



**EAPC**

European Association  
of Preventive Cardiology

# Diabetes and Cardiovascular Disease

## Educational Programme

**Diabetes for Cardiologists  
State of the Art 2021**

**Online course  
3-4 February 2021**



Diabetes - epidemiological and risk assessment aspects?

Prevention of cardiovascular complications

Diabetes and comorbidities

Present day management



**ESC**

European Society  
of Cardiology

# ● Introduction

*“Patients with dysglycaemia defined as either type 2 diabetes or impaired glucose tolerance have an increased risk for cardiovascular disease. A person acquiring type 2 diabetes at an age of 40-50 years loses about six to seven years of life. A cardiovascular event, e.g. a myocardial infarction, is not infrequently the first manifestation of the glucose perturbation since diabetes and its prestates often remain undetected until then. This is probably not inevitable.*

*If the condition is detected and a multifactorial treatment based on lifestyle adjustment in combination with pharmacological treatment of hypertension, dyslipidaemia and hyperglycaemia is initiated, observational data strongly supports that it is possible to substantially decrease the cardiovascular complications.*

*Likewise, it is important to screen for diabetes in patients with atherosclerotic disease manifestations in order to detect previously unknown glucose perturbations in the presence of which the future prognosis is considerably worse but may be improved by the use of appropriate medication including cardioprotective glucose lowering drugs.*

*Recent European surveys disclose that a majority of such patients are not screened and treated according to evidence-based guidelines.*

*This course will give a broad description of the epidemiology, pathophysiology and clinical manifestations of diabetes and its state-of-the-art management.”*

**Professor Lars Rydén**

Course Director



This course is organised by the European Association of Preventive Cardiology as part of the Diabetes and CVD Programme supported by Boehringer Ingelheim and Lilly Diabetes Alliance and Novo Nordisk A/S in the form of educational grants.

The scientific programme has not been influenced in any way by its sponsors.

# ● Programme

## ● Wednesday, 3 February

18:00-20:10 (CET)

### ● Session 1 • Diabetes - epidemiological and risk assessment aspects?

- Welcome and introduction; Objectives 18:00  
L. Rydén
- Diabetes - epidemiology and diagnostics 18:05  
J. Tuomilehto
- Risk assessment - what to search for and how? 18:20  
V. Delgado
- Case presentation 1 18:35  
Discussion between the faculty and course participants  
L. Rydén, G. Ferrannini, J. Tuomilehto and V. Delgado

● Break 19:00-19:10

### ● Session 2 • Prevention of cardiovascular complications

- How to accomplish an appropriate lifestyle? 19:10  
M. Lidin
- Blood pressure, lipid, and platelet control 19:20  
L. Mellbin
- Cardioprotective glucose lowering drugs 19:30  
F. Cosentino
- Case presentation 19:40  
Discussion between the faculty and course participants  
L. Rydén, M. Lidin, F. Cosentino and L. Mellbin

# ● Programme

## ● Thursday, 4 February

18:00-20:10 (CET)

### ● Session 3 • Diabetes and comorbidities

- Heart failure and arrhythmias 18:00  
L. Rydén
- Peripheral artery disease 18:12  
C-M. Wahlgren
- Kidney disease 18:24  
P-H. Groop
- Case presentation 3 18:36  
Discussion between the faculty and course participants  
G. Ferrannini, L. Rydén, C-M. Wahlgren and P-H. Groop

### ● Break 19:00-19:10

### ● Session 4 • Present day management

- Present day management - a European experience 19:10  
G. Ferrannini
- Organisation of patient care and management 19:25  
L. Mellbin and S. Catrina
- Question and answers 19:40  
G. Ferrannini, L. Mellbin, S. Catrina and L. Rydén
- Summing up and farewell 20:05  
L. Rydén



## Learning Objectives

**After completing the course, the participants will:**

- Understand the biologic mechanism of diabetes mellitus
- Understand the major increase in prevalence of diabetes mellitus and its pre-stages
- Understand the role of nature and nurture in aetiology, prevention and treatment
- Be able to adequately estimate CVD risk and detect risk factors
- Understand and implement multifactorial management and treatment targets
- Be aware of current therapeutic options and new medication classes in diabetes (especially glucose lowering drugs): their benefits, limitations and how to use them
- Be able to set up a diabetes - cardiology clinic/team: organisation of care, the role for various medical disciplines and patient engagement
- Be able to manage CAD, heart failure, arrhythmias, and PAD in patients with diabetes

## Materials Available

- 2019 Guidelines on Diabetes, Pre-Diabetes and Cardiovascular Diseases developed in collaboration with the EASD. **Access the guidelines**



### **Lars Rydén • Course Director**

Lars Rydén is Senior Professor of Cardiology at the Karolinska Institute, Stockholm, Sweden. He specialises in internal medicine and cardiology, focusing on arrhythmias, cardiac pacing, heart failure and diabetes-related cardiovascular disease. He has published more than 750 scientific papers.

