



SCREEN



IDENTIFY



TREAT

Different Glucose Level in HbA_{1c}¹

Diabetes $\geq 6.5\%$

Prediabetes 5.7-6.4%

Normal $< 5.7\%$

Diabetes

Please
stand behind
the Sugar line

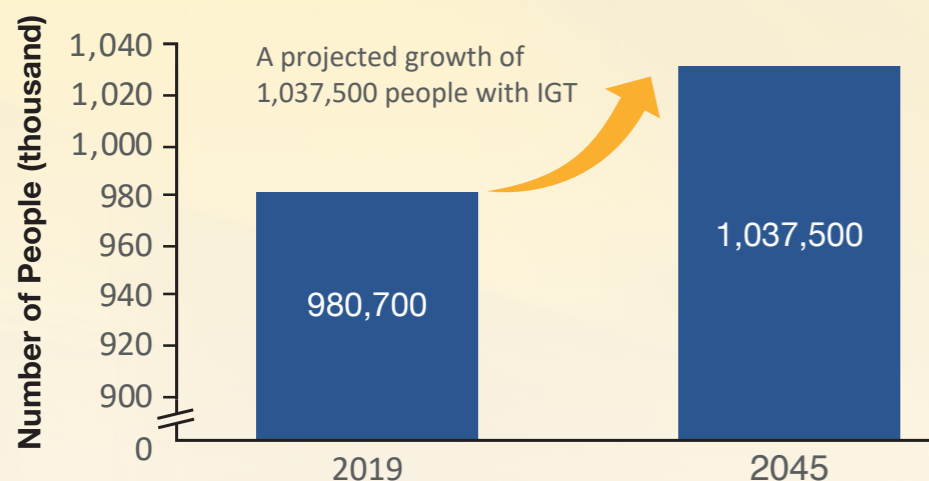
Please stand behind
the SUGAR line

Glucophage XR is indicated for the treatment of prediabetes²



The Rising Trend of Prediabetes

Number of People with IGT in Hong Kong³



of individuals with untreated IFG and/or IGT will go on to develop clinical T2DM in the following couple of years.⁴

Prevalence of prediabetes in Hong Kong has significantly increased 34% from 2010 to 2019 among all subgroups.³

What is Prediabetes?

“Prediabetes” is the term for individuals with glucose levels not meeting the criteria for diabetes but are too high to be considered normal.¹

Different Stages of Glucose Level:¹

Blood Test	HbA _{1c}	Fasting Plasma Glucose (FPG)	Plasma Glucose 2 hours after Oral Glucose Tolerance Test (OGTT)
Type 2 Diabetes	≥ 6.5%	≥ 7.0 mmol/L ≥ 126 mg/dL	≥ 11.1 mmol/L ≥ 200 mg/dL
Prediabetes	5.7 – 6.4%	5.6 – 6.9 mmol/L 100 – 125 mg/dL	7.8 – 11.0 mmol/L 140 – 199 mg/dL
Normal	< 5.7%	< 5.6 mmol/L < 100 mg/dL	< 7.8 mmol/L < 140 mg/dL

Prediabetes is now recognised as a reversible condition. Dysglycaemia should be controlled in time.⁵



Prediabetes Risk Factors

Individuals with high risk factors should undergo screening to identify the problems and implement modification strategies on modifiable risk factors of prediabetes or diabetes.⁶

Most Common Risk Factors:



