeat exams resulting in improved efficiencies.



Financial:

Advanced technology helps deliver a range of services directly to the community.

Situated in the heart of northern Box Elder County in Utah, Bear River Valley Hospital serves approximately 18,000 people. Box Elder County is primarily a farming community, and it is not uncommon for some of its people to simply forgo medical care if getting it means they have to travel a significant distance. All the more reason why executives from this 16-bed hospital felt it was important to upgrade their single-slice CT scanner.

With the single-slice scanner, Bear River was unable to perform arterial studies, which represented an increasing need of its patient population. "We were sending all of these studies out," says Bret Rohde, radiology manager at Bear River. "In fact, that was one of the biggest benefits of upgrading. We were able to stop transferring patients who needed these studies from our emergency department to other hospitals."

Bear River is part of Intermountain Healthcare, a nonprofit system of hospitals, surgery centers, and clinics that serves Utah and southeastern Idaho. Intermountain Healthcare narrowed down Bear River's CT choice to three vendors. After an extensive review, Bear River selected the SOMATOM Emotion® 16. Although there were many clinical, workflow, and financial benefits to selecting the Emotion, the biggest factor was real-time scanning as well as Siemens' commitment to reducing CT dose and the simplification of this process from the user's perspective.



“Real-time scanning is essential. If we’re scanning a patient and he moves, we can correct it. And, we’ll often open our field of view a little bit further than we need, which enables us to acquire all the information we need. Therefore, we’re not repeating exams, our efficiency is better, and we’re not giving patients more dose than necessary.”

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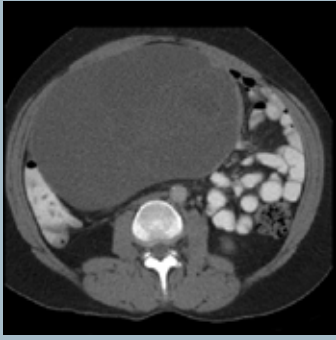
Real-Time Scanning & Dose Modulation

“The main thing that attracted me toward the Emotion was its real-time scanning capabilities,” says Rohde. “As far as I’m concerned, real-time scanning is essential. If we’re scanning a patient and he moves, we can correct it. And, we’ll often open our field of view a little bit further than we need, which enables us to acquire all the information we need. Therefore, we’re not repeating exams, our efficiency is better, and we’re not giving patients more dose than necessary.”

With more than 6,700 systems installed worldwide, the SOMATOM Emotion uses an Ultra-Fast Ceramic detector, which requires a small amount of dose to deliver exceptional image quality. In addition, since every patient is unique in terms of size, weight, and anatomy, the Emotion’s fully automated dose

management system, CARE Dose4D™, can tailor dose to a specific patient’s need. It’s embedded right into the Emotion system for seamless dose modulation while still providing the radiologist reading the study with a high-quality image.

“We don’t have to worry about dose modulation any longer,” says Rohde. “CARE Dose4D has been properly configured and it runs automatically. We don’t even consider shutting it off. Our technologist can just go in, pick a procedure, get the examination done, and the patient receives the least amount of radiation possible.”



“Because we’re remote and we don’t have in-house physicians to support us, the proper technology makes it a lot easier to communicate with them and enable us to provide similar services to a large hospital.”

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Studies Simplified for Staff and Patients

The Emotion offers a full range of advanced clinical applications, many of which are helping Bear River attend to its patients quickly, efficiently, and effectively. “Not only are we able to do arterial studies but we’ve also had a huge increase in PE [pulmonary embolism] chest studies. Our old scanner just did not provide the information we needed for these, so we had to send them out. But now, we’re bringing almost everything back in-house,” says Rohde. “Take IVPs [intravenous pyelograms] for example. We used to perform a lot of these but now we can handle them with CT urograms, which are noninvasive and easier for the patient and our staff.”

Similarly, confidence in Bear River’s Emergency Department studies has increased. Prior to the installation of the SOMATOM Emotion 16, Rohde and his staff had to perform multiple scans for the chest, abdomen, and pelvis. Now, the Emotion can handle traumas, covering all areas at once and with one injection—again, further reducing dose. “I was surprised how quickly the physicians bought into the system and how fast they started using it,” says Rohde. “Our volumes went up even quicker than I expected.”

“We more than doubled our volumes almost immediately after installation,” says Eric Packer, the hospital’s CEO and administrator. “And, it’s been a constant growth since then. Therefore, members of our community didn’t have to travel extensively for access to these services at larger facilities. We brought advanced technology closer to home.”

Bear River’s radiology group reads its scans remotely 24/7, providing reports within 20 minutes of the scan. If the study was ordered through the Emergency Department, the radiologist will call the Emergency Department physician with the results. This ability to share top-quality images quickly helps speed this process and instills additional clinical confidence.

“One of the radiologists from our group told me that they are confident that any images they receive from a Siemens product will be of the highest quality. It makes their job so much easier when they receive a high-quality image, and they can dictate their findings with confidence,” says Rohde. “That’s saying a lot.”



Eric Packer
CEO and Administrator
Bear River Valley Hospital

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Importance of Technology in a Rural Setting

Access to this kind of state-of-the-art technology can make all the difference to a rural hospital like Bear River. “I think technology is as important—or more important—for a small hospital like ours,” says Rohde. “Because we’re remote and we don’t have in-house physicians to support us, the proper technology makes it a lot easier to communicate with them and enables us to provide similar services to a large hospital.”

Packer agrees. “Bigger isn’t always better. Technology like what we have with the Siemens CT scanner lets people know that when they come here, their care is equal to what they might get at a larger, tertiary facility.”

Impeccable Service

State-of-the-art technology is one of the cornerstones of Bear River’s new 44,000-sq.-ft. facility, which opened in February 2009. The SOMATOM Emotion’s sleek, modern look lends itself well to this high-tech facility and has additionally helped bolster the image and reputation of the hospital. “People are really impressed when they see it,” says Parker. “They can see that it is a modern piece of equipment, which adds to our facility’s overall high-tech feel.”

Installation, which occurred twice (once at the old facility and again at the new location), went very smoothly. “The scanner was in our previous location for one year before it was relocated to our new facility,” says Rohde. “And both installs were very good. The transition was fairly seamless and the installation crew was awesome.”

“The Siemens product, with its German engineering, is very high quality and the service has been impeccable,” Rohde continues. “I would recommend them to everyone.”



CT Dose Reduction on the SOMATOM Emotion:

CARE Dose4D

True, real-time dose modulation. Dose calculations made from a single topogram. Real-time feedback from the detectors to the X-ray tube to continually monitor and adjust the exposure.

Exportable Dose Report for all patients

Implemented on the new SOMATOM Emotion, this report is a comprehensive summary of the patient's exposure. The report is fully DICOM compliant and is exportable to a PACS system automatically.

Real-time imaging

Implemented for both the topogram and spiral acquisition, this feature can save unnecessary dose by allowing the user to stop the scan early if the required anatomy is covered or if the patient's movement has rendered the scan non-diagnostic.

Ultra-fast Ceramic detector

The SOMATOM Emotion uses exactly the same high-end detector material as implemented in the industry-leading Definition Flash. The efficiency of this detector is key to Siemens' dose reduction leadership.

Hand CARE for intervention

The exposure can be turned off for a section of each tube rotation, significantly reducing dose to staff during interventional procedures.



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