



LYRATO Essentials

A Quick Guide for Patients

What are GLP-1 RAs?

A class of medicines that help manage blood sugar and obesity.

How do GLP-1 RAs manage blood glucose?²



Releases insulin from pancreas, which lowers the blood glucose levels



Stops the release of a hormone called glucagon, which increases blood sugar levels



Slows down emptying of stomach



Helps you feel fuller for longer time after eating

Liraglutide is a GLP-1 RA.

GLP-1 RA: Glucagon-like peptide-1 receptor agonist.

Reference: 1. GLP-1 Agonists. Available at: <https://my.clevelandclinic.org/health/treatments/13901-glp-1-agonists>. Accessed on: 18 September 2024. 2. Hirsch IB, Parkin CG, Cavaiol TS, et al. Use of continuous glucose monitoring when initiating glucagon-like peptide-1 receptor agonist therapy in insulin-treated diabetes. *Diabetes Obes Metab*. 2024.

Benefits of Taking Lyrato (Liraglutide)

Glycemic Control



Patients taking liraglutide experience reduction in HbA_{1c} level (3 months blood report) up to 1.3%.

Cardio benefits



Liraglutide has cardioprotective effect.

Weight management



Regular use of liraglutide offers weight reduction.

Renal protection



Regular use of liraglutide offers protection from kidney damage.

HbA_{1c}: Glycated hemoglobin

Liraglutide and cardiovascular outcomes in type 2 diabetes. New England Journal of Medicine. 2016 Jul 28;375(4):311-22.

Effects of dose escalating liraglutide from 1.2 to 1.8 mg in clinical practice: a case-control study. Journal of endocrinological investigation. 2015 Dec;38:1357-63.

American Association of Clinical Endocrinology Consensus Statement: comprehensive type 2 diabetes management algorithm-2023 update. Endocrine Practice. 2023 May 1;29(5):305-40..

Dietary Options

Foods to include



Whole grains

millets, brown rice, quinoa, etc.



Vegetables

spinach, bitter gourd (karela), cauliflower, kale, bell peppers, etc.



Protein sources

beans, paneer, lentils, tofu, etc.



Healthy fats

beans, paneer, nuts, seeds, olive oil, avocado, etc.



Fruits

oranges, apples, guava, berries, etc.

Include protein-rich foods, such as lean meats, fish, eggs, dairy, paneer and other soy products^{2,3}

Foods to avoid



Refined grains

white rice, white bread, processed flour products, packaged foods, etc.



Sugary foods

sweets, pastries, candies, carbonated drinks, sweetened snacks, etc.



High-fat dairy

full-fat milk, cheese, cream, etc.



Fried foods

samosas, pakoras, deep-fried snacks, etc.



Excessive salt

pickles, processed meat, canned soups, etc.

