

# Sponsored Session 1

**SELECT the Outcome Beyond Weight Loss**

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## Chairpersons

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**Jae-Heon Kang**

Sungkyunkwan University, Korea

**Sang Yong Kim**

Chosun University, Korea

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## Speakers

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**Filip K. Knop**

Novo Nordisk/ University of Copenhagen, Denmark

**Sang Yeoup Lee**

Pusan National University, Korea

**Darae Kim**

Sungkyunkwan University, Korea



## Filip K. Knop

Novo Nordisk/ University of Copenhagen, Denmark

### • Education

Period	Affiliation	Position
– 2007	University of Copenhagen, Denmark	Ph.D.
– 2002	University of Copenhagen, Denmark	MD

### • Affiliations / Experience

Period	Affiliation	Position
– 2023-Present	Novo Nordisk	Senior Medical Officer
– 2019-Present	Gentofte Hospital, University of Copenhagen	Professor, Consultant Endocrinologist
– 2018-Present	Steno Diabetes Center Copenhagen	Professor, Consultant Endocrinologist
– 2016-Present	Department of Clinical Medicine, University of Copenhagen	Professor
– 2015-2018	Gentofte Hospital, University of Copenhagen	Consultant Endocrinologist

### • Committee Memberships

- Member of Several National and International Committees.

### • Publications

- Knop FK, Aroda VR, do Vale RD, Holst-Hansen T, Laursen PN, Rosenstock J, Rubino DM, Garvey WT; OASIS 1 Investigators. Oral semaglutide 50 mg taken once per day in adults with overweight or obesity (OASIS 1): a randomised, double-blind, placebo-controlled, phase 3 trial. *The Lancet*. 2023 Aug 26;402(10403):705-719
- Kårhus ML, Brønden A, Forman JL, Haaber A, Knudsen E, Langholz E, Dragsted LO, Hansen SH, Krakauer M, Vilsbøll T, Sonne DP, Knop FK. Safety and efficacy of liraglutide versus colesvelam for the treatment of bile acid diarrhoea: a randomised, double-blind, active-comparator, non-inferiority clinical trial. *The Lancet Gastroenterology & Hepatology*. 2022 Oct;7(10):922-931
- Johansen NJ, Dejgaard TF, Lund A, Schlüntz C, Frandsen CS, Forman JL, Wewer Albrechtsen NJ, Holst JJ, Pedersen-Bjergaard U, Madsbad S, Vilsbøll T, Andersen HU, Knop FK. Efficacy and safety of meal-time administration of short-acting exenatide for glycaemic control in type 1 diabetes (MAG1C): a randomised, double-blind, placebo-controlled trial. *The Lancet Diabetes & Endocrinology*. 2020 Apr;8(4):313-324
- Palleja A†, Mikkelsen KH†, Forslund SK†, Kashani A, Allin KH, Nielsen T, Hansen TH, Liang S, Feng Q, Zhang C, Pyl PT, Coelho LP, Yang H, Wang J, Typas A, Nielsen MF, Nielsen HB, Bork P, Wang J, Vilsbøll T, Hansen T, Knop FK\*, Arumugam M\*, Pedersen O\*. Recovery of gut microbiota of healthy adults following antibiotic exposure. *Nature Microbiology* 2018 Nov;3(11):1255-1265. †Shared first-authorships \*Shared correspondence and senior authorships
- Kootte RS, Levin E, Salojärvi J, Smits LP, Hartstra AV, Udayappan SD, Hermes G, Bouter KE, Boekschoten M, Holst JJ, Knop FK et al. Improvement of insulin sensitivity after lean donor feces in metabolic syndrome is driven by baseline intestinal microbiota composition. *Cell Metabolism* 2017 Oct 3;26(4):611-619

**Sponsored Session 1**

## **SELECTing the Clinical Outcome of Semaglutide 2.4mg from its Physiological Benefits**

Filip K. Knop (Novo Nordisk/ University of Copenhagen, Denmark)