Raised Fasting Plasma Glucose⁶



Hypertension⁶



Hyperlipidemia⁶



Low HDL-C⁶



Central Obesity⁷



BMI BMI ≥ 30⁸



Family History of Type 2 Diabetes⁶



Age > 40⁹



Male¹⁰



Previously Identified Glucose Intolerance (IGT and/or IFG)⁹



Sedentary Lifestyle⁶



Dietary Factors¹¹



Intrauterine Environment¹²



Inflammation¹³



Ethnicity⁶



History of Gestational Diabetes⁹

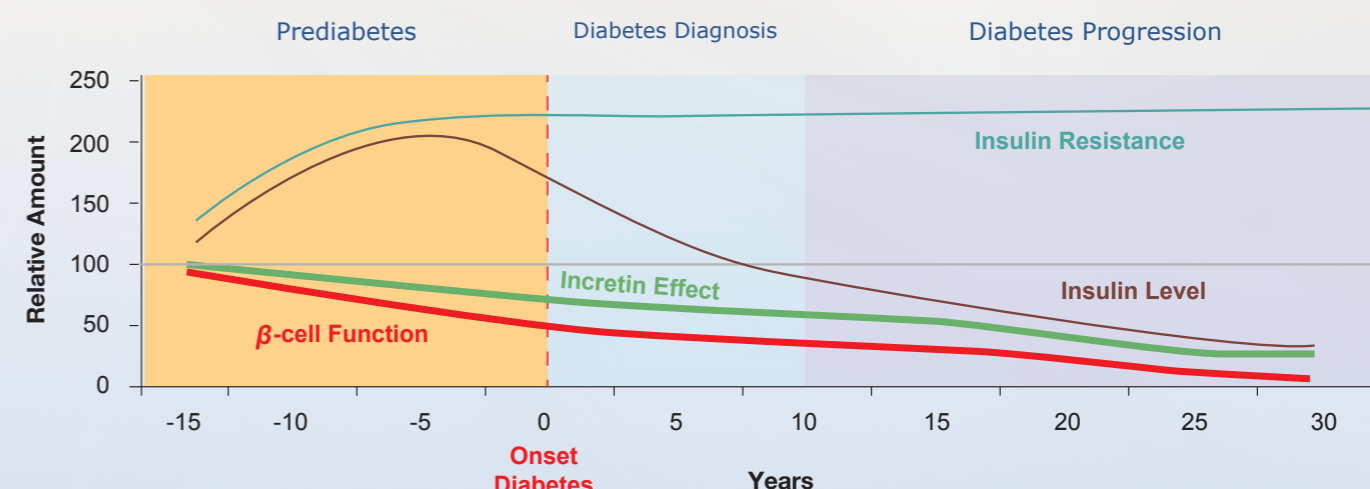


Polycystic Ovary Syndrome⁶

Why is Early Diagnosis so Important?

Prediabetes is related to a time-dependent decline in beta-cell function.¹⁴

Natural History of Type 2 Diabetes¹⁴



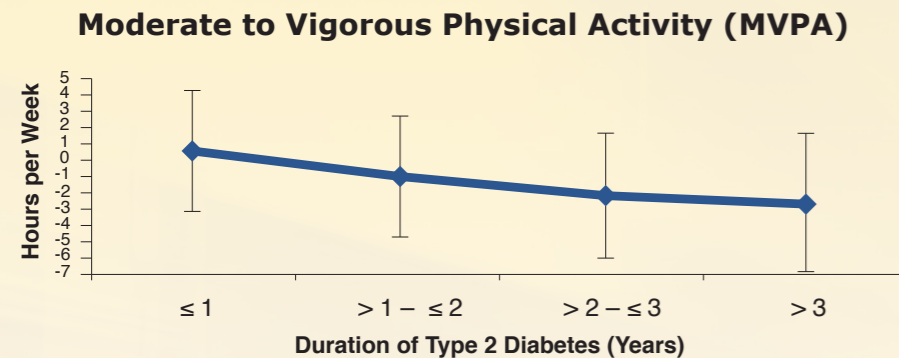
- The average risk of developing type 2 diabetes **increases from 5% to 10% per year** in those with IFG or IGT.^{4, 15}
- Prediabetes is associated with increased risk of macrovascular disease, early forms of nephropathy, chronic kidney disease, small fibre neuropathy and diabetic retinopathy.⁴

Options for Diabetes Prevention (How to Stand Behind the 'Sugar' Line?)

1. Lifestyle Intervention

Physical Activities

The primary aim of lifestyle intervention is to prevent or delay the development of type 2 diabetes and its complications.^{4,5} Regular physical activity may help to achieve the aim.¹⁶ However...