Your diet plan should¹



Fit your personal needs



Balance your meals



Control portion size



Include healthy, nutrient-rich foods

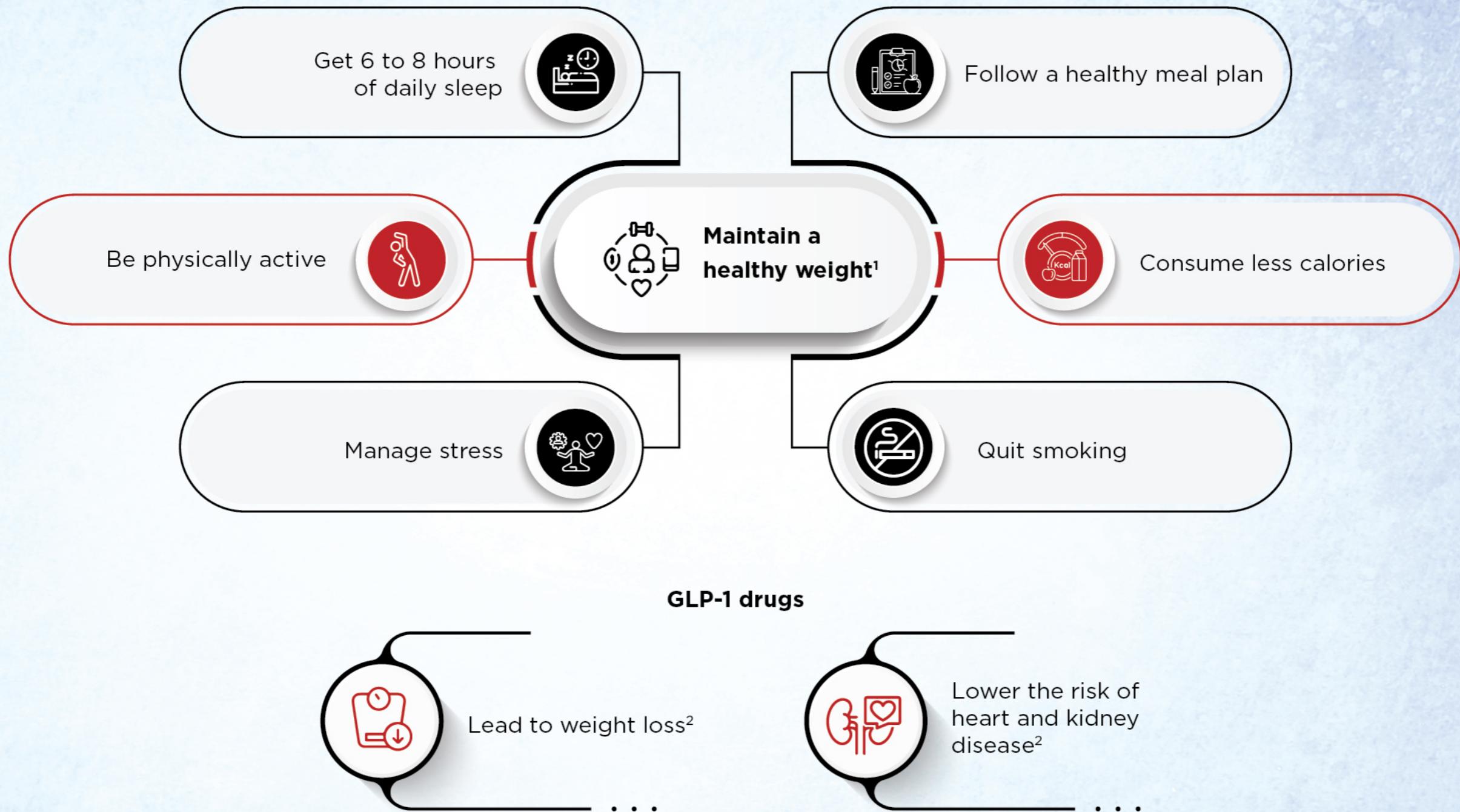


Keep your blood sugar levels stable



Support your overall health

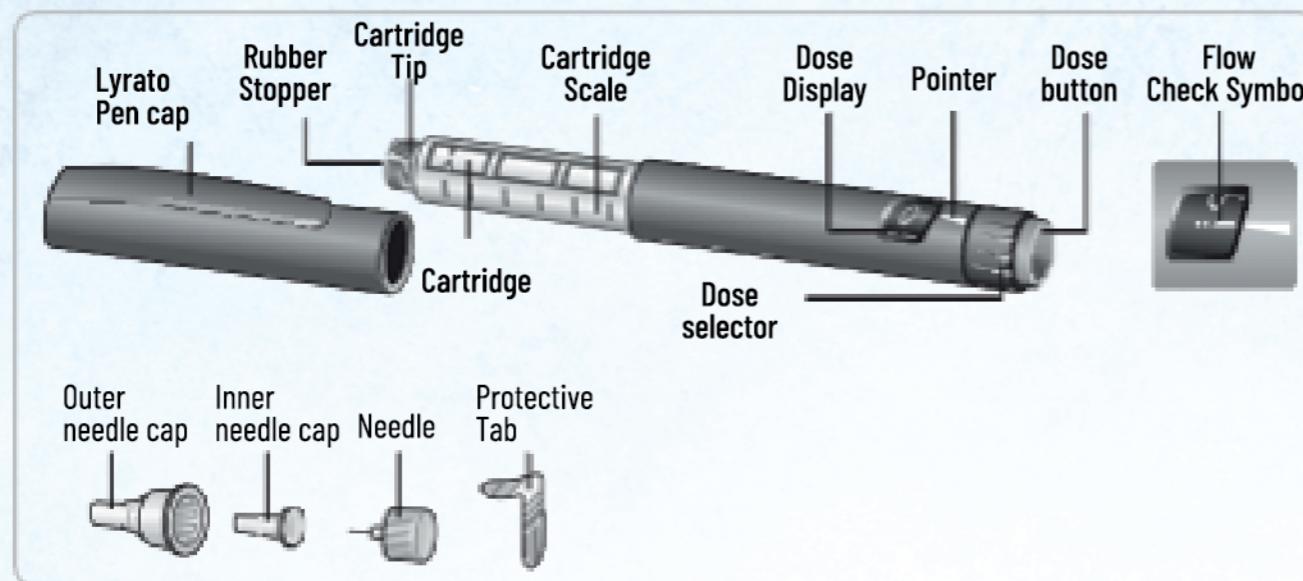
Healthy Weight Management and Lifestyle Modification



