

Getting the Full Picture – for the Sake of the Patient

Associate Professor Rolf Janka, MD, of Erlangen University Hospital, explains how Siemens' *syngo.via* helps him efficiently derive pertinent information from medical images – ultimately benefiting patients with high-quality diagnoses.

Text: Oliver Klaffke Photos: Christian Kain

"In order to boost quality and productivity in radiology reading, we need an intelligent display of the vast amount of information we get from medical imaging today," says radiologist Associate Professor Rolf Janka, MD. He works at Erlangen University Hospital in Germany and has witnessed the progress achieved in medical imaging technology during the past decade. Today, an average examination yields 1,500 images. When considering the number of patients examined, this number quickly reaches the 100 thousands each day.

Medical experts today often have access to images from a variety of modalities, such as positron emission tomography (PET), computed tomography (CT), or magnetic resonance imaging (MRI); great numbers of images from prior examinations; and visual data from other sources. When looking at a patient with a known malignant disease, for example, the prior images – possibly even from a different type of modality – might provide the decisive information for an accurate assessment of the progress of the disease. "Using sophisticated software is necessary to handle and analyze images of this volume and complexity," Dr. Janka says. Erlangen University Hospital relies on the latest

version of Siemens' *syngo*®.via software for 3D routine and advanced reading of images. *syngo.via* has been in use here for several years, helping to increase the quality of reading and productivity in radiology. "Since the introduction of *syngo.via*, we get much better results in the same amount of time," he says.

Prompt Diagnosis: A True Patient Benefit

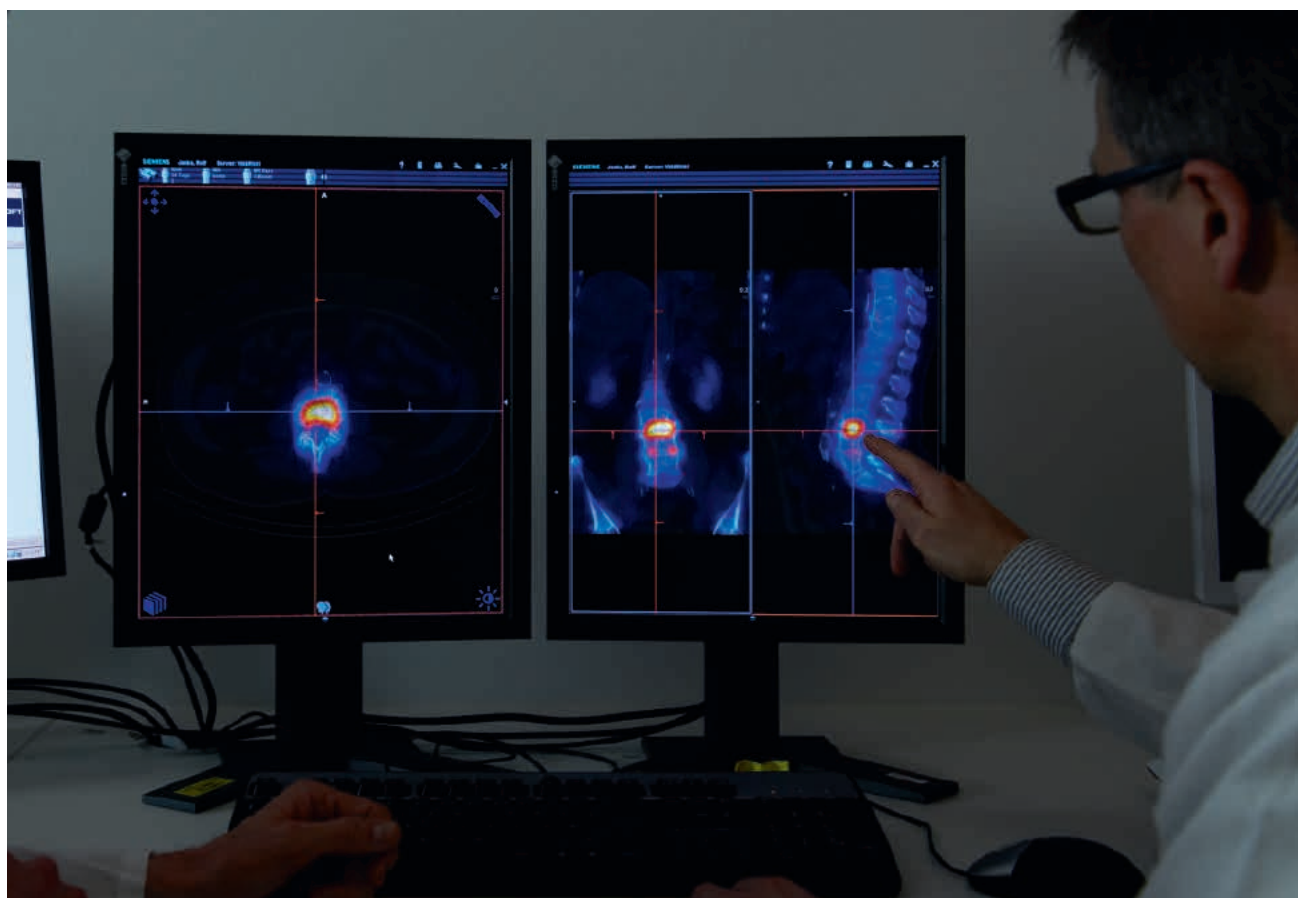
In some cases, using images from different modalities helps improve diagnosis. Regardless of which modality the images come, with *syngo.via*, they can be displayed and read on the same screen – even in a fused view. "Using different modalities will often provide more insight than using one alone," Dr. Janka says. He gives a compelling example: A female patient complained about pain in her back. Since she had previously been diagnosed with breast cancer, his colleagues needed to check whether the pain might be caused by bone metastases in the spine or by some kind of inflammation. "We combined scintigraphy and CT," Dr. Janka says. Scintigraphy shows regions of high metabolic activity in the body, while CT provides an images of the bones. "Fusing the images from these moda-