Difficulty of Implementation in Real World

Individuals with incident type 2 diabetes reported a nonsignificant reduction in MVPA after receiving their diagnosis, indicating implementation of frequent and intensive physical activity could be hard.¹⁷

2. Pharmacologic Treatment

Glucophage XR for Prediabetes Treatment

- ▶ Efficacy and safety profile of metformin for diabetes prevention were supported by a broad evidence base from clinical trials and previous clinical experiences.¹⁸
- ▶ Metformin was proven to decrease the rate of conversion from prediabetes to diabetes.¹⁹

International Treatment Guidelines on Prediabetes

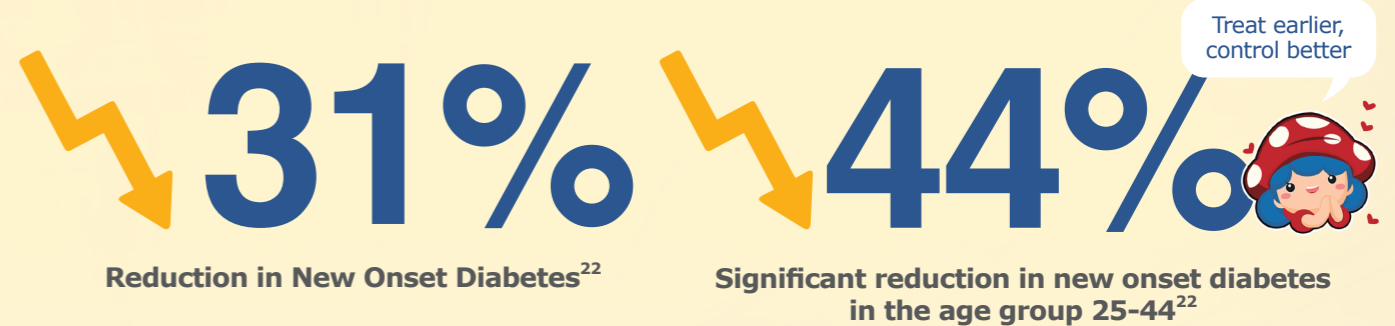
ADA 2020 Standards of Medical Care in Diabetes:

"Metformin therapy for prevention of type 2 diabetes should be considered in those with prediabetes, especially for those with BMI ≥ 35 kg/m², those aged < 60 years, and women with prior gestational diabetes mellitus."²⁰

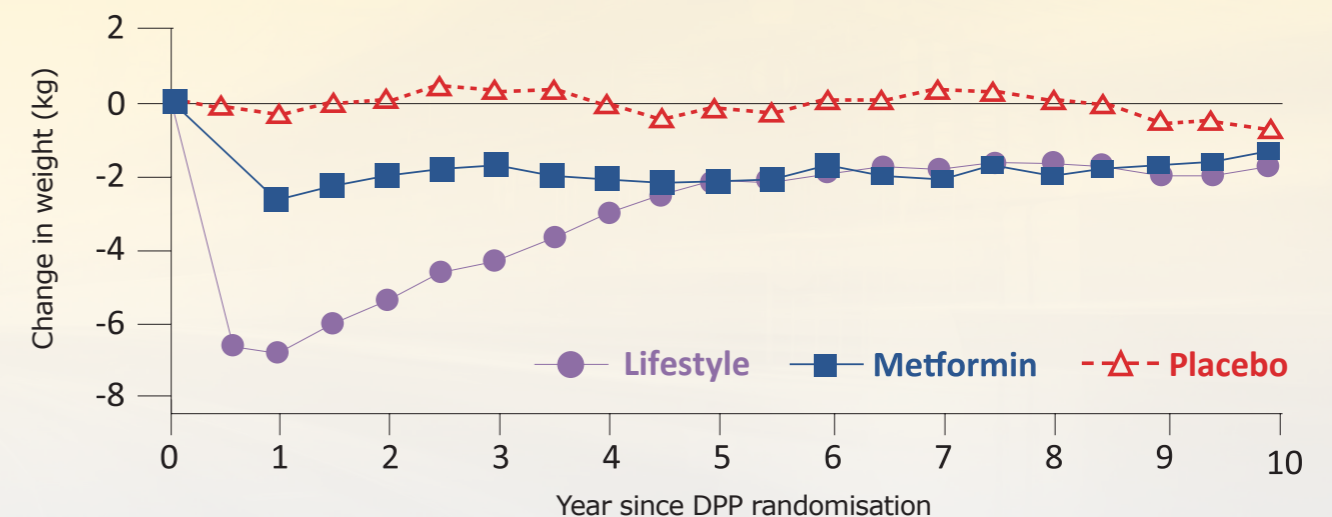
AACE/ACE 2020 Consensus Statement:

