DPP 2019

亞洲糖尿病基金會
Asia Diabetes Foundation

Diabetes Preventing the Preventables Forum 2019

5 May 2019 • Hong Kong

Co-organizer:

香港糖尿科護士協會
Association of Hong Kong Diabetes Nurses

Supporting organizations:

香港家庭醫學學院
The Hong Kong College of Family Physicians

HKDA
香港營養師協會
HONG KONG DIETITIANS ASSOCIATION

中國香港體適能總會
Physical Fitness Association of Hong Kong, China

Youth Diabetes Action
兒童糖尿協會

CONTENTS

WELCOME MESSAGE

Dear faculty and delegates,

Every person with diabetes has a unique set of risk factors which the care team has to systematically measure, manage and monitor in order to prevent premature death and disabilities for preserving the quality of life.

The most challenging aspect in managing diabetes is to help patients manage their disease for the rest of their life and to personalize treatment choices at different stages of the disease.

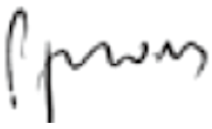
The DPP Forum is an annual meeting which aims to foster collaborations amongst relevant stakeholders to develop care models which can bring out the best of our expertise and technologies in order to make chronic care accessible, sustainable and affordable.

To this end, we have invited a faculty of experts and thought leaders with a diversity of experiences who will share with us their views and insights into this health care challenge.

We hope you will enjoy this meeting and that you will continue to be part of this growing network in pursuit of prevention and control of diabetes and chronic disease.

Best regards,

Professor Juliana Chan
Chairman



Professor Alice Kong
Co-chairman

Professor Andrea Luk
Co-chairman

ORGANIZER

亞洲糖尿病基金會
Asia Diabetes Foundation

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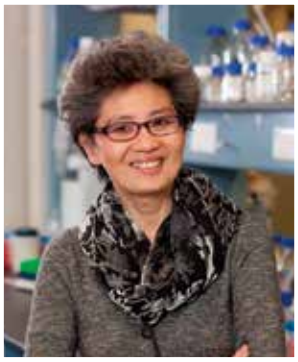
Dr. Rose TING
Dr. Man-Wo TSANG
Professor Martin WONG

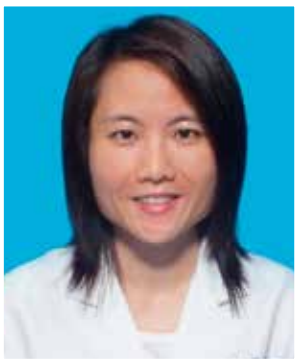
FACULTY MEMBERS



Juliana Chung Ngor Chan

Chief Executive Officer, Asia Diabetes Foundation and Chair Professor of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Professor Juliana Chung Ngor Chan is a Chair Professor of Medicine and Therapeutics, at the Chinese University of Hong Kong. She is also the Founding Director of the Hong Kong Institute of Diabetes and Obesity and the Chief Executive Officer of the Asia Diabetes Foundation. Her major areas of interest include genetic epidemiology, clinical trials, and care models in diabetes. Her team advocates the use of risk stratification, registry, personalized reporting and collaborative care to prevent and control diabetes. She has published over 500 papers and trained more 50 than postgraduate students/fellows. She is also a member of steering committees of multinational studies and advisory boards of Hong Kong Government and international agencies.



Kitty Kit Ting Cheung

Associate Consultant, Division of Endocrinology and Diabetes, Department of Medicine and Therapeutics, Prince of Wales Hospital, Hong Kong

Dr. Kitty Kit Ting Cheung is an Associate Consultant at the Department of Medicine and Therapeutics, The Prince of Wales Hospital, Hong Kong, and an Honorary Clinical Associate Professor at the Hong Kong Institute of Diabetes and Obesity, Faculty of Medicine, The Chinese University of Hong Kong. After completing her undergraduate Biochemistry training at the University of Calgary, Canada, Dr. Cheung moved to Hong Kong where she finished her medical training, and obtained her Fellowships in Endocrinology, Diabetes and Metabolism, and in Advanced Internal Medicine.

FACULTY MEMBERS

Cheung Hei Choi

Deputy Chief of Service (Manpower and Training) and Consultant Physician, Department of Medicine, Queen Elizabeth Hospital, Hong Kong

Dr. Cheung Hei Choi graduated from the Chinese University of Hong Kong and became specialist of Endocrinology, Diabetes and Metabolism since 1998. Currently he is the Deputy Chief of Service (Manpower and Training) and Consultant Physician in the Department of Medicine, Queen Elizabeth Hospital. Other appointments include council member of Hong Kong College of Physicians, member of KC & KE Research Ethics Committee, KCC Research Committee, COC Medicine, CC Diabetes Service, HA drug formulary Endocrine specialty, KCC Integrated Chinese-Western Medicine Committee and F&H Bureau Grant Review Board. He is also the Honorary Associate Professor (the University of Hong Kong and the Chinese University of Hong Kong), past Honorary Secretary and Kowloon Program Director of the Endocrinology, Diabetes & Metabolism Specialty Board (HKCP), past Honorary Secretary of the Hong Kong Society of Endocrinology, Metabolism & Reproduction (HKSEMR) and past Chairman of Diabetes Division HKSEMR.

Elaine Yee Kwan Chow

Clinical Lecturer, Phase 1 Clinical Trial Centre and Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Dr. Elaine Yee Kwan Chow is a Clinical Lecturer of the Phase 1 Clinical Trial Centre and Department of Medicine and Therapeutics at The Chinese University of Hong Kong. She was a Clinical Research Fellow of the University of Sheffield, United Kingdom and NIHR Cardiovascular Biomedical Research Unit at the Northern General Hospital, Sheffield, United Kingdom. Her main research areas are beta-cell function and insulin sensitivity in familial young onset diabetes, continuous glucose monitoring devices, and hypoglycemia-related sudden cardiac death in diabetes. She is currently principal investigator for several studies evaluating continuous glucose monitoring devices and comparing the effect of different insulins on glycaemic variability.

FACULTY MEMBERS

Patrick Pak Keung Ip

Clinical Associate Professor, Department of Paediatrics and Adolescent Medicine, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong

Dr. Patrick Pak Keung Ip is a Clinical Associate Professor of Department of Paediatrics & Adolescent Medicine, The University of Hong Kong and a Consultant in Paediatrics, Queen Mary Hospital. He also appointed as Member in Hong Kong Children's Commission, Vice President in Hong Kong Paediatric Society and Honorary Secretary in Hong Kong College of Paediatricians.

Dr. Ip is a specialist pediatrician with special interest in Child Health, Neurology and Developmental Behavioral Paediatrics. He is an expert in early childhood development and has been working for UNICEF and China Development Research Foundation (CDRF) on various child health projects in East Asia Pacific Region as well as in Greater China. Dr. Ip has much experience and publications on early childhood development, neurodevelopmental disorders, and global health issues. He has been one of the key coordinators of integrated child health service between hospital and the community and coordinated the Comprehensive Child Development Service (CCDS) of Hospital Authority since its implementation in 2006 until he joined the University of Hong Kong in 2009. He is an appointed tutor of the Association for Research in Infant and Child Development, United Kingdom and the official trainer of Griffith's Mental Developmental Scale. His research focus on different dimensions of Community Child Health including early brain development, early intervention, underprivileged children, safeguarding children, child mental health, disability and rehabilitation, public health & health promotion.

Cherry Pui Yee Law

Registered Dietitian, Dietetics Department, Pamela Youde Nethersole Eastern Hospital, Hong Kong

Ms. Cherry Pui Yee Law is responsible for renal wards and clinics of Pamela Youde Nethersole Eastern Hospital for the last 12 years. She is the trainer of Hospital Authority Dietetics Cross Cluster Specialty Training Program in Renal Disease. She was also the speaker for the nutritional management session of Hong Kong East Cluster Certificate Course of Peritoneal Dialysis for Nurses and Allied Health Professionals and The Federation of Medical Societies of Hong Kong Certificate Course on Renal Medicine.

FACULTY MEMBERS

Lee Ling Lim

Associate Professor, Department of Medicine, Faculty of Medicine, University of Malaya, Malaysia

Dr. Lee Ling Lim is an Associate Professor and Consultant Endocrinologist at the Department of Medicine, University of Malaya (UM). Her research interests are the epidemiology, health services delivery and molecular aspects of diabetes, cardiovascular-renal diseases and women's health. She currently leads the Multidisciplinary Diabetes Research Group at UM. Dr. Lim serves on the Committee of the IDF World Diabetes Atlas. She is the Editorial Board Member of the Primary Care Diabetes and an article reviewer for a number of peer-reviewed journals including Annals of Internal Medicine and Endocrine Reviews.

