



PHILIPS

Image Guided Therapy

Zenition 10

Location:

Radiology department at Unidade Local de Saúde de Santo António (ULSSA), Porto, Portugal

Size/scope of hospital:

Responsible for populations across the Porto metropolitan region and northern Portugal

Solution:

Philips Image Guided Therapy Mobile C-arm System 1000 – Zenition 10

Benefits:

Optimized workflows, with high image quality at a low radiation dose for orthopedics procedures

Achieving high-quality imaging at a low dose in orthopedics

Working with the Philips Image Guided Therapy Mobile C-arm System 1000 – Zenition 10



The radiology department of a hospital is always a busy place – and it's no different at Unidade Local de Saúde de Santo António (ULSSA) in Porto, Portugal. As Mr Eduardo Ribeiro, Coordinator Radiographer at ULSSA, explains, "We are considered a reference center in the north of Portugal. We stand out because of our high differentiation in technological components, combined with the technical and scientific knowledge of our professionals." The radiology service provided by the hospital covers areas including MRI, CT, diagnostic and interventional angiography, conventional and interventional radiology, mammography, and ultrasound.

"I can tell you that on a trochanteric/hip fracture surgery – which is a very common procedure in this hospital – we've reduced dose exposure by a factor of two or three."

Ms Susana Barbosa, radiographer, ULSSA



As radiographer Ms Susana Barbosa explains, "I think the OR here is quite challenging, because we perform surgeries in almost every specialty: orthopedics, neurosurgery, urology, and gynecology. And within each specialty, we perform a wide range of procedures. We deal with all the kinds of patients you can imagine."

However, as in many other parts of the world, the volume of patients is increasing. As orthopedics specialist Dr João Maia Rosa comments, "Despite difficulties that we have seen in the SNS (Portugal's national health service), our size and organization have always allowed us to provide an adequate response according to the current rules and parameters of adequate patient treatment. However, we are now in a more difficult phase, mainly related to the volume of patients, especially in traumatology. For example, as the population is becoming older, we are seeing more and more fragility fractures and other trauma injuries."



With so many procedures, the radiology team faces challenges – especially with respect to radiation dose management. As Dr Rosa observes, “We have regular training regarding precautions to be taken, both in terms of protective material and dosimeters. We know the level of radiation is related to occupational diseases to some degree – especially for those who are exposed to it on a regular basis. This means we should do everything we can to reduce the level of radiation.”

Zenition 10 at ULSSA: Positive first impressions

To help overcome these challenges, the ULSSA team elected to work using the Philips Zenition 10 mobile C-arm system. The system was well received by the clinical teams, as Dr Rosa explains: “The impression was positive and favorable in practically all aspects.”

The installation of the system was complemented by support and training where needed. As Ms Barbosa reflects, “We not only had initial training, but we also had on-site support [during procedures]. And this support was very important in practice. Training always makes us feel safer every time we use new equipment.”

The Zenition 10 system’s user-friendly design also played its part in ensuring a smooth start at ULSSA. As Ms Barbosa adds, “I, and the colleagues I spoke to, found the system to be simple, easy to understand and to use.”

‘Huge dose reduction’

The system’s dose-reducing features quickly made a significant positive impact during procedures. As Ms Barbosa explains, “The [introduction of] flat detectors allowed for a huge dose reduction. In orthopedics, we’ve noticed a big difference in the exposure rates compared to those we had a few years ago. I can tell you that on a trochanteric/hip fracture surgery – which is a very common procedure in this hospital – we’ve reduced dose exposure by a factor of two or three.”

Specific benefits for orthopedic procedures

As an orthopedic surgeon, Dr Rosa was particularly pleased to experience the workflow and efficiency benefits of Zenition 10. “It was effective and accomplished its purpose. This equipment facilitated our work – for us [surgeons], as well as for the radiology team and the radiographers. Together, we had the feeling that it allowed for process optimization.”

During surgical procedures, the Zenition 10 system helped Dr Rosa and his colleagues optimize their workflows, further enhancing the team’s dose management initiatives. As Dr Rosa notes, “We know that in our specialty, the most important thing is to do as many things as possible in as little time as possible – to reduce surgery time and, naturally, complications. If the equipment helps us save time while maintaining quality and reducing exposure, that adds value for us.”





High image quality at a low dose

From a radiographer's perspective, Ms Barbosa and her team were very enthusiastic about Zenition 10's ability to support them in their work. "I think Zenition 10 offers excellent image quality for the amount of radiation that it uses in certain types of procedures, such as for extremities," she explains. "We have had very good feedback regarding its use in extremity procedures. And I personally also think that for the upper and lower limbs, we can achieve great image quality with a very low radiation value."

Features such as MetalSmart helped ensure that image quality remained consistent even in cases where a lot of metal was present in the region of interest. And the FluoTap imaging acquisition mode has proven itself to be "very, very useful", as Ms Barbosa confirms: "It allows us to obtain very good quality, with a low level of radiation."

High rotation flexibility and C-arm geometry yield further benefits

Ms Barbosa also emphasizes the benefits of Zenition 10's high rotation capacity for surgical procedures. "This is an equipment option that I think should be considered in other systems – because, especially in trauma, we sometimes need to make angulations. Depending on the rotations required by the surgeons, having the possibility to angle the system a little more to achieve a good profile is a very good option. It really comes in handy."

"[Zenition 10] facilitated our work. Together, we had the feeling that it allowed for process optimization."

Dr João Maia Rosa, orthopedics specialist, ULSSA

With reference to Zenition 10's flat-panel detector design, Dr Rosa and his colleagues experienced specific benefits for orthopedic surgery procedures. "We always position the surgery table, so the C-arm has to slide along the field where it is located and adapt to the operating table or the extremity field, in the case of the upper limb," he explains. "And this aspect of being more geometric, so to speak, allows for easier fitting, whether for AP, oblique or profile views – without adjusting the table, which is something that takes more time and delays surgical procedures."



A strong platform for orthopedic procedures – with potential for ambulatory applications

Summing up ULSSA's experiences with the Zenition 10 system, Mr Ribeiro confirms: "The Zenition 10 system is a robust, intuitive, and versatile platform, with options that can be customized by the radiographers. This allows for high workflows in image acquisition and post-processing."

Systems such as Zenition 10 can also pave the way to help hospitals such as ULSSA to meet the growing demand for outpatient, or ambulatory surgery. As Dr Rosa reflects, "We are now doing more and more of this kind of surgery, and the world is moving in that direction. Ambulatory procedures allow patients to be operated on in a way that lets them go home as soon as possible. And this equipment is adequate for ambulatory procedures and is also something for our emergency and scheduled surgery procedures."

"The Zenition 10 system is a robust, intuitive, and versatile platform, with options that can be customized by the radiographers. This allows for high workflows in image acquisition and post-processing."

Mr Eduardo Ribeiro, Coordinator Radiographer, ULSSA





Disclaimers:

- These results are specific to this institution. Results in other case studies and institutions may vary.
- Product representation may vary.
- Zenition 10 mobile C-arm system is not for sale in the USA and this material is not for use or distribution in the USA.
- Availability in other countries is subject to local approvals, please contact your local representative.