GLP-1: Glucagon-like peptide-1.

References: 1. Healthy living with diabetes. Available at: <https://www.niddk.nih.gov/health-information/diabetes/overview/healthy-living-with-diabetes>. Accessed on: 18 September 2024. 2. GLP-1 agonists: Diabetes drugs and weight loss. Available at: <https://www.mayoclinic.org/diseases-conditions/type-2-diabetes/expert-answers/byetta/faq-20057955>. Accessed on: 18 September 2024.

Know How to use

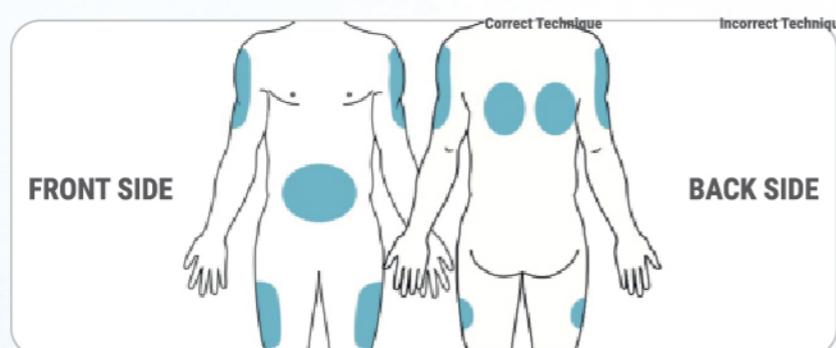


Just Load - Hold right - Click

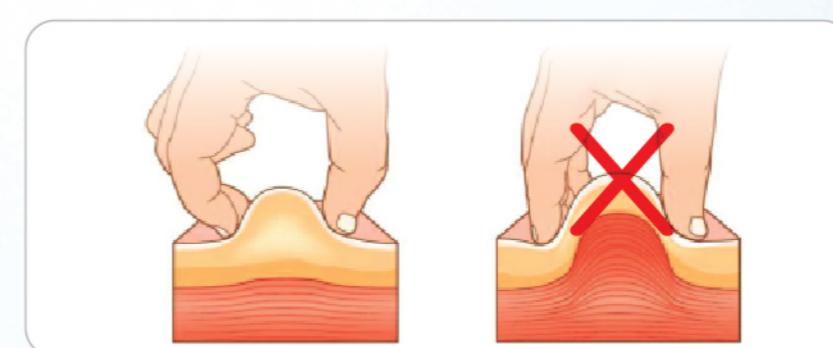
- 1. Load:** Use 32 gauge, 4 mm needle with pen. Rotate the dose selector of the pen to prescribed dose
- 2. Hold** it on the skin at 90 degree angle.
- 3. Push** it & hold for 6 seconds for delivery of complete medicine.

