

Initiating or changing injectable GLP-1 analogue treatment during COVID-19 restrictions

A practical guide containing advice about:

- * Capillary blood glucose interpretation
- * Drug information
- * Counselling checklists
- * Links to demonstration videos
- * Useful patient and healthcare professional resources

Initiating or Changing injectable GLP-1 analogue treatments during COVID-19 restrictions

Consider a 2 part consultation.

Part 1: to discuss treatment options and prescribe the required treatment, and also to allow time for the patient to access supporting materials.

Part 2: to counsel and demonstrate injection of the new treatment once the patient has received the supply of medicine. This facilitates demonstration, understanding

Ensure decisions are made on reliable clinical results. In the absence of routine HbA1c monitoring a blood glucose meter could be used for a **time-limited** period to generate a useful snapshot of blood glucose control to help guide assessment. Some patients may already use a glucose meter for other diabetes treatments.

Patients should receive appropriate education about good sampling technique to ensure capillary blood glucose results are accurate and clear instruction about when to test to ensure the results are informative and help support treatment decisions.

The following formulary blood glucose meters; TEE2 and Jazz mobile pair with an app which enables a patient to send their results electronically to a practitioner. Alternatively a photograph of the blood glucose diary would be equally helpful.

The following tables contain information that may be a useful guide to interpreting capillary blood glucose results in the absence of HbA1c in order to support optimisation of non-insulin therapies:

Table 1. Correlation of estimated average blood glucose with HbA1c

HbA1c	Estimated avg Glucose (mmol/l)
31	5.4
42	7.0
53	8.6
64	10.2
75	11.8
86	13.4
97	14.9
108	16.5

<http://www.ngsp.org/A1ceAG.asp>

Table 2. Principles for interpreting capillary blood glucose results to assess control of diabetes and optimisation of blood glucose lowering therapies.

Blood glucose aim: 5-7 mmol/L pre meal and 7-9 mmol/L post meal
Aim: 2-3 mmol/L rise in post-prandial glucose when compared to the fasting level (approximately 2 hours post-eating)
These parameters should be adjusted on an individualised basis—post lunch and bedtime capillary blood glucose has been shown to have the closest correlation with HbA1c
Waking and pre-prandial blood glucose levels typically relate to efficacy of glucose-lowering agents in the fasting state
Post-prandial blood glucose levels (2 hours post meal) typically relate to efficacy of glucose lowering agents in the non fasting state
Adjustment should reflect trends and patterns not individual readings

Table 3. Correlation of meal specific blood glucose readings with HbA1c

HbA1c	37—47	48—52	52—58	58—64	64—69
Estimated Avg glucose (mmol/L)	6.1—7.7	7.8—8.5	8.6—9.3	9.4—10.1	10.2—10.9
Pre breakfast	6.5—7.0	7.5—8.3	7.9—9.0	8.7—9.8	9.1—10.7
Post breakfast	8.0—8.7	9.4—10.2	10.0—11.3	10.7—12.2	11.3—13.0
Pre lunch	6.0—6.5	6.7—7.4	7.7—8.6	7.3—8.3	8.4—10.1
Post lunch	7.5—8.0	8.8—9.1	9.1—10.0	9.4—10.6	9.9—11.6
Pre dinner	6.4—6.8	7.7—8.4	8.2—9.0	8.5—9.6	9.3—11.4
Post dinner	7.5—8.1	8.8—9.2	9.0—9.8	9.5—10.7	10.8—12.6
Bedtime	7.2—7.8	8.0—8.9	9.2—10.4	9.0—10.4	10.9—13.8

Wei N, Zheng H, Nathan DM. Empirically establishing blood glucose targets to achieve HbA1c goals. *Diabetes Care*. 2014;37(4):1048-1051. doi:10.2337/dc13-2173

