

The Philips logo is displayed in a bold, blue, sans-serif font on a white background.

IntelliSpace Portal 9.0

Customer story

Department of
Radiology, University
Hospital of Bonn



Who?

Prof Elke Hattingen
and her team
Neuroradiologist

Where?

University Hospital of Bonn,
Germany

- Research, teaching and clinical practice facility
- 12 specialist departments, plus interdisciplinary centers
- 40 MRI scans and between 10 and 20 CT scans performed in neuroradiology daily

Challenge?

Gain fast advanced visualization for confident, rapid and definitive analysis

Solution?

Philips IntelliSpace Portal 9.0

All your advanced neuro analysis needs **One comprehensive solution**

As the world's populations continue to age, incidence of neurodegenerative disease is increasing. More than half of all procedural MR exams relate to neurological or spinal conditions. To diagnose, treat, monitor and follow-up these cases, neuroradiologists need easy access to advanced visualization capabilities that enhance confidence and streamline workflow.

Prof Elke Hattingen at the University Hospital Bonn is no exception. The facility excels at neuroradiology and the team performs a wide range of scans each day – on patients with brain tumors, MS and

other neurological diseases. To help her gain rapid, confident and definitive insight, Prof Hattingen leverages neuro applications from Philips IntelliSpace Portal 9.0.

Managing a complex caseload



Prof Elke Hattingen

“It is very good to have a tool in which I have complete confidence. The enhanced MR T2 (Neuro) Perfusion application is a key improvement to IntelliSpace Portal. In the past, 50% of perfusion exams³ were inaccurate because of leakage. Now, that number is significantly reduced because leakage correction is built in.”

Prof Elke Hattingen

Neuroradiologist, University Hospital of Bonn

Monitoring changes over time

The neuroradiology department performs around 40 MR exams and between 20 and 30 CT scans each day, managing a high and complex caseload of neurological diseases. Of these, around a quarter of cases require perfusion. “For perfusion, you need advanced visualization. You cannot analyze changes without it,” explains Prof Hattingen.

The MR T2* (Neuro) Perfusion application in IntelliSpace Portal 9.0 is designed to assess brain perfusion helping with the evaluation of stroke patients, tracking of cerebral tumors and other brain diseases. The application also facilitates visualization and quantification of the tissue at risk in stroke patients. It is a valuable tool for analyzing changes, but without leakage correction, the CBV values can be false or estimated too low.

IntelliSpace Portal 9.0 now includes leakage correction functionality as standard. This helps Prof Hattingen to see more clearly whether changes are therapy induced. “Thanks to leakage correction, the results are now more likely to be correct, with false values only showing up in a small number of cases, compared to around 50% if I don’t use leakage correction,” she explains.

The right tools for each case

For Prof Hattingen and her team, MR angiography is another area where advanced visualization tools help them to perform reading and processing tasks. “We do have a quick-fix system built into our PACS. But I generally need volume reconstruction and I can only perform this using a specialist clinical application, in this case one of the viewers on the IntelliSpace Portal 9.0 or Multi Modality AVA.”

Less time, more insight

IntelliSpace Portal 9.0 introduces the new MR Longitudinal Brain Imaging (LoBI)¹ tool. This supports evaluation of neuro disorders tracked over time using serial brain scans to monitor disease state and progression. Scans are automatically registered to simplify comparison and the application provides segmentation tools for volumetric quantification.

“LoBI¹ is designed to help you easily compare and track images. It is very simple and fast to load images and the application is user friendly. LoBI¹ helps me monitor differences between images taken at different points in time,” explains Prof Hattingen.

The unique Comparative Brain Imaging (CoBI) functionality within the application facilitates the detection and tracking of subtle changes by subtracting scans acquired at different time points. Prof Hattingen sees a clear advantage in using LoBI¹ and CoBI over performing similar tasks using a simple PACS: “When we run LoBI¹, it takes around 5 minutes to set-up a patient for follow-up exams. With PACS, it takes around 15 minutes. This is a clear time saving³.”

