

## EAPC Course on Diagnostics in Sports Cardiology

16 - 17 July 2025, Munich, Germany

### Venue:

Department of Preventive Sports Medicine and Sports Cardiology, TUM School of Medicine and Health, Technical University Munich, Am Olympiacampus 11, 80809 Munich, Germany

The venue is located directly in the Olympic Park.

### Local Organisation:

Pascale Heim-Ohmayer, Department of Preventive Sports Medicine and Sports Cardiology, TUM University Hospital, Munich, Germany; [pascale.heim-ohmayer@mri.tum.de](mailto:pascale.heim-ohmayer@mri.tum.de); phone +49 89 289 24431

### Organising committee:

Department of Preventive Sports Medicine and Sports Cardiology, TUM University Hospital, Munich, Germany

- Martin Halle, MD, FESC, specialized in Internal Medicine, Cardiology, Sports Medicine, Sports Cardiology, Preventive Medicine; former EAPC President 2020-2022
- Simon Wernhart, MD, PhD, specialized in Internal Medicine, Cardiology, Family Medicine, Sports Medicine, Sports Cardiology, Palliative Care
- Cajetan Lang, MD, specialized in Internal Medicine and Cardiology

Sports Cardiology, University of Siena, Italy

- Flavio D'Ascenzi, MD, specialised University of Siena, Italy

Preventive Sports Medicine and Sports Cardiology, University of Salzburg, Salzburg, Austria

- Josef Niebauer, MD, PhD, specialized in Internal Medicine, Cardiology

### Speakers:

Michael Schindler, MD, Cardiology, Sports Cardiology and Sports Medicine, Baden, Switzerland

Jana Schellenberg, MD, Sports and Preventive Medicine, University Hospital Ulm, Germany

Mario Weichenberger, PhD, sports scientist, Preventive Sports Medicine and Sports Cardiology, TUM University Hospital, Munich, Germany

Stephan Müller, PhD, sports scientist, Preventive Sports Medicine and Sports Cardiology, TUM University Hospital, Munich, Germany

## Organisation:

### 16th July, 2025: Afternoon – Echocardiography:

- **Simon Wernhart, MD, PhD**
- Cajetan Lang, MD
- Flavio D'Ascenzi, MD

### 17th July, 2025: Morning – Lactate Diagnostics:

- **Mario Weichenberger, PhD**
- Martin Halle, MD

### 17th July, 2025: Afternoon – Cardio-Pulmonary Exercise Testing

- **Stephan Müller, PhD**
- Flavio D'Ascenzi, MD
- Simon Wernhart, MD, PhD

## Structure and Content

This is a 1.5-day course in sports cardiology diagnostics. It covers specific aspects of echocardiography and exercise testing that are unique and important for anyone, who is interested or practices sports cardiology. It will be a very practical and hands-on course. Content will be presented by cases and practically with athletes and patient-athletes on site. ECG, echocardiography as well as exercise testing (CPET and lactate testing) will be performed on-site. The number of participants will be limited to maximally 24 participants (3 groups á 8 participants), so that everyone can perform echocardiography herself/himself. Discussions and personal interaction between staff and participants will take a significant portion in order to meet individual needs of participants. Interaction among attendees will be encouraged in order to build up an international sports cardiology group for the future. The course is seen as an adjunct to the sports cardiology course in London, UK (Prof. Papadakis), where background information in sports cardiology is presented.

## Learning Objectives

- ✓ Understanding the echocardiographic assessment of cardiac changes in athletes
- ✓ Learning how to differentiate between an athlete's heart and cardiomyopathies
- ✓ Understanding the diagnostics value of lactate analysis and cardio-pulmonary exercise testing during exercise and their role in exercise prescription
- ✓ Practical knowledge on echocardiography, CPET and lactate testing
- ✓ Learn from sports cardiology cases and athletes as well as athlete-patients on site

## Target Group:

- Medical doctors interested in sports cardiology with moderate to advanced echocardiography skills, knowledge on basics in lactate analysis and cardio-pulmonary exercise testing

**Participants should bring sports clothes with them for exercise in the evening e.g. yoga, fitness or jogging round in the morning. Please also consider performing an exercise test.**

