# Echo MasterClass

The Echo MasterClass is the most comprehensive premium online course in echocardiography, designed to take cardiologists, residents, and sonographers to complete mastery. With over 46 hours of high-quality video content delivered by Prof. Thomas Binder, MD, FESC, you'll deepen your expertise in cardiac anatomy, hemodynamics, imaging techniques, and patient management – across the full spectrum of pathologies including valvular heart disease, HCM, endocarditis, and diastolic dysfunction. Fully aligned with the latest ESC, EACVI, ASE, and ACC guidelines, including the 2025 ESC/EACTS update on valvular heart disease. CME-accredited by UEMS and EBAC. Trusted by 100,000+ physicians worldwide. Note: This course includes AI-generated translations in Spanish, Arabic, French, and Portuguese. Accuracy is not guaranteed (read more in Terms & Conditions).

| 46 | 24 | 274 | 23 |
|---|---|---|---|
| CME credits | Chapters | Lectures | Quizzes |

Chapter 1 | CME

## Free lectures

Learn more about Imaging tips – How to diagnose an apical thrombus; Imaging skills in prosthetic aortic valves; Pitfall in aortic stenosis!

Lectures & Quizzes:

- Free lecture 1
- Free lecture 2
- Free lecture 3

Chapter 2 | 2.5 CME

## Principles of Echocardiography

This chapter will give you just enough background to really understand what echocardiography is about. Since we know that you don't want to become a physicist, we will stick to what really matters. You will also learn in this chapter how to use the scanner and what you can do to optimize your images.

Lectures & Quizzes:

- Physics - Introduction
- 2D
- Artefacts
- Optimizing the 2D image
- M-Mode
- Flow Dynamics
- Spectral Doppler
- Color Doppler
- Summary
- 01. Principles of Echocardiography Quiz

Chapter 3 | 1.75 CME

# How to Image

This chapter will teach you hands-on wisdom of echocardiography: echo windows and views as well as practical tips that no one will ever teach you during on-site courses and that you also won't find in books. This chapter is rich in demos that show you how to scan.

### Lectures & Quizzes:

- How to Image - Basics
- Parasternal Window - Part 1 Parasternal Long Axis
- Parasternal Window - Part 2 Parasternal Short Axis
- Apical Window - Part 1
- Apical Window - Part 2
- Subcostal Window
- Suprasternal Window
- M-Mode
- Doppler - Part 1
- Doppler - Part 2
- How to Image - Summary
- 02. How to Image Quiz

Chapter 4 | 1.5 CME

# Heart Chambers and Walls

Echo anatomy can be hard to grasp. Upon completion of this chapter, you will know exactly where and how to find the different cardiac structures and how to quantify the size and function of the heart chambers.

### Lectures & Quizzes:

- LV
- Myocardial Mechanics + Hymodynamics
- Left Ventricular Function
- Ejection Fraction - Pitfalls
- RV
- Basics of Left Ventricular Hypertrophy
- LVH - Quantification and Findings
- LVH - Differential Diagnosis
- LA
- RA
- Summary
- 03. Heart Chambers and Walls

Chapter 5 | 2.5 CME

# Diastolic Dysfunction

This chapter deals with the difficult topic of diastolic dysfunction – we'll try to make it easy for you. Take a look at the section "a simple approach" and you will see how diastology can help you in your daily clinical practice.

### Lectures & Quizzes:

- Introduction / Why and what
- Physiology
- Assessment of Diastolic Dysfunction - measurements Part 1
- Assessment of Diastolic Dysfunction - Guidelines
- Simple approach to diastolic function
- Specific situations
- 04. Diastolic Dysfunction Quiz

- Assessment of Diastolic Dysfunction - measurements Part 2

Chapter 6 | 1 CME

## Dilated Cardiomyopathy

Left ventricular function is not the only thing to look at in patients with dilated cardiomyopathy. In this chapter you will see how echo can help you understand symptoms, prognosis and treatment options for such patients.

### Lectures & Quizzes:

- Dilated Cardiomyopathy Part 1
- Dilated Cardiomyopathy Part 2
- Dilated Cardiomyopathy Part 3
- Dilated Cardiomyopathy Part 4
- 05. Dilated Cardiomyopathy Quiz

Chapter 7 | 0.75 CME

## Hypertrophic Cardiomyopathy

Hypertrophic cardiomyopathy, hypertensive heart disease, and athlete's heart have very similar features. In this chapter you will learn more about these features and find out how you can distinguish between them. You will also learn how echo can help you assess the risk for sudden cardiac death.

### Lectures & Quizzes:

- Basics
- Evaluation I
- Evaluation II
- Cases
- Summary
- 06. Hypertrophic Cardiomyopathy Quiz

Chapter 8 | 0.5 CME

## Restrictive CMP

This is a rare disease, indeed. However, as an echocardiographer you should be able to recognize it. In this chapter, we will teach you some useful tips and tricks for making the right diagnosis.

