



“The fast availability of the images contributes to a smooth workflow.”

– SONJA MEURY, Senior medical practice assistant

Sophisticated, leading edge imaging

Airport Medical Center Zurich values flexibility and image quality of the DX-D 300

Case Study, Airport Medical Center
Zurich, Switzerland



Interview

INTERVIEWEES:

SONJA MEURY, Senior medical practice assistant

LENA SCHWARZ, Medical practice assistant

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Medical practice assistant



Zurich Airport is Switzerland’s most important transport hub, the gateway to the country. It handles a good 265 000 take-offs and landings and some 26.3 million passengers every year – that’s an average of around 72 000 per day. As an international airport with more than 40% of incoming passengers arriving from countries outside the Schengen Area, flights land in Zurich from 48 non-European airports.

A Swiss Air flight from São Paulo is due to land at any minute. Today the Zurich cantonal police are on the scene, because Brazil, like the rest of South America, is a country from which there are many attempts to smuggle drugs. On the basis of the booked flights, potential drug couriers have been identified who must now be investigated more thoroughly.

Half an hour later the police have identified a suspect, who is taken into custody and escorted to Prime Center 1 opposite the terminal. Following detailed questioning, it is decided to carry out a closer examination. This requires an X-ray examination, because illegal substances are often smuggled

inside the body by packing the drugs inside the finger of a latex glove and then swallowing the package – a practice known as body packing.

For the X-ray examination, two police officers escort the suspect straight to an X-ray suite in the Airport Medical Center (AMC). “The waiting room is off-limits,” says Sonja Meury, senior medical practice assistant. “Other than that, we don’t take any special security precautions.” A doctor arrives and, as far as is possible in English, asks the patient how they are feeling and feels the abdomen. He then orders an abdominal X-ray.

EXCELLENCE IN IMAGING: DX-D 300

Meury and her colleagues take the X-ray with a DX-D 300, the fully motorized U-arm direct radiography (DR) system from Agfa HealthCare. When the X-ray image is ready, after just a few seconds, it is evaluated by the doctor. The police officers also examine the picture. In this case, the suspicion is confirmed: the person in question is indeed carrying several small drug packages in the intestine. The images are quickly copied to a CD-ROM as evidence. The whole procedure has taken less than 30 minutes. Following this result, the public prosecutor's office, which is based in the same building as the Airport Medical Center, immediately commences proceedings. The costs of the examination are covered by the Zurich cantonal police.

The AMC examines 40 to 50 suspected drug couriers every year. "Around 60% of the people we X-ray have indeed swallowed drugs," says Meury. Over time a number of specific

circumstances came together, as her colleague Lena Schwarz, a medical practice assistant (MPA) who is responsible for X-rays in the AMC, explains: "We recently examined a woman in whom we spotted a transparent, tablet-shaped silhouette in the abdomen on the X-ray. She had inserted a package measuring about 6 x 12 centimeters and containing 200 grams of cocaine vaginally. We also discovered other packages in the intestine, probably also containing cocaine."

But it is usually men who are brought to the practice by the police for examination, and who risk their lives by carrying drugs inside the body: if a package ruptures inside the intestine, the individual's chances of survival are extremely slim because in most cases they will die of an overdose. "So they can actually be thankful when we catch them," says Schwarz. Persons of all ages are misused as body packers.

FULL RANGE OF X-RAY EXAMINATIONS

The DX-D 300 X-ray system has been in use at the AMC since 2011, prior to which the facility used conventional technology. This was also used to examine suspected body packers. "Back then waiting times were much longer and the evaluation of the images was a lot more demanding," Meury recalls.

The starting point for the digitization of the Airport Medical Center came with the relocation of the practice premises. "At first we were based on the second floor of the building. When we no longer had enough space, we moved to the eighth floor. We took this opportunity to modernize the IT equipment and introduce electronic patient records," says Meury. It was only logical to move to a completely digital X-ray system at the same time.