lities with *syngo.via* was easy and indicated that the high metabolic activity was located between two vertebrae," he says. And therefore it became clear that this was an orthopedic rather than an oncologic problem. "This was a great relief for the patient," he recalls. "Our ability to give a diagnosis within a shorter period of time is an excellent benefit for our patients." Take, for instance, those patients who come in for their regular check-up after tumor remission. They are under extreme stress and pressure until they get their results. "The sooner they get them, the better they feel."

Intelligent Features Help Increase Quality and Productivity

Radiologists appreciate accelerated workflows that increase efficiency without compromising quality. With *syngo.via*, they can access and read cases quickly and easily with features such as pre-fetching of prior examinations and automatic pre-processing of images. "Take the example of the follow-up scenario I just mentioned: within seconds, the priors and current data of that patient are automatically displayed," Dr. Janka says. The automated pre-fetching of past patient data helps ensure that the images needed ►





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syngo.via – Efficient. Flexible. Intelligent.

Siemens' *syngo*®.via is a software for 3D routine and advanced reading designed to increase quality and productivity in radiology. It organizes data from different modalities efficiently and speeds up the radiological workflow, thus saving valuable time. Cases can be read quickly, as features such as pre-fetching of prior examinations and automatic preprocessing make data readily available. No time is lost waiting for images, allowing physicians to focus on their core tasks.

New features and 3D tools in the latest release, such as automatic spine labeling, region growing, or anatomical image registration are a leap forward. They contribute to making *syngo.via* an even more powerful driver of efficiency in any radiological department. Tools like the 3D visualization help to make reading not only faster, but more reliable. Radiologists and their referrers greatly appreciate this timesaving feature, which also assists them in concluding when information on a normal image is not sufficient.

syngo.via supports flexibility. Radiologists can customize *syngo.via*'s applications and various layouts in line with their needs and preferences, enabling them to work smoothly. With functionalities for mobile devices, radiologists are flexible to access images even on the go. Furthermore, the system's modules can be arranged to meet clients' individual requirements. The modular licensing model available with *syngo.via* makes it suitable for specialized practices as well as for large university hospitals. Its flexibility is one of the most appealing features for managers who have to keep an eye on investment costs.