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Glucagon-like peptide 1 (GLP-1) receptor (GLP-1R) agonists (GLP-1RA) are used in the management of type 2 diabetes and overweight or obesity affecting a broad range of metabolic pathways associated with glucose metabolism, appetite, energy homeostasis, and inflammation. The GLP-1RA semaglutide, 94% homologous to human GLP-1 has a half-life of ~1 week after subcutaneous delivery enabling weekly dosing. Similar to native GLP-1, semaglutide exerts a wide variety of effects through activation of GLP-1Rs expressed in the gastrointestinal tract, heart, kidneys and brain. Semaglutide, administered subcutaneously once a week at a dose of 2.4 mg induces weight loss in people living with obesity and reduces cardiovascular risk in individuals with overweight/obesity and established cardiovascular disease. Several lines of evidence suggest that semaglutide-induced weight loss is mediated through direct interaction with GLP-1Rs in the brainstem, septal nuclei, hypothalamus and circumventricular organs. This directly and indirectly affects the activity of neural pathways involved in food preference, reward, appetite and satiety thereby reducing food intake and body weight. In terms of semaglutide's cardioprotective mode of action, semaglutide has pleiotropic direct and indirect effects on several physiological functions and cardiovascular risk factors, including circulating lipids, blood pressure and systemic low-grade inflammation, ultimately reducing the risk of cardiovascular events in individuals with overweight/obesity and established cardiovascular disease. This presentation will focus on the translation of GLP-1 physiology to therapeutic benefits of semaglutide in individuals living with overweight/obesity and high risk of cardiovascular disease.



## Sang Yeoup Lee

Pusan National University, Korea

### • Education

Period	Affiliation	Position
– 2001-2004	Pusan National University School of Medicine	Ph.D.
– 1995-1997	Pusan National University School of Medicine	M.Sc.
– 1986-1993	Pusan National University School of Medicine	M.D.

### • Affiliations / Experience

Period	Affiliation	Position
– 2024-Present	Pusan National University School of Medicine	Vice President of Medical Affairs
– 2005-Present	Department of Medical Education, Pusan National University School of Medicine	Professor
– 2000-Present	Depart. of Family Medicine, Pusan National University Yangsan Hospital	Professor
– 2000-2005	Depart. of Family Medicine, Pusan National University School of Medicine	Professor
– 2007-2008	Endocrine Research Unit, Mayo Clinic, MN, USA	Visiting Scientist

### • Committee Memberships

- Section of Family Medicine and Primary Care, Frontiers in Public Health
- Section of Family Medicine and Primary Care, Frontiers in Medicine
- The Korea Association of Medical Colleges
- Yangsan-si Mom Café Community

### • Publications

- Lee SR, Cho YH, Park EJ, Lee Y, Choi JI, Kwon RJ, Son SM, Lee SY. The association between reproductive period and handgrip strength in postmenopausal women: A nationwide cross-sectional study. *Menopause*. 2024;31(1):25-32
- Lee HY, Yune SJ, Lee SY, Im S, Kam BS. The impact of repeated item development training on the prediction of medical faculty's item difficulty index. *BMC Med Educ*. 2024;24:599
- Kadowaki T, Isendahl J, Khalid U, Lee SY, Nishida T, Ogawa W, Tobe K, Yamauchi T, Lim S; STET 6 investigators. Semaglutide once a week in adults with overweight or obesity, with or without type 2 diabetes in an east Asian population (STEP 6): a randomised, double-blind, double-dummy, placebo-controlled, phase 3a trial. *Lancet Diabetes Endocrinol* 2022;10(3):193-206
- Tak YJ, Lee SY. Long-Term Efficacy and Safety of Anti-obesity Treatment: Where Do We Stand? *Curr Obes Rep* 2021;10(1):14-30
- Cho YH, Lee SY, Lee C, Park J, So Y, Kim SG, Kim KY. Effect of Schisandra chinensis Baillon extracts with regular exercise on muscle strength and muscle mass in older adults: a randomized, double-blinded, placebo-controlled trial. *AJCN* 2021;113(6):1140-1146

Sponsored Session 1

## STEPping Forward: Managing Weight for East Asian Population with Obesity

Sang Yeoup Lee (Pusan National University, Korea)

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Obesity is a global health concern, with the prevalence of obesity increasing worldwide. Various health complications are associated with overweight and obesity, including type 2 diabetes, prediabetes, hypertension, and cardiovascular disease, with the prevalence of these comorbidities increasing with higher BMI.