A DR system in the AMC must be able to cover the full range of examinations and patient groups, from babies to the elderly. This calls for a flexible X-ray machine which can meet very specific requirements, for example using the minimum reasonably achievable dose to obtain high image quality in pediatrics. "With the DX-D 300, we can do just that," says Schwarz. Because of the different areas of application in the AMC, high demands are placed on the imaging technology. Tiny fractures or hairline cracks must be detected with the same reliability as knee position or screws in follow-up checks after surgery – or indeed swallowed drug packets.

The new DR system also had to meet another requirement: it had to be quick to get to grips with and simple to operate. Meury explains why: "New colleagues need to be integrated quickly into the everyday work of the practice. We can't afford to have an X-ray system that takes too long to learn. With the DX-D 300, it's

a very simple matter." This is underlined by Schwarz: "New MPAs receive training on the machine, which only takes 15 minutes. For a few days they are supervised by an experienced colleague, and very quickly they can handle examinations by themselves."

In addition to the high image quality, the DR system's ease of use contributed to the very high acceptance of the DX-D 300 in the Airport Medical Center Zurich. Meury adds: "What's more, you rarely see such a modern device in a medical practice, and the examination process is highly automated, which makes the job significantly easier."



Airport Medical Center Zürich (AMC):

- Facility for the detection of hidden drugs at Zurich Airport
- DX-D 300 is the machine of choice with high image quality
- Fast, smooth processes

FAST WORKFLOWS GUARANTEED

The AMC is always staffed by several doctors and at least six MPAs, two of whom exclusively care for patients. Following administrative admission, any wounds are first treated before the patient proceeds to examination. "In the case of a suspected fracture, we take the patient straight to the X-ray suite and do everything there," Schwarz explains. The patient is then examined by a doctor, who orders the X-ray. The responsible MPA positions the patient, takes care of radiation protection, checks the settings on the machine and performs the X-ray examination.

They are assisted by the software on the NX acquisition workstation. "We've already stored defined parameters for examinations on the NX," explains Meury. "These can simply be confirmed or modified, for example if we have a very large or very thin patient or a child." This eliminates the need for laborious manual settings on the control panel, making the examination simpler for the MPA and quicker and safer for the patient. "Everything happens automatically – we hardly need to take care of a thing," she adds.

In a matter of seconds, the images are ready for evaluation on the monitor. Because there is a monitor in each X-ray suite, the doctor can discuss the result with the patient immediately. This is fascinating for the patient and is an important factor in helping them understand better. Doctors benefit from the high image quality provided by the MUSICA image processing software.

"All in all the images are very easy to evaluate," says Meury. "If desired, the doctor can adjust the contrast and brightness or process the images differently after they have been taken, to aid their review. The fast availability of the images contributes to a smooth workflow."

While the doctor is discussing the findings with the patient, the responsible MPA is copying the X-ray images to a CD-ROM which is then given to the patient, in case it is needed by their own family doctor or for further treatment or follow-up. When the report with the findings is ready, it is added to the patient's electronic record. If surgery is required, the Airport Medical Center transfers patients either to Bülach Hospital, which owns the AMC, or to the University Hospital in Zurich.

"We simply immobilize the fracture and hand over the patient, with their X-rays on CD-ROM, to the surgeon," says Schwarz.

At the Airport Medical Center Zurich, the DX-D 300 is demonstrating its flexibility and versatility. It satisfies the high demands of a complex practice and also proves itself in specific situations – including the unmasking of body packers. ■

Airport Medical Center Zurich



The Airport Medical Center is an outpatient practice with several doctors covering general and internal medicine as well as a range of specialists. In addition to general medicine, the team represents ophthalmology, dermatology, psychiatry, urology, nutrition and rehabilitation/physiotherapy.



Around 15000 patients are treated in the AMC every year, including airport staff and passengers. However, the facility is open to all and is an important pillar of medical provision in the region.



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B-2640 Mortsels – Belgium • 201612

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