



Speed, Wide Coverage Helps Centro Medico Teknon Achieve High Patient Throughput

Over the last decade, significant improvements in CT imaging technology have propelled these systems to the forefront of cardiac imaging. As good as CT is for non-invasively examining the beating heart with capabilities such as whole-heart coverage, split-second volume acquisitions, thin-slice volume coverage and dose reduction, it also provides significant benefits for body imaging.

When it comes to examining the chest, abdomen and pelvis, CT is one of the fastest and most accurate imaging tools available today thanks in large part to the detailed, cross-sectional views of organs, tissues and bones.¹ CT is also an ideal imaging exam for detecting many types of cancers by providing the information physicians need to confirm the presence and location of a lesion, determine the extent of involvement with surrounding tissue and perform measurements.

At Centro Medico Teknon in Barcelona, Spain, CT plays an important role in the diagnostic work-up of patients.

As one of the country's leading private hospitals, Centro Medico Teknon is dedicated to clinical excellence by adopting the latest advancements in technology, such as Revolution™ CT. The hospital is also accredited by Joint Commission International.

According to Nadine Romera Lobato, MD, the top indication for CT is oncology (body) followed by neurology, trauma and cardiology. On average, 85 patients are scanned each day on the hospital's Revolution CT—a very high volume even when compared to leading academic institutions worldwide. The majority of CT exams, 80%, are performed on outpatients.

In addition to Revolution CT, the hospital has a 64-detector row CT system from a different manufacturer. However, Revolution CT is the preferred choice for radiologists because it is fast, reliable and provides the high quality images at a low dose that they need to make a confident diagnosis. "Whenever possible we try to utilize

