Using SPECT-CT to Supplement CT Services and Expand Capabilities
How Lakes Region General Hospital is doing it.
A community hospital, Lakes Region General Hospital (LRGH), part of the LRGHealthcare system, which includes Franklin Regional Hospital (FRH), has approximately 100 beds and serves a 30-mile radius in and around Laconia, NH. The area is a popular vacation spot, causing the population to fluctuate dramatically depending on the season.

The facility performs an extensive number of CT exams, typically about 10,000 per year. As such, Todd Paiva, the hospital’s manager of Molecular/CT Imaging, has staff available 24/7, running day, evening, and overnight shifts. With only one dedicated CT system, managing patient volume and throughput can be challenging—particularly in seasonal months when the patient population can become very high, often with additional trauma and cardiology patients.

Like other community hospitals with resource challenges, LRGH strives to provide the best possible care it can to all the patients who walk through its doors.

So the question was: How could the hospital serve its patient population in an urgent situation with only one dedicated CT system?

Supplement Service, More Efficient Protocols

The organization’s decision-makers began to consider adding SPECT-CT, both as a service and as a way to handle CT volume overflow. "When we started to look at adding SPECT-CT services, we took a look at how we could use it as a dedicated standalone CT unit. We realized if we went with something like the Symbia T6, which had diagnostic capabilities, we could supplement our current CT service," says Paiva.

LRGH has an extremely busy ER. SPECT-CT not only offered the facility the opportunity for supplemental CT service, but it also meant Lakes Region could more efficiently triage stroke patients. Although the facility is not a stroke center, it does have a stroke protocol, which requires the facility to deliver results for patients demonstrating stroke-like symptoms within 45 minutes. By having a back-up CT system, LRGH could perform imaging for these patients with little or no delay, even if the dedicated CT scanner was already in use. "The ER patient volume can overwhelm the current scanner we have," says Paiva. "By taking that extra volume and providing CT services on the SPECT-CT unit, we can more efficiently treat these patients according to our stroke protocol guidelines."

Decision-makers at LRGH considered several vendors but Siemens was their top choice due to the workflow advantages the Symbia® system offered. "The technologist interface and ease of the molecular imaging platform are really adaptable to what our needs are in terms of protocols and how our radiologists want to see our exams displayed," says Paiva.
Streamlining Patient Care

For many types of cases, the Symbia SPECT-CT is helping to streamline the care process for patients. Interventional cardiac catheterization services, for example, are not available at LRGH. Therefore, when a patient presents with chest pain and risk factors for possible coronary disease, staff may perform a nuclear stress test.

With the SPECT-CT system, interpreting physicians obtain increased sensitivity and specificity for nuclear cardiology stress testing. This means they can better diagnose and determine infarction versus artifact, and ischemia versus artifact. “This has allowed us to more effectively manage patients and avoid further downstream testing,” says Paiva. “Additionally, it provides more efficient care and reduces cost.”

Similarly, trauma patients who previously required a transfer to another facility can now be assessed at LRGH—even when the dedicated CT system is down: A few years ago during a particularly busy tourist season, the CT tube on LRGH’s dedicated CT system failed. The staff was able to perform 25 CT exams on the Symbia T6 in a 13-hour period. And more recently, the CT scanners at both LRGH healthcare hospitals (LRGH & FRH) were both down. All 67 patients requiring CT exams during this time were imaged on the Symbia T6. “If we did not have the T6, those patients, many of which were traumas, would have had to ambulate or be transferred elsewhere,” says Paiva.

Improved efficiency and case management

According to Paiva, the Symbia system is also contributing to better departmental efficiency and case management. For example, clinicians are able to use the Symbia T6 to detect biliary leaks and GI bleeds. “Before, if you had a GI bleed that was minimally visualized, we’d follow it for up to two or three hours to try and determine the location or source of the bleed,” says Paiva. “Now, we can localize it after an hour by doing a SPECT-CT acquisition and looking at the fusion images.”

Similarly, in oncology, one of the main benefits of having the SPECT-CT system is the efficiency with which patients can be imaged—since many oncology patients have multiple imaging exams. “With these patients, we’re getting higher efficiency and better turnaround times when it comes to providing CT services. We’re able to perform our oncology patients’ diagnostic CTs and bone scans while they are on the SPECT-CT system,” says Paiva. “Our patients have expressed how nice it is to be taken care of in one area and by the same staff.”

In addition, LRGH’s entire nuclear medicine staff is certified in both CT and nuclear medicine, which provides added scheduling flexibility.

“I would absolutely recommend the Symbia SPECT-CT system to any institution considering a backup CT,” adds Paiva. “Our added patient volume isn’t always steady. So, for a community hospital like ours, it’s not cost effective to have two dedicated CT systems. SPECT-CT can really add to the capabilities of medical imaging departments and be a good supplemental CT system as needed.”

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Todd Paiva
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