

The Reality of Improved Revenue

Better Patient Care Through State-of-the-Art Imaging

A DIAGNOSTIC IMAGING CENTER CASE STUDY



Background

Shields MRI Framingham
Framingham, MA

Freehold Radiology Group
Freehold, NJ

Battlefield Imaging
Ringgold, GA

Allen Imaging Center
Waterloo, IA

Southwest Diagnostic
Imaging Center
Dallas, TX

Challenge

Increase profitable growth in highly competitive markets.

Solution

Differentiate your business as a patient-centric clinical center of excellence.

Proven Outcome

Improved revenue, patient satisfaction, throughput, and workflow.

Growing Market Share

Growing market share is a common goal among diagnostic imaging centers. As many are located in highly competitive urban markets, the ability to drive profitable growth rests on the ability to differentiate your business, improve throughput and referral streams, improve resource utilization, and minimize risk.

With 31%* of the US population considered obese — and that number rising to 40%* by the end of this decade — the ability to accommodate unserved and underserved obese or claustrophobic patient populations is a critical way for imaging centers to improve patient care while supporting profitable growth.

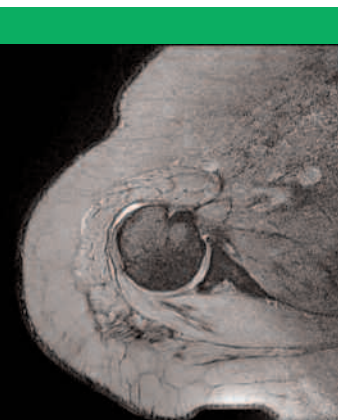
Because this growing segment of the population requires a wider bore, greater field of view, and improved signal-to-noise ratio, imaging centers trying to accommodate these patients have traditionally been forced to choose between clinical and financial tradeoffs, including:

- A closed system that often requires sedation, increases risk, discomfort
- An open system that often sacrifices speed and image quality
- Less diagnostic confidence, greater complexity and cost
- The downgrading or elimination of emergency imaging
- Cost of outsized equipment greater than cost of “normal” equipment
- Additional reimbursement typically not available**

*Source: CDC National Center for Health Statistics, October 2004

**Frost & Sullivan

Enhances Imaging of Obese Patients



286 lbs, 3.5 mm Medic



286 lbs, 3.0 mm Fat Sat

In this case study, you will read how savvy imaging centers were able to create a unique market advantage by improving and expanding service for obese and claustrophobic patients in their communities. Additionally, you will discover how, by leveraging innovative high-field, open-bore MRI technology designed specifically to better meet the needs of difficult-to-image patients, they were able to increase referrer's diagnostic confidence, improve throughput, and expand market share.

Business Goals and Community Needs Align

Last year, Dr. Peter Mezzacappa of Freehold Radiology Group in central New Jersey was struggling to bridge the gap between the demand from the community for open magnets and the demand from referring physicians for high-quality images. Located on the Centra State hospital campus, Freehold Radiology provides MRI services to a steadily increasing number of inpatients and outpatients each year — and a growing percentage of them are obese or claustrophobic.

The center offered high-field and open MRI, but Dr. Mezzacappa says, "We wanted to differentiate ourselves from everybody else — to clearly demonstrate why we're better and

why people should be sent to us. The fact is," he adds, "that physicians don't want to send patients to an open magnet" due to image quality. At the same time, examinations in open magnets required 45 minutes to an hour of patient discomfort.

Physicians at Freehold assessed a wide variety of options, and pursued an innovative new technology from Siemens — the 1.5T open-bore MAGNETOM Espree™ MRI with Tim™ (total imaging matrix) technology specifically designed to balance CT-like patient comfort with 1.5T image quality.

With more than a foot of room in the bore, the Espree can comfortably accommodate patients up to 550 lbs. Additionally, it enables feet-first scanning for virtually all applications — 60% of which can be conducted while the patient's head is outside of the magnet, significantly increasing patient acceptance. "We've seen just as good, if not better, images and better patient acceptance," Dr. Mezzacappa states. "Patients just like it better; they ask to be on that magnet."

Referring physicians are equally impressed. Siemens total imaging matrix technology improves signal-to-noise ratios up to 100%, resulting in

high-field quality imaging of obese patients. "It made both my referring physicians and my radiologists and the patients in my community very happy," Dr. Mezzacappa states. "It really does differentiate you from every other short-bore 1.5T system out there. Our referral streams have increased and we're seeing patients coming from further away. There's been a tremendous impact on our financials and an immediate improvement in our bottom line."

Dr. Cynthia Sherry, Medical Director at Southwest Diagnostic Imaging Center, shared a similar experience. "The marketplace in this area and our patients, in particular, and their doctors, were asking for an open magnet. We needed to be able to accommodate larger patients and patients that have claustrophobia, so the Espree fit the bill on both accounts," she said. "Tim™ provides us the opportunity to scan faster. Now we can obtain images of the same resolution and quality in half the time."

Expanded Service Lines

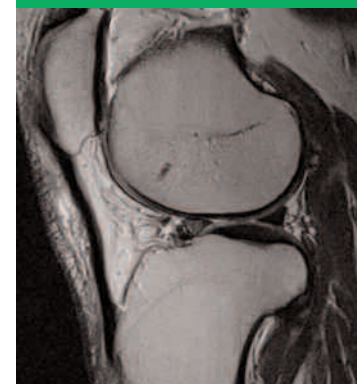
Building sustainable, profitable growth requires not only improving patient throughput, but expanding service lines to better meet patient needs.