"For patients with glucose intolerance that persists despite lifestyle change and weight loss approaches, anti-hyperglycemic medications such as metformin and acarbose also reduce the risk of future diabetes in patients with prediabetes by 25 to 30%.²¹

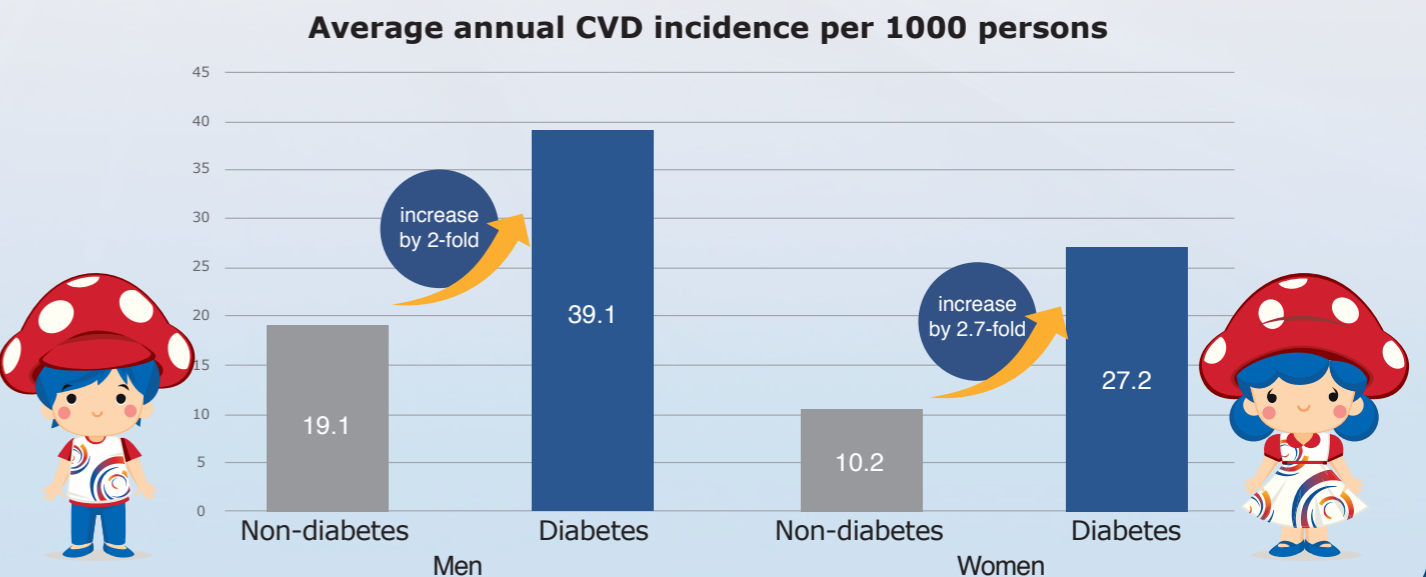
Treatment Benefits of Prediabetes by Metformin Reduced the Development of Overt Type 2 Diabetes



The metformin group lost a mean of 2.5 kg during DPP and maintained most of that weight loss²³