An intelligent software, *syngo.via* guides radiologists through the entire workflow. It automatically preprocesses images, collects findings, and provides powerful quantitative reading functionality. These functionalities help efficiently provide physicians with pertinent information needed for excellence in diagnostic imaging and patient care.

“Our ability to give a diagnosis within a shorter period of time is an excellent benefit for our patients.”

Professor Rolf Janka, MD,
Erlangen University Hospital, Germany

are readily available. No time is lost in retrieving data, and gone are the days when waiting for images was part of the job for any radiologist.

Dr. Janka also explains how automatic preprocessing of images, for example when reading cardiac cases, has positively impacted technical assistants: When the images appear on the screen, they have already been pre-processed by the software. This means for instance, that anatomical structures that are not relevant to the case, such as the ribs, are automatically hidden, whereas relevant structures like the coronary arteries are displayed and ready to read – without manual processing efforts. Having omitted this manual step, technicians can now devote their time to other tasks.

“Workflows are essential in our daily business,” Dr. Janka notes. One of the most helpful features of the *syngo.via* software for him is that it guides radiologists through the entire workflow. “This enables them to do the reading in a standardized way that ultimately helps save time and keep up quality standards,” he says. As *syngo.via* guides the radiologists automatically step-by-step through the reading process, they no longer need to be concerned about the next steps. “I can concentrate on reading the images instead of worrying whether I’ve covered everything that is required,” Dr. Janka explains. Using defined workflows is a good way to

maintain quality standards in any organization that handles demanding tasks. Since every radiologist in Erlangen University Hospital follows the same workflow steps, readings are highly standardized, and the resulting reports can easily be compared. “In the future, I’d greatly appreciate structured reporting of our readings to speed up reporting of the results,” says Dr. Janka. Today, he dictates them to an automated speech recognition system.

“Using *syngo.via* makes a number of tasks much easier,” Dr. Janka notes. “Very helpful in the latest *syngo.via* version are new 3D visualization features that specifically support quantitative reading and the Automatic Spine Labeling function.” The latter automatically identifies the vertebrae based on anatomical landmark recognition and labels them accordingly. “This sounds like a small thing,” he says, “but it is extremely handy.” The software is also designed to reliably support quantitative reading. Measurements, such as tumor volumes and vessel occlusions, are highly automated and thus reproducible. These functionalities provide information that is crucial for diagnosis and treatment decisions.

“I think patients have a right to get comprehensive information out of their imaging data,” he says. “With *syngo.via*, we as physicians are well equipped to provide our patients with the information they need – in an efficient manner.” ■

Oliver Klaffke is a science and business writer based in Switzerland and France. Among other publications, he has written for *New Scientist* and *Nature* in the past.

syngo.via can be used as a standalone device or together with a variety of *syngo.via*-based software options, which are medical devices in their own right.

Further Information

www.siemens.com/syngovia



Erlangen University Hospital relies on *syngo.via* for increased productivity in its radiology department.

It's All About Time and Quality

Patients anticipating their diagnosis don't like to wait, nor do the radiologists who are expecting their images. And hospital managers don't like the idea of processes that are not well organized, or of workflows that are inefficient.

In the field of radiology, they might consider looking at *syngo®.via*. This software for 3D routine and advanced reading marks a new era in the field. Workflows are standardized and streamlined, and a broad array of time-consuming tasks is taken over by the computer.

Working on medical images has thus become easy and efficient. *syngo.via*'s automatic preprocessing functionalities free radiologists from the burden of doing work that is not directly related to interpreting images.

They can now concentrate on reading images from a number of modalities. Regardless of whether they are created by positron emission tomography, computed tomography, or magnetic resonance imaging, for instance, the images can be assessed with *syngo.via*, offering a great opportunity for prompt diagnosing.

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Print | ID: 53152-1307-1001

Order No. A91CC-00059-M1-7600 | Printed in Germany
CC 1378 071327.0 | ISSN 1614-2535 | © 07.13, Siemens AG

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