For more details on usage, refer to the video/product leaflet

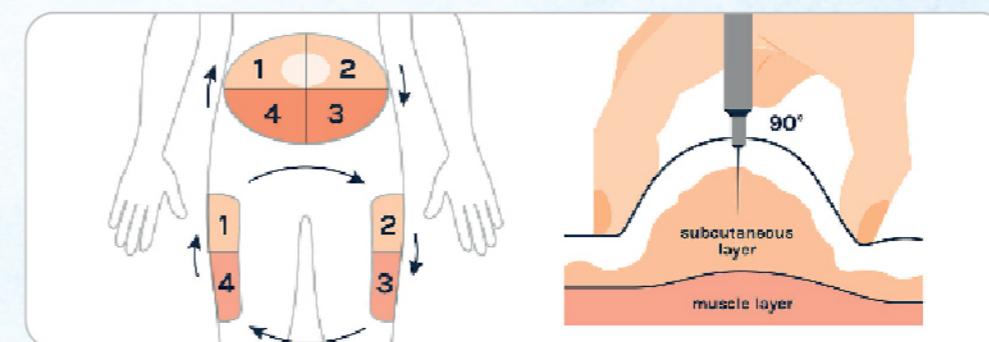
Self-injecting with the Lyrato pen



Choose the comfortable site for subcutaneous injection from any of these as shown in picture



Slightly hold the skin tissue & avoid holding muscle



Keep rotating the site of injection everyday to avoid any side effect on injection site

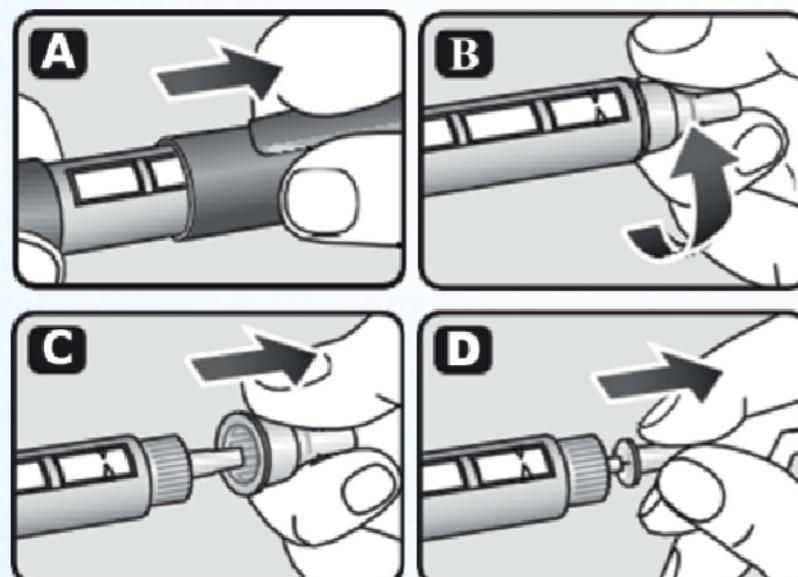
First Time Use for Each New Pen

Step A. Check the Pen

- Take your new Lyrato Pen out of the refrigerator.
- Wash hands with soap and water before use.
- Pull off pen cap (See Figure A).
- Check Lyrato in the cartridge. The liquid should be clear, colorless and free of particles. If not, do not use.
- Wipe the rubber stopper with an alcohol swab.