The expansion of services at Allen Imaging Center in Waterloo, Iowa has raised the bar for services not readily available in their area. "Breast imaging is a service line we were trying to build," says Chris Mattingly, Director of Allen Imaging Center. "We just started working with the seven-channel breast coil, but we wouldn't have been able to do this kind of study with other open MRIs."

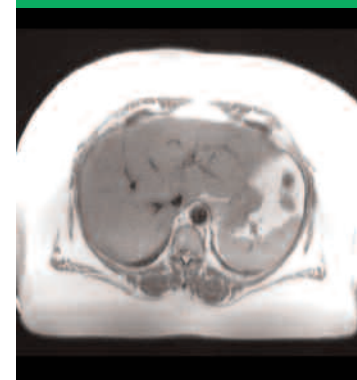
Additionally, Mattingly continues, "We did not do any type of angiography before installing the Espree, and when it came to neuro, we did not do anything that would require us to do thin head slices, because the image quality just was not there. Now we have added neuro exams and angiography. With the 1.5T technology, we now have no limits."

Dr. Mezzacappa at Freehold Radiology Group recalls "We couldn't do diffusion studies, angiography, and breath-hold before the Espree. Since implementation, we've proportionately increased our throughput by about 50%."

Enhances Imaging of Obese Patients



320 lbs, 3 mm, 256 x 256,
14 cm, 4:00



52-inch waist,
T1-weighted HASTE,
1 second per image

"We couldn't do diffusion studies, angiography, and breath-hold before the Espree. Since implementation, we've proportionately increased our throughput by about 50%."

*Dr. Mezzacappa
Freehold Radiology Group*

>30 cm in One Shot Patient Too Large to Fit in 60 cm Bore



multiple aneurysms,
3D ceMRA, TE 1.1,
SL 1.25, TA 23 sec

Using Technology to Build a Clinical Center of Excellence

The clinical benefits of the MAGNETOM Espree with Tim™ technology start with image quality, regardless of the size of the patient. In addition, the open bore and feet-first design inspire patient confidence that greatly reduces the need for sedation while enhancing patient throughput.

The extraordinary advantage afforded by Tim™ technology in eliminating required patient repositioning or manual coil changes has also set those imaging centers with the Espree apart from the competition. In addition, Tim enables faster whole-body imaging (for patients up to 6' 9" tall) to optimize diagnosis and staging of systemic diseases, including cancer and vessel diseases.

"The Tim technology has worked flawlessly for us in imaging larger fields of view, whether it's total spine, abdomen, chest, etc.," states Dr. Mezzacappa from Freehold.

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*Dr. Mezzacappa
Freehold Radiology Group*

A Win for Patients

Feedback from obese and claustrophobic patients who have undergone previous MRI studies — some under sedation — reveals the advantages from their perspective. Mr. Leroy Woods, a patient at the Allen Imaging Center says, "The fact that you only had to be in there about 20 minutes instead of almost an hour was excellent. Plus my head didn't have to go all the way in either."

Even patients that have had a history of bad experiences with MRI studies appreciate the patient-centric engineering. Relates Dr. Mezzacappa, "I can think of a specific patient, one who was a very claustrophobic woman. We have been following her for a number of years, and she really requires a lot of sedation to even get near the magnet. She opened her eyes in the new Espree and a smile came to her face and she said, 'Oh, this is great in here.' That was one of the most remarkable things. At the end of the procedure she said, 'You know what? I don't even think I'm going to need sedation next time.'"

According to Dr. Joe Busch at Battlefield Imaging in Ringgold, Georgia, "We have scanned 33 larger patients in the first four months with

the Espree. Many of these patients were not able to be scanned in any other traditional or low-field open scanner until now. Because we no longer need to sedate patients and have essentially eliminated denials, our revenue stream has increased significantly."

A Win for Imaging Centers

The imaging centers in this case study found that differentiating themselves as patient-centric clinical centers of excellence improved throughput, utilization rates, and patient care — and provided a runway for sustainable profitable growth.

John Cannillo, the Director of Cardiac Imaging at Shields MRI Framingham of Massachusetts, says he is convinced of the advantages of state-of-the-art imaging in distancing his facility from the competitors as the first choice of referring physicians in his area. "We are staying ahead of the curve with a technology no one else can offer, and we have significantly raised our number of patients scanned to 22 or 23 a day," notes Mr. Cannillo.

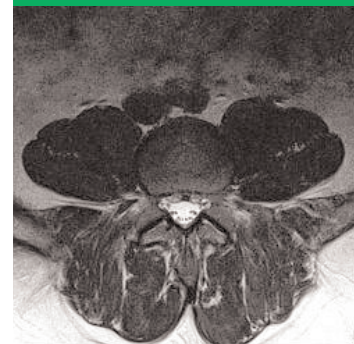
"It really has worked and it allows us to differentiate ourselves from everybody else. It allows you to say this is why we're better than everybody else and this is what we can do for you and it's the latest, greatest, and it works. Overall, our volume is up and it's up significantly," Dr. Mezzacappa says. "We see more referrals from our good referrers, but we also see more referring physicians, period."

These accounts provide a story of profitable growth solutions based on extraordinary image quality and patient satisfaction driven by state-of-the-art technology. They prove that serving the underserved not only benefits your community but can also be a successful business strategy.

1.5T for Obese Patients 5'7" / 300 lbs with Multiple Herniations



T1, 4 mm, 28 cm



T2, 4 mm, 18 cm, 256 x 512

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