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Mobile PET/CT from Alliance Helps Akron General Deliver Advanced Oncology Imaging

Accurate quantitative data from Discovery IQ guides treatment decisions



Figure 1. Alliance HealthCare Radiology provides both mobile and fixed PET/CT systems and currently moves a mobile Discovery IQ PET/CT between several hospitals in Ohio.

Alliance HealthCare Services provides diagnostic radiology services through its Radiology Division (Alliance HealthCare Radiology ["Alliance Radiology"]), interventional radiology and pain management services through its Interventional Services Division (Alliance HealthCare Interventional Services), and radiation oncology services through its Oncology Division (Alliance HealthCare Oncology). With a strategy of partnering with hospitals, health systems, and physician practices, Alliance provides quality clinical services for over 1,000 hospitals and other healthcare partners in 44 states, where approximately 1,800 Alliance Team Members are committed to delivering exceptional patient care and exceeding customer expectations.

In the early 2000s, Alliance adopted a new strategic plan focused on introducing Positron Emission Tomography/Computed Tomography (PET/CT) technology and fixed-site radiology centers into its service lines. "Our primary strategy is to deliver PET/CT services for oncology patients throughout the US, to urban and rural hospitals," says David Delia, Senior VP of Operations for Alliance Radiology. "While most people might think that urban hospitals have the capital to invest in advanced PET/CT technology, that isn't always the case," he adds.

Take for example Discovery[™] IQ PET/CT, an advanced system introduced by GE Healthcare in 2014 and available in a mobile configuration. Alliance was one of the first mobile radiology services companies to implement this system, and Delia says it's the first new technology that Alliance has brought to the market in eight years.

"The technology that we are now providing with Discovery IQ is, in many cases, better than the in-house PET/CT systems at many hospitals," Delia adds. "There is as much a need to provide a good quality product in a rural area as in an urban hospital, and it's a factor of the cost pressures that exist in the US healthcare system that leads urban sites to utilize our services."

CUSTOMER SPOTLIGHT

Delia explains that with Alliance Radiology PET/CT, hospitals can provide this imaging service without a significant capital investment. And with Alliance it's more than a piece of equipment or even a technologist, as the company also offers physician referral marketing services.

"To effectively help our hospital partners with patient volume, we need to be in the field talking to referring physicians and oncologists," says Delia. "Our marketing team is one of our best differentiators, and it's provided with our service."

Rolling out Discovery IQ

In addition to addressing the market needs, Alliance has three criteria for deploying new technology: the impact on patient care, system quality and features, and service. Discovery IQ fits all three criteria.

"Discovery IQ allows our partners to deliver lower dose to the patient, and we believe that will become more of a primary factor in the US market," says Delia. "It also enables shorter scan time, and that's becoming more critically important."

Delia also points out that there's no trade-off between image quality and quantitation accuracy with Discovery IQ and Q.Clear technology. Discovery IQ is designed to provide a higher level of imaging sensitivity, which could lead to higher diagnostic confidence for clinicians.

"As we rolled out the first unit and brought it to hospitals throughout the Midwest, we kept hearing from our customers time and time again that they were impressed by the high image quality and the quantitative capabilities. For radiology, the system is an incredible leap forward," Delia says.

Whether it's the low-dose imaging, high image quality, or the extended table* that eliminates the need to turn the patient back around for the second scan, Discovery IQ helps Alliance's hospital partners put patients' needs first.

Alliance's Discovery IQ trailer is currently moving between several hospitals in Ohio, including Akron General Medical Center.

Clinical Experience

Akron General Medical Center is a 532-bed hospital affiliated with the Cleveland Clinic. The hospital's McDowell Cancer Institute provides a multi-disciplinary approach to cancer care for diagnosis, staging, and treatment. According to Charles Spirtos, MD, Akron General offers all-inclusive

> diagnostic imaging services, including PET/CT with the mobile Discovery IQ from Alliance Radiology. The system is primarily used for evaluating possible malignancies, as well as initial staging and restaging of oncology patients with confirmed malignancy. It is occasionally used for brain imaging assessments.

With the new Discovery IQ, Akron General has expanded its PET/CT imaging service line from three half days to six half days. This has greatly benefitted patients with more scheduling options, reducing wait times and in several instances, enabling patients to receive same-day imaging appointments.



Figure 2. Discovery IQ and a technologist's workstation in the Alliance Radiology PET/CT trailer.

* Up to 2 meters.

CUSTOMER SPOTLIGHT

Along with the expanded service, Akron General offers subspecialty-specific exam interpretation by board-certified nuclear radiologists and nuclear medicine physicians from Cleveland Clinic for all PET/CT exams performed.

Dr. Spirtos is a Cleveland Clinic radiologist, board certified in both diagnostic and nuclear radiology, based at Akron General. In regards to the new scanner, Dr. Spirtos says, "The image quality is excellent, but the biggest advantage is the increased sensitivity of the scanner, which allows us to detect lower levels of hypermetabolic activity," he explains. "This enables us to detect smaller, less active lesions, which may not have been as conspicuous on a different scanner."



Figure 4. Akron General Medical Center in Akron, Ohio, is a 532-bed hospital affiliated with the Cleveland Clinic.

In addition, Discovery IQ allows for a significant

reduction in patient dose. "With the new system, we've been able to reduce patient doses by up to 40%—we've gone from using a dose range of 15 to 20 mCi of ¹⁸F-FDG to 10 to 13 mCi," Dr. Spirtos says.

Dr. Spirtos and his colleagues regularly provide standardized uptake values (SUVs) with each report. He has noticed that with Discovery IQ, the values have slightly increased and attributes this to the higher system sensitivity and Q.Clear reconstruction technology.

Having the expertise of Alliance Radiology to manage the asset enables Akron General to grow the service line without making a significant capital investment. The hospital is currently reaching out to referring physicians to inform them of the new system in an effort to



Figure 3. Fused PET/CT from Alliance Radiology's mobile Discovery IQ at Akron General.

increase volume. The goal, Dr. Spirtos says, is to increase overall volumes by 20%.

"While we do a substantial number of PET/CT exams each month, we are not so busy with the service to financially justify owning and running our own system 24x7," Dr. Spirtos says. "Having the mobile unit is a more cost-effective approach for us at this time. With Alliance, they also provide the benefit of one of their nuclear technologists staffing the unit jointly with one of our own nuclear techs. Since two techs are needed to staff the scanner, this allows us more flexibility with being able to keep an extra technologist in the main department, performing other types of exams."

With the mobile Discovery IQ, there is no compromise in image quality or sensitivity, and the hospital can offer a high-quality service that it can grow over time. More important, Akron General's patients have access to some of the most advanced imaging technology that helps their oncologists guide their treatment plans.