

# Advanced MRI Technology Offers Solutions for Diagnosing Obese Patients

## Siemens responds to the needs of physicians and patients

**R**esearch studies and news stories report frequently on the links found between obesity and serious health conditions like heart disease, diabetes and cancer. Less reported, however, is the threat that obesity indirectly poses: the possibility of not being able to properly diagnose those health conditions at all.

Obesity is a growing epidemic in the United States, but it's also causing a problem for doctors trying to treat obese patients, particularly in the medical imaging field. Through X-rays, computed tomography (CT) scans, ultrasound and magnetic resonance imaging (MRI), medical imaging has become routine in analyzing a patient's condition. However, large amounts of body fat can hinder accurate readings of diagnostic images. In fact, obesity can prevent a patient from even being able to take the first step in getting an image: fitting into the machine.

"In the past two years, I can think of at least 10 occasions when an obese person came into the ER with abdominal pain that needed medical imaging. But they exceeded the machine's weight limit, and we couldn't serve them," says Dr. Raul Uppot, a Boston-based specialist in radiology. "It's devastating for these patients. They don't know what to do next or what's going on with them. Their options are limited."

According to the CDC National Center for Health Statistics, 31% of the U.S. population is obese - with the number expected to rise to 40% by the decade's end. As Americans become bigger, the need for imaging equipment to accommodate larger patients also increases.

One problem, for example, lies with MRI scanners, which enable detection of diseases associated with obesity. A traditional MRI scanner's "bore," or opening, cannot accommodate larger people, and the common "open" MRI systems have much weaker magnets that sacrifice image quality

needed to diagnose complex conditions, and still do not have a big enough opening for the largest patients. At this point, other options facing doctors and patients could be costly, invasive tests that may require sedation and a hospital stay, rather than a non-invasive diagnostic scan.

So what is the solution for physicians wanting to accommodate obese patients, avoid invasive tests, and also get quality diagnostic images? "In this case, the most ideal MRI machine is one that can support a

weight limit greater than the current industry standard of 350 pounds," says Dr. Uppot. "It also would need a larger bore diameter than the 60 cm standard, as well as a good magnet field strength of 1.5 Tesla or higher."

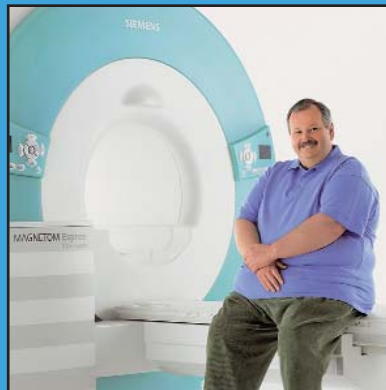
Siemens Medical Solutions, a leading imaging and healthcare information technology solutions provider, has risen to the challenge with the development of products such as the MAGNETOM Espree™ MRI scanner. The Espree is the only system that combines 70 cm "open bore" technology, allowing CT-like space for patients, with a powerful "high-field" 1.5 Tesla magnet to enable acquisition of high-quality diagnostic images.

"It's a unique mix of comfort and quality," says Heinrich Kolem, president and CEO of Siemens Medical Solutions USA, Inc. "With a bore opening of 70 cm and a table capable of handling 550 pounds, the Espree is the only 1.5 Tesla MRI system that provides enough room for obese patients."

The Espree also offers patients shorter exam time. By combining its magnet strength with Siemens' revolutionary Tim™ (Total imaging matrix) technology, time-consuming tests requiring repositioning of the patient can be performed in a single pass, so a whole-body exam can be completed in less than 12 minutes.

Kolem notes that shorter exams and more space also accommodate people with issues related to claustrophobia, and offer comfort for elderly and pediatric patients.

"All patients deserve the same access to high quality MRI technology," says Kolem. "The Espree is another innovative example of how Siemens is working with its customers to enable the best possible care for all patients."



**Top photo:**  
The world's only 70 cm Open Bore MRI System - Siemens MAGNETOM Espree™.

**Bottom photo:**  
Lumbar Spine image of 5'4", 450-lb patient.

**For more information on the Espree MRI and to locate one near you, visit [www.usa.siemens.com/open](http://www.usa.siemens.com/open).**