



## Al Mousa Medical Centre offers Saudi and neighbouring gulf countries major enhancements in CT access, innovation, and dose-reduction

Located in Al-Ahsa, Saudi Arabia, Al Mousa Medical Centre (AMMC) has become the provider of choice for many in the Eastern Province and beyond. Accredited by Joint Commission International (JCI) since 2009, it's a private institution under leadership that is clearly committed to providing the most sophisticated medical care available.

One striking example of this commitment is AMMC's recent acquisition of GE Healthcare's innovative Optima\* CT660 -- a premium, high-performance, low-dose, 128-slice scanner that is already having a major impact for patients and referring physicians alike.

### The facility

Al Mousa Medical Centre,  
Al-Ahsa, Eastern Region,  
Saudi Arabia

### The equipment

Optima CT660 from  
GE Healthcare



GE imagination at work

healthymagination

# Improved access to advanced diagnostics

“Radiology is the backbone of this hospital,” said AMMC Chief Executive Officer Malek Almoussa. “Each day, this department sees 150 to 200 patients. It’s our mission to provide them, and the physicians who send them to us, with optimum diagnostic services – and that is precisely what we have equipped ourselves to do.”

It’s for this reason that the mid-2011 installation of the Optima CT660 has generated so much excitement, according to AMMC Radiology Director Tamir Hassan, M.D.

“It’s not our first CT scanner,” Dr. Tamir pointed out. “But with our existing system, we had been unable to serve large groups of patients – those needing cardiac CT, CT

colonoscopy, or lung scans, for example. Instead, we were forced to send these patients to other providers for such studies.”

Eliminating this care-path detour was one of the staff’s primary reasons for selecting the Optima CT660, he said. It has equipped AMMC with the CT applications that had been missing, and in fact has positioned the institution at the forefront of CT scanning technology in the area.

“Today, we offer the full range of CT studies right here,” he said. “Cardiac CT, angiography, colonoscopy, bronchoscopy, even dental scans – these are all challenges that we are now meeting every day, thanks to the Optima CT660.”

## Outstanding quality at lower dose

Dr. Tamir and his colleagues are equally excited about the Optima’s performance across all its applications – particularly in light of its ability to minimize and optimize dose.

“We share JCI’s concern with patient care, so low-dose imaging capability was an important criterion in our selection process,” he said. “The Optima CT660 was the ideal solution for us, allowing for a lower dose while still delivering the diagnostic image quality we demand. It also has a feature where dose is optimized to provide the needed level of image quality for each patient.”

This protocol employs a dose-reduction tool called ASiR\* (Adaptive Statistical Iterative Reconstruction). It uses a GE-proprietary iterative reconstruction algorithm that reduces image noise which may then allow the clinician to reduce dose without compromising the diagnostic utility of the study. ASiR also allows users to enhance low-contrast detectability, which is also important for diagnostic confidence.

The excellent images have greatly enhanced his team’s diagnostic confidence, Dr. Tamir said.

“For example, a female patient was referred to us recently for a lung CT,” he said. “She had already had one such exam on another machine, and it was negative. But her Optima scan revealed three nodules indicating early-stage lung cancer, which was then treated successfully. It’s a striking testimony to this system’s value for helping us detect cancer even in its earliest stages.”

There have been many such cases in the months since the scanner was installed, he added.

“Not long ago the Optima’s clear images provided the information we needed to help diagnose a case of lymphangitic carcinomatosis, which can be very difficult to detect,” Dr. Tamir said. “We’re also finding it much easier to diagnose cardiac anomalies with this system – including a recent case of anomalous circumflex artery.”

The scanner has repeatedly proven itself to be the right choice, Almoussa said. “It was not easy to find a machine offering both advanced dose reduction features and such exceptional image quality. But that’s exactly what we found in the Optima CT660.”



# Lowering the cost of healthcare

The providers agreed that this scanner has also lowered the cost of advanced diagnostics – and not simply because of a very competitive initial price.

“Its speed and workflow are the primary reason,” said Dr. Tamir. “With Optima, virtually any scan can be completed in seconds. That means we can accommodate more exams each day, which lowers the cost per patient.”

Its speed also means that patients who might not have been candidates for CT in the past may now be scanned.

“Paediatric cases are an example,” Dr. Tamir said. “Before the Optima, they often presented us with a challenge, because so many parents refuse permission to administer anaesthesia. With our old scanner, motion artefacts were common in these cases. But Optima virtually eliminates this problem. Our studies are finished in just seconds, with optimized radiation dose, typically no sedation, and much less opportunity for motion blurring.”

This fast scan speed is also very helpful with adult trauma cases, he said. “With the Optima, we can scan whole body trauma cases in just seconds – again, typically without the need for anaesthesia, which is usually contraindicated for trauma patients.”

The scanner may also save money in unexpected ways, Almuoussa said – for instance, via its automatic energy-saving mode, which may reduce energy costs.

## The bottom line

The Optima’s performance contributes in another important way to AMMC’s bottom line: It reduces the need for retakes compared to their previous system, in part because the short scan times present less opportunity for the patient motion that can render images non-diagnostic.

“So far,” said Almuoussa, “our radiologists have not had to repeat a single exam.”

This is important for an institution that serves patients from a vast geographic area that includes North Kharj, Khobar, Dammam, Salwa and every village in between -- plus, increasingly, Qatar and Bahrain. In fact, to accommodate the steady growth in patient population, AMMC is currently undergoing a major expansion that will bring its capacity up to 220 beds.

The Optima CT660 seems destined to play a major role in the future of this facility.

“It’s a very good machine,” Almuoussa said. “We are happy to be able to use it to serve our community.”

## The experience

### Improved access to advanced medical care

- Applications accommodate studies from cardiac imaging to CT colonoscopy
- Patients who may not have been CT candidates before can now be scanned as a result of technical and product innovations

### Extraordinary quality across studies

- Excellent images are important for diagnostic accuracy
- Significant dose reductions may be possible across a variety of studies
- Exclusive ASiR capability may help clinicians achieve confident diagnosis with lower dose<sup>1</sup>

### Lower costs

- Fast scan speed and efficient workflow accommodate more patients
- Energy-savings mode offers the possibility of reduced energy costs

# About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our “healthymagination” vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access, and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at [www.gehealthcare.com](http://www.gehealthcare.com)

GE Healthcare  
3000 N. Grandview Blvd.  
Waukesha, WI 53188  
U.S.A.  
[www.gehealthcare.com](http://www.gehealthcare.com)

© 2012 General Electric Company,  
doing business as GE Healthcare

1. In clinical practice, the use of ASiR may reduce CT patient dose and improve LCD depending on the clinical task, patient size, anatomical location and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

\*Optima and ASiR are registered trademarks of General Electric Company.

This article is only for distribution in Saudi Arabia, GCC (UAE, Bahrain, Qatar, Kuwait, Oman) and Levant (Lebanon, Syria, Jordan, Palestine).

This document was produced for healthcare professionals. Please do not use it for other audiences.



GE imagination at work