DOING MORE WITH WIDE BORE

How one facility increased image quality and patient volume by replacing two MR systems with one

Insight...
Since its launch in Summer 2009, GE has sold 150 Optima* MR450w systems.
In an era of global economic recession and fiscal constraint, many healthcare providers are postponing new technology investments. In the US, uncertainty over healthcare reform and a changing healthcare landscape have further stymied new product purchases for many physician practices and health systems. Yet, for some healthcare leaders, these times of economic uncertainty present an opportunity for growth. Just ask Del Creps, CEO of Envision Radiology, a national company, headquartered in Colorado Springs, Colo. Envision will be opening four new imaging centers in 2012 and at many existing centers, imaging volumes continue to increase. At some facilities, there is double-digit growth.

“We believe there are three critical success factors: spectacular service, unmistakable quality and execution. Our success is built on our staff and radiologists and how we differentiate our services.”

For nearly 12 years, the company’s vision has been to revolutionize how diagnostic imaging is delivered to the community. “We build relationships with the referring physicians and view our practice as an extension of theirs. This is a service industry, and that’s what sets us apart from our competitors.”

At Envision, patient wait times—currently averaging less than five minutes—are calculated and reviewed regularly; results are consistently delivered in less than three hours; and, high-quality imaging and patient comfort are the tenets of their success. It is the patient experience that Creps stresses as most important to the clinicians and staff.

So when Colorado Springs Imaging (CSI), one of Envision’s 15 existing imaging centers, was having throughput issues with an older 1.5T traditional MR and 0.3T open MR, Creps worked with the center to evaluate the MR department and determine the best next steps to ensure the delivery of comfortable and high-quality patient care.

“We typically upgrade or replace our equipment every six to seven years—we believe you lead with quality systems,” Creps explains. “With reimbursements declining, sites are buying used equipment or running their systems

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Del Creps, CEO of Envision Radiology
longer, but they are missing out on
great new software and hardware that
increase quality and help the radiologists
be even more accurate, confident, and
successful. In the last 10 years, great
advancements have occurred within
MRI and some of the older equipment
cannot keep pace.”

A one-for-two deal
CSI planned to acquire a new high-
field, wide-bore system to replace both
magnets. The site had already established
a leadership position in the community
for scanning obese and claustrophobic
patients. However, image quality was
a concern due to the inherent lower
resolution in low-field open systems.

“The key tipping point was when CSI’s
managers said they believed they could
schedule 30 to 32 MR scans each day,
but couldn’t perform that output on
the existing systems,” Creps adds. In
addition to the open magnet, CSI also
had an older high-field system.

So Envision turned to GE Healthcare,
an important collaborator for the
imaging provider. Creps notes that GE’s
focus on the patient experience in the
design of their new systems is a key
differentiator that also fulfills his
company’s vision. “Plus, their service is
really top in the industry, and the way
GE executes it brings added value to
their customers. It is important for us
that GE is an extension of our service.”

Figure 2. C-spine study with PROPELLER 3.0 (A); C-Spine study without PROPELLER (B).

Figure 3. MRI of the shoulder: with PROPELLER 3.0 (A); without PROPELLER 3.0 (B).
In Practice

"My experience with GE is we can run the MR system six to seven years and then upgrade it very economically to extend its useful scanning life another three to four years."

Del Creps, CEO of Envision Radiology

With the Optima MR450w, Envision and CSI got both—high-quality imaging in a system that met both market and patient needs. With a 70 cm bore and advanced applications across a breadth of exams, the Optima MR450w replaced both magnets and met CSI's MR imaging needs.

Then, something happened that Creps and Bob Zupan, RT(R), lead MR tech at CSI, attribute directly to the new scanner: MR volume increased.

**Quality + speed = growth**

“We are scanning 10 more patients each day with the Optima MR450w than we did with two MR systems,” says Zupan. “And, with the increase in SNR, the image quality has improved immensely; the new gradients make a big difference. With the 450w, we have the complete package.”

More referrals are coming to CSI because of the new machine, Zupan notes, and it can handle almost any patient case and clinical indication. Plus, CSI can add additional patients to the MR schedule without increasing the hours of operation due to the system’s speed and ease-of-use.