Lars Rydén is Dr h.c. at Katowice University, Poland, and an honorary member of the Royal College of Physicians, UK. Professor Rydén was the President of the Swedish Cardiac Society and chaired the Scientific Board of the Swedish Heart Lung Foundation. He was the President of the European Society of Cardiology (ESC) and served on the board of the World Heart Federation. He chaired Alert, a system for identification and early assessment of new methods in healthcare for the Swedish Council on Technology Assessment in Health Care.

Lars Rydén has chaired numerous expert groups in collaboration with the ESC and European Commission e.g. the group that produced the European Heart Health Charter and The Chronic Disease Alliance - A Unified Prevention Approach. Professor Rydén chaired the Task Forces of the 2007 and 2013 ESC/European Association for the Study of Diabetes (EASD) Guidelines for Diabetes, Prediabetes and Cardiovascular Disease. In 2019 he received the Hellmut Mehnert Award for outstanding contributions to the knowledge and understanding of diabetes.



### **Linda Mellbin • Project Leader**

Linda Mellbin is Associate Professor of Cardiology and Head of the Coronary Artery Disease Patient Area at Karolinska University Hospital in Stockholm, Sweden.

She obtained her medical degree at Karolinska Institutet in 2000 and, following service at the Department of Medicine at Oskarshamn's Hospital, she joined the Department of Cardiology at Karolinska University Hospital in 2005. She earned her PhD thesis in 2010 and has thereafter continued research in the field of diabetes and cardiovascular diseases at Karolinska Institutet.

Associate Professor Mellbin has authored several original papers, review articles and book chapters and was a member of the European Society of Cardiology Task Force updating the 2013 and 2019 Guidelines on Diabetes, Pre-diabetes and Cardiovascular Diseases. She is currently project leader for the EAPC (European Association of Preventive Cardiology) Educational Programme on Diabetes and Cardiovascular Disease.





### Giulia Ferrannini • Course Secretary

Giulia Ferrannini MD, 31 years old, is a specialist in internal medicine from Italy. She is currently a PhD student at the Cardiovascular Theme at Karolinska Institutet, Stockholm.

Her doctoral project focuses on the detection, prognosis and management of dysglycaemia in cardiovascular disease. The two main subjects of her research are screening methods in secondary prevention of coronary artery disease, including the study of insulin resistance mechanisms, and gender differences in both screening and management.



### Sergiu Catrina

Sergiu Catrina is Associate Professor of Endocrinology at Karolinska Institute, Stockholm and Consultant and Medical Director of the Centre for Diabetes, Stockholm. He graduated (1991) from the University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania where he received his first PhD degree (2001). He received his second PhD at the Karolinska Institute (2005).

He leads a team of basic and clinical scientists that study the pathogenic mechanisms that contribute to the development of complications in diabetes. His research group focuses on discovery of new therapeutic targets to be addressed in addition to the metabolic control.



### Francesco Cosentino

Francesco Cosentino is professor of Cardiology, Department of Medicine, Karolinska Institutet, and Heart and Vascular Theme, Karolinska University Hospital, Stockholm, Sweden.

He graduated in medicine and specialised in internal medicine and cardiovascular disease at the University of Rome. He trained at the Mayo Clinic & Foundation in Rochester, MN, USA from 1991 to 1995. During his stay at the Mayo Clinic he obtained a PhD in Biomedical Sciences - Cardiovascular Pharmacology. In 1996 he moved back to Europe where he first joined the Cardiovascular Division at the University Hospital of Bern. Two years later, Prof. Cosentino moved to the Division of Cardiology of Zurich University Hospital as lecturer and then titular professor of cardiology. In 2006, he was appointed associate professor of cardiology at the University of Rome Sapienza.

Prof. Cosentino is the recipient of grants and prizes from national and international institutions, councils and private foundations for his bench-to-bedside translational research programme. His research focuses on the effects of gene-environment interaction in cardiac and vascular phenotypes in the setting of elevated cardiometabolic risk. He is the leading author of more than 200 original articles published in top-ranking, peer-reviewed journals. He chaired the 2019 Task Force that prepared the ESC Guidelines on Diabetes, Prediabetes and Cardiovascular Disease. He is deputy editor of *European Heart Journal* and consulting editor of *Cardiovascular Research Journal*.

Today, Prof. Cosentino is Vice-President of the European Society of Cardiology and also chairs the ESC Partnership and Policy Committee.