Andrea On Yan Luk

Associate Professor, Division of Endocrinology and Diabetes, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Associate Professor Andrea On Yan Luk is a specialist in endocrinology and is currently the Associate Professor, Division of Endocrinology at the Department of Medicine and Therapeutics, Faculty of Medicine, the Chinese University of Hong Kong. She is also the Deputy Medical Director of the Phase 1 Clinical Trial Centre at the Chinese University of Hong Kong, Honorary Associate Consultant at the Prince of Wales Hospital, and Deputy Medical Director of the Asia Diabetes Foundation. Dr. Luk graduated from the University of Auckland, New Zealand, and received post-graduate training in Sydney, Australia and Hong Kong. She obtained her fellowship in endocrinology, diabetes and metabolism in 2007 at the Hong Kong College of Physicians. Her main research focus is in diabetes epidemiology with special interests in diabetic kidney disease and young-onset diabetes. She is extensively involved in clinical trials from phase 1 through to phase 3.

FACULTY MEMBERS

Tsun Miu Tsui

Specialist in General Surgery, Associate Consultant, Upper Gastrointestinal and Metabolic Surgery Team, Department of Surgery, Yan Chai Hospital, Hong Kong

Dr. Tsun Miu Tsui is the Associate Consultant of the Department of Surgery, Yan Chai Hospital. He is the Chief of Yan Chai Hospital Weight Management Team. He is also the Head of the Cluster Metabolic Surgery Team of Kowloon West Cluster, Hospital Authority, Hong Kong.

After completed his general surgical training, Dr. Tsui further his clinical fellowship training in bariatric and metabolic surgery at Comprehensive Weight Management Centre, Taipei Medical University Hospital, Taiwan, in 2015. In 2016, he established the Yan Chai Hospital Weight Management Team, which is a multi-disciplinary team involving surgeons, nurses, dietitians, physiotherapists, anaesthetists, endocrinologists, pharmacists, social workers, clinical psychologists, respiratory physicians and ENT surgeons to provide multi-disciplinary metabolic surgery services.

Dr. Tsui is also the council member of the Hong Kong Obesity Society and the Hong Kong Society of Upper Gastrointestinal Surgeons. He actively promotes the management of obesity and upper gastrointestinal surgical diseases through his work in both societies.

Martin Chi Sang Wong

Professor of Family Medicine and Primary Healthcare, JC School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, HongKong

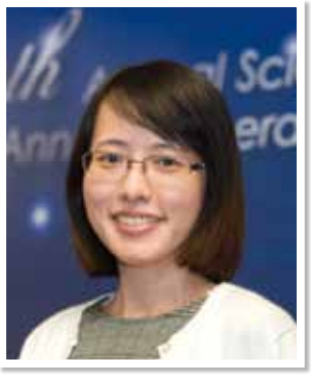
Professor Martin Chi Sang Wong is a Professor and Associate Director (General Affairs) of the JC School of Public Health and Care at the Chinese University of Hong Kong. He is a specialist family physician with an interest on prevention of non-communicable diseases (NCD). He is currently Co-Chair of the NCD Stream of the Association of Pacific Rim Universities; and a Chairman of the Grant Review Board, Health and Medical Research Fund of the Hong Kong Government. He is the covenor of the Advisory Group on Hong Kong Reference Framework for Care of Diabetes and Hypertension in Primary Care Settings of the Department of Health.

FACULTY MEMBERS

Bryan Ping Yen Yan

Associate Professor and Head, Division of Cardiology (Academic Affairs), Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Associate Professor Bryan Ping Yen Yan is an interventional cardiologist and the Academic Head, Division of Cardiology, Department of Medicine & Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong. He is also an Adjunct Associate Professor at the Department of Epidemiology and Preventive Medicine, Monash University, Melbourne, Australia. Professor Yan graduated from the University of Melbourne and attained his Doctorate of Medicine from Monash University. He received his advanced training in cardiology and interventional cardiology at the Royal Melbourne Hospital, Australia and subsequently underwent a clinical fellowship year in vascular medicine and peripheral vascular interventions at the Massachusetts General Hospital and research fellowship at the Harvard Medical School in Boston. He has published more than 200 articles in peer-reviewed journals.



Tiffany Tse Ling Yau

Specialist in Endocrinology, Prince of Wales Hospital, Hong Kong

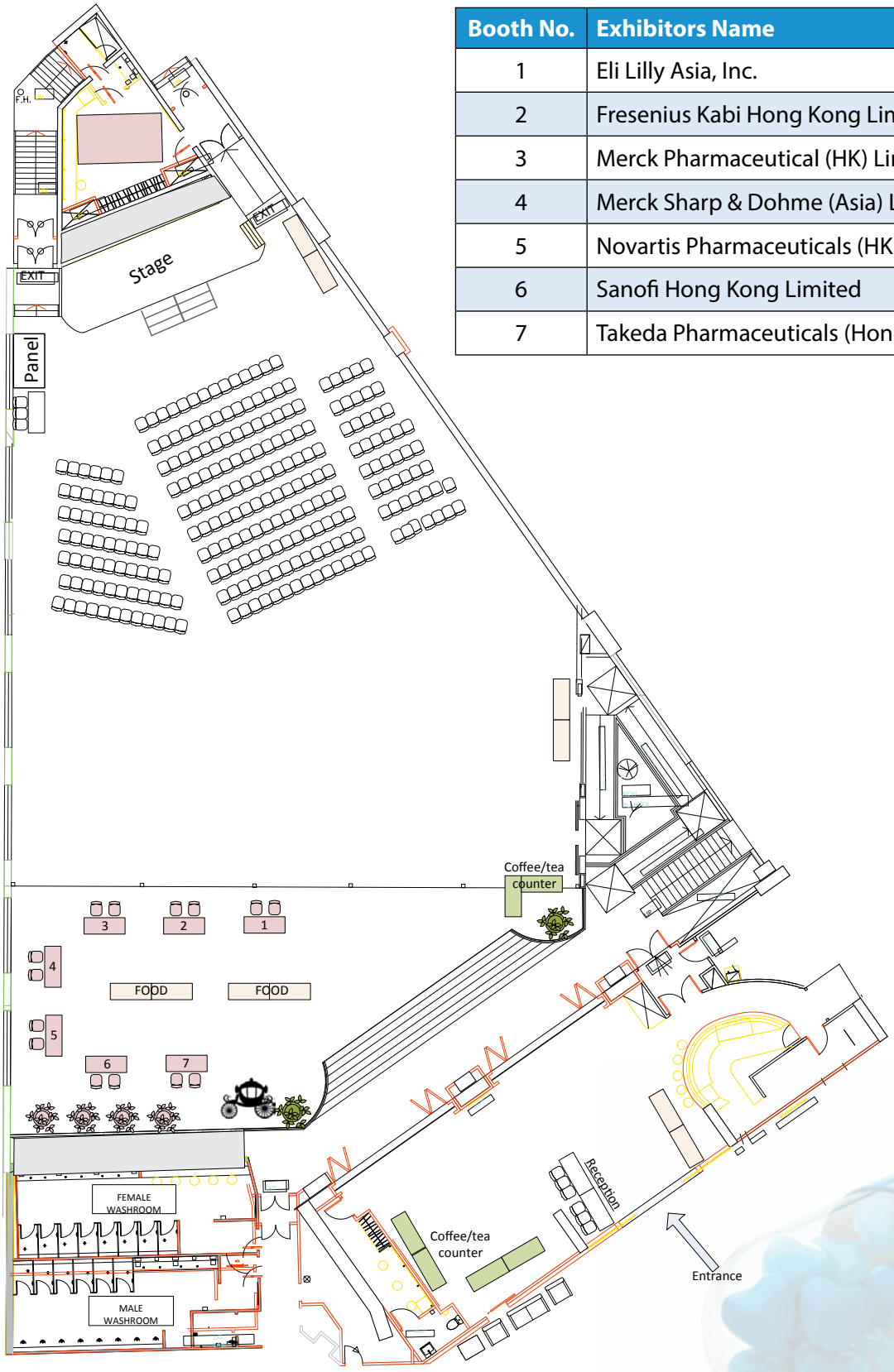
Dr. Tiffany Tse Ling Yau graduated from the Chinese University of Hong Kong in 2008 and was awarded the Carol Yu Scholarship (gold medal in medicine). She is currently the Resident Specialist in the Prince of Wales Hospital. After obtaining her United Kingdom fellowship, Dr. Yau underwent training in gender identity disorder in United Kingdom in 2017. This year, she pursued her overseas training on insulin pump and CGM in the University of Sydney and allied hospitals under the supervision of Prof. Alicia Jenkins.