Most scans are completed in 30 minutes, some in under 15 minutes. This is a dramatic decrease from the 45 minutes to one hour scans that CSI ran with the older MR systems. Maximizing protocols and image quality gains are a main contributor to the shortening exam times, Zupan adds. The system is intuitive and easy to use—everything a technologist needs to program the scan is accessible from one screen page. And, the detachable table facilitates patient positioning, especially with patients who have limited mobility. “The detachable table is worth its weight in gold,” Zupan says.

New coils also impact the technologist’s efficiency. They are easy to work with and provide flexibility, yet what Zupan likes most is that he can plug in more than one coil at a time. “There are days when we change the patient and not the coil.”

The most influential differentiator, impacting both quality and speed, are the new sequences. Zupan loves PROPELLER 3.0, and uses it as part of routine protocols. “Using PROPELLER 3.0, we basically get a ‘guaranteed’ scan. We aren’t repeating studies, either, with this protocol.”

Another sequence he uses frequently is IDEAL. He finds it is an excellent sequence for body imaging, particularly in scans with different tissue densities and sizes, and it also helps reduce artifact near metal or other distortions. “Our doctors love FatSat, so we consistently run IDEAL.”

Zupan sees an opportunity to further grow the neuro imaging volumes with DTI and SWAN. “Once we start circulating these images to our referring neurologists and neurosurgeons, I expect we’ll get more requests for these studies—and more referrals.”

Bob Zupan, RT (R)(MR)(CT)
is the Lead Tech at Colorado Springs Imaging (CSI).
Del Creps is the Chief Executive Officer of Envision Radiology, a national company that owns and manages outpatient medical imaging centers. He brings over twenty years of healthcare leadership experience to this thriving company. In the midst of a changing healthcare landscape, Mr. Creps dynamically leads Envision to growth and success. Educated at Ohio State University with emphases in Marketing and Accounting, Mr. Creps brings fiscal savvy and a drive for high level marketing and growth to Envision.

Bob Zupan, RT (R)(MR)(CT), is the Lead Tech at Colorado Springs Imaging (CSI). He earned his radiologic technologist degree from St Francis School of Radiologic Technology and completed additional MRI courses in Physics/Cross Sectional Anatomy. He previously served as Program Director of Memorial Hospital School of Radiologic Technology.

Envision Radiology, LLC owns and manages outpatient medical imaging centers throughout the country. Envision currently operates 13 centers located in Denver, Colorado Springs, Dallas/Fort Worth, Lafayette, and Tulsa. Envision consistently strives to provide the highest level of customer service through excellent quality scans, same day appointment scheduling, short and dependable report turn around times, compassionate care and education of our patients, and reliable superb services for our referring physicians. Within the next year, Envision expects to open five new imaging centers.

**The bottom line**

Increasing volume while reducing overhead/expenses is a clear win for Envision’s bottom line. Creps cites service contract savings of over $110,000 per year since going from two MR systems to one at CSI. Plus, he believes these two factors along with the increase in image quality are crucial to remaining competitive.

In fact, Creps believes investing in advanced technology such as the Optima MR450w will help Envision further align with hospitals, healthcare systems, and Accountable Care Organizations (ACOs)—the latter being created under the Affordable Care Act of 2010 to help doctors, hospitals, and other healthcare providers better coordinate patient care and measure quality across settings.

Making the right investment—with the right equipment manufacturer is critical to success. Says Creps, “My experience with GE is we can run the MR system six to seven years and then upgrade it very economically to extend its useful scanning life another three to four years.”

Creps’ advice to other facilities: lead with technology and it will help increase operational excellence. Anticipate continued lower reimbursements and seek to gain back lower revenues with systems that help maximize staff efficiency and create new service offerings—just as the Optima MR450w has done for CSI and Envision.

“We’ve increased quality and patient throughput while our costs have gone down,” Creps adds. That’s a win all the way around—for the company, imaging center, patients, and referring physicians.

Figure 4. CSI can also perform advanced fiber tract studies using diffusion tensor imaging (DTI). Fiber tract with selected ROI (A); Fiber tract overlay on reference image (B).