Step B. Attach the Needle

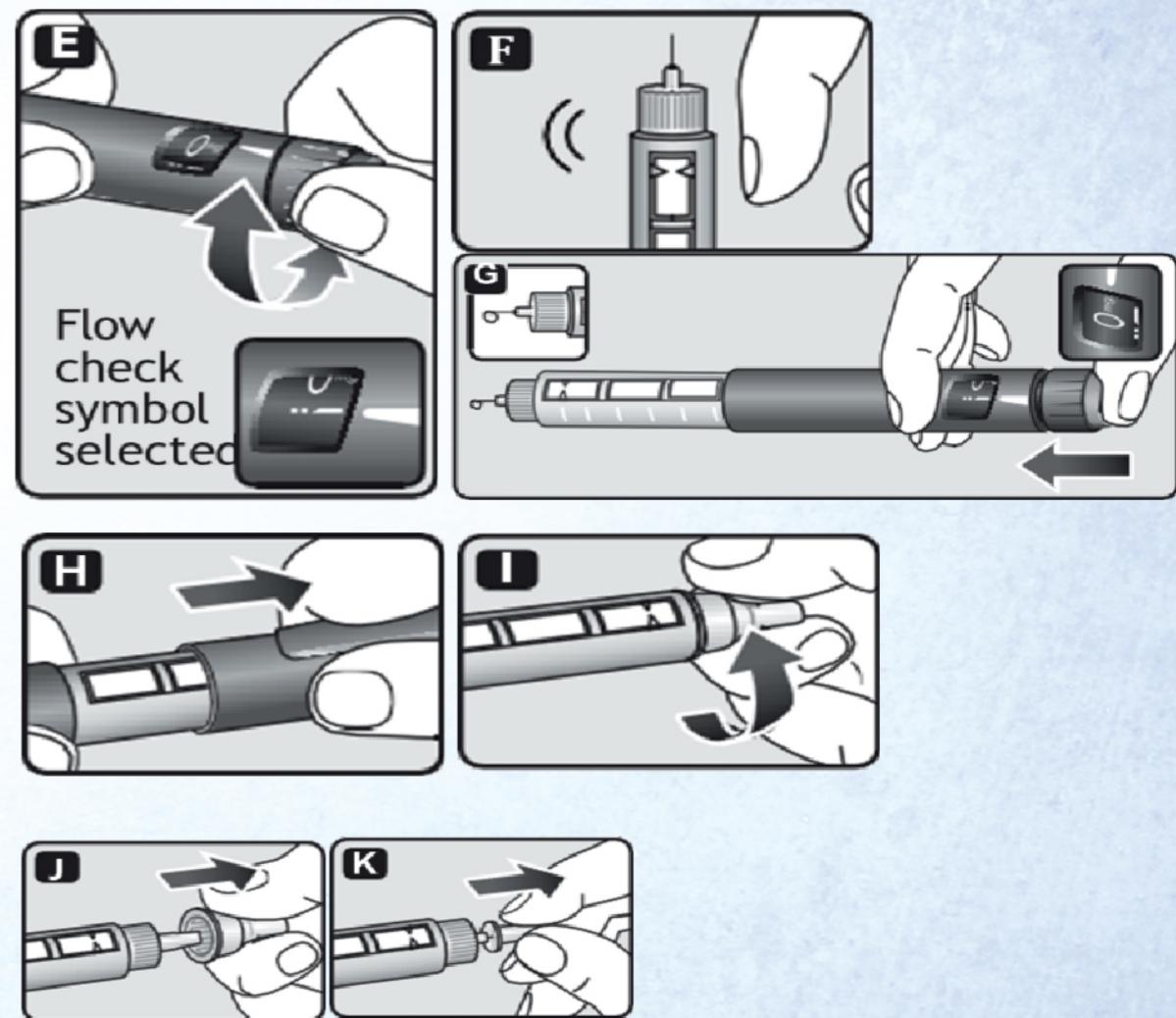
- Push outer needle cap containing the needle straight onto the pen, then screw needle on until secure.



Step C. Dial to the Flow Check Symbol

This step is done only Once for each new pen and is only required the first time you use a new pen.

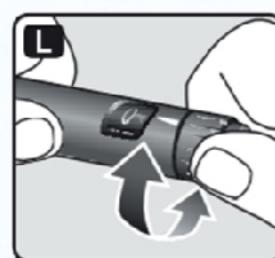
- Turn dose selector until flow check symbol (–) lines up with pointer (See Figure E, F, G, H, I). The flow check symbol does not administer the dose as prescribed by your healthcare provider.



