

AI in breast diagnostics

More security and more efficient processes

Can do everything but doesn't have to do anything: This was the requirement for integrating AI into the breast diagnostics workflow with JiveX at the Kapweg Radiology Medical Center & Diagnostic Breast Center in Berlin. This meant it should be left to the person making the diagnosis if and how AI is used. And they should be able to set up the system appropriately in their work space. Together with their sales partner dextratec GmbH, VISUS satisfied these requirements—and optimized the diagnostics process far beyond this.

The owner-run radiology center in the north of Berlin covers the full diagnostic spectrum of radiology. A clear specialist focus is on breast diagnostics and also includes the mammography screening program. The use of AI should augment the diagnostics process in both curative medicine and screening programs. “It was important to us that every clinician can decide for themselves if and how they would like to use AI. For example, users should be able to configure whether the AI assessment is listed as a score in the work list or in the form of marking overlaid on the image,” explained Dr. Lars Stelter, lecturer, managing director of the practice, and physician responsible for the programs in the screening unit.

Improved prioritization thanks to AI scoring

Lars Stelter is one of the diagnosticians who places great value on incorporating AI, particularly for screening: “Every week in the screening unit we see between 600 and 700 women with a correspondingly large number of images to evaluate. Using AI, copies of the image are sent automatically to the server of the AI provider where they are assessed. The imaging data are then destroyed in compliance with data protection legislation and the AI reports are

sent back to our JiveX PACS in the practice. Using a simple keyboard shortcut, I can then overlay the AI assessment over the images—or not.”

The experienced radiologist considers the ability to prioritize cases in JiveX based on the score determined by the AI system as one of the major benefits of AI within the diagnostics process. This ranges from one to ten and reflects the likelihood of a carcinoma or a tumor. According to Lars Stelter, “For my everyday work practice but also for the efficiency of the entire process with such high patient numbers, it is an enormous relief that I can prioritize. I can set up JiveX so that the software makes a preselection using the score. For example, I am first shown the cases with a low likelihood of breast cancer, allowing me to quickly process these as needed. I can then evaluate the more complex images with a higher AI score when I can concentrate more or have more time. This obviously increases the quality of the diagnostics.”

Another advantage for quality is that AI has higher sensitivity for microcalcifications, which, the radiologist emphasizes, “may be highly relevant in the female breast but which are sometimes not so easy for the clinician to recognize”.

Priv.-Doz. Dr. Lars Stelter
Managing director of the practice, and physician
responsible for the programs in the screening unit



Partnership for the best solution

That workflows were implemented to the utmost satisfaction of all clinicians was also down to the smooth collaboration in this project between dextratec GmbH as a general business partner and VISUS as an expert in radiological imaging data management. “VISUS is known for its ability to deeply integrate systems into the JiveX Enterprise PACS using standards. And with AI that is also necessary so that the added value can be exploited in full. Automatic image transfer and receipt in particular is a requirement to ensure benefits in routine radiological practice,” explained Markus Hindorf, managing director at dextratec.

For Lars Stelter, JiveX Enterprise PACS is an improvement over the previous software, which was retired about four years ago, not just with an eye on its incorporation of AI: “JiveX is optimized for processes in mammography screening and enormously simplifies the defined workflows between the first diagnostician, the second diagnostician, and the consensus conference. For example, as a physician responsible for the screening program, I can immediately see those points that colleagues have marked for the consensus and can specifically and efficiently evaluate these. A true plus overall.”

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