



Streamlined Workflow

Do More in Less Time

Improving department workflow is a primary goal for the majority of healthcare leaders. Consider given that three major challenges facing radiology today include reduced reimbursement; and technologist shortages, significant patient wait time due to low MRI to population ratios. In fact, the technologist shortage issue is only getting worse, with some studies indicating as high as 18% of tech positions are unfilled.



As a result of these challenges, radiology departments and imaging centers are expected to do more with less; more patients, less staff; more images, less time. Although current-generation CT and MR systems generate thousands of slices per exam that can improve diagnostic confidence, radiologists or the healthcare facility don't always have additional time – or reimbursement – to evaluate and diagnose more complex studies.

So the question remains: How do radiology departments or imaging centers counteract lower reimbursement, technologist shortages, and waiting patients? The answer? Increase patient throughput in the same hours of operation. The caveat is that this increase in patient throughput cannot impact quality of the study or patient comfort.



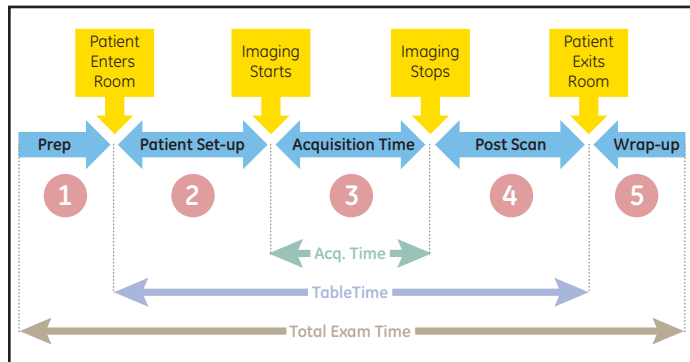
Patient prep: Outside the scan room

“Radiology professionals need to keep the scanner at its highest efficiency, so we needed to think about what steps could be performed outside the scanner room. Our answer was the Express Patient Table, which provides 32-channel table coil connections enabling full patient preparation outside the scanner room” Baldev Ahluwalia, MR Product Development Manager, GE Healthcare. In addition, features such as a single hand motion for side rail operation, integrated IV pole, table handles, and a single action table wheel lock add to time savings.

Faster set up: In as little as 30 seconds

The next step to consider is the set up time within the scan room. Many systems feature a fixed table that require the technologist to walk in and out of the room several times to complete patient set up. Not GE. In fact, set up can be done in as little as 30 seconds. Called IntelliTouch, the innovative feature of the table includes simple patient positioning, eliminating back-and-forth toggling and laser landmarking. In addition, a backlit “Advance to Scan” button guides the technologist to a quick and easy set up.

Another way to add to set up efficiencies include ensuring the patient information is accurate. The solution provided by GE Healthcare is the in-room operator console (iROC), enabling the technologist to check information and helping to improve accuracy while in the scanner room. The efficiencies afforded include a quick visual check on patient information, scan parameters, coil connection, and any required cardiac gating or respiratory triggering without leaving the scan room. The point? Save time. Focus on the patient.



Source: Performance Solutions

To overcome the challenges previously mentioned, facilities must generate higher productivity levels that can lead to the ability to increase patient throughput, leveraging the MR scanner as an asset that needs to be kept as highly efficient as possible. The first step in addressing this is to break down the exam into measurable steps and look for ways to improve the efficiency.

1. Patient Preparation Time
2. Patient Set Up Time
3. Scanning Acquisition Time
4. Post Scanning Time
5. Wrap Up Time

While each facility can and should review and evaluate their operational processes to improve workflow, one area that is often overlooked but is pivotal to workflow is the system itself. The two new systems introduced by GE Healthcare, the Discovery MR750 3.0T and Discovery MR450 1.5T were designed with workflow and efficiency in mind – without compromising scanning capabilities.



Acquisition with focus on the patient

“We designed the user interface to shorten exam time by creating efficient and automated protocols that require fewer steps, so the technologist can focus on the patient,” says Sheila Washburn, Advanced Technology Program Leader for GE Healthcare. In addition, the new design only requires the user to set the anatomical coverage once, and press scan. Repetitive tasks that do not rely on the patient or circumstance are often the culprit for inefficient productivity, so by simply automating them has reduced the number of steps by up to 68%.

Available both on the Discovery MR750 and Discovery MR450 are a number of applications that minimize scan time while delivering exquisite images. LAVA-Flex: dual-echo acquisition technique that provides three-dimensional abdominal images in one breath-hold. In addition, LAVA-Flex produces four image contrasts with a single scan: in-phase, out-of-phase, water only, and fat only. This application enables clinicians to complete a complete liver exam in 15 minutes.

VIBRANT-Flex produces fat-suppressed imaging with high spatio-temporal resolution and catches the shortest in- and out-of phase echoes to keep scan times comparable to single echo acquisitions even though twice the amount of data is collected.

Post Scanning: An exam step of the past?

Being able to quickly toggle between tasks is key in ensuring optimized efficiency. For this reason, multiple sessions can open at once to speed time expedite patient on/off table time and hasten exam completion. In other words, while a patient is being scanned, the technologist can review images from other studies, build protocols for the next exam or complete the prior patient exam. Post scanning time is no longer a serial activity, and the total exam time can be reduced even further.

Another thing to think about is protocol-defined post processing. This lets the user launch or automate a host of post-processing applications right from the workstation, without accessing a web-browser or changing desktops. For example, the user can select Multi Planar Reconstruction to launch automatically from a task list. Plus, the technologist has the ability to view images straight from the scanning desktop without launching the browser and can get an instant review of the middle slice from every series by simply switching to the Image Management desktop. These capabilities make the post-scanning workflow step easy and efficient.

Wrap up

While it may seem simple, transport in and out of the room has enormous impact on efficiency and workflow. A detachable patient table provides the ability to undock and move the patient back into the preparation room allows for the next prepared patient to proceed to the scanner to immediately begin the exam. In an emergency, the patient can be removed from the scanner room in as little as 30 seconds. In addition, while the exam is concluding, the patient can be moved to a separate room for comfortable and discreet movement off of the table.

Summary

The need to streamline workflow and reduce patient exam times is apparent across the MR industry as a result of reduced reimbursement, a foreseen shortage of technologists and the patient wait times. When comparing MR scanners take into account how these challenges might affect your department or center today and into the future. The Discovery MR750 and Discovery MR450 were designed with these challenges in mind and provide an MR workflow that is easy to use yet enables the technologist to obtain high-resolution images and greater coverage, even with the most complex exams. ■