SCIENTIFIC PROGRAMME

5 May (Sunday)		
09:25 - 09:30	Welcome remarks	
Symposium 1		**Co-chairs: Chung Ping Ho and June Li**
09:30 - 10:00	How do we manage people before and after metabolic surgery?	Tsun Miu Tsui
10:00 - 10:30	Dietary advice in people with diabetic kidney disease	Cherry Pui Yee Law
10:30 - 10:45	Coffee Break	
Symposium 2		**Co-chairs: Alvin Cheung and Mary Kwong**
10:45 - 11:15	What is the target BP in people with or without diabetes?	Martin Chi Sang Wong
11:15 - 11:45	Who can help me? - The journey of DM patients in the community	Cheung Hei Choi
11:45 - 12:15	How can we make quality diabetes care more affordable?	Lee Ling Lim
Lunch Symposium		**Co-chairs: Juliana Chan and Risa Ozaki**
12:15 - 12:45	Reducing diabetes risk factors in childhood: physical activity, fitness and obesity	Patrick Pak Keung Ip
12:45 - 13:45	Lunch	
Symposium 3		**Co-chairs: Elaine Cheung and Man-Wo Tsang**
13:45 - 14:15	Can we use continuous glucose monitoring earlier?	Elaine Yee Kwan Chow
14:15 - 14:45	How often and why do people discontinue insulin therapy?	Juliana Chung Ngor Chan
14:45 - 15:15	Intensive insulin therapy and continuous subcutaneous insulin infusion	Tiffany Tse Ling Yau
15:15 - 15:30	Coffee Break	
Symposium 4		**Co-chairs: Alice Wong and Rose Ting**
15:30 - 16:00	How do we use PCSK9 inhibitors in clinical practice?	Bryan Ping Yen Yan
16:00 - 16:30	Latest update on testosterone and diabetes	Kitty Kit Ting Cheung
16:30 - 17:00	Diabetes and driving	Andrea On Yan Luk
17:00 - 17:05	Closing remarks	

FLOOR PLAN AND EXHIBITORS

Floor Plan



Exhibitors

Booth No.	Exhibitors Name
1	Eli Lilly Asia, Inc.
2	Fresenius Kabi Hong Kong Limited
3	Merck Pharmaceutical (HK) Limited
4	Merck Sharp & Dohme (Asia) Limited
5	Novartis Pharmaceuticals (HK) Limited
6	Sanofi Hong Kong Limited
7	Takeda Pharmaceuticals (Hong Kong) Limited

SYMPOSIUM 1

09:30 - 10:00

How do we manage people before and after metabolic surgery?

Tsun Miu Tsui

Specialist in General Surgery, Associate Consultant, Upper Gastrointestinal and Metabolic Surgery Team, Department of Surgery, Yan Chai Hospital, Hong Kong

Bariatric Surgery was initially performed for the purpose of weight reduction. Since the surgery first performed in 1950s, evidence has shown that bariatric surgery not only helps patients reduce weight but also treat diabetes mellitus effectively. As the surgery is now performed for treating diabetes and metabolic syndrome, it is therefore named as Metabolic Surgery.

International Diabetes Federation announced a position statement in 2011 supporting the role of metabolic surgery in treating diabetes in obese diabetic patients.[1] In 2015, the Second Diabetes Surgery Summit (DSS-II), issued a Joint Statement, endorsed by 45 international organizations including American Diabetic Association and International Diabetes Federation, that incorporates metabolic surgery in the treatment algorithm for type 2 diabetes mellitus.[2] The guideline stated that metabolic surgery can be considered for Asian diabetic patients with BMI as low as 27.5kg/m^2 if their glycaemic control is poor despite optimal medical treatment. For Asian diabetic patients with BMI 37.5kg/m^2 or more, expedited assessment for metabolic surgery is recommended even their glycemic control is good.

Diabetic patients planning for metabolic surgery should be cared by a multi-disciplinary team. The elements of medical clearance for metabolic surgery include optimized glycemic, hypertensive and hyperlipidemia control. Obstructive sleep apnoea should be screened and managed before operation. As Hong Kong is a region of relatively high prevalence of Helicobacter Pylori infection and of moderate incidence of gastric malignancy, routine oesophagogastroduodenoscopy is advised before operation. Counselling should be given to women at reproductive age to avoid pregnancy preoperatively and or 12-18 months postoperatively. A psychosocial-behavioral evaluation, which assesses environmental, familial, and behavioral factors, should be required for all patients before metabolic surgery. All patients should undergo evaluation of their ability to incorporate nutritional and behavioral changes before and after metabolic surgery. All patients should also undergo an appropriate nutritional evaluation, including micronutrient measurements, before any metabolic surgery.[3]

The multi-disciplinary care continues after operation to ensure patients comply with lifestyle changes after surgery, to monitor the risk of micronutrients deficiency, to adjust the medications for metabolic syndrome control and to watch out for the development of postoperative complications.

With proper perioperative care, metabolic surgery is a safe and cost-effective procedure for the treatment of type 2 diabetes mellitus.

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10:00 - 10:30

Dietary advice in people with diabetic kidney disease

Cherry Pui Yee Law

Registered Dietitian, Dietetics Department, Pamela Youde Nethersole Eastern Hospital, Hong Kong

Diabetes mellitus is the most common cause of end stage renal failure in Hong Kong. Nutritional intervention is an essential aspect in the management with potential for slowing down the progression of diabetic kidney disease through optimization of glycemic, serum lipid, proteinuria and blood pressure control. The goals of nutritional intervention also include provision of a palatable and attractive diet, prevention of protein-energy malnutrition, as well as, management of edema, hyperkalemia, hyperphosphatemia and anemia.

For non-dialysis dependent diabetic kidney disease patients, Kidney Disease Improving Global Outcomes Chronic Kidney Disease Evaluation and Management Guidelines recommend to avoid >1.3g protein/kg body weight/day in adults with chronic kidney disease at risk of progression and reduce to 0.8g/kg/day in adults with Glomerular Filtration Rate <30ml/min/1.73m^2 to reduce accumulation of metabolic waste products with potential ameliorating kidney function decline. Choosing food high in fibre and low in glycemic index helps improving glycemic control. Limited saturated fat to < 5-6% of total energy and cut down trans fat intake is associated with favorable serum lipid profile. Excessive intake of sodium affects anti-proteinuric effect of angiotensin-converting enzyme inhibitors, as well as, control of proteinuria, hypertension and edema. It recommends limiting sodium to <2000mg per day. As renal function declines, patient may have hyperkalemia and hyperphosphatemia, and requires control intake of dietary potassium and phosphorus. Alcohol consumption is recommended to limit to no more than 2 servings per day for male and 1 serving for female for control of blood pressure. Adequate fluid intake is important to maintain kidney function but it should be restricted in case of edema. 1,25-dihydroxyvitamin D3 and iron supplement may be required for the treatment of secondary hyperparathyroidism and anemia respectively. Vitamin A is excreted by kidney and excessive intake leads to toxicity. Star fruit should be avoided due to its neurotoxicity effects.

SYMPOSIUM 2

10:45 - 11:15

What is the target BP in people with or without diabetes?

Martin Chi Sang Wong

Professor of Family Medicine and Primary Healthcare, JC School of Public Health and Primary Care, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Patients with diabetes often have concomitant hypertension, which is a well-recognised modifiable risk factor for cardiovascular diseases, stroke, peripheral artery disease and end-stage renal failure. It has been a standard practice to control blood pressure to lower than 130/80mmHg and 140/90mmHg in patients with and without diabetes, respectively. In 2017, the American College of Cardiology (ACC) and the American Heart Association (AHA) disseminated its guideline recommendations on lowering the goal of blood pressure control to <130/80mmHg among patients with simple, uncomplicated hypertension[1]. This change in blood pressure control implies the higher prevalence of uncontrolled blood pressure and more importantly, the increase in use of antihypertensive therapy in clinical practice. This proposed new target has been echoed by the 2018 ESC/ESH Guidelines for the management of arterial hypertension[2]. Nevertheless, this recommendation has not been unanimously agreed even within the US, and its generalizability to other populations remains uncertain.

