

South Lyon Medical Center invests in Konica Minolta DR technologies using CARES funding to improve the quality of care in rural settings.



The COVID-19 crisis

After COVID-19 was declared a global pandemic in March 2020, many healthcare providers focused their efforts on early diagnosis of the disease. In this race against time, X-ray imaging emerged as a useful tool for diagnosis and patient follow-up.

According to the Centers for Disease Control (CDC), rural Americans tend to have less access to the health services that diagnose and treat COVID-19, which can negatively affect health outcomes and raise distinct challenges.

South Lyon Medical Center (SLMC) in Yerington, Nevada, delivers acute care, outpatient, primary and long-term care services to the 57,000 people of Lyon County, approximately 90 miles southeast of Reno. It includes an emergency room, a long-term skilled nursing facility and three clinics throughout the county that provide walk-in and primary care services for non-life-threatening health problems.

In 2020, the medical center partnered with Konica Minolta Healthcare to retrofit its X-ray room with AeroDR® Digital

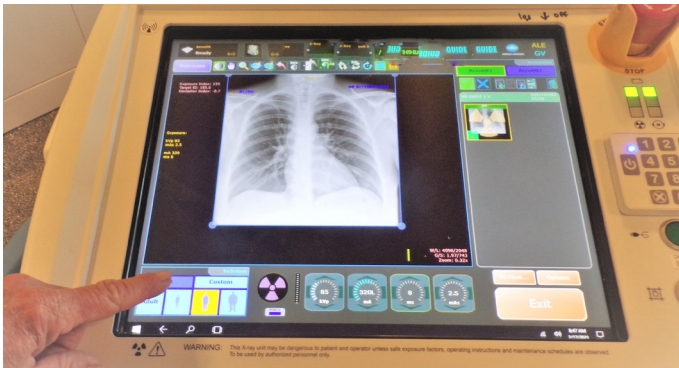
Radiography flat panel detectors and to add a portable mKDR® Digital Radiography System.

“Having the department go digital was huge for us,” says South Lyon Administrator Toni Inserra, CPHRM.

“Our radiology technology was limited and we had a very antiquated portable machine. We were putting our radiology techs at higher risk for COVID-19 by making them take the CR cassette, leave the room and process the image to ensure it was satisfactory. This workflow required the technologist to re-enter the room, put on another set of gown and gloves, utilizing more PPE to remove the portable machine and start the disinfecting process.”

SLMC funded the purchase through the Coronavirus Aid, Relief, and Economic Security (CARES) Act Provider Relief Fund for hospitals on the front lines of the coronavirus response. Inserra says that upgrading to DR allowed the facility to meaningfully execute on its mission to care for patients in their community during a very stressful time.

“When you’re driving a road and people are throwing boulders at you, it’s very easy to get off the road. The CARES funding afforded us a revenue source to be able to make these upgrades to radiology. It’s definitely making an impact in diagnosing and treating our coronavirus patients, but this is going to make a difference for many years well beyond coronavirus,” she explains.



The mKDR includes state-of-the-art imaging software for detailed bone and soft tissue visualization.

Making the transition from CR to DR

Ginny Virdin is one of four technologists at South Lyon Medical Center. She says the Konica Minolta DR technology is easy to learn and use, which is crucial in a small department like theirs. “The new equipment has been a godsend, especially the AeroDR® flat panel detectors in the X-ray room,” Virdin says.

Like many rural clinics, SLMC serves a mix of low-income and retired populations, along with a migrant farmworker population that hand-harvests the local onion fields. The region is experiencing a physician shortage, making it hard to recruit and retain qualified clinicians. As such, it has no on-site radiologists and contracts with a remote reading group.

SLMC typically performs 900 radiography studies per month, which dropped in half after the early lockdowns in 2020. However, those numbers jumped to 1,200 studies per month after the area experienced a COVID-19 outbreak in September 2020. New DR technology helped the center cope with this increased demand, while making it more efficient to collaborate with remote radiologists.

Mobile DR supports safety in a pandemic and beyond

The portable mKDR® Digital Radiography System allows clinicians to deliver advanced digital X-ray capabilities throughout the center, including in the attached skilled nursing facility.

“If there’s a patient that is suspected of having an infectious process, they always will get a portable chest X-ray,” says Inserra. “We want to protect our staff and also properly diagnose and

treat the patient. With the portable X-ray, we don’t have to remove the patient from the room, so we’re not exposing them to other patients or staff. We can also sanitize the portable X-ray machine. So taking the portable unit to the patient is the safer way, and it’s much more convenient.”

An AeroDR Digital Radiography 14"x 17" flat panel detector is included in the system for exceptional image quality, delivering performance and productivity to help the department run smoothly and efficiently. The mKDR features a collapsing column and swivel arm to maximize visibility and positioning without sacrificing clinical utility.

Virdin can move the system with the push of a button to easily maneuver the systems into patient rooms. Small in stature, Virdin appreciates the telescoping capabilities, especially in patient rooms where space is at a premium. “It’s a tight squeeze sometimes, but the telescoping feature makes everything easier because you can see where you’re going,” she says.

The mKDR Digital Radiography System allows SLMC to provide better care for all their patients, such as when accurately placing a PICC line. With their previous portable machine, the tech would enter the patient’s room, capture the image on the CR cassette, go back to the X-ray suite, process the image and load it onto a computer for a remote radiologist’s review. This process took several minutes, which delayed the entire process.



Hospital administrator Toni Inserra (left) and technologist Ginny Virdin (right) review a patient exam on the portable mKDR Digital Radiography System.

