

A Portable Ultrasound Unit for Increased Patient Care

By Ronda J. Sunnenberg, BS, RT(R)(CT)(M)

Nemaha Valley Community Hospital is a 24-bed critical access facility in rural Kansas. We are fortunate to be able to provide personalized, compassionate, and advanced care to our community. Regardless of the service, our obligation is to provide the highest quality care available to our patients. To meet this objective, we continue to enhance both the technological and professional skills of our staff. Many times, the availability of funds to purchase new equipment is partially dependent on grants and donations.

In 2017, Nemaha Valley Community Hospital was fortunate to receive a grant from the Putting Patients First Program sponsored by AHRA and Canon Medical Systems USA, Inc. This grant money allowed our hospital to purchase a new portable ultrasound unit for our physicians' clinic, Seneca Family Practice.

In June 2017 our portable ultrasound unit was no longer producing diagnostic images. The unit was a refurbished 2005 model. This equipment is important to patient care at our physicians' clinic, as it provides a more comprehensive clinical service and higher level of care for our patients without having to leave the clinic. This device can also be transported to patient rooms, the emergency department, and surgery to aid in patient care decisions. The smaller ultrasound unit allows for a faster, yet still accurate, real time diagnosis of what is going on in a distressed body.

From June 2017 to January 2018 our portable ultrasound equipment was taken out of service. During that time, our facility delivered 57 babies. We found that, without this equipment, more expensive radiology ultrasound scans were required for our patients. Dr. Heather Cooper, DO mentioned that this equipment, if available, would have been used more than 150 times, beginning from early pregnancy through delivery. This year we are projecting 67 births at our facility. This portable ultrasound unit is an invaluable asset for our clinic and our patients.

There are multiple scanning techniques that our physicians utilize this portable ultrasound device for on our obstetric patients. They are able to monitor early gestation when a doppler cannot be utilized, usually between seven and eleven weeks. This is not only advantageous to the physician but also the patient. When a mother can hear the heartbeat of her unborn child at her doctor's visit it can decrease maternal anxiety. Later in pregnancy this device can be used to determine fetal position. This can help the physician anticipate the potential need of a C-section for mother and newborn safety. Amniotic fluid index (AFI) can also be evaluated. This can help to determine if other complications exist during the pregnancy and if a general radiologic ultrasound is needed.

The new portable ultrasound that we were able to purchase with the grant will not only cover these existing services; it will allow us to expand our diagnostic services for our patients. The expanded services include emergency room trauma fast scanning, potential for anesthesia line placement, and in-office sports medicine applications.

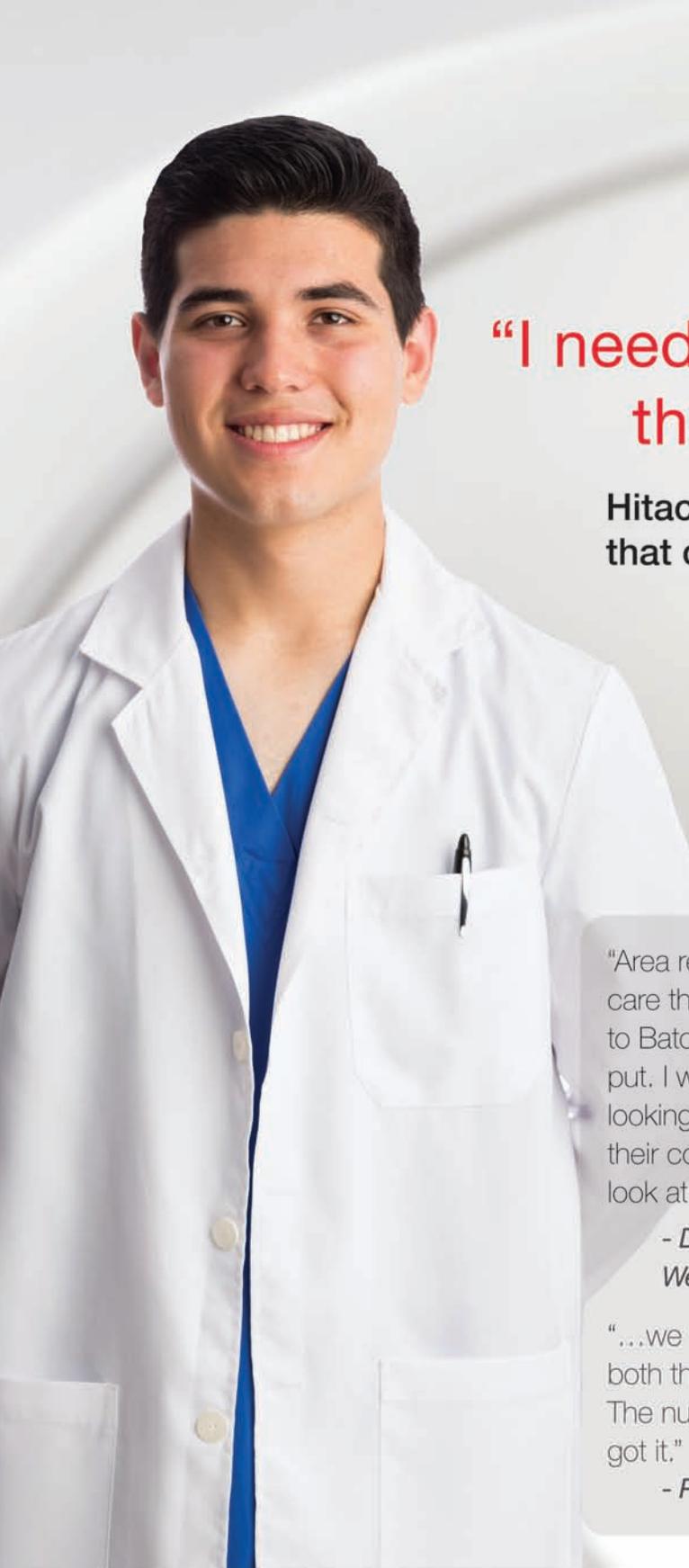
In 2017 we had 1,224 emergency room visits. To date in 2018 we have had 933 emergency room visits, and 30 of them have been trauma patients. For trauma patients, we are projecting that this device would be used at least once a month. For this year we are projecting an increase in trauma registries. As a rural health-care facility, a registered sonographer is not available during all business hours. Having this scanner in the emergency department allows the physicians to scan patients and decide the next step of care in a shorter time period. Our goal over the next year is to train all of our practitioners in fast scanning trauma patients so that they are competent with the process.

Another option that we now have is to assist in peripheral line access. Currently if a patient needs a peripheral inserted central catheter (PICC line) we transport them to the radiology department to utilize fluoroscopy or the radiology ultrasound. Now we will have the option to utilize this smaller ultrasound equipment to place these catheters at the bedside for patient comfort.

We are also exploring the option to utilize the scanner for muscular-skeletal imaging. The physicians would be able to utilize the scanner to help with needle guidance for injections and after additional training look for tears prior to ordering more imaging.

Advances in technology will continue to change healthcare in radiology as it does in almost all aspects of our lives. We are proud to be able to offer the newest advances and detailed real-time ultrasound imaging to our patients. 🏠

Ronda J. Sunnenberg, BS, RT(R)(CT)(M) is currently the Director of Radiology at Nemaha Valley Community Hospital in Seneca, Kansas. She has been a director for the past seven years and a technologist for twelve. In her twelve years she has been fortunate enough to have had the opportunity to learn and get licensed in mammography and computed tomography. She feels growth and change are a positive way for us to be engaged in our field of practice.



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