Recently, the Advisory Group on Hong Kong Reference Framework for Care of Diabetes and Hypertension in Primary Care Settings of the Primary Care Office, Department of Health reviewed the latest evidence[3]. These included meta-analyses of observational prospective studies[4, 5], and landmarks trials such as SPRINT (which involved hypertensive patients with increased cardiovascular risk but no history of stroke or diabetes)[6] and ACCORD (which included patients with diabetes)[7]. Based on critical appraisal and expert review of these evidence, the Advisory Group agrees on individualised goals of therapy. The initial blood pressure goal for patients with uncomplicated hypertension should be <140/90mmHg and for those who can tolerate, the goal should be <130/80mmHg[3]. It is also advised that younger patients, overweight/obese subjects, smokers, those with sedentary lifestyle habits and individuals with concomitant cardiovascular risk factors (such as dyslipidemia and dysglycemia) should have lower blood pressure goals. It is highlighted that the decision of the blood pressure goals should be tailored to individuals with balanced consideration of potential benefits and harms of therapies. In sum, primary care physicians play a crucial role in the early diagnosis, clinical assessment and timely management of hypertension in reducing the burden of this highly preventable chronic disease.

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7. ACCORD Study Group, Cushman WC, Evans GW, et al. Effects of intensive blood-pressure control in type 2 diabetes mellitus. N Engl J Med 2010;362:1575-85.

11:15 - 11:45

Who can help me? - The journey of DM patients in the community

Cheung Hei Choi
Deputy Chief of Service (Manpower and Training) and Consultant Physician, Department of Medicine, Queen Elizabeth Hospital, Hong Kong

What can you do when the doctor tells you that you have pre-diabetes (or a more fashionable term: intermediate hyperglycemia) or diabetes mellitus? The most common advice is to have better lifestyle modification, but why is it so difficult to achieve in daily lives? Who can really help the patients in the community?

DM is a very heterogeneous disease which includes patients from infancy to elderly; mild and healthy to severe and frailty; fully self-care to totally dependent. No matter which groups they belong, modifying their unhealthy lifestyle relies on tremendous supports from the community. In this section, I try to focus on what they need, what are available in the community and the gap in between. I will also discuss on how we can do better by coordinating and utilizing the resource from Government (e.g. District Health Centre), HA, NGO and private organizations.

Finally the success of combating the current DM epidemics requires new innovative ideas and passion from all people involved, and certainly appropriate usage of community resources provide the lynchpin to effective DM care.

Useful websites:

1. www.rehabsociety.org.hk
2. www.diabetes-hk.org
3. www.yda.org.hk
4. www.aod.org.hk

11:45 - 12:15

How can we make quality diabetes care more affordable?

Lee Ling Lim

Associate Professor, Department of Medicine, Faculty of Medicine, University of Malaya, Malaysia

Patients with diabetes often do not receive the care they need, resulting in poor health outcomes and high costs. Apart from patient factors, the marked variation in efficiency and quality of care across health care providers and practice settings indicates the need for substantial system-level improvements. The 2030 Agenda for Sustainable Development and the 25x25 target have been proposed by the United Nations and World Health Organization to address these shortfalls. Several transformative approaches in order to enhance access to health-improving care, as well as their affordability and sustainability, will be discussed.

LUNCH SYMPOSIUM

12:15 - 12:45

Reducing diabetes risk factors in childhood: physical activity, fitness and obesity

Patrick Pak Keung Ip

Clinical Associate Professor, Department of Paediatrics and Adolescent Medicine, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong

Type 2 diabetes (T2D) was often regarded as an adulthood disease and the age of onset was often in the middle adulthood. However, recent studies have found that increasing number of children and adolescents to have symptoms of T2D, including insulin resistance due to lifestyle factors. In fact, longitudinal studies have identified roots of T2D in childhood and adolescence, such as lower family socioeconomic status, higher rate of weight gain in puberty, childhood obesity, as well as physical inactivity and suboptimal physical fitness. As one of the most developed cities in China, Hong Kong is also at-risk of the earlier onset of T2D. This presentation will outline the risk factors (namely physical inactivity, childhood obesity, and suboptimal physical fitness) in Hong Kong, groups of children who are more vulnerable, and a successful model in tackling these factors. In addition, this presentation will also demonstrate a territory-wide platform in monitoring the growth and physical fitness of schoolchildren, and the findings from this data. Lastly, the presentation will also introduce the ongoing project of reviewing and potentially updating the growth charts in Hong Kong, which was developed in 1993. The process and implications of these findings will be discussed.

SYMPOSIUM 3

13:45 - 14:15

Can we use continuous glucose monitoring earlier?

Elaine Yee Kwan Chow

Clinical Lecturer, Phase 1 Clinical Trial Centre and Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Glucose monitoring is an important part of optimisation of diabetes therapy. Continuous glucose monitoring (CGM) is becoming an increasingly popular method of non-invasive glucose monitoring. Various forms of CGM are available, including blinded or restrospective CGM for professional use, flash glucose monitoring, or real-time CGM with predictive trends and alarms. The strongest clinical evidence is in type 1 diabetes patients on complex insulin regimens in the avoidance of hypoglycemia. However, CGM is also increasingly being used in type 2 diabetes patients who are on less intense glucose lowering therapies. Real-world evidence is emerging on use of CGM in different patient groups. In this presentation, we will discuss the indications and choice of different forms of CGM that may be of most benefit for each patient.

14:15 - 14:45

How often and why do people discontinue insulin therapy?

Juliana Chung Ngor Chan

Chief Executive Officer, Asia Diabetes Foundation and Chair Professor of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

On behalf of the International Diabetes Mellitus Practice (IDMPS)* Survey Study Group

Insulin is an essential medication to optimize glycemic control and prevent acute hyperglycemic crisis although the effective use of insulin in developing countries is unknown. In 2005-2017, real-world data were collected in seven individual waves across 48 developing countries in the International Diabetes Mellitus Practice Survey, with an objective to identify care gaps and a theme for each wave. In 2016–17 (Wave 7), we examined the frequency of self-discontinuation of insulin in participants with type 1 (T1D) and type 2 diabetes (T2D). Amongst 4596 patients recruited by 620 doctors, 2000 participants had T1D (all insulin-treated) and 2596 had T2D treated with insulin (1936 oral glucose-lowering drugs [OGLDs]+insulin, 660 insulin only). The respective HbA_{1c} (mean±SD) values in these participants were 8.39±1.88%, 8.62±1.84%, 8.75± 2.28% and proportions with HbA_{1c} ≥8% were 50.2%, 54.5%, and 52.0%. Of these, 14.0% (n=273; 95% CI 12.5–15.6) of participants with T1D, 13.8% (n=261, 95% CI 12.3–15.4) of participants with T2D on insulin+OGLDs and 13.4% (n=86, 95% CI 10.9–16.3) of participants on insulin alone reported intermittent insulin discontinuation. The self-estimated median duration of discontinuation was 1.0 (IQR 3.0) months in T1D and 2.0 (IQR 5.0) months in T2D with or without OGLDs. The top reasons reported by physicians for suboptimal glycemic control were lack of insulin titration (T1D: 38.9%; T2D: 39.1%), lack of diabetes education (T1D: 26.4%; T2D: 35.0%) and fear of hypoglycemia (T1D: 40.8%; T2D: 25.3%). Reasons for insulin discontinuation included impact on social life (T1D: 41.0%; T2D: 30.5%), fear of hypoglycemia (T1D: 26.7%; T2D: 28.0%); lack of insulin dosing experience (T1D: 20.9%; T2D: 25.6%) and costs of medications (T1D: 34.4%; T2D: 24.5%). Most physicians recommended diabetes education programmes (T1D: 61.8%; T2D: 54.9%) to improve insulin adherence. In developing countries, self-discontinuation of insulin is common, empowering people with T1D and T2D and providing structured diabetes education with ongoing support and access to affordable insulin is necessary to increase adherence and improve glycemic control.

*The IDMPS was supported by Sanofi and the results were presented at European Association for Study of Diabetes, Berlin 2018.