LoBI¹



~5
minutes

PACS



~15
minutes

Time relates to set-up of a patient for a follow-up exam



Rapid, confident, definitive analysis

Enhancements you can see and feel

The neurological suite of IntelliSpace Portal 9.0 delivers 20 specially designed tools for diagnosis, treatment, monitoring and follow-up of neurological diseases. In Prof Hattingen's opinion, advanced analysis delivers a more in-depth picture than other reading systems such as PACS with respective plug-ins. "Automatic analysis is sufficient in some instances. But for many of our cases, we require the more advanced functionality available on IntelliSpace Portal 9.0."



Time saved³ for scrolling through images to locate suspected aneurysm

Not only does the Portal deliver clinical insights but it also brings workflow benefits – for example, as Prof Hattingen explains: "If you have a patient with a suspected aneurysm and you perform MR angiography, you will need to scroll through 200 images to find it using PACS, a process that takes around 5 minutes. When we perform the same tasks using the Portal, it takes around one minute, thanks to volume rendering. The workflow enhancements translate directly to time savings."

The cornerstones of the neuro suite are rapid, confident, definitive analysis. "Many of the applications help speed up analysis, saving me time. MR Perfusion and leakage correction give me confidence. And angiography tools help me be more confident because I can quantify the degree of stenosis better," explains Prof Hattingen.

"LoBI¹ gives me confidence that I can see all new lesions and metastases. The color coding makes new lesions stand out. The tool is useful for brain tumors and MS lesions. In addition, LoBI¹ also helps me feel confident in quantifying the regression of lesions. PACS might give the

impression that a lesion has shrunk but LoBI¹ shows overlays and outlines in blue so you can be more certain," summarizes Prof Hattingen.

"Unbelievably fast!"

The MR NeuroQuant^{®2} clinical application automatically segments and quantifies volumes of brain structures and compares them to standard norms. This helps clinicians get reliable, objective measurements to gauge neurodegeneration and facilitate evidence-based diagnosis.

"NeuroQuant is excellent," says Prof Hattingen, "I have real confidence using it and it is extremely fast – in fact, my colleague didn't believe me when I told her how fast it is! Usually, it would take hours to calculate this kind of data offline. But NeuroQuant literally just takes a few minutes. I was really impressed."

Simple and fast to learn

Prof Hattingen and her colleagues use advanced visualization applications from IntelliSpace Portal 9.0 every day. In particular for stroke patients, perfusion and CT angiography are highly useful tools. "For critical strokes, we need very fast, reliable information about the vessels from the aorta to the brain," she explains.

IntelliSpace Portal 9.0 covers a wide range of AV requirements: "It meets all my standard daily needs and provides a number of specialist tools. Another good thing is that the applications are self-explanatory so it is easy for new users to learn how to use IntelliSpace Portal. There are many automatic or semi-automatic steps that improve workflow and make training simple. For example, it takes around 10 minutes³ for a new clinician to learn how to use LoBI¹"

“ LoBI¹ and CoBI really save time. They take small tasks such as counting and comparing lesions completely off your hands and are reliable and fast.”

Prof Elke Hattingen

Neuroradiologist, University Hospital of Bonn



“ IntelliSpace Portal 9.0 focuses on our specific needs and challenges. There’s no need for multiple programs when you have everything integrated into one workflow. The Portal is the first system to offer longitudinal co-registration which is an important topic for us that was unresolved until now. Moreover, perfusion is an extremely valuable tool for us in neuroradiology.”

Prof Elke Hattingen

Neuroradiologist, University Hospital of Bonn

Ready to explore IntelliSpace Portal 9.0 and the neurovascular suite of applications for yourself?

Contact your local Philips representative for more.

¹ Pending 510(k), not available for sale in the US

² NeuroQuant is a trademark of CorTechs Labs, Inc.

³ Results are specific to the institution where they were obtained and may not reflect the results achievable at other institutions.