The WHO defines obesity as a BMI of 30 kg/m<sup>2</sup> or higher. However, due to differences in body composition and characteristics between Asian and non-Asian populations, the Korean Society for the Study of Obesity (KSSO) and the Japanese Society for the Study of Obesity define obesity in Japanese and Korean people as a BMI of 25 kg/m<sup>2</sup> or higher. Consistent with WHO guidelines for the Asia-Pacific region, the KSSO also categorizes obesity into class 1 (BMI 25–29.9 kg/m<sup>2</sup>), class 2 (BMI 30–34.9 kg/m<sup>2</sup>), and class 3 (BMI ≥35 kg/m<sup>2</sup>). Moreover, the Working Group on Obesity in China defines overweight as a BMI of 24.0 kg/m<sup>2</sup> or higher and obesity as 28.0 kg/m<sup>2</sup> or higher.

In STEP 6, adults from East Asia with obesity from South Korea and Japan, with or without type 2 diabetes, given semaglutide 2.4 mg once a week, had superior and clinically meaningful reductions in body weight and greater reductions in abdominal visceral fat area compared with placebo, representing a promising treatment option for weight management in this population. In STEP 7, for adults from East Asia in China, Hong Kong, Brazil, and South Korea who were overweight or obese, with or without type 2 diabetes, once-weekly subcutaneous semaglutide 2.4 mg as an adjunct to lifestyle intervention was superior to placebo in reducing body weight.

These findings align with the results of previous clinical trials, mostly conducted in global populations, with semaglutide 2.4 mg in participants with overweight or obesity, with or without type 2 diabetes.



## Darae Kim

Sungkyunkwan University, Korea

### • Education

Period	Affiliation	Position
– 2012-2017	Yonsei University Graduate School	Ph.D.
– 2004-2010	Yonsei University College of Medicine	M.D.

### • Affiliations / Experience

Period	Affiliation	Position
– 2018-Present	Division of cardiology, Samsung Medical Center	Assistant Professor
– 2015-2018	Division of cardiology, Internal medicine, Severance Hospital, Yonsei University College of Medicine	Fellow/Clinical Instructor
– 2011-2015	Internal medicine, Severance Hospital, Yonsei University College of Medicine	Residency
– 2010-2011	Severance Hospital, Yonsei University College of Medicine	Intern

### • Committee Memberships

- Korean Society of Heart Failure
- Korean Society of Echocardiography
- Korean Society of Circulation
- Korean Association of Internal Medicine

### • Publications

- Prognostic Implications of Left Atrial Stiffness Index in Heart Failure Patients With Preserved Ejection Fraction, *JACC Cardiovasc Imaging*. 2023 Apr;16(4):435-445
- Impacts of Pre-transplant Panel-Reactive Antibody on Post-transplantation Outcomes: A Study of Nationwide Heart Transplant Registry Data *Korean Circ J*. 2024 Jun;54(6):325-335
- Three year post heart transplant outcomes of desensitized durable mechanical circulatory support patient *J. Heart Lung Transplant*. 2023 Oct;42(10):1408-1414
- Dapagliflozin attenuates diabetes-induced diastolic dysfunction and cardiac fibrosis by regulating SGK1 signaling, *BMC Med*. 2022 Sep 7;20(1):309

**Sponsored Session 1**

## **SELECTing the Future: Cardiovascular Outcome in Patients with Obesity/Overweight without Type 2 Diabetes**

Darae Kim (Sungkyunkwan University, Korea)

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This presentation focuses on the substantial cardiovascular risks posed by obesity, explored through the lens of the SELECT trial. This includes an in-depth analysis of clinical endpoints, illustrated with practical examples of atherosclerotic cardiovascular disease (ASCVD) and heart failure (HF).

The lecture highlights the SELECT trial, a significant study investigating the effects of semaglutide, a GLP-1 receptor agonist, on cardiovascular outcomes in this high-risk population. Semaglutide has previously shown efficacy in weight management and improving cardiovascular risk factors in patients with type 2 diabetes. The SELECT trial expands this research to patients with obesity but without diabetes, focusing on its potential to reduce major adverse cardiovascular events (MACE) such as non-fatal myocardial infarction, non-fatal stroke, and cardiovascular death.

Preliminary results from the SELECT trial are promising, indicating that semaglutide significantly lowers the incidence of MACE in the target population. The lecture emphasizes the trial's design, methodology, and key findings, providing insights into how semaglutide can be integrated into clinical practice to enhance cardiovascular outcomes. This session underscores the critical need for effective therapeutic interventions in managing cardiovascular risks associated with obesity.