14:45 - 15:15

Intensive insulin therapy and continuous subcutaneous insulin infusion

Tiffany Tse Ling Yau
Specialist in Endocrinology, Prince of Wales Hospital, Hong Kong

The Diabetes Control and Complications Trial (DCCT) and UK Prospective Diabetes Study Group (UKPDS) more than 20 years back have clearly showed that intensive insulin treatment significantly reduces microvascular risk in diabetic patients. The two common ways for intensive insulin treatment includes multiple daily injections (MDI) and continuous subcutaneous insulin infusion (CSII) via insulin pump. However, the risk of hypoglycemia with intensive insulin treatment has always been a concern.

The first insulin pump prototype was developed in the 1960s, a large machine worn as a backpack. Over the last 20 years, diabetes treatment and technology, including insulin analogues and insulin pump, has advanced significantly. Insulin pumps have advanced from stand-alone pump to the latest hybrid closed loop pump, a further step closer to artificial pancreas. The FDA approved the first hybrid closed loop pump in 2016, and is recently launched in Hong Kong.

Studies comparing MDI and CSII have shown that CSII can improve glucose control, in terms of reduction in hemoglobin A1c, reduction in hypoglycemia, more time in target range, and reduced glucose variability. There is also emerging evidence of CSII in reduced micro & macro-vascular complications. In various situations, e.g. pregnancy, exercise, acute illnesses, CSII allows greater flexibility in glucose control.

Despite the benefits of insulin pump, the usage remained low in Hong Kong, contributed by clinician, patient and socioeconomic factors. Insulin pump and associated expenses is costly and is currently not subsidized by the Hong Kong public health system. Multiple daily injections required usually 4-5 insulin injections per day, while effective insulin pump treatment required additional patient education and effort, all of these limiting patient's convenience and satisfaction with treatment.

SYMPOSIUM 4

15:30 - 16:00

How do we use PCSK9 inhibitors in clinical practice?

Bryan Ping Yen Yan

Associate Professor and Head, Division of Cardiology (Academic Affairs), Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Hyperlipidemia is an important risk factor for atherosclerotic cardiovascular disease (CVD). Low-density lipoprotein (LDL) cholesterol remains the key target of lipid-modifying therapy. The lifetime burden of the severity and duration of hyperlipidemia combines to damage the arterial wall. Therefore, lower is better for LDL cholesterol and the sooner the better. LDL cholesterol reduction with statin therapy has been the cornerstone of lipid-lowering therapy and the reduction of CV risk. Statin intolerance is an important barrier achieve LDL cholesterol targets for a significant number of patients. More effective treatments are required to go beyond the limitations of current lipid-lowering therapies. Proprotein convertase subtilisin/kexin type 9 (PCSK9) inhibitors are a new class of drugs which has been shown to reduce LDL cholesterol by >50% in randomized trials in patients with hyperlipidemia who are already on maximally tolerated doses of statin therapy. PCSK9 inhibitors are administered by subcutaneous injections every 2 to 4 weeks and are generally well tolerated. People at high cardiovascular risk who are likely to benefit from treatment with a PCSK9 inhibitor include those with (i) familial hypercholesterolaemia and low likelihood of achieving optimal control of LDL cholesterol on current therapies; (ii) unable to achieve LDL-cholesterol goal despite maximal lipid-lowering therapy and/or statin intolerance. We also review the current use of PCSK9 in Hong Kong public hospital setting.

16:00 - 16:30

Latest update on testosterone and diabetes

Kitty Kit Ting Cheung

Associate Consultant, Division of Endocrinology and Diabetes, Department of Medicine and Therapeutics, Prince of Wales Hospital, Hong Kong

A significant proportion of patients with type 2 diabetes mellitus (T2DM) have low testosterone level relative to reference ranges based on healthy young men. Only a small number of these patients suffer from classical hypogonadism due to recognizable hypothalamic pituitary gonadal (HPG) axis pathology. The cut off value of serum testosterone in men without obvious HPG axis pathology is controversial. It is unclear to what extent low serum testosterone causally leads to T2DM and/or the metabolic syndrome (MES). From a theoretical standpoint, there can be complex interactions among the HPG axis, body composition, and insulin resistance which can be further influenced by intrinsic and extrinsic factors to give rise to glucose intolerance, MES, and low grade inflammation to increase risk of cardiovascular diseases. While low serum testosterone frequently coexists with cardiometabolic risk factors and may serve as a biomarker, recent studies have been published in attempts to clarify the causal, mediating, or modifying roles of low serum testosterone in the development of adverse clinical outcomes. Currently, there is a growing number of, yet, still rather limited, randomized clinical trial data to evaluate the effects of testosterone replacement therapy on meaningful clinical outcomes. The risk to benefit ratio of testosterone therapy in high risk subjects such as those with T2DM and/or obesity also requires elucidation. My aim is to review the current evidence on low serum testosterone level in patients with T2DM, and its implications on MES, cardiovascular risk factors, and adverse clinical outcomes.

16:30-17:00

Diabetes and driving

Andrea On Yan Luk

Associate Professor, Division of Endocrinology and Diabetes, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

Driving requires complex integration of cognitive, visual and motor functions. Drivers with diabetes may have a higher risk of having motor vehicle accidents although epidemiological studies supporting this association are few. Drivers deemed vulnerable to driving mishaps are those with hypoglycemia tendency, visual impairment from diabetic retinopathy, peripheral sensory neuropathy and/or history of stroke. Hypoglycemia occurring while driving is common and is reported in up to 50% of drivers with type 1 diabetes. Although considered a light physical exercise, driving is metabolically demanding and research have demonstrated high glucose utilization when driving. In driving simulation studies, experimentally induced hypoglycemia led to impaired driving performance (such as speeding, inappropriate braking). Importantly, despite experiencing hypoglycaemic symptoms, only one quarter perceived that their ability to operate a vehicle is compromised. Hence, hypoglycemia not only dulls the ability to drive safely, but also influence the person's judgement and promote risk-taking behaviour. Transport authorities from different regions vary in their regulations on medical criteria to issue a driving license. In Hong Kong, people aged 18-69 years applying a driving license are required to self-report physical fitness which include self-reporting of uncontrolled diabetes, and people aged 70 years or above must undergo medical assessment by a registered medical practitioner. Locally, there is no legal mechanism for mandatory reporting by the physician although the physician should inform the person deemed to have an increased risk for accidents to avoid driving. In Europe, people using insulin have to fulfill stringent criteria in order to obtain a driving license, and the standards are set even higher for commercial license. Healthcare professionals should educate drivers with diabetes on safe-driving to minimise potential mishaps. Most guidelines recommend that drivers should measure their capillary blood glucose before commencing a drive and at regular interval (every 2-4 hours) into the drive. Drivers are advised to not commence driving if glucose level is below 5.0mmol/L until consumption of carbohydrate. Similarly, if glucose level is low and/or the driver experiences hypoglycemic symptoms during a drive, they should stop the car, pull over, and take a snack. It is further advised that the driver should wait 45 minutes after normalisation of blood glucose as recovery of neurocognitive impairment is often delayed. Drivers should carry glucose monitoring equipment and have readily available carbohydrate at all time. Motor vehicle accidents have grave consequences not only for the driver but for passengers and other road users. Healthcare professionals who manage people with diabetes must be well-equipped with knowledge about safe-driving and be able to discuss this issue and the legal imperatives.

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DPP 2020

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ACKNOWLEDGEMENTS

The Organizing Committee would like to extend their sincere thanks to the following companies for their support to the Diabetes Preventing the Preventables Forum 2019.

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T2DM = type 2 diabetes mellitus

References: 1. Wysham C et al. Diabetes Care 2014;37:2159-67. 2. Dungaetes G et al. Diabetes Care 2014;37:2168-76. 3. Nauck M et al. Diabetes Care 2014;37:2149-58. 4. Dungaro P et al. Diabetes Care 2015;38:2241-9. 5. Dungan KM et al. Lancet 2014;384:1349-57. 6. Blonde L et al. Lancet 2015;386:2059-68. 7. Trulicity® Instructions for Use. 8. Matza G et al. J Diabetes Sci Technol 2015;9:1071-9. 9. Trulicity® 0.75mg and 1.5mg Prescribing Information.