First Time Use for Each New Pen

Step D. Dial the Dose

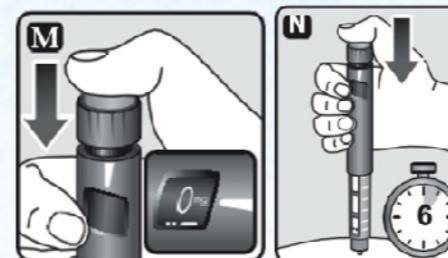
- Lyrato Pen can give a dose of 0.6 mg (starting dose), 1.2 mg or 1.8 mg. Be sure that you know the dose of Gliptozia that is prescribed for you.
- Turn the dose selector until your needed dose lines up with the pointer (0.6 mg, 1.2 mg or 1.8 mg) (See Figure L).
- You will hear a "click" every time you turn the dose selector. Do not set the dose by counting the number of clicks you hear.
- If you select a wrong dose, change it by turning the dose selector backwards or forwards until the correct dose lines up with the pointer. Be careful not to press the dose button when turning the dose selector. This may cause Gliptozia to come out.



Step E. Injecting the Dose

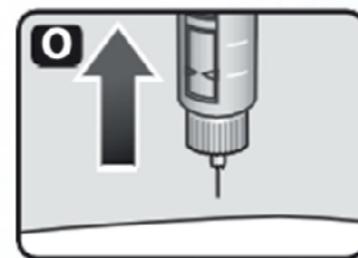
- Insert needle into your skin in the stomach (abdomen), thigh or upper arm. Use the injection technique shown to you by your healthcare provider. Do not inject Lyrato into a vein or muscle.
- Press down on the center of the dose button to inject until 0 mg lines up with the pointer (See Figure M).
- Be careful not to touch the dose display with your other fingers. This may block the injection.
- Keep the dose button pressed down and make sure that you keep the needle under the skin for a full count of 6 seconds to make sure the full dose is injected. Keep your thumb on the injection button until you remove the needle from your skin (See Figure N).

- Change (rotate) your injection sites within the area you choose for each dose. Do not use the same injection site for each injection.



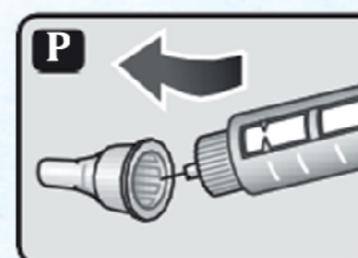
Step F. Withdraw Needle

- You may see a drop of Lyrato at the needle tip. This is normal and it does not affect the dose you just received. If blood appears after you take the needle out of your skin, apply light pressure, but do not rub the area (See Figure O).



Step G. Remove and Dispose of the Needle

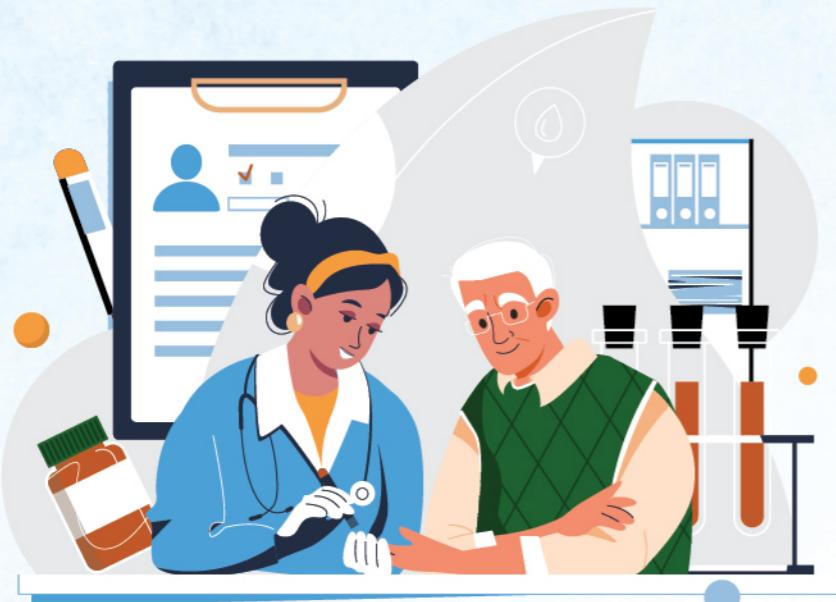
- Carefully put the outer needle cap over the needle (See Figure P). Unscrew the needle.
- Throw the needle after putting it inside needle cap, preferably in a hard container like waste plastic water bottles. Close the tap tightly before throwing to avoid animals contact.



