GE HealthCare

AI-Powered Echo:
Reducing ergonomic strain to refocus on cardiac patient care

Echocardiography challenges:

116% increase
in Ischemic Heart Disease (IHD) alone by 2050[1]

~221 million
annual echo exams performed globally[2]

76% of cardiovascular physicians
indicated experiencing discomfort or pain while scanning[3]

1/5 sonographers
sustain a career ending work-related injury[4]

Can automation and artificial intelligence reduce echocardiography scan time and ultrasound system interaction?[5]

Study Methodology and objective: 35 Participants underwent two transthoracic echocardiograms (TTEs), each using a different protocol with a Vivid™ E95 system[5]: Protocol A incorporated advanced technologies including automation, AI-assisted acquisition and measurements, and multiplane imaging, while Protocol B followed a standard scanning workflow without these enhancements. The aim was to assess if protocol A could reduce active scanning time and interaction with the ultrasound machine without a reduction in image quality and interpretability.

Vivid AI and automation results[5]

Up to

25%
less exam time
$p < 0.001$

>50%
keystrokes reduction
$p < 0.001$

+50%
increased time on neutral position
$p = 0.01$

Keystroke and time-saving
could potentially help in reducing the risk of WRMSD for cardiac sonographers.

Reducing ergonomic strain
for sonographers to refocus on cardiac patient care.

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2. Source: Global Echocardiography procedures – 2023 – idataresearch.
3. American Society of Echocardiography. (2024). Cardiovascular Ultrasound Trends Report. Retrieved from ASEcho.org.
4. Pallotta OJ, Roberts A. Musculoskeletal pain and injury in sonographers,causes and solutions. Sonography. 2017;4(1):5–12. https://doi.org/10.1002/sono. 12093.
5. Hollitt, K. J., Milanese, S., Joseph, M., & Perry, R. (2025). *Can automation and artificial intelligence reduce echocardiography scan time and ultrasound system interaction?* Echo Research & Practice, 12, Article 11. https://doi.org/10.1186/s44156-025-00077-0.

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