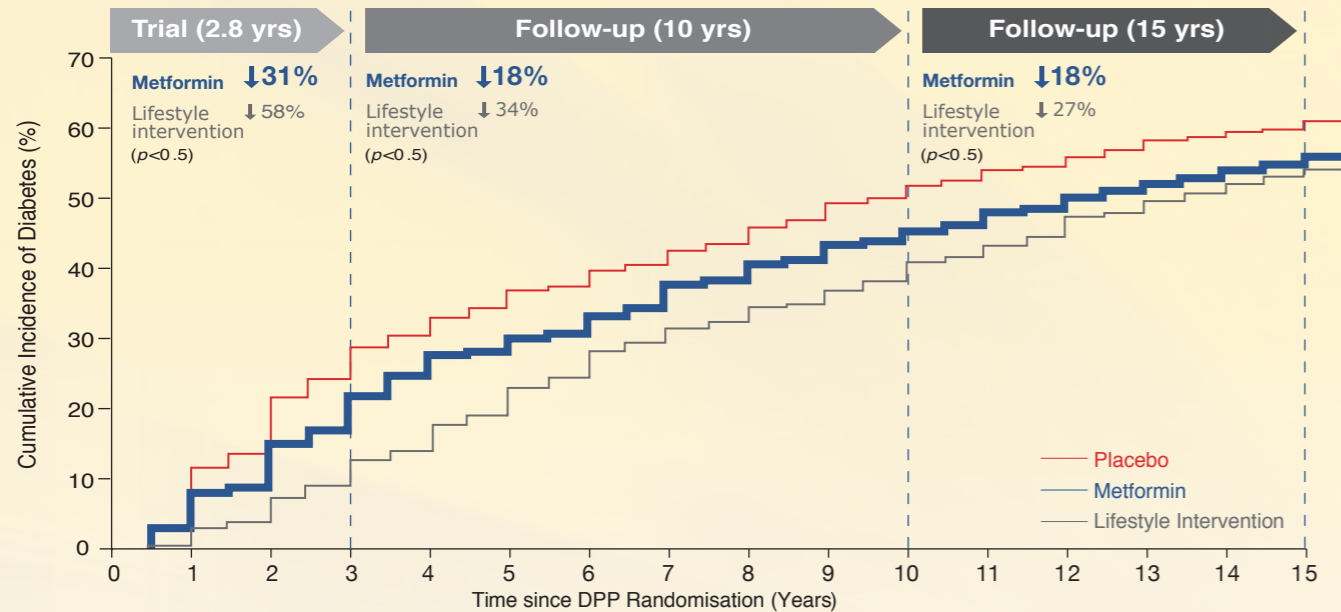
Preventing diabetes can help prevent serious complications, such as cardiovascular disease (CVD).²⁴



Efficacy

In DPPOS study, metformin significantly lowered the incidence of type 2 diabetes in 15 years.^{22, 23, 25}

DPP & DPPOS - 15 years follow-up study

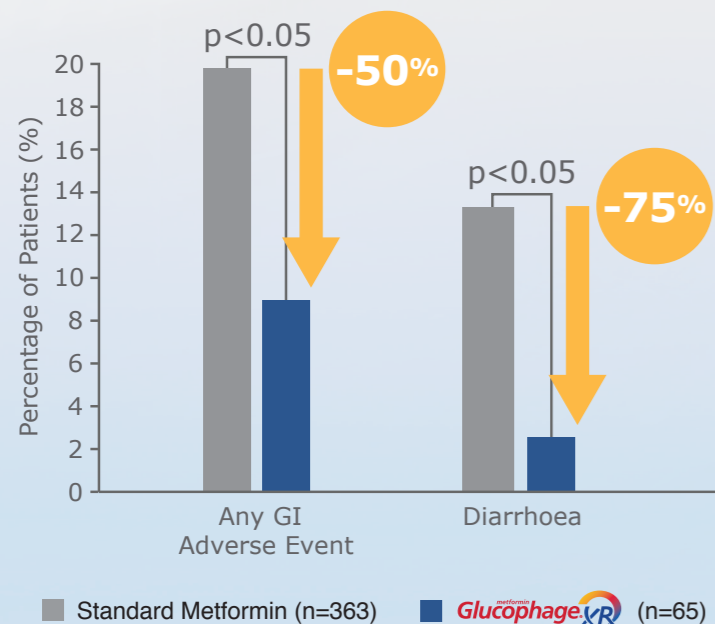


- Early intervention during the course of dysglycaemia can prevent or delay diabetes, which is associated with reducing the development of long-term complications.²⁵
- Glucophage® XR was proven to have similar efficacy and safety to that of standard metformin, with the advantage of **once-daily** dosing.²⁶