Trulicity® HK/Reviewed Prescribing Information
Indication: Type 2 DM to improve glycaemic control as monotherapy when diet & exercise alone is inadequate in patient for whom metformin is considered inappropriate or as add-on therapy in combination w/ other glucose lowering medicinal products including insulin, when these, together w/ diet & exercise, do not provide adequate glycaemic control. **Dosage:** Adult Monotherapy 0.75 mg once wkly. Add-on therapy 1.5 mg once wkly. Elderly ≥ 75 yr initially 0.75 mg once wkly. **Administration:** Injected subcutaneously in the abdomen, thigh or upper arm. It should not be administered intravenously or intramuscularly. The dose can be administered at any time of day, with or without meal. **Contraindication:** Hypersensitivity. **Special Precautions:** Do not use in patients w/ type 1 DM or for the treatment of diabetic ketoacidosis. Discontinue if pancreatitis is suspected. Hypoglycaemia. **Adverse Reactions:** Hypoglycaemia, nausea, diarrhoea, vomiting, abdominal pain, decreased appetite, dyspepsia, constipation, flatulence, abdominal distension, GERD, eructation, fatigue, sinus tachycardia & 1st degree AV block.

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74% OAD UNCONTROLLED PATIENTS AT GOAL[2]

50% SHORTEN TIME TO ACHIEVE TARGET[3]

2X GREATER A1C DROP THAN GLARGINE ALONE IN BASAL UNCONTROLLED PTS[4]

No ADDITIONAL RISK OF HYPOGLYCEMIA[2, 4]

STUDY DESIGN

LIXILAN-L was an open-label, randomised, parallel-group, multinational, multicentre phase 3 clinical trial designed to evaluate the efficacy and safety of SOLIQUA™ vs insulin glargine 100 Units/ml in 736 patients ≥18 year of age with type 2 diabetes for ≥1 year before screening and uncontrolled on basal insulin with or without up to 2 oral antidiabetics (OADs) for ≥6 months. The primary efficacy endpoint was change in HbA1c from baseline to Week 30. Eligible patients (n=1018) entered a 6-week run in phase in which patients remained on or switched to insulin glargine 100 Units/mL, in case they took another basal insulin, and had their insulin dose titrated/stabilised while continuing metformin (if previously taken). Any other OADs were discontinued. At the end of the run-in period, patients with an HbA1c between 7% and 10%, FPG ≥7.77 mmol/L, and insulin glargine daily dose of 20 to 50 Units, were randomised to either SOLIQUA™(n=367) or insulin glargine (n=369). Soliqua showed significantly greater reduction in HbA1c compared to insulin glargine (-1.1% vs -0.6%, p<0.0001). The safety profile of SOLIQUA™ generally reflected the established safety profiles of its components after 30 weeks of treatment. [1,2]

LIXILAN-O was an open-label, randomised, parallel-group, multinational, multicentre phase 3 clinical trial designed to evaluate the efficacy and safety of SOLIQUA™ vs insulin glargine 100 Units/ml and lixisenatide in 1170 patients ≥1 year of age with type 2 diabetes for ≥18 before screening and uncontrolled with metformin +/- a second oral antidiabetic ≥3 months. The primary endpoint was change in HbA1c from baseline to Week 30. SOLIQUA™ demonstrated significantly greater HbA1c reduction at Week 30 vs insulin glargine 100 Units/ml and vs lixisenatide (-1.6% vs -1.3% vs -0.85%, p<0.0001). The safety profile of SOLIQUA™ generally reflected the established safety profiles of its components after 30 weeks of treatment. [1,2]

A post hoc analysis of LIXILAN-O compared efficacy and hypoglycaemia outcomes at early study visits with iGlarLixi (insulin glargine U100 (iGlar) and lixisenatide) vs iGlar alone in patients with type 2 diabetes uncontrolled on oral antidiabetic drugs. Time to control, defined as days to achieve glycated haemoglobin (HbA1c) <7% or fasting plasma glucose (FPG) ≤7.2 mmol/L, was estimated using the Kaplan–Meier method.

Presentation : 100 units of insulin glargine and 33 micrograms lixisenatide in prefilled pen AND 100 units of insulin glargine and 50 micrograms lixisenatide in prefilled pen. **Indications:** In combination with metformin for the treatment of adults with type 2 diabetes mellitus to improve glycaemic control when this has not been provided by metformin alone or metformin combined with another oral glucose lowering medicinal product or with basal insulin. **Dosage:** The dose must be individualised based on clinical response and is titrated based on the patient's need for insulin. The lixisenatide dose is increased or decreased along with insulin glargine dose and also depends on which pen is used. Please refer to the full prescribing information for guidelines. **Administration:** Subcutaneous injection. Soliqua is not intended for intravenous use since it could result in severe hypoglycaemia. Soliqua must not be drawn from the cartridge or the SoloStar pre-filled pen into a syringe or severe overdose can result. **Contraindications :** Hypersensitivity to insulin glargine or to any of the excipients. **Precautions :** Soliqua can be used in elderly patients. Elderly: progressive deterioration of renal function may lead to a steady decrease in insulin requirements. Renal impairment: insulin requirements may be diminished due to reduced insulin metabolism. Hepatic impairment: insulin requirement may be diminished due to reduced capacity for gluconeogenesis and reduced insulin metabolism. Hypoglycaemia. Intercurrent illness. Combination of Toujeo with pioglitazone. **Interactions :** Effects enhanced by oral antidiabetics, ACEI, disopyramide, fibrates, fluoxetine, MAOIs, pentoxifylline, propoxyphene, salicylates, sulfonamide antibiotics. Effects reduced by corticosteroids, danazol, diazoxide, diuretics, glucagone, isoniazid, oestrogens and progestogens, phenothiazine derivatives, somatropin, sympathomimetics, or thyroid hormones, atypical antipsychotics and ucodase inhibitors. Beta-blockers, clonidine, guanethidine and reserpine. **Fertility, pregnancy and lactation :** Animal studies do not indicate direct harmful effects with respect to fertility and reproductive toxicity. The use of Soliqua may be considered during pregnancy if clinical needed. It is unknown whether insulin glargine or lixisenatide is excreted in human milk. **Overdose :** Insulin overdose may lead to severe and sometimes long-term and life-threatening hypoglycaemia. Mild episodes of hypoglycaemia can usually be treated with oral carbohydrates. More severe episodes with coma, seizure or neurologic impairment may be treated with glucagon (intramuscular or subcutaneous) or concentrated glucose solution (intravenous). **Undesirable effects :** Hypoglycaemia, injection site reactions. *For common, uncommon, rare and very rare undesirable effects, please refer to the full prescribing information.* **Storage:** *Before first use:* Store in a refrigerator (2°C - 8°C). Do not freeze. Protect from light. *After first use:* Store below 25°C. Use within 28 days. Do not freeze. **Preparation :** Soliqua 3 x 3ml prefilled pen, 5 x 3ml prefilled pen. **Legal Classification:** Part 1: First & Third Schedules Poison. ***Full prescribing information is available upon request.*** API-HK-SOL-18.03

REFERENCES: 1. SOLIQUA EMA SmPC, March 2017. **2.** Rosenstock J, Aronson R, Grunberger G, *et al.* Benefits of LixiLan, a titratable fixed-ratio combination of insulin glargine plus lixisenatide, versus insulin glargine and lixisenatide monocomponents in type 2 diabetes inadequately controlled on oral agents: The LixiLan-O randomized trial. *Diabetes Care.* 2016;39(11):2026-2035. **3.** Frias J *et al.* Diabetes Obes Metab Publish Ahead of Print. Published online May 21, 2018 at https://www.ncbi.nlm.nih.gov/pubmed/29790637. **4.** Aroda VR, Rosenstock J, Wysham C, *et al.* the LixiLan trial investigators. Efficacy and safety of LixiLan, a titratable fixed-ratio combination of insulin glargine plus lixisenatide in type2 diabetes inadequately controlled on basal insulin and metformin: the LixiLan-L randomized trial. *Diabetes Care.* 2016;39(11):1972-1980.

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"The finding of less hypoglycemia with Toujeo versus insulin degludec 100U/ml during the time of more intensive insulin titration could help to build patient confidence to initiate and properly titrate their basal insulin with less fear of hypoglycemia."

"In the titration period,† lower incidence and rates of anytime (24 h) confirmed hypoglycaemia were observed with Toujeo® vs insulin degludec 100 U/mL[1]"

"Comparable incidence and rates of hypoglycemia in the maintenance period and full 24 –week study period, were demonstrated"

BRIGHT was a multicenter, open-label, active-controlled, two-arm, parallel-group, 24-week, noninferiority study in insulin-naive patients with uncontrolled type 2 diabetes. Participants were randomized 1:1 to evening dosing with Gla-300 (N=466) or IDeg-100 (N = 463), titrated to fasting self-monitored plasma glucose of 80-100 mg/dL. The primary end point was HbA1c change from baseline to week 24. Safety end points included incidence and event rates of hypoglycemia.