## I. Echocardiography in Sports Cardiology – 16 July, 2025

Time	Duration	Topic	Speakers
From 11:00		Arrival – Registration	P. Heim-Ohmayer
		Visit of the department of Preventive Sports Medicine and Sports Cardiology	M. Halle S. Wernhart C. Lang
From 12:00		Lunch in cafeteria	
13:00 - 13:45	45 min	Welcome Introduction of all participants Introduction of 1.5-day programme Group interaction	M. Halle F. D'Asenzi J. Niebauer S. Wernhart
<b>ECHOCARDIOGRAPHY - Lecturers and Case Presentations</b>			
13:45 – 14:30	45 min	<b>Echocardiography in sports cardiology</b> - From basics to advanced diagnostics - Athlete's heart vs. cardiomyopathies	F. D'Asenzi
14:30 – 15:30	60 min	<b>Case discussions:</b> - CAD - HCM/HOCM - ACM/ARVC - Myocarditis	M. Halle F. D'Asenzi C. Lang J. Niebauer S. Wernhart M. Schindler
	30 min	<b>Coffee Break – Walk outside</b>	
16:00 – 17:00	60 min	<b>Case discussions:</b> - Coronary Anomalies - Valvular heart disease - Bicuspid valve - MV prolapse	M. Halle F. D'Asenzi C. Lang J. Niebauer S. Wernhart M. Schindler
<b>Practical Part (Training at Patients)</b>			
17:00 – 18:30	90 min	<b>Practical Echocardiography</b> - Case 1: Athlete's heart - Case 2: HCM - Case 3: ACM/ARVC	J. Niebauer C. Lang F. D'Asenzi S. Wernhart M. Schindler
From 19:30		<b>Dinner</b>	

## II. Exercise Testing in Sports Cardiology – 17 July, 2025

Time	Duration	Topic	Speakers
08:30 – 08:45	15 min	Welcome and introduction of the day	M. Halle
<b>LACTATE TESTING - Lecturers and Case Presentations</b>			
08:45 – 09:45	45 min	Energy metabolism during exercise Theoretical basics of lactate metabolism and lactate threshold concepts Equipment and measurements Lactate diagnostics and exercise prescription	J. Schellenberg M. Weichenberger
	15 min	Discussion	
<b>Lactate - Practical Part</b>			
9:45 – 10:30	45 min	<b>Case discussions</b> - lactate curves - exercise recommendations e.g. from starting an exercise training to intending to run a marathon run	J. Schellenberg M. Weichenberger M. Halle J. Niebauer
	30 min	<b>Coffee Break – Walk outside</b>	
11:00 – 12:30	90 min	Lactate diagnostics (in groups): Treadmill and bicycle ergometry	J. Schellenberg M. Weichenberger M. Halle J. Niebauer
12:30 – 13:15	45 min	<b>Lunch in Cafeteria</b>	
<b>CPET - Lectures and Case Presentations</b>			
13:15– 14:45	90 min	- CPET Equipment (Set-Up and calibration) - Basic Exercise Physiology – CPET made easy - Plausibility and measurement errors - CPET protocols, criteria for maximal exhaustion, termination criteria	S. Müller
14:45 – 15:15	30 min	<b>Coffee Break – Walk outside</b>	
15:15 -16:45	90 min	Understanding pathological changes in the 9-panel plot <b>Case discussion</b> - Athlete - Cardiac patient - Exercise Prescription	S. Wernhart F. D’Ascenzi S. Müller
<b>CPET - Practical Part</b>			
16:45 – 17:30	45 min	CPET (in groups): Treadmill and bicycle ergometry	J. Schellenberg M. Weichenberger C. Lang J. Niebauer S. Wernhart
17:30- 17:45	15 min	<b>Wrap-up</b>	
<b>End of Sports Cardiology Course</b>			
July 18, 2025 09:00 – 12:00		<b>Optional (only for up to 10 participants):</b> Visit of the outpatient clinic of Sports Cardiology with athletes and patients	C. Lang S. Wernhart M. Halle

## **Practical information**

Please register as early as possible for optional morning to visit one of the three sites of the outpatient clinic of Preventive Sports Medicine and Sports Cardiology (first-com first-serve)

## **Accommodation**

### **Hotels in walking distance from venue:**

- Leonardo Royal Hotel Munich
- H2 Hotel München Olympiapark
- Arthotel ANA im Olympiapark

## **Transportation**

- Underground station either “Olympiazentrum” or “Oberwiesenfeld” underground line 3 (U3) “orange line”
- The underground line U3 is connecting both underground station to “Marienplatz”, the heart of Munich, in 20 min.
- From the airport a train (S8) is going directly into the city center to “Marienplatz” in 45 min.