### Lectures & Quizzes:

- Basics
- Forms
- Summary
- 07. Restrictive CMP Quiz

Chapter 9 | 3.25 CME

# Coronary Artery Disease

Have you ever struggled with the assessment of regional wall motion abnormalities? Can you differentiate ischemic from dilated cardiomyopathy? In this chapter you will find lots of examples and background knowledge that will help you to excel.

### Lectures & Quizzes:

- Introduction
- Segmental Aproach
- Wall Motion
- Remodeling
- Differential Diagnosis
- Complications - Part 1
- Complications - Part 2
- 08. Coronary Artery Disease Quiz

Chapter 10 | 3.25 CME

# Aortic Stenosis

Is aortic stenosis present? Is it severe? Is surgery required? Are new treatment options an alternative? This chapter will answer your questions.

### Lectures & Quizzes:

- Introduction / Epidemiology
- Definition and Impact
- Hemodynamics
- Symptoms
- Bicuspid valves - basics
- Assessment of bicuspid valves
- Tricuspid AV stenosis
- Rheumatic AS
- Radiation-induced AS
- AV morphology
- Additional findings
- What else to look for
- Assessment of LVF in AS
- Global Longitudinal Function in AS
- Quantification - Overview / Planimetry
- The Doppler spectrum of AS
- Measuring gradients
- AVA and the continuity equation
- Low-flow low-gradient AS
- Paradoxical low-flow low-gradient AS
- High-flow states and aortic stenosis
- Atrial fibrillation and AS
- LVOT obstruction
- Pressure recovery
- Indication for intervention
- TAVR or SAVR?
- Echo assessment Pre-TAVR
- Echo follow up
- 09. Aortic Stenosis Quiz

Chapter 11 | 2.25 CME

# Aortic Regurgitation

In this chapter you will learn to understand the hemodynamics of "volume overload" and learn more about our integrative approach towards assessing aortic regurgitation. You will see more than others by following our step-by-step approach.

### Lectures & Quizzes:

- Introduction / Epidemiology
- Symptoms / other imaging modalities
- Visual assessment
- AR Pressure Half-Time

- Causes Part 1
- Causes Part 2
- Hemodynamics
- Echofindings
- Acute aortic regurgitation
- AR and multivalvular heart disease
- Quantification - Principles
- Imaging aortic regurgitation Color jet
- Retrograde flow
- Volumetric calculations
- Role of TEE
- Quantification summary
- Indication for surgery
- Follow up / Conclusion
- 10. Aortic Regurgitation Quiz_New

Chapter 12 | 1 CME

# Mitral Stenosis

This chapter deals with the different features of rheumatic heart disease. Among other things, you will find out about the pitfalls when trying to quantify the severity of mitral stenosis.

### Lectures & Quizzes:

- Mitral Stenosis - Principles
- Mitral Stenosis - Hemodynamics
- Mitral Stenosis - Features
- Mitral Stenosis - Grading Part 1 Planimetry
- Mitral Stenosis - Grading Part 2 - Gradients
- Mitral Stenosis - Valvuloplasty
- Mitral Stenosis - Summary
- 11. Mitral Stenosis Quiz

Chapter 13 | 4 CME

# Mitral Regurgitation 2026

In this chapter, you'll explore the pathomechanism and different grades of mitral regurgitation, their echocardiographic assessment, decision-making for valve surgery, and advanced imaging techniques.

### Lectures & Quizzes:

- Epidemiology and natural history
- Hemodynamics
- Mitral Valve Anatomy
- Imaging the Mitral Valve - Apical Views
- Imaging the Mitral Valve - Parasternal Views
- Imaging the Mitral Valve - Subvalvular Apparatus
- Overview
- Mitral Valve Prolapse
- Segmental Mitral Valve Prolpase
- Mitral Annular Disjunction
- Flail Leaflet
- Rheumatic Heart Disease and Endocarditis
- Rare Causes
- Secondary (Functional) MR
- Atrial Functional MR
- Qualitative Assessment
- Semiquantitative Assessment
- Quantitative Assessment
- The PISA Method
- Structural MR - Segmental Anatomy
- Structural MR - Color Doppler
- Commissural Prolapse and Perforation
- Complete Assessment
- Mechanism Mitral - functional MR
- MR and MS
- MR and AS
- MR and AR
- MR and TR
- Structural MR
- Functional MR
- Specific Topics
- Follow Up
- 12. Mitral Regurgitation Quiz 2026

Chapter 14 | 1.5 CME

# Tricuspid Valve Disease

Right ventricular volume overload can have disastrous effects on the right heart. But when does it occur? How does it affect the right heart? Which abnormalities do we see on the echo and what is its consequence? These topics will be discussed here. Since tricuspid regurgitation (TR) is the most common cause of right ventricular volume overload, we will also focus on the tricuspid valve and its pathologies. You will also learn how to quantify TR and which treatment options for TR are available. Other topics related to volume overload covered in this chapter are pulmonic regurgitation and atrial septal defects.