Reference: Rosenstock J, et al. Diabetes Care. 2018;41:2147–2154

Presentation : Insulin glargine 300 IU/ml solution for injection. **Indications** Treatment of diabetes mellitus in adults. **Dosage** Once daily (preferably at the same time every day up to 3 hours before or after the usual time of administration), with adjusted individual dosage. Please refer to the full prescribing information for guidelines on switching between other insulin preparations. **Administration** Subcutaneous injection. Toujeo is NOT INTENDED FOR INTRAVENOUS USE since it could result in severe hypoglycaemia. Toujeo must not be drawn from the cartridge of the SoloStar pre-filled pen into a syringe or severe overdose can result. **Contraindications** Hypersensitivity to insulin glargine or to any of the excipients. **Precautions** Toujeo has not been studied in children and adolescents below 18 years of age. Elderly: progressive deterioration of renal function may lead to a steady decrease in insulin requirements. Renal impairment: insulin requirements may be diminished due to reduced insulin metabolism. Hepatic impairment: insulin requirement may be diminished due to reduced capacity for gluconeogenesis and reduced insulin metabolism. Hypoglycaemia. Intercurrent illness. Combination of Toujeo with pioglitazone. **Interactions** Effects enhanced by oral antidiabetics, ACEI, disopyramide, fibrates, fluoxetine, MAOIs, pentoxifylline, propoxyphene, salicylates, sulfonamide antibiotics. Effects reduced by corticosteroids, danazol, diazoxide, diuretics, glucagons, isoniazid, oestrogens and progestogens, phenothiazine derivatives, somatropin, sympathomimetics, or thyroid hormones, atypical antipsychotics and protease inhibitors. Beta-blockers, clonidine, lithium or alcohol may either potentiate or weaken the effects of insulin. Pentamidine may cause hypoglycaemia, followed by hyperglycaemia. The signs of adrenergic counter-regulation may be reduced or absent under the influence of sympatholytic medicinal products such as Beta-blockers, clonidine, guanethidine and reserpine. **Fertility, pregnancy and lactation.** Animal studies do not indicate direct harmful effects with respect to fertility and reproductive toxicity. The use of Toujeo may be considered during pregnancy if clinical needed. It is unknown whether insulin glargine is excreted in human milk. **Overdose** Insulin overdose may lead to severe and sometimes long-term and life-threatening hypoglycaemia. Mild episodes of hypoglycaemia can usually be treated with oral carbohydrates. More severe episodes with coma, seizure or neurologic impairment may be treated with glucagon (intramuscular or subcutaneous) or concentrated glucose solution (intravenous). **Undesirable effects** Hypoglycaemia, lipohypertrophy, injection site reactions. For common, uncommon, rare and very rare undesirable effects, please refer to the full prescribing information. **Storage:** Before first use: Store in a refrigerator (2°C - 8°C). Do not freeze. Protect from light. After first use: Store below 30°C. Use within 28 days. Do not freeze. **Preparation** Toujeo 5 x 1.5ml (450IU) pre-filled pens. **Legal Classification:** Part 1 Poison ***Full prescribing information is available upon request.***

APS-HK-TOU-17.03

SAHK.TJO.19.01.0033 03/19

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Toujeo®
insulin glargine 300U/mL
REDEFINING THE LIMITS OF CONTROL[1-5]

CV=cardiovascular; RRR=relative risk reduction; ADA=American Diabetes Association; EASD=European Association for the Study of Diabetes; CVD=cardiovascular disease; T2DM=type 2 diabetes mellitus

Reference: 1. Zinman B, et al. N Engl J Med. 2015;373(22):2117-2118. **2.** Jardiance Hong Kong Prescribing Information. **3.** Davies MJ, D'Alessio DA, Fradkin J, et al. Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). Diabetologia. 2018.

† JARDIANCE demonstrated RRR in CV death in adult patients with insufficiently controlled type 2 diabetes (baseline HbA1c 7-10%) and established CV disease (coronary artery disease, peripheral artery disease, or a history of myocardial infarction or stroke).
‡ Standard of care included CV medications and glucose-lowering agents given at the discretion of physicians.
§ Empagliflozin versus placebo on top of standard of care.[1]
# Among patients with established CVD, there is evidence of modestly stronger CV benefit for empagliflozin vs canagliflozin.

JARDIANCE® Abbreviated Prescribing Information (aPI-JAR-10-11-v2)

Presentation: Empagliflozin. Film-coated tablet 10 mg and 25 mg. Indications: Indicated in the treatment of type 2 diabetes mellitus to improve glycaemic control in adults, when diet and exercise do no provide adequate control, as monotherapy when use of metformin is considered inappropriate; or as add-on combination therapy with other glucose-lowering medicinal products including insulin. Indicated to reduce the risk of cardiovascular death in patients with type 2 diabetes mellitus and established cardiovascular disease. **Dosage and administration:** 10 mg once daily. For patients who tolerate 10 mg and requiring additional glycaemic control, dose can be increased to 25 mg once daily. Can be taken with or without food. No dose adjustment is required for patients with eGFR ≥45mL/min/1.73m², or with hepatic impairment or elderly patients based on age. **Contraindication:** Hypersensitivity to empagliflozin or any of the excipients. Patients on dialysis, eGFR <30mL/min/1.73m² or CrCl <30mL/min, or persistently <45mL/min/1.73m² or CrCl <45mL/min. Rare hereditary conditions of any of the excipients. **Special warnings and precautions:** Should not be used in patients with type 1 diabetes or for treatment of DKA. Discontinue immediately when DKA is suspected or diagnosed. Treatment should be interrupted in patients who are hospitalised for major surgical procedures or acute serious medical illnesses, and may be restarted once the patient's condition has stabilised. Discontinue when the eGFR is persistently <45mL/min/1.73 m² or CrCl <45mL/min. Discontinue in cases of recurrent UTI. Risk of modest decrease in blood pressure, caution should be exercised in patients with known cardiovascular disease, on diuretics, with history of hypotension or aged 75 years and older. Monitoring of volume status and electrolytes is recommended. Regular examine the feet and counsel patients on routine preventative footcare. Avoid use during pregnancy, breast-feeding, children under 18 years and aged 85 years and older. In laboratory tests, urine will test positive for glucose while patients are taking JARDIANCE. **Interactions:** Risk of dehydration and hypotension increase when used in combination with thiazide and loop diuretics. Lower dose of insulin and insulin secretagogues may be required to reduce the risk of hypoglycemia when used in combination with empagliflozin. **Adverse reactions:** Hypoglycaemia (depends on type of background therapy of patients). **Common:** Urinary tract infection, vaginal moniliasis, vulvovaginitis, balanitis and other genital infection, increased urination, thirst, serum lipids increased. **Uncommon:** Hypoglycaemia, pruritus, volume depletion, dysuria, blood creatinine increased and glomerular filtration rate decreased. **Rare:** Haematocrit increased. Post-marketing experience: Ketoacidosis, urosepsis, pyelonephritis, allergic skin reaction, angioedema. **Storage condition:** Please refer to outer packaging for special precautions for storage. Note: Before prescribing, please consult full prescribing information.

NEW INDICATION

Jardiance® is now indicated in T2DM patients and established cardiovascular disease to reduce the risk of cardiovascular death[2]

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HbA_{1c} reduction
Reduction of 1.45%[1]

Weight loss
Reduction of 3.65 kg[2]

BP reduction
3.69 mmHg reduction in SBP[2]

糖適雅® forxiga® is not indicated for the management of obesity or high blood pressure, they are secondary endpoints in clinical trials.

Study design: 1. In a randomized, double-blind, controlled trial, patients with baseline HbA_{1c} 7.5-12% were randomized to receive either dapagliflozin 10 mg with metformin XR, dapagliflozin 10 mg alone or metformin XR alone for 24 weeks. The primary efficacy endpoint was the HbA_{1c} change from baseline at week 24. Change in total weight was one of the key secondary endpoints, and blood pressure changes were measured as safety assessment. 2. The present study was an extension of an earlier randomized, double-blind, phase III study of dapagliflozin (n=406) vs glipizide (n=408) to 208 weeks (4 years). Patients continued to receive their assigned medication.

Patients continued to receive their randomly assigned medication, either dapagliflozin (2.5, 5 or 10mg) or glipizide (5, 10 or 20mg), combined with open-label metformin (1500–2500mg/day), as well as lifestyle advice. The aim is to assess the long-term efficacy and tolerability of dapagliflozin versus glipizide as add-on to metformin in patients with inadequately controlled type 2 diabetes.

