



Speckle Tracking MasterClass

The Speckle Tracking MasterClass will teach you this important modality of echocardiography. You will gain a deep knowledge of strain rate imaging and where it can be applied to use it in your clinical practice right away. Note: This course includes AI-generated translations in Spanish and Arabic. Accuracy is not guaranteed (read more in Terms & Conditions)

12.25
CME credits

17
Chapters

39
Lectures

15
Quizzes

Chapter 1 | CME

Free lectures

Lectures & Quizzes:

- Free lecture 1
- Free lecture 2

Chapter 2 | 3 CME

Compendium

Speckle Tracking Compendium is a systematic video tutorial covering the essentials of Speckle Tracking Echocardiography (Deformation Imaging) and how it can be used to study left heart function. The course provides an: Introduction explaining the relevance of Speckle Tracking Echocardiography. Critical view of ejection fraction that demonstrates the need for other techniques to quantify left ventricular function. Explanation of what "deformation" is and how Speckle Tracking is able to measure "strain". Demonstration of how to record images and perform a basic Speckle Tracking analysis (bullseye display). Overview of the most important clinical applications of Speckle Tracking, what we know from the literature, and how it can be used in clinical decision making.

Lectures & Quizzes:

- Introduction
- Limitations of Ejection Fraction
- Myocardial Mechanics
- Deformation Imaging
- Image Acquisition and Analysis
- Normal versus Abnormal
- Left Ventricular Hypertrophy
- Dilated Cardiomyopathy
- Cardio-Oncology
- Dyssynchrony
- Coronary Artery Disease
- Valvular Heart Disease
- STE Compendium

Myocardial Mechanics - Advanced

An important chapter that will set the stage for a better understanding of strain and its role in cardiovascular disease. Here you will learn how the heart muscle contracts, which parameters of cardiac function we can describe and which components of strain we can discern.

Lectures & Quizzes:

- Myocardial Mechanics - Advanced
- STE Advanced - Myocardial Mechanics - Advanced

Methodology and Normal Findings

This chapter will provide you with in depth knowledge on what deformation is and which parameters can be measured. You will learn how Speckle Tracking works, which advantages it has to tissue Doppler and if values can be compared among different vendors. Finally, we will answer the question: Can we currently define normal values?

Lectures & Quizzes:

- Methodology and Normal Findings
- STE Advanced - Methodology and Normal Findings

Instrumentation - Different vendors

How should a strain analysis be performed? Which buttons do I press? Which information can be obtained? We show you how to get the most out of a Speckle Tracking analysis on four different platforms (Canon/Toshiba, GE EchoPac, Siemens SC2000 and TomTec).

Lectures & Quizzes:

- Instrumentation - Different vendors - GE
- Instrumentation - Different vendors - Toshiba
- Instrumentation - Different vendors - Siemens
- Instrumentation - Different vendors - TomTec

Thick Myocardium

Here you will dig deeper into the field of longitudinal strain in patients with increased wall thickness. You will learn how this tool can help in the differential diagnosis of different causes of "thick walls" such as hypertrophic CMP, hypertensive heart disease, amyloid heart disease and athletes heart. We will also discuss the prognostic value that Speckle Tracking echocardiography can provide and illustrate this through many cases.

Lectures & Quizzes:

- Thick Myocardium - Part 1 - Hypertrophic CMP
- Thick Myocardium - Part 2 - Infiltrative and Storage disease
- Thick Myocardium - Part 3 - Athletes Heart
- STE Advanced - Thick Myocardium

Chapter 7 | 0.5 CME

Dilated Cardiomyopathy - Advanced

Speckle Tracking can have a large impact on the management of patients with dilated CMP. This chapters demonstrates why it is of value, how it can help to assess left ventricular function and which prognostic information it provides. Again, we show many case examples that will help you better understand how STE can be used in various settings including patients with HFpEF.

Lectures & Quizzes:

- Dilated Cardiomyopathy - Advanced
- STE Advanced - Dilated Cardiomyopathy - Advanced

Chapter 8 | 1 CME

Cardio-Oncology

With improvements in the survival of cancer, chemotherapy induced cardiotoxicity is a growing problem. In this chapter, you will discover the magnitude of this problem, which risk factors we can identify and what the mechanisms of cardiotoxicity are. You will also learn how STE should be implemented into your workflow to detect cardiotoxicity at an early stage.