## Lectures & Quizzes:

- Right Heart Volume Overload
- Basics
- TR Causes
- TR Quantification
- TS
- Summary
- 13. Tricuspid Valve Disease Quiz

Chapter 15 | 2 CME

# Prosthetic Valves 2026

This chapter provides deep insights into the evaluation and management of patients with prosthetic heart valves. You'll learn how to identify implanted valves, detect prosthetic valve dysfunction and other complications, and navigate the challenges of echocardiography in this unique patient group.

## Lectures & Quizzes:

- Overview of valves - part 1
- Overview of valves - part 2
- Normal Prosthetic Mitral Valve
- Normal Prosthetic Aortic Valve
- Doppler Assessment
- Complications - an overview
- Bioprosthetic Valves - structural failure
- Thromboembolism and Clots
- Patient Prosthesis Mismatch
- Paravalvular Regurgitation
- Mitral Valve Repair
- TAVR
- TEER - Interventional Techniques
- Tricuspid Valve
- Ross Procedure - Pulmonary Valve Prosthesis
- 15. Prosthetic Valves Quiz 2026

Chapter 16 | 4 CME

# Endocarditis

In this chapter, we cover a wide array of subjects through engaging lectures and real-world examples, including Introduction to Endocarditis, Native Valve Endocarditis, Complications of Endocarditis, Right Heart Endocarditis, Prosthetic Valve Endocarditis, Pacemaker and Central Line Endocarditis, Non-Bacterial Endocarditis, and Guiding Patient Management.

## Lectures & Quizzes:

- Overview - Definition and Epidemiology
- Overview - Clinical Manifestations
- Overview - Pathophysiology
- Overview - Microbiology
- Overview - Manifestation
- Overview - Diagnosis - Role of Echocardiography
- Overview - Other Imaging Modalities
- Overview - Mortality and Risk
- Overview - Prevention
- Native Valve Endocarditis - Location / Classification
- Native Valve Endocarditis - Diagnostic Challenges / Scenarios
- Native Valve Endocarditis - Fungal Endocarditis
- Native Valve Endocarditis - Differential Diagnosis
- Native Valve Endocarditis - Your turn to diagnose endocarditis!
- Native Valve Endocarditis - Associated Findings
- Complications of Native Valve Endocarditis - Overview
- Complications of Native Valve Endocarditis - Septic Embolism
- Complications of Native Valve Endocarditis - Valvular Destruction
- Complications of Native Valve Endocarditis - Regurgitation
- Complications of Native Valve Endocarditis - Paravalvular Complications
- Right Heart Endocarditis - Basics
- Right Heart Endocarditis - Imaging
- Right Heart Endocarditis - Examples
- Right Heart Endocarditis - Management
- Prosthetic Valve Endocarditis - Facts
- Prosthetic Valve Endocarditis - Classification
- Prosthetic Valve Endocarditis - Diagnostic Challenges
- Prosthetic Valve Endocarditis - Differential Diagnosis
- Prosthetic Valve Endocarditis - Examples
- Prosthetic Valve Endocarditis - Complications - Part 1
- Prosthetic Valve Endocarditis - Complications - Part 2
- Prosthetic Valve Endocarditis - TAVI Endocarditis
- Pacemaker and Central Line Endocarditis - Basics
- Pacemaker and Central Line Endocarditis - Presentation + Risk factors
- Pacemaker and Central Line Endocarditis - Case Examples
- Pacemaker and Central Line Endocarditis - Management
- Pacemaker and Central Line Endocarditis - CVL Endocarditis - Basics
- Pacemaker and Central Line Endocarditis - CVL Endocarditis - Case Examples / Prevention
- Non-Infective Endocarditis - Overview
- Non-Infective Endocarditis - Case Examples
- Management of IE - Principles
- Management of IE - Indications for Surgery
- Management of IE - Antibiotics
- Management of IE - Guidelines
- Management of IE - Case Examples
- Summary - Putting it all together
- Summary - Reporting
- EMC - Endocarditis (updated chapter 2023)

Chapter 17 | 3.5 CME

# Right Heart Disease

Early diagnosis of pulmonary hypertension is crucial for the prognosis of patients with pulmonary hypertension. Echocardiography is the primary diagnostic tool to do so. In this chapter we will show you how to detect pulmonary hypertension and what to do if direct measurement of pulmonary pressure using the tricuspid valve signal is not possible.