Storage of Liraglutide

- 01**
Keep out of the reach of children.
- 02**
Store unopened prefilled pens in the refrigerator but do not freeze them.
- 03**
Store opened prefilled pens in the refrigerator or at room temperature away from sunlight for 30 days
- 04**
Always remove the needle from the pen before storing the medicine.
- 05**
Throw away used needles in a hard, closed container.

Dosage of Liraglutide



The dose of liraglutide may be different for different patients. Follow your doctor's advice for dosage.

Adults and children above 10 years of age



Start



Increase



Maintain

0.6 mg once a day
for 1 week

Doctor may increase your dose as
needed.



The dose must be
determined by
your doctor.



Missed dose?

Skip the missed dose and go back to your regular dosing schedule. Do not double the doses.

If you miss a dose for 3 days or more, call your doctor!

Managing Low and High Blood Sugar Levels

Liraglutide does not cause low blood sugar!

Symptoms of low blood sugar¹



Cold sweat



Palpitations



Trembling



Excessive hunger



Weakness



Drowsiness



Seizures

Symptoms of high blood sugar²



Increased thirst



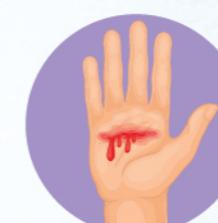
Frequent urination



Extreme hunger



Blurred vision



Slow-healing cuts and sores



Fatigue

What to do?¹



- 1 If you have low blood glucose symptoms



- 2 Test if blood glucose level is less than 4 mmol/L



- 3 Drink half cup of glucose drink



- 4 Wait for 15 min and test again

- 5 • If still less than 4 mmol/L or 4 mg/dL, repeat step 3 again.
• If more than 4 mmol/L or 4 mg/dL and your next meal is within an hour, have a meal. Otherwise, take a light snack.

What to do?²



1. Diet

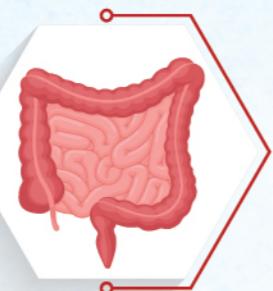


2. Exercise



3. Medications

Signs: Which Means Drug Is Working



The most observed gastrointestinal signs are:^{1,2}

Nausea



Diarrhea



Vomiting



Decreased appetite



Indigestion



Constipation



Immunity-related events



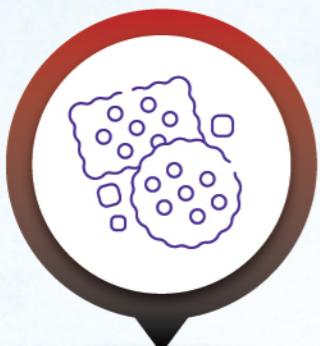
If you have any of the above signs, do not worry. Consult your doctor immediately.

References: 1. Victoza (liraglutide) injection. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/022341s027lbl.pdf. Accessed on: 18 September 2024. 2. Seo YG. Side effects associated with liraglutide treatment for obesity as well as diabetes. *J Obes Metab Syndr*. 2021;30(1):12-19. 3. GLP-1 diabetes and weight-loss drug side effects: "Ozempic face" and more. Available at: <https://www.health.harvard.edu/staying-healthy/glp-1-diabetes-and-weight-loss-drug-side-effects-ozempic-face-and-more>. Accessed on: 18 September 2024.

Steps to Avoid Adverse GI Effects



Nausea



Eat crackers, apples, and mint and drink ginger-based drinks

Avoid strong smells



Vomiting



Drink plenty of fluids

More frequent meals
in smaller quantities

GI: Gastrointestinal.