BP=blood pressure. HbA_{1c}=glycated hemoglobin. SBP=systolic blood pressure.

References: 1. Henry RR, et al. Int J Clin Pract. 2012;66(5):446-56. 2. S. Del Prato, et al. Long-term glycaemic response and tolerability of dapagliflozin versus a sulphonylurea as add-on therapy to metformin in patients with type 2 diabetes: 4-year data.

Presentation: dapagliflozin propanediol monohydrate film-coated tablet. **Indication and Usage:** Improve glycaemic control in adults aged 18 years and older with type 2 diabetes mellitus, as monotherapy when diet and exercise alone do not provide adequate glycaemic control in patients for whom use of metformin is considered inappropriate due to intolerance; or in combination with other glucose-lowering medicinal products including insulin, when these, together with diet and exercise, do not provide adequate glycaemic control. **Dosage and Administration:** 5 mg or 10 mg. To be taken orally once daily at any time of day with or without food. Tablets are to be swallowed whole. **Contraindications:** Hypersensitivity to the active substance or to any of its excipients. **Warnings and Precautions:** Should not be used in type 1 diabetes mellitus; treatment of diabetic ketoacidosis; hereditary problems of galactose intolerance, the Lapp lactase deficiency, or glucose-galactose malabsorption; and while breast-feeding. Not recommended in moderate to severe renal impairment; concomitant treatment with pioglitazone or loop diuretics; volume depletion; and in elderly (≥ 75 years) when initiating dapagliflozin. Discontinue if renal function falls below CrCl < 60 ml/min or eGFR < 60 ml/min/1.73 m^2; in suspected or diagnosed diabetic ketoacidosis; and when pregnancy is detected. Temporarily interrupt when volume depleted, ; treated for pyelonephritis or urosepsis; and hospitalised for major surgical procedures or acute serious medical illnesses. Caution in concomitant anti-hypertensive therapy with a history of hypotension; elderly; and already elevated haematocrit. Limited or no data in hepatic impairment; cardiac failure; pregnancy; paediatric population; and when used with DPP4 inhibitors or GLP1 analogues. **Adverse Reactions:** Very common: Hypoglycaemia when used with SU or insulin. Common: Vulvovaginitis, balanitis and related genital infections, urinary tract infection, dizziness, rash, back pain, dysuria, polyuria, dyslipidaemia, decreased creatinine renal clearance, and increased haematocrit. Uncommon: Fungal infection, volume depletion, thirst, constipation, dry mouth, nocturia, renal impairment, vulvovaginal and genital pruritus, increased blood creatinine and blood urea, and decreased weight. Rare: Diabetic ketoacidosis. **Drug interaction:** Coadministration with rifampicin may reduce dapagliflozin systemic exposure; coadministration with mefenamic acid may increase dapagliflozin systemic exposure. **Local prescribing information is available upon request. API.HK.FOR.0617**

Please contact (+852) 2420 7388 or HKPatientSafety@astrazeneca.com for reporting individual Case Safety Report (ISCR) to AstraZeneca Hong Kong Limited.

HK-17705 06/05/2018

AstraZeneca Hong Kong Limited Unit 1-3, 11/F, 18 King Wah Road, North Point, HK
Tel: 2420 7388 Fax: 2422 6788 Website: www.forxiga.com.hk

AstraZeneca 阿斯利康

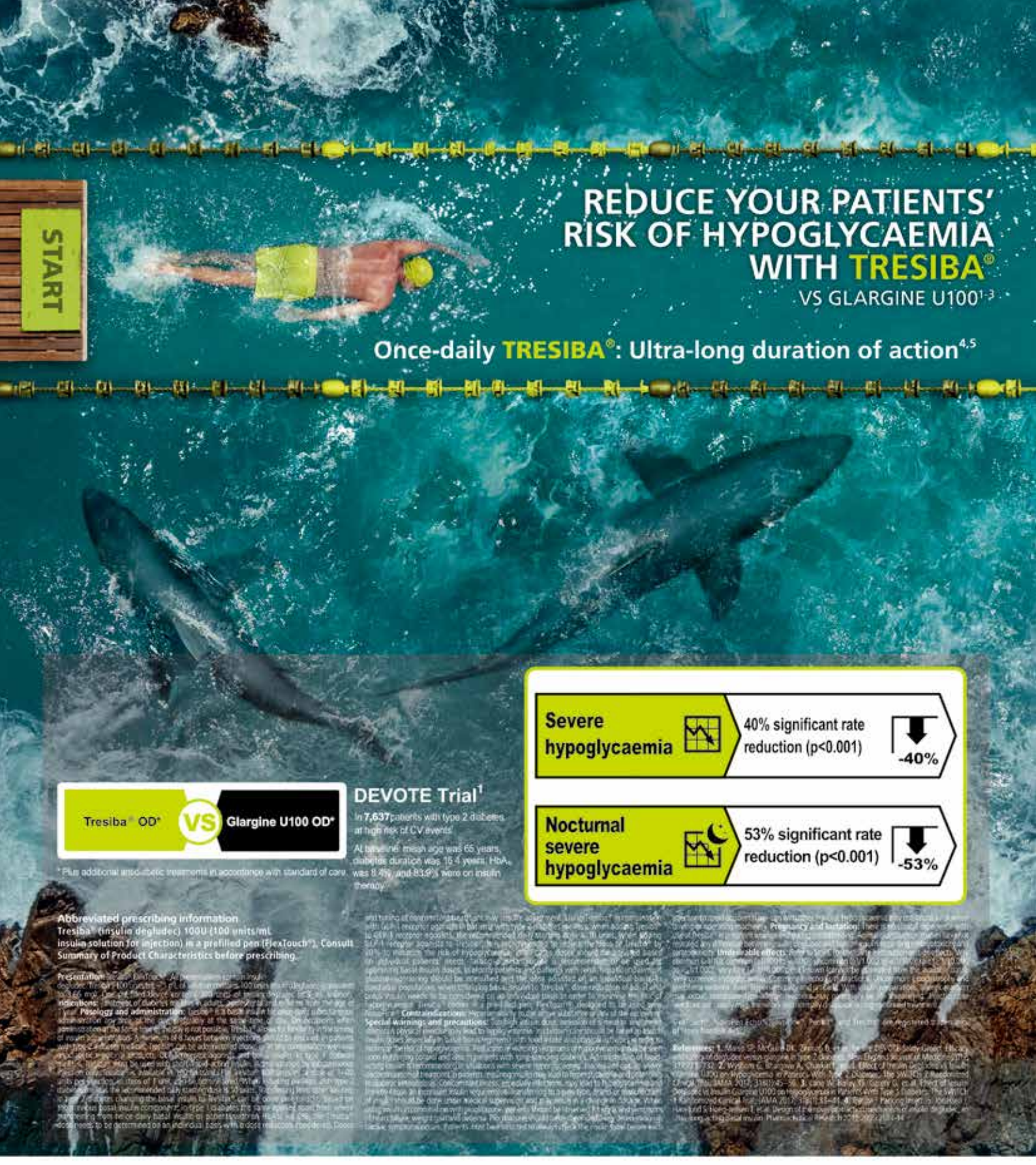
For further information on the CONTOUR®PLUS ONE system, please contact Ascenisa Diabetes Care Hong Kong representative at +852 8100 6386 or visit www.contourplusone.hk

References: 1. CONTOUR®PLUS ONE BGMS User Guide revised January 2018. 2. Bailey TS et al. J Diabetes Sci Technol 2017;11(4):736-743.

*The CONTOUR®DIABETES app is available on compatible Android and iOS devices. For a list of compatible devices please visit http://compatibility.contourone.com/.

Date of preparation: December 2017. Code: G.DC.12.2017.52606a

Ascensia Diabetes Care Hong Kong Limited
Address: Unit Nos. 12-13, Level 31, Tower 1, Millennium City 1, No. 388 Kwun Tong Road, Kwun Tong, Kowloon, Hong Kong
Hotline: + 852 8100 6386
Website: www.diabetes.ascensia.hk



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Presentation:

Indications:

Posology and administration:

Contraindications:

Special warnings and precautions:

Pregnancy and lactation:

Undesirable effects:

References: 1. 2. 3. 4. 5.

Further information is available from
Novo Nordisk Hong Kong Ltd.
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Department of Medicine and Therapeutics, CUHK
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