

## **Various training systems in Echocardiography lab for Career Growth and Development for sonographer.**

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Echocardiography is a diagnostic procedure that uses ultrasound to visualize and analyze the heart's movement, structure, blood flow, valvular abnormalities, thrombi, and tumors to diagnose and evaluate heart diseases. This examination plays a vital role in diagnosing cardiovascular diseases. In this process, 'sonographer' assist in diagnosis by capturing images of the heart using ultrasound machine. To perform this role effectively, sonographer must develop advanced imaging skills to obtain high-quality images. They also require a comprehensive understanding of cardiac anatomy, hemodynamics, and pathophysiology, along with the ability to understand the patient's clinical background and apply various parameters appropriately during the examination.

In laboratory medicine field, accuracy is controlled by reducing human and mechanical errors through internal/external quality control, quantitative/qualitative quality management, and the use of QC materials. However, echocardiography, which requires manual effort to obtain the correct view and perform the examination, is susceptible to various human errors, which can directly affect the accuracy of the results. To address these challenges, consistent theoretical knowledge and advanced imaging skills among examiners are crucial. This requires not only acquiring updated reference values provided by reputable international organizations but also fostering continuous information sharing, communication, and training among examiners.



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Precision, Innovation, and Legacy in Laboratory Medicine



To achieve this, we developed our own ‘procedural manuals’ and utilize ‘shared folders’ to distribute updates on the latest reference values. ‘Regular conferences’ are held to ensure that all examiners adhere to consistent theoretical and technical standards. Additionally, the training system is systematized to help new employees or those returning after a leave of absence quickly adapt to both theoretical and practical aspects of the job. Furthermore, examiners are supported in obtaining international certifications, such as the RDCS, to help them advance as professionals aligned with global standards in echocardiography.

