

Glucagon-Like Peptide-1 (GLP-1) Agonists

What are GLP-1 agonists

Glucagon-like peptide-1 (GLP-1) agonist is a class of medications used to manage type-2 diabetes mellitus (T2DM).

It works by reducing your food craving and increasing the insulin made by your body in response to the food that you eat. This medication does not replace insulin.

Along with helping to control blood sugar, GLP-1 agonists may boost weight loss, lower the risk of heart disease, such as heart failure, stroke and kidney disease. People taking these drugs have seen their blood pressure and cholesterol levels improve.

There are six types of GLP-1 agonists registered in Singapore

- Semaglutide tablet (Rybelsus®)
- Semaglutide injection (Ozempic®)
- Liraglutide injection (Victoza®, Saxenda®)
- Dulaglutide injection (Trulicity®)
- Insulin Glargine + Lixisenatide injection (Soliqua®)
- Tirzepatide (Mounjaro®)

Additional subsidy through the Medication Assistance Fund (MAF) is available for certain GLP-1 agonists. However, it might not apply for all as eligibility is dependent on means testing and reason for using the medication. You may find out more at:

<https://www.moh.gov.sg/healthcare-schemes-subsidies/subsidised-drug-list>

How should I take/use this medication?

a) Oral tablet

- Taken on an empty stomach upon waking
- It should be swallowed whole with not more than 120mL of water
- Tablets should not be split, crushed or chewed, as it is not known whether this impacts absorption of the medication
- Wait at least 30 minutes before eating or drinking or taking other medication to optimise absorption of the medication

b) Injectable GLP-1 agonist

- You may use this medication with or without food.
- Inject the dose as advised by your healthcare professional.
- Do not use if the solution is cloudy, leaking, has particles or has changed colour.
- Do not stop using your medication without checking with your healthcare professional.
- Injected into the fatty tissue between the skin and muscle layer of your upper arms, thigh or tummy (abdomen).
- Rotate the injection site within the same body region regularly.
- Do not inject into your blood vessel or muscles.

c) Fixed ratio combination injection (Insulin and GLP-1 agonist)

Insulin Glargine + Lixisenatide injection (Soliqua®): Administer within 1h before the first meal of the day, preferably the same meal each day

- Inject the dose as advised by your healthcare professional.
- Do not use if the solution is cloudy, leaking, has particles or has changed colour.
- Do not stop using your medication without checking with your healthcare professional.
- Injected into the fatty tissue between the skin and muscle layer of your upper arms, thigh or tummy (abdomen).
- Rotate the injection site within the same body region regularly.
- Do not inject into your blood vessel or muscles.

What should I do if I forget to take/use this medication?

a) Daily dosing

- If you forget to take a dose, take it as soon as you remember.
- If a dose is missed, the missed dose should be skipped and the next dose should be taken the following day.

b) Weekly dosing

- If you forget to take a dose, take it as soon as you remember.
- However, if it is less than three days until the next scheduled dose, skip the missed dose and resume your next dose on your usual day.
- Do NOT take two doses to make up for the missed dose.
- Write down the number of missed doses and inform your healthcare provider on your next visit.

What precautions should I take?

Inform your healthcare professional if you:

- Are allergic to this medication or any of the other ingredients of this medication
- Are pregnant, planning to get pregnant or breastfeeding
- Are unable to take liquids by mouth or have persistent diarrhoea or vomiting
- Are also taking linagliptin, sitagliptin, vildagliptin or other dipeptidyl peptidase-4 inhibitors
- Have type 1 diabetes mellitus
- Have ever had pancreatitis (inflammation of the pancreas)
- Have stomach or bowel problems
- Have thyroid cancer or family history of thyroid cancer
- Have underlying mood disorders, history of suicidal attempts or active suicidal ideations

What are some common side-effects of this medication?

All medications may cause side effects. However, many people have no side effects or only have minor side effects. Speak to your healthcare professional or seek medical help if any of these side effects, or any others, bother you or do not go away:

- Nausea, vomiting, stomach discomfort

- Inject this medication with or after food to reduce nausea and vomiting
- Avoid food that is too rich, overly sweet or spicy, or has strong smells
- Avoid eating large amounts of food at once
- Diarrhoea
- Decrease in appetite
- Bruising, pain, irritation, itch, and rash at injection site

What are rare but serious side-effects that I need to seek medical advice immediately?

The symptoms of a drug allergy include one or more of the following:

- Swollen face/eyes/lips/tongue
- Difficulty in breathing
- Itchy skin rashes over your whole body

The following side effects are rare. However, it is important for you to be aware of the possible symptoms to watch out for and to know when to seek medical attention immediately.

- Pancreatitis:
 - Severe pain in the stomach, abdomen or back area that does not go away
 - Nausea or vomiting that does not go away
 - Fever
- Gallbladder problems:
 - Pain in upper right of belly area
 - Abdominal pain
 - Bloating
 - Vomiting
 - Fever or chills
 - Yellowing of skin or eyes
 - Clay coloured stools
- Worsening vision

If you experience any of the above symptoms, you should stop your medication and seek medical attention immediately.

Storage and expiry

Drug	Storage	Expiry
Dulaglutide pen (Trulicity®)	<ul style="list-style-type: none"> ● Refrigerate between 2-8°C. Do not freeze. ● May be stored unrefrigerated at temperature not exceeding 30°C for up to 14 days 	Discard immediately after use
Glargine/Lixisenatide pen (Soliqua®)	<ul style="list-style-type: none"> ● <u>New pen:</u> Refrigerate between 2-8°C. Do not freeze. ● <u>Used pen:</u> Store below 25°C. Do not refrigerate. Do not freeze. 	Discard used pen 28 days after opening

Semaglutide tab (Rybelsus®)	Store at or below 30°C, away from light and moisture	As listed on packaging
Semaglutide pen (Ozempic®)	<ul style="list-style-type: none"> • <u>New pen</u>: Refrigerate between 2-8°C. Do not freeze. • <u>Used pen</u>: Store below 30°C or in the fridge between 2-8°C 	Discard used pen 6 weeks after opening
Liraglutide pen (Victoza®)	<ul style="list-style-type: none"> • <u>New pen</u>: Refrigerate between 2-8°C. Do not freeze. • <u>Used pen</u>: Store below 30°C or in the fridge between 2-8°C 	Discard used pen 30 days after opening
Semaglutide tab (Rybelsus®)	Store at or below 30°C, away from light and moisture	As listed on packaging
Semaglutide pen (Ozempic®)	<ul style="list-style-type: none"> • <u>New pen</u>: Refrigerate between 2-8°C. Do not freeze. • <u>Used pen</u>: Store below 30°C or in the fridge between 2-8°C 	Discard used pen 6 weeks after opening
Tirzepatide pen (Mounjaro®)	<ul style="list-style-type: none"> • Refrigerate between 2-8°C. Do not freeze. • If needed, each single-dose pen can be stored unrefrigerated at temperatures not exceeding 30°C for up to 21 days. 	Discard immediately after use

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