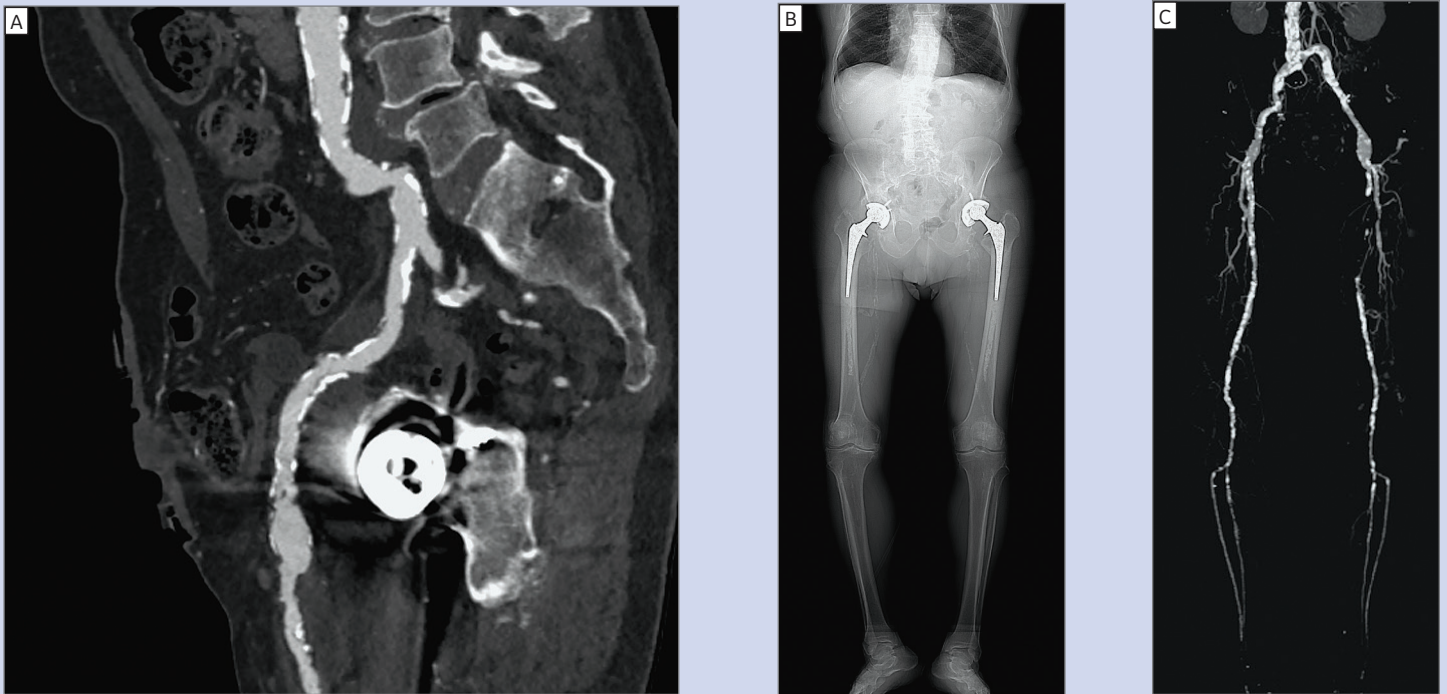


Figure 1. With Revolution CT, clinicians at Centro Medico Teknon can (A, B) visualize anatomy to visualize complications or detect infection resulting from joint replacement surgery. (C-E) The high image quality of Revolution CT enables the hospital to use lower volume of injected dose, in some cases up to 80% less.

“For us, (Revolution CT) is one of the best technologies we can apply to our patients to obtain the clinical answers we need.”

Dr. Nadine Romera Lobato

Revolution CT most often,” Dr. Romera says. “Typically, for any angiography, cardiac or colonoscopy examination we only use Revolution CT.”

This is also true for trauma evaluations. Dr. Romera says that the trauma physicians request Revolution CT as their first choice for patient examinations.

Since implementing Revolution CT in February 2016, Dr. Romera has seen a noticeable uptick in patient referrals. Orthopedic surgeons are sending their patients to Centro Medico Teknon for high quality imaging near metal implants. MMAR (Multi-Material Artifact Reduction) reveals anatomy obscured by metal artifact, helping the radiologists and orthopedic surgeons utilize CT scans, diagnose disease and contour targets with greater confidence.

“With Revolution CT, the surgeons know we have high quality images that they can use to visualize complications after surgery or detect infection around the prosthesis,” Dr. Romera says.

In pediatric patients, the wide 16 cm coverage and fast rotation speed of 0.28 seconds has led to a reduction in the use of anesthesia/sedation. The 80 cm bore also makes a significant difference when imaging bariatric patients. Dr. Romera explains, “We perform a lot of bariatric surgeries and when there are complications we always perform a CT exam. We have better explorations with Revolution CT.”

Even cardiac imaging exams have increased. “We know the cardiologists are sending their patients to us because of Revolution CT. We believe we have the best technology to provide the highest quality images in our area. In cardiology, we can scan virtually any patient even when they are not prepared with beta blockers. Prior to Revolution CT, any patient with a heartbeat higher than 65 bpm we would reject for the study or try to lower the heartbeat with beta blockers; now we do not.”

Yet, the most significant impact that Dr. Romera sees each day is the reduction in patient dose. On average, run-off studies are using 80% less dose than before. The high image quality also translates to a lower volume of injected dose. Dr. Romera estimates that for both cardiac and run-off exams, Centro Medico Teknon is using 45% less contrast media, which saves costs but most important further reduces patient dose and potential risk for contrast reaction.

“Iterative reconstruction is a big change and a step forward,” she says. “When we compare the images to the other scanner, which does not have IR, we can see the difference in the image quality. For example, in the lung we have more definition of the parenchyma and in the liver or pancreas we can better define the different components of a lesion. We cannot see lesions with this level of definition and detail with our other scanner at a lower dose.”

After four months of scanning with Revolution CT, Dr. Romera has experienced the difference in body imaging that the system delivers.

“I would choose Revolution CT again. For us, it is one of the best technologies we can apply to our patients to obtain the clinical answers we need. It is a significant advancement in technology and one I would recommend,” Dr. Romera says. ■

References

1. Radiologyinfo.org. Radiological Society of North America. Available at: <http://www.radiologyinfo.org/en/info.cfm?pg=bodyct>