## Lectures & Quizzes:

- Anatomy of the Right Heart
- Physiology of the Right Heart
- Echocardiographic Assessment - Size
- Echocardiographic Assessment - Function
- Echocardiographic Assessment - Pulmonary Pressure
- Pulmonary Hypertension - Classification/Pathophysiology
- Pulmonary Hypertension - Diagnosis: Echo Features of PHT
- Pulmonary Embolism
- The Right Heart in CAD, CMP and Valvular HD
- Arrhythmogenic Right Ventricular Dysplasia/Carcinoid Heart Disease
- 16. Right Heart Disease Quiz

Chapter 18 | 3.5 CME

# Aortic Disease

The aorta can also be visualized with echo! In this chapter, we will show you how. Diseases such as aortic aneurysms, dissection, aortic syndromes, and congenital abnormalities of the aorta will be covered.

Lectures & Quizzes:

- Introduction
- Anatomy
- Physiology
- Ascending Aorta
- Aortic Arch
- Descending Aorta
- Abdominal Aorta
- Role of TEE
- Measurements
- Definition
- Classification
- Pathophysiology
- Congenital Abnormal Valves and the Aorta
- Marfan syndrome
- Loeys-Dietz + Ehlers Danlos + Turner Syndrome
- Non-Syndromic
- Introduction
- Dissection Features
- Classification Examples
- Dissection Additional Findings
- Aortic Syndromes
- Procedures
- Indication for Surgery
- Echo and Follow Up
- Basics
- Imaging and Echo Findings
- Treatment Options
- Aorta Summary
- 17. Aortic Disease Quiz

Chapter 19 | 2 CME

# Pericardial Disease

Why do we have a pericardium? Can we live without a pericardium? How do we see pericardial effusions? What is the etiology of pericardial diseases? The pericardium truly is more important than you think. Pericardial effusions are common, and you don't want to miss a patient with constrictive pericarditis. In 5 lectures packed with cases and echo loop examples, you will learn how to detect pericardial effusions and how echo can help you to determine its etiology and guide therapy. An entire lecture is dedicated to the important question of whether a pericardial effusion is hemodynamically significant - the signs of tamponade will be shown in detail. In addition, we will present how easy it can be to detect pericardial constriction by looking at a few key features on the echo. After watching this more than 2-hour long chapter, you will be a true expert on the pericardium.

Lectures & Quizzes:

- Pericardial Effusion I
- Pericardial Effusion II
- Tamponade
- Pericardial constriction
- Other pericardial diseases
- 18. Pericardial Disease Quiz

Chapter 20 | 1.5 CME

# Tumors and Masses

In this chapter you will learn how echocardiography can support you in recognizing different tumors and masses. We will teach you some simple mnemonics that will help you memorize the most common problems once you're back with your

patients.

Lectures & Quizzes:

- Tumors and Masses Part 1
- Tumors and Masses Part 2
- Tumors and Masses Part 3
- Tumors and Masses Part 4
- Tumors and Masses Part 5
- 19. Tumors and Masses Quiz

Chapter 21 | 1.5 CME

## Congenital Heart Disease

In this chapter you will find out more about the most common congenital defects in an adult population. We are dealing with shunt lesions such as atrial and ventricular septal defects and ductus arteriosus. Other congenital defects are covered in other chapters (disease of the aorta, aortic valve disease, tricuspid valve, etc.)

Lectures & Quizzes:

- Congenital Heart Disease Part 1a
- Congenital Heart Disease Part 1b
- Congenital Heart Disease Part 2
- Congenital Heart Disease Part 3
- 20. Congenital Heart Disease Quiz

Chapter 22 | 1 CME

## Echo in CRT

In this chapter you will learn how do detect dyssynchrony, why it is important for the development of heart failure and what Resynchronization Therapy (CRT) is. A separate lecture deals with the optimization of CRT therapy

Lectures & Quizzes:

- CRT Part 1
- CRT Part 2
- CRT Part 3
- CRT Part 4
- 21. Echo in CRT quiz

Chapter 23 | 1 CME

## Contrast Echo

Here you will learn why contrast echocardiography is so important and where you can use it. We will focus both on right- and left heart contrast studies and show you which agents are available. Here you will learn how to detect a patent foramen ovale, a thrombus in the apex and much much more. Again you will see lots of examples.

Lectures & Quizzes:

- Contrast Echo Part 1
- 22. Contrast Echo quiz

- Contrast Echo Part 2

Chapter 24 | 0.25 CME

# 3D Echo

Three-dimensional echocardiography is a hot topic. In this chapter we will explain how it works and in which ways you can use it. We will discuss topics such as full volume- and multibeat acquisition, multiplane imaging and live 3D. Both transthoracic and transesophageal applications of 3D echo are discussed. This chapter is full of spectacular images.

## Lectures & Quizzes:

- 3D Echo Part 1
- Clinical Applications Part 1
- Clinical Application Part 2
- 23. 3D Echo quiz