

Win

Against
Diabetes



Medicines for Type 2 Diabetes

GUIDE TO TYPE 2 DIABETES MEDICATIONS

Some people who have type 2 diabetes can achieve their target blood glucose levels with diet and exercise alone, but many also need diabetes medications.

Most medications for type 2 diabetes are oral drugs. However, a few come as injections, such as insulin. Some people with type 2 diabetes may need to take insulin.

The medications presented here in this booklet are what is currently registered and available in Singapore.






Examples of possible treatments for type 2 diabetes include:

1. **Metformin**
2. **Sulphonylureas**
3. **SGLT2 inhibitors**
4. **DPP-4 inhibitors**
5. **Acarbose**
6. **Thiazolidinediones (TZD)**
7. **GLP-1 receptor agonists**
8. **Insulin**
9. **Fixed ratio combination of insulin and GLP-1 receptor agonist**

MEDICATIONS FOR TYPE 2 DIABETES

Medication	Side Effects
1. Metformin (e.g. Glucophage) Generally, metformin is the first medication used to treat type 2 diabetes. Metformin reduces the amount of sugar your liver makes.	Nausea and diarrhoea are side effects of metformin, but these side effects usually go away as your body becomes familiar to the medicine.
2. Sulphonylureas Sulphonylureas help your body secrete more insulin. Examples of medication in this class include: <ul style="list-style-type: none">• Glipizide• Gliclazide• Gliclazide MR (Diamicon MR)• Glimepiride (Amaryl)	Potential side effects of sulphonylureas include hypoglycaemia and weight gain.
3. SGLT2 inhibitors SGLT2 inhibitors are the newest oral glucose-lowering medications on the market. They work by preventing the kidneys from re-absorbing glucose into the blood. Instead, the glucose is excreted in the urine. Their use is often associated with weight loss and blood pressure reduction. Examples of SGLT2 inhibitors are: <ul style="list-style-type: none">• Canagliflozin (Invokana)• Dapagliflozin (Forxiga)• Empagliflozin (Jardiance)	Side effects may include genital and urinary tract infections and low blood pressure.

Medication	Side Effects
<p>4. DPP-4 inhibitors DPP4-inhibitors (dipeptidyl peptidase-4 inhibitors) increase levels of a group of gastrointestinal hormones called incretins, which increase insulin secretion and inhibit glucagon release. They reduce blood glucose levels without causing hypoglycaemia.</p> <p>Examples of DPP-4 inhibitors are:</p> <ul style="list-style-type: none"> • Sitagliptin (Januvia) • Vildagliptin (Galvus) • Linagliptin (Trajenta) • Saxagliptin (Onglyza) 	<p>They can cause flu-like symptoms such as a runny nose, sore throat and headache.</p> 
<p>5. Acarbose (e.g. Glucobay) Acarbose works by slowing down the gut enzyme that turns carbohydrates into sugar. This results in a smaller rise in blood glucose levels following a meal.</p>	<p>Diarrhoea and bloating are possible side effects.</p>
<p>6. Thiazolidinediones (TZD) Thiazolidinediones (TZD) make your body's tissues more sensitive to insulin.</p> <p>Pioglitazone (Actos) is an example of thiazolidinedione.</p>	<p>Thiazolidinediones (TZD) have been linked to weight gain and more serious side effects such as an increased risk of heart failure and fractures. Because of these risks, these medications are generally not a first-choice treatment.</p>

Medication	Side Effects
<p>7. GLP-1 receptor agonists</p> <p>GLP-1 receptor agonists come as injections but are not insulin. They are incretin mimetics. They slow digestion and help lower blood glucose levels. The use of GLP-1 receptor agonists is often associated with some weight loss.</p> <p>Examples of these medications include:</p> <ul style="list-style-type: none"> • Liraglutide (Victoza) • Dulaglutide (Trulicity) 	<p>Possible side effects include nausea, vomiting and diarrhoea.</p> 
<p>8. Insulin</p> <p>Some people who have type 2 diabetes need insulin therapy.</p> <p>Insulin cannot be taken orally and must be administered by subcutaneous injections.</p> <p>Insulin injections involve using an insulin syringe or an insulin pen injector — a device that looks similar to an ink pen, except the cartridge is filled with insulin.</p> <p>There are many types of insulin, and they each work in a different way.</p>	<p>Side effects include hypoglycaemia and weight gain.</p> 
<p>9. Fixed ratio combination of insulin and GLP-1 receptor agonist</p> <p>This formulation contains basal insulin and GLP-1 receptor agonist. This allows administration of two medications in one injection, in a fixed ratio combination.</p>	<p>Nausea and vomiting, this is in relation to the presence of Lixisenatide. Slow up-titration of this combination should attenuate these side effects.</p>



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