65%

90%
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A Dynamic Transformation

Using the Power of Genius AI® Detection Technology to Accelerate Radiology Training

James Schlund, MD FACR, of Tahoe Forest Hospital, provides an overview of how Genius AI Detection technology can help increase a radiologist's diagnostic confidence and performance – something he found to be especially valuable when a new colleague joined the practice.

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Helps Radiologists' Diagnostic Performance

When Dr. James Schlund, lead interpreting physician and head of breast imaging at Tahoe Forest Hospital, was tasked with onboarding a fellowship-trained interventional radiologist (IR) into their fully spectrum-integrated breast care department, he found that Genius AI Detection technology helped efficiently train his new colleague to identify cancers quickly and accurately.

The new team member was well-trained in IR; however, there are extensive nuances involved in comprehensive, integrated breast care that pose a challenge for most general radiologists. The new radiologist needed to become comfortable with independently reading screening studies. Due to the fast turnaround necessary and the physical distance between one another at the hospital, the opportunity for consulting on difficult cases was limited. "I labored to spend time answering his questions and reviewing his work, showing him the ropes and the extensive nuances involved in comprehensive, integrated breast care." In search of a solution, Dr. Schlund realized that Genius AI Detection technology could augment his new colleague's prior skillset and expedite his training.

"Naturally, our new radiologist was being extremely careful and thorough when learning the craft of reading screeners on Hologic's SecurView® workstation. This meant an increased workload for me and less time to review cases together. I could see that it was going to be necessary that he heavily rely on the Genius AI Detection technology to assist him with detecting cancers," said Dr. Schlund.

"Together, we reviewed the salient features of the software, with the depictions for lesions of interest such as calcifications, masses, or lesions with both. I introduced him to the associated Lesion Scores, which ranged from one to a hundred, and then the overall Case Score as a compilation of complexity, lesions, and likelihood for the entire case weighted from zero to a hundred."

Genius AI Detection technology is designed to identify potential cancers in breast tomosynthesis images with high accuracy and a false positive rate much lower than Hologic's previous generations of 2D CAD software.[i] In fact, the use of Genius AI Detection technology resulted in a difference of +9% in observed reader sensitivity for cancer cases when a reader utilized Genius AI Detection compared to standalone review.[ii] This equates to approximately one additional cancer found for every 10 cancers identified by the radiologist.

Dr. Schlund described Genius AI Detection technology as "an unblinking colleague that can read shoulder to shoulder with a radiologist" and lend added confidence to their diagnoses. The results of this added support were immediately recognizable at Tahoe Forest Hospital. Once fully integrated, the technology led Dr. Schlund's new trainee to increase his performance in the detection and characterization of breast cancer. Dr. Schlund reported that the new radiologist's callback rate fell over nine months – from 10.1% prior to Genius AI Detection technology implementation, to 8.1% following implementation, to now 6.3%, which is lower than his own callback rate.

Optimizes Workflow

At this rural, critical access hospital that incorporates a regional trauma center, regional cancer center, and regional breast care center, the caseload is often burdensome and usually includes multiple complex studies. Therefore, Dr. Schlund looks to Genius AI Detection technology to help ease radiology caseloads by improving workflow, reading time, and fatigue.

Dr. Schlund compares the deep learning functionality of the technology to having a "second set of eyes" during reading. He noted that the Lesion Score can be used to guide his confidence that a suspicious area contains a malignancy, while the Complexity Index categorizes cases based on the number of suspicious areas on his patient worklist.

By triaging patients into categories, the software can estimate the complexity and time it will take to read a breast scan. The Reading Priority Indicator will flag the most concerning cases first, and the Read Time Indicator will provide an estimate of how long it will take to read a case. As a result, interpretation can be optimized for each individual patient.

"Having a machine working alongside you for your benefit facilitates mental centering and focus," said Dr. Schlund. "We are reading cleaner and faster than ever before with Genius AI Detection technology because we can see and understand what is not important quickly and can extinguish the burden of mindless, droll, repetitive screening."
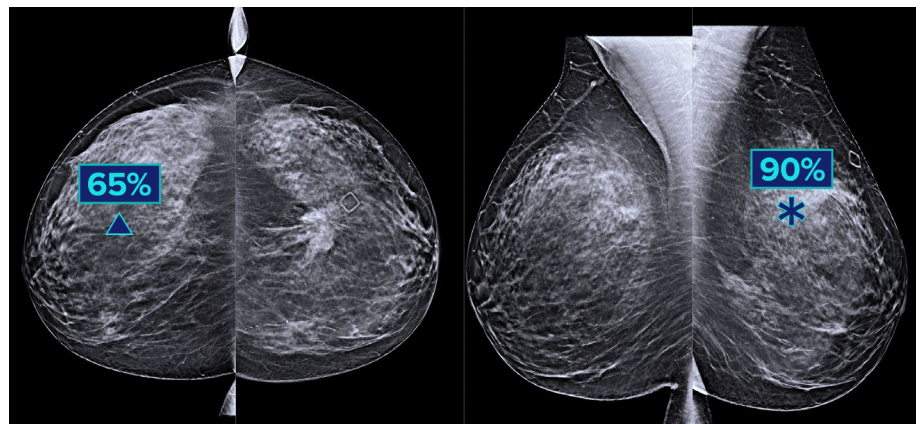
According to Dr. Schlund, the AI software also allows him to focus on what is most meaningful to him in the field of radiology. "A critical moment for somebody working in comprehensive breast care is when meeting a patient who is faced with a life-threatening situation. We must explain our concerns, decide on a course of action, and most importantly, gain their trust. We cannot be completely in tune and holistic to that patient's needs if we are reading screeners all day long."

The Future of AI and Breast Cancer Detection

Genius AI Detection technology represents an advancement in the use of deep learning technology and was designed to find cancers with improved accuracy compared to Hologic's previous generation CAD. Dr. Schlund saw this reflected in his own experience, noting, "The old CAD had limited sensitivity in its ability to find trouble. This technology is a whole new paradigm."

> " **This technology is a whole new paradigm** "

Genius AI Detection technology represents a breakthrough in helping radiologists identify breast cancers, and Dr. Schlund's experience underscores its importance in an evolving standard of breast care. The AI-guided technology was a key factor guiding and accelerating Tahoe Forest Hospital's new hire during radiology training, and it stands poised to help accelerate training for other radiologists learning breast imaging.

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