References: 1. Victoza (liraglutide) injection. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/022341s027lbl.pdf. Accessed on: 18 September 2024. 2. Seo YG. Side effects associated with liraglutide treatment for obesity as well as diabetes. J Obes Metab Syndr. 2021;30(1):12-19. 3. GLP-1 diabetes and weight-loss drug side effects: "Ozempic face" and more. Available at: <https://www.health.harvard.edu/staying-healthy/glp-1-diabetes-and-weight-loss-drug-side-effects-ozempic-face-and-more>. Accessed on: 18 September 2024.

Steps To Avoid Adverse GI Effects



Diarrhea



Drink plenty of fluids (water, lemon, bicarbonate)



No: sport drinks



No: high-fiber content foods (gradually restore them upon improvement)



Yes: chicken, broth, rice, carrots, ripe pealed fruits, baked fruit



No: dairy products, laxatives, alcohol, coffee, soft drinks, very cold/hot foods, sweeteners ending with "ol" (e.g., sugar alcohols like sorbitol)



Constipation



Enough fiber in diet



Increase physical activity



Healthy, balanced diet



Drink plenty of fluids (water, sugar-free liquids)

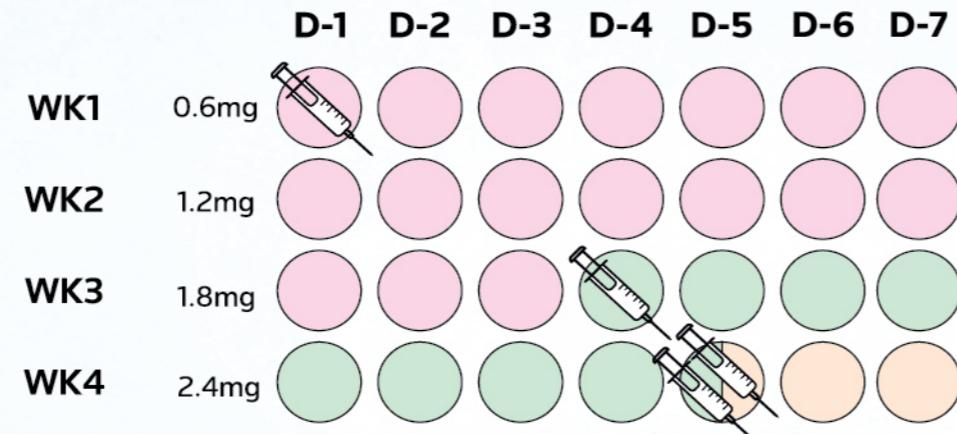
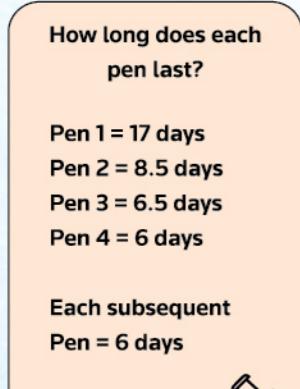
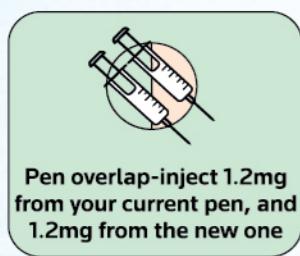
GLP-1: Glucagon-like peptide-1.

References: 1. Victoza (liraglutide) injection. Available at: https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/022341s027lbl.pdf. Accessed on: 18 September 2024. 2. Seo YG. Side effects associated with liraglutide treatment for obesity as well as diabetes. J Obes Metab Syndr. 2021;30(1):12-19. 3. GLP-1 diabetes and weight-loss drug side effects: "Ozempic face" and more. Available at: <https://www.health.harvard.edu/staying-healthy/glp-1-diabetes-and-weight-loss-drug-side-effects-ozempic-face-and-more>. Accessed on: 18 September 2024.

LYRATO

DOSING CARD

1 Pen contains 6mg/ml of liraglutide ie 18 mg of liraglutide



Month 1 - 3 pens
Month 2 - 4 pens
Month 3 onwards - 5 pens