## Victoria Delgado

Victoria Delgado is senior cardiologist at the Leiden University Medical Center with a specific focus on multimodality imaging on heart failure and valvular heart disease. She has served twice as councilor of the European Association of Cardiovascular Imaging (EACVI), one of the terms as chair of the Scientific documents, member of the EURObservational Research Programme (EORP) and committee of the Clinical Practice Guidelines.

She is Associate Editor of *Circulation*, and the *Journal of the American Society of Echocardiography*. She is currently a board member of the European Society of Cardiology, chair of the ESC Social Media Committee and a member of the of the Communication and Congress Programme committees.



## Per-Henrik Groop

Professor Per-Henrik Groop, MD, DMSc, FRCPE graduated from the University of Helsinki in 1982. It was here where he defended his thesis on 'The relationship between GIP and beta-cell function in man' in 1989. Following post-doctoral studies at Guy's Hospital, University of London, under Professor Giancarlo Viberti, Professor Groop returned to Helsinki as Consultant of Nephrology. He served as Professor of Nephrology (Chair) 2010-2015 and is currently Professor of Internal Medicine (Chair) at the University of Helsinki. He is also Chief Physician at the Abdominal Center Nephrology, University of Helsinki and Helsinki University Hospital and Principal Investigator of the Finnish Diabetic Nephropathy (FinnDiane) Study at the Folkhälsan Research Center in Helsinki, Finland. He is Adjunct Professor at the Department of Diabetes, Monash University, Melbourne, Australia.

His research is focused on the dissection of the pathogenesis of diabetic complications with special emphasis on diabetic nephropathy. In order to provide a unique set of clinical resources with high power to identify genes and genetic variants associated with diabetic complications, Professor Groop initiated the large, nationwide FinnDiane Study in 1997. To date, this landmark study comprises 8,400 patients with type 1 diabetes and their family members recruited via a comprehensive network of 92 hospitals and healthcare centres throughout Finland. His FinnDiane Research Group represents an inter-disciplinary team of 45 scientists, post-graduate students and personnel.

Professor Groop served as Associate Editor of *Diabetologia*, 2005-2007, and as member of the Advisory Board, 2008-2011. He served as Associate Editor of *Kidney International and International Diabetes Monitor*, 2007-2011. He was Chairman of the EASD Scientist Training Course, 2007-2013, President of the European Diabetic Nephropathy Study Group (EDNSG), 2008-2010, and Honorary Secretary of the EASD 2013-2016. Since 2011 he has been the chairman of the Signe and Ane Gyllenberg Foundation. He was awarded the prestigious EASD Castelli Pedrolì Prize - 24th Camillo Golgi Lecture in 2009, the Novo Nordisk Foundation Lecture in 2012 and the IDF Award for Clinical and Therapeutic Research 2019.

Professor Groop has published more than 380 peer-reviewed original articles in high-impact journals, 35 reviews and book chapters, 49 papers in his native languages Swedish and Finnish as well as more than 640 abstracts presented at major international meetings.





## Matthias Lidin

Matthias Lidin is a specialist nurse in cardiology and works at the Cardiovascular Theme at Karolinska University Hospital in Stockholm, Sweden.

Matthias Lidin has a PhD in Medicine with focus on healthy lifestyle habits for patients with cardiovascular disease. His current research explores cardiovascular prevention programs with a focus on healthy lifestyle habits in individuals with cardiovascular risk.



## Jaakko Tuomilehto

Jaakko Tuomilehto qualified as MD, MA in Sociology and PhD in Epidemiology.

He is Professor Emeritus of Public Health of the University of Helsinki, Finland and has extensive experience in the research of both CVD and diabetes. His research interests include the epidemiology and prevention of CVD, diabetes, cancer and dementia. He has contributed to many landmark studies.

He initiated the Finnish Diabetes Prevention Study that demonstrated a 58% reduction in the incidence of type 2 diabetes (T2D) with lifestyle intervention, confirmed later by trials from many countries. He has been involved in epidemiological studies in many countries in Europe and other regions of the world. He also established the DECODE study assessing the glucose criteria for diabetes diagnosis and evaluating the importance of postprandial glucose.



## Carl-Magnus Wahlgren

Carl-Magnus Wahlgren obtained his MD degree at Karolinska Institute 1996 followed by residency in surgery and vascular surgery at Karolinska University Hospital.

He did a two-year fellowship in vascular surgery at the Department of Surgery, University of Chicago. Carl-Magnus is a senior consultant and has been Chief of the Department of Vascular Surgery since 2016, Heart & Vascular Division, Karolinska University Hospital.

He finished his PhD 2005 on mechanism of thrombosis and restenosis after vascular injury under the supervision of professor Jesper Swedenborg. He became associate professor in 2012 and adjunct professor in 2019 at the Karolinska Institute.