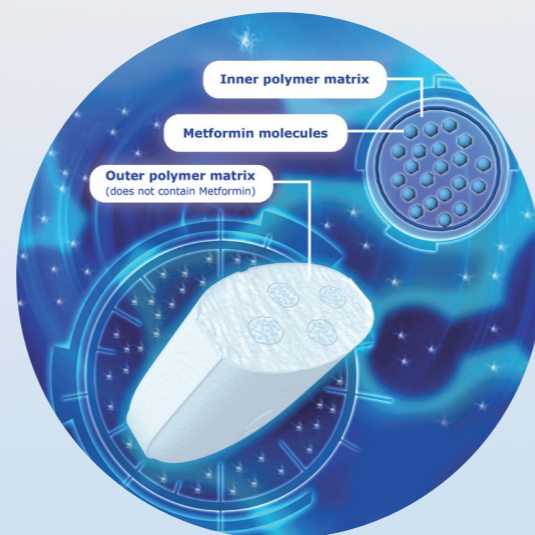
Glucophage® XR – Tolerability

Glucophage® XR is equipped with GelShield Diffusion System Technology,²⁷ which enables **once-daily** dosing and improves gastrointestinal tolerability.²⁸

Reduced GI Adverse Event and Diarrhoea²⁸



GelShield Diffusion System Technology²⁷



Glucophage® XR – Convenience

A novel, controlled-release delivery system²⁷



Metformin switch to Glucophage® XR

250mg B.D. 500

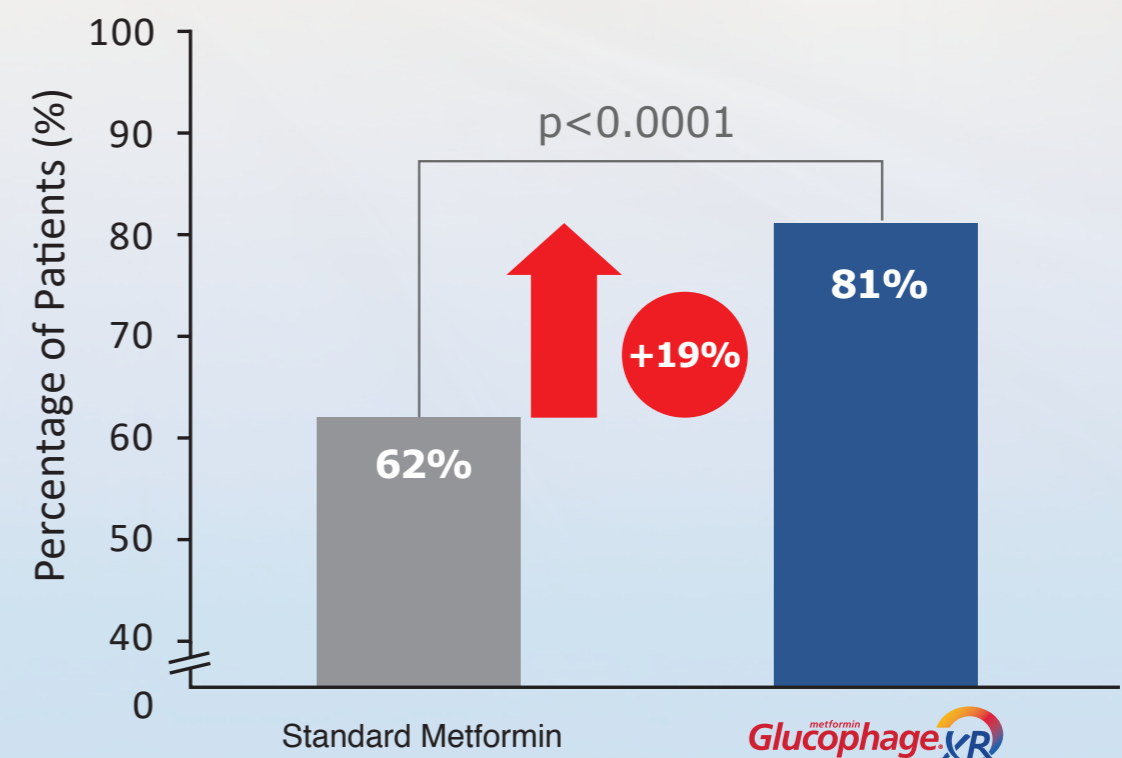
250mg T.D.S. 750

500mg B.D. 1000



Glucophage® XR – Adherence

Glucophage® XR increased the adherence rate from 62 to 81% when patients made a switch from standard metformin.²⁹