Lectures & Quizzes:

- Cardio-Oncology - Part 1 Chemotherapy - Overview
- Cardio-Oncology - Part 2 Chemotherapy - Speckle Tracking
- Cardio-Oncology - Part 3 Radiation Therapy
- STE Advanced - Cardio-Oncology

Chapter 9 | 0.5 CME

Dyssynchrony - Advanced

Speckle Tracking allows you to look at the timing of regional contraction. Therefore, STE can be used to study dyssynchrony in potential CRT candidates. This chapter will provide an overview on dyssynchrony and how the Speckle Tracking curves can help you to detect, and even quantify, the magnitude of dyssynchrony. Within specific cases we will provide many practical tips.

Lectures & Quizzes:

- Dyssynchrony - Advanced

- STE Advanced - Dyssynchrony - Advanced

Chapter 10 | 1 CME

Coronary Artery Disease

With STE it is possible to look at regional contraction in the setting of coronary artery disease. In this chapter we will discuss how acute coronary syndromes and chronic coronary artery disease influence longitudinal strain, what post-systolic thickening is and why it is important in coronary artery disease. Case examples will highlight the different patterns of regional longitudinal strain depending on the affected coronary territory and which prognostic information longitudinal strain can provide.

Lectures & Quizzes:

- Coronary Artery Disease – Part 1
- Coronary Artery Disease – Part 2
- STE Advanced - Coronary Artery Disease

Chapter 11 | 0.25 CME

Stress Echo

If strain is able to detect ischemia, why not apply it during stress echocardiography? This chapter discusses the potential role and limitation of Speckle Tracking to detect coronary artery disease during stress echocardiography.

Lectures & Quizzes:

- Stress Echo
- STE Advanced - Stress Echo

Chapter 12 | 0.5 CME

Aortic Stenosis

Left ventricular function plays an important role in the management of patients with aortic stenosis, and Speckle Tracking is able to provide valuable information on top of ejection fraction. This chapter will explain why and show how this technique can be used to monitor patients and assess the prognosis.

Lectures & Quizzes:

- Aortic Stenosis
- STE Advanced - Aortic Stenosis

Chapter 13 | 0.5 CME

Aortic Regurgitation

Aortic regurgitation can cause left ventricular dysfunction. With Speckle Tracking, we can detect deterioration of left ventricular function at an early stage. How can this be helpful in aortic regurgitation? What are the current guidelines for the management of patients with AR? Keynote lectures and cases studies will provide you these answers.

Lectures & Quizzes:

- Aortic Regurgitation
- STE Advanced - Aortic Regurgitation

Chapter 14 | 1 CME

Mitral Regurgitation

Optimal timing of surgery in mitral regurgitation is critical for long term survival. In this chapter, we provide an overview of the current guidelines and show how Speckle Tracking can provide important additional information, both in structural and functional mitral regurgitation. Several case examples will help you better understand in which scenarios strain is helpful.

Lectures & Quizzes:

- Mitral Regurgitation - Part 1
- Mitral Regurgitation - Part 2
- STE Advanced - Mitral Regurgitation

Chapter 15 | 1 CME

Right Ventricular Strain

Longitudinal deformation can also be measured in the right ventricle. This chapter will show you how such an analysis is performed, how strain compares to traditional parameters of right ventricular function, what the normal values are and in which clinical scenarios this information is of value. Numerous case examples will put this theoretical knowledge into a practical context.

Lectures & Quizzes:

- Right Ventricular Strain - Part 1
- Right Ventricular Strain - Part 2
- STE Advanced - Right Ventricular Strain

Chapter 16 | 0.5 CME

Left Atrial Strain

The measurement of left atrial strain is a promising new way to study the function of the left atrium. It is easy to apply and could provide valuable information especially in patients with atrial fibrillation and diastolic dysfunction. In this chapter, we will discuss the physiology of the left atrium, technical aspects of the method, and what the prognostic significance is of a reduction in left atrial strain.

Lectures & Quizzes:

- Left Atrial Strain
- STE Advanced - Left Atrial Strain

Future of STE

This chapter discusses the current limitations of the method and highlights the newest developments in ultrasound. Find out how Speckle Tracking can be used to directly image blood flow and how high frame rate imaging could dramatically change the way we use Speckle Tracking in the future.

Lectures & Quizzes:

- Future of STE
- STE Advanced - Future of Strain