Now, once the technologist accepts the image it’s uploaded to PACS and the radiologist can immediately review the image. If the technologist missed critical anatomy or if, the patient moved, they could immediately preview the image for quality and repeat the image if needed. “It’s a much more safe and efficient way to treat and diagnose the patients. We’re also using less radiation because it’s digital and we have fewer repeats,” says Inserra.

SLMC combined this system with Konica Minolta's ULTRA DR imaging software, designed to help improve workflow by managing exams with one screen. This eliminates the need to move between multiple screens for editing, giving more time to focus on the patient. The software is customizable, allowing physicians and technologists to preset the necessary views for a confident diagnosis. The software offers the ability to send the entire study to PACS at once, eliminating the need to individually accept every image.

High-quality DR images

SLMC also purchased a 14"x17" and a 17"x17" AeroDR® HD Flat Panel Detector for the X-ray room. Both flat panel detectors are housed in a lightweight, durable and highly water-resistant enclosure and provide extremely high-definition radiographic imaging that also lowers patient dose. Switching from CR to DR typically reduces dose from 30% to 50% depending on the patient and scan type.

“Having a dedicated 17"x17" flat panel detector that stays in the wall bucky is a big advantage for technologists.”

The larger flat panel detector is also particularly useful for lung studies. “Our repeats are down for positioning because we’re not clipping lungs off on large-chested patients and having to redo them,” says Virdin.

She also finds having two DR detectors – one for the table and another for the wall stand – makes her job easier and more efficient. With the larger 17"x17" flat panel detector, techs can handle a wide range of patients without changing flat panel detectors. “Having a dedicated 17"x17" flat panel detector that stays in the wall bucky is a big advantage for technologists, as far as ergonomics, which is very important. We no longer have to move the flat panel detector from the table to the bucky and back and forth.”

Less movement also reduces the risk of dropping or damaging the flat panel detectors. She says the exam time is faster, too. “We can get a chest X-ray in and out in about three minutes. We love it.”

The HD flat panel detectors are so sensitive they pick up heavy material, such as denim, in the image. “The high quality of the image is just amazing. Our PACS will bring up the current image

and it will also bring up the prior image on my second monitor. And that’s where you can really see the difference when you’re comparing images side-by-side,” says Virdin.

Another bonus is the rechargeable flat panel detectors don’t have expensive batteries to repair or replace. Even if a flat panel detector is accidentally forgotten in the bucky overnight, it can be quickly recharged in minutes. “It takes about five minutes before I can get an image and that’s it. I won’t have a full charge on the plate, but I can still get a good diagnostic image,” says Virdin.

She recalls that several years ago she volunteered to provide mobile radiography services at Burning Man, a communal event held in the Black Rock Desert in northwest Nevada. The digital plates required batteries, which seemed to run out at inopportune times, she says. When the batteries were changed, Virdin had to be careful to wipe off dust to ensure a good connection. There were also issues with the batteries not charging properly in the desert environment. With a built-in power cell, Virdin doesn’t have to worry about replacing batteries in the AeroDR flat panel detectors.

The right choice for rural locations

Virdin says SLMC chose Konica Minolta because the company understands the unique challenges of rural facilities, including delivering service across a large geographic area. SLMC’s partnership with the company has allowed them to effectively care for patients in their facility instead of sending them out to larger hospitals.

“It has been an amazing partnership, as far as helping us with understanding our limited revenue stream and watching out for us with cost-effective solutions like the upgrade,” continues Inerra. “There’s been a true understanding and compassion for how it affects our service when our X-ray equipment is down. It can impact the care we can deliver, and it can also force patients to have to be transferred that could be treated here.”



Virdin prepares the X-ray room for the next patient exam. South Lyon has one AeroDR HD flat panel detector in the wall bucky and another for the table.

SLMC continues to maximize funding opportunities while balancing a tight budget common among rural hospitals. “A new X-ray tube costs more than an entire budget for equipment in a small radiology department like ours. So that partnership and willingness to help us includes understanding the challenges that hospitals in rural areas face,” adds Inserra.

“We are very proud to have that upgrade. Without those CARES dollars, it would have been impossible.”

They also use the remote service capabilities. “We have absolutely wonderful radiology techs. Konica Minolta’s remote service reps can talk our techs through things, giving them the confidence that we have that backing and expertise behind us,” says Inserra.

Overall, upgrading from CR to Konica Minolta DR technology has allowed SLMC to expand X-ray capabilities in ways they never could have imagined.

“We are very proud to have that upgrade. Without those CARES dollars, it would have been impossible,” says Inserra. “I am so grateful. Our community is grateful. It’s definitely making an impact on treating our coronavirus patients. But this is going to make a difference for many years to come.”



Viridin and Inserra appreciate the high-quality imaging and more efficient workflow after upgrading from CR to DR in their community-based hospital.

mKDR® Digital Radiography System



The mKDR Digital Radiography System brings advanced digital X-ray capabilities anywhere in a facility. Clinicians will have the flexibility, image resolution and immediate results needed to make informed decisions faster, boosting productivity and increasing patient satisfaction. The system delivers superior image quality with a 14" x 17" detector in a compact footprint with a versatile design.

Space-saving design

The mKDR features a collapsing column and swivel arm to maximize visibility and positioning without sacrificing clinical utility.

Engineered for versatility

A full range of motion enables imaging at bedside, NICU, ICU, ER and even as a backup system for exam rooms.

Designed for today's environment

AeroDR® Digital Radiography Solutions combine performance and productivity to help your imaging practice run more smoothly and efficiently.

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