Summary

- Prediabetes is a significant health problem and should be treated before it's too late
- Implementation of lifestyle modification is hard in real world
- **Glucophage XR** is indicated for prediabetes treatment
- **Glucophage XR** is:

- ✓ Efficacious
- ✓ Well Tolerated
- ✓ High Patients' Satisfaction
- ✓ Better Adherence



Abbreviated Prescribing Information

Contents: Metformin HCl **Indications:** Reduction in risk or delay onset of type 2 DM in adult, overweight patients with IGT and/or IFG, and/or increased HbA1C who are at high risk for developing overt type 2 DM and still progressing towards type 2 DM despite implement intensive lifestyle change for 3-6 months. Treatment of type 2 DM in adults as an adjunct to adequate diet & exercise. Monotherapy or in combination w/ other oral antidiabetic medicines or insulin. **Dosage: Adult w/ normal renal function (GFR ≥ 90 ml/min) Reduction in the risk or delay of the onset of type 2 DM** Initiate one tablet XR 500mg once daily w/ evening meal. Regularly monitor (every 3-6 months) **Monotherapy in Type 2 DM and combination with other oral antidiabetic agents** Usual starting dose is one tablet once daily. After 10 to 15 days the dose should be adjusted on the basis of blood glucose measurements. Max. recommended dose for 500 mg and 1g is 2g daily. Max. recommended dose for 750 mg is 1.5g daily. **Combination with insulin** Usual starting dose is one tablet XR 500mg or XR 1g once daily, while insulin dosage is adjusted on the basis of blood glucose measurements. Max. recommended dose for 750 mg is 1.5g daily while insulin dosage is adjusted on the basis of blood glucose measurements. **For renal impairment patients** A GFR should be assessed before initiation of treatment and at least annually thereafter. In patients at an increased risk of further progression of renal impairment and in the elderly, renal function should be assessed more frequently, e.g. every 3-6 months. Total max. daily dose of 2g for GFR 60-89ml/min, consider dose reduction for declining renal function. Total max. daily dose of 2g for GFR 45-59ml/min, review any increased risk of lactic acidosis before initiating metformin, whereas starting dose is at most half of max. dose. Total max. daily dose of 1g for GFR 30-44ml/min, review any increased risk of lactic acidosis before initiating metformin, whereas starting dose is at most half of max. dose. **Pre- & Post-Prandial Advice:** Swallow whole, do not chew/crush. **Contraindications:** Any type of acute metabolic acidosis (such as lactic acidosis diabetic ketoacidosis), severe renal failure (GFR < 30ml/min), hepatic insufficiency, infectious diseases, following an IV urography or angiography, heart failure, recent MI, resp. failure, shock, persistent or severe diarrhoea, recurrent vomiting, alcoholism. Lactation. **Special Precautions:** Regular renal & blood sugar monitoring. Risk of lactic acidosis, most often occurs at acute worsening of renal function or cardiorespiratory illness or sepsis. Discontinue prior administration of iodinated contrast agents or surgery. May impair ability to drive or operate machinery in combination w/ other antidiabetic agents. Pregnancy. Elderly (for reduction of risk or delay of type 2 DM) **Adverse Reactions:** GI & taste disturbances. **Interactions:** Iodinated contrast agents, corticosteroids, NSAIDs, ACE inhibitors, diuretics, sympathomimetics, alcohol, COX II inhibitors, angiotensin II receptor antagonists, OCT1 and OCT2 agents **Presentations:** XR tab 500 mg x 60's. 750 mg x 30's. 1,000 mg x 60's. **Date of version:** Jun 2018

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