	<u>DULAGLUTIDE</u> (Trulicity®)	<u>SEMAGLUTIDE</u> (Ozempic®)
License	<ul style="list-style-type: none"> Licensed as monotherapy (not supported by NICE) add on to metformin and/or pioglitazone/SGLT2 inhibitor/Sulfonylurea. Or in addition to basal or prandial insulin with or without metformin. 	<ul style="list-style-type: none"> Licensed as monotherapy (not supported by NICE) add on to metformin and/or pioglitazone/sulfonylurea/SGLT2 inhibitor. Or in addition to basal or premixed insulin with or without 1-2 oral antidiabetic medications excluding DPP4 inhibitors.
	<p>Where changes to GLP-1 analogue therapy are made in patients using insulin, advice/input should be sought from specialist as required.</p> <p>Caution should be exercised when Semaglutide is prescribed for patients with diabetic retinopathy who are treated with insulin</p>	
Regimen	<p>Monotherapy: 750microgram by subcut injection once weekly.</p> <p>Add on therapy: 1.5mg by subcut injection once weekly for 4 weeks, increasing to 3mg once weekly thereafter. The dose can be increased to 4.5mg once weekly if necessary after a further 4 weeks.</p>	<p>Titrate: 250microgram by subcut injection once weekly for 4 weeks, increasing to 500microgram once weekly thereafter. The dose can be increased to 1 mg once weekly, if necessary, after a further 4 weeks.</p>
Product	<p>Pre-filled pen available as:</p> <p>750mcg/0.5ml pre-filled pen</p> <p>1.5mg/0.5ml pre-filled pen</p> <p>3mg/0.5ml pre-filled pen</p> <p>4.5mg/0.5ml pre-filled pen</p> <p>Each pen is dispensed as a single use device. The needle is pre-attached and the whole device is disposed of after each use.</p>	<p>Pre-filled pen available as:</p> <p>250 micrograms pre-filled pen</p> <p>500 micrograms pre-filled pen</p> <p>1mg pre-filled pen</p> <p>Each pen comes with four disposable needles and lasts for four weeks.</p> <p>As doses are titrated the pen should be changed to the next corresponding strength of pen. Failure to do so doubles the volume of the dose and the cost of the treatment.</p>
Prescribing advice		<p>An increased risk of developing diabetic retinopathy complications has been observed. Rapid improvement in glucose control has been associated with a temporary worsening of diabetic retinopathy, caution in those with a high HbA1c (>9%, 75mmol/mol) and/or retinopathy grade R2/R3/M1/P1.</p> <p>Therapeutic experience in patients ≥75 years of age is limited</p>
	<p>When added to sulfonylurea or insulin, a reduction in the dose of sulfonylurea or insulin should be considered to reduce the risk of hypoglycaemia. Particularly if HbA1c below 80 mmol/mol</p> <p>Blood glucose monitoring is recommended in patients using these combinations to detect suspected hypoglycaemia.</p> <p>Dehydration has been reported in patients, especially at initiation of treatment often associated with nausea, vomiting or diarrhoea. Ensure advice is given to avoid AKI and potential problems.</p> <p>Patients should be informed of the characteristic symptoms of acute pancreatitis.</p> <p><input type="checkbox"/> Instruct patients taking GLP-1 analogue to seek prompt medical care if they experience persistent severe abdominal pain.</p> <p><input type="checkbox"/> Discontinue the GLP-1 analogue if pancreatitis is suspected.</p> <p><input type="checkbox"/> If pancreatitis in a patient using a GLP-1 analogue is confirmed, appropriate supportive treatment should be initiated and the patient carefully monitored until recovery. GLP-1 analogue should not be restarted.</p>	
Missed dose advice	<p>If a dose is missed, it should be administered as soon as possible if there are at least 3 days (72 hours) until the next scheduled dose.</p>	<p>If a dose is missed, it should be administered as soon as possible and within 5 days after the missed dose.</p>

	DULAGLUTIDE (Trulicity®)	SEMAGLUTIDE (Ozempic®)
Contra-indications	Type 1 diabetes, pregnancy and breastfeeding	Type 1 diabetes, pregnancy and breast feeding. Not recommended in patients with congestive heart failure NYHA class IV
Renal function	Not recommended for use in patients with end-stage renal disease	
Hepatic function	No dosage adjustment is recommended for patients with hepatic impairment	
Adverse effects	Acute pancreatitis serious but rare Common side effects experienced include: Nausea (20-26% of patients were affected in trials) Diarrhoea and vomiting. In general, these reactions were mild or moderate in severity and of short duration. MHRA safety alert: Serious and life-threatening cases of diabetic ketoacidosis have been reported in patients with type 2 diabetes on a combination of a GLP-1 agonist and insulin, particularly after rapid discontinuation or reduction of concomitant insulin. GLP-1 receptor agonists are not substitutes for insulin, and any reduction of insulin should be done in a stepwise manner with careful glucose self-monitoring. If unsure, please contact the Community Diabetes Team for advice.	
Monitoring	Patient must meet both criteria for continuing therapy: <input checked="" type="checkbox"/> a weight reduction of ≥3% (of initial body weight) <input checked="" type="checkbox"/> a reduction of ≥11mmol/mol by 6 months	
Additional information about dosing and licensed combinations, precautions and special warning for use can be found at www.medicines.org.uk		

Patient leaflet and Counselling check list Dulaglutide—Trulicity®

At your appointment today we have agreed to start treatment with a WEEKLY injectable medicine to help manage your type 2 diabetes. This medicine is called:

Dulaglutide (Trulicity®)

This medicine belongs to a class of medicines known as a GLP-1 analogue.

During your appointment we discussed how to use the pen and how to administer the medicine. Further information about the device and how to use it may be found in the patient information provided with your medicine and also online at the following link.

<https://www.lillydiabetes.co.uk/patient/trulicity>

Although this medicine is given as an injection, it works differently to insulin. GLP-1 analogues should help reduce your blood glucose levels and may also help you lose weight, especially if you follow a healthy diet and take regular exercise.

These injections do not work for everyone and if left unchecked may not be the best use of NHS resources. We therefore need to regularly monitor whether it is being effective.

In order to do this, we follow the guidance from the National Institute of Health and Clinical Excellence (NICE). This states that treatment with these medicines should only be continued after 6 months if a patient sees a reduction in their HbA1c (measurement of long term blood sugar control) of 11mmol/mol and a reduction in their weight of 3% or more.

If the GLP-1 analogue injection does not provide these beneficial outcomes after 6 months, we will need to consider alternative options to manage your condition and stop the GLP-1 analogue injection.

If treatment is continued after 6 months, we will continue to monitor your HbA1c and weight on a regular basis. If the beneficial effects are not maintained, then again we will need to consider alternative options to manage your condition this may include stopping the GLP-1 analogue.

Make it safe! - Trulicity pens look different to other GLP-1 treatments but there is always a risk that a patient may get confused changing from a daily injection to a weekly regimen. Ask them to repeat back to you confirmation they have understood the change in dose.

Today	6 month's target
Weight (3% loss required)	
HbA1c (11mmol/mol reduction required)	
eGFR (to check your kidney function)	To be measured in 6 months

As with all medicines, side effects are possible and affect each person differently. We want you to be familiar with the following:

Feeling sick or being sick and upset stomach are common side effects. These reactions are mild and short lived. If they do not go away or become severe you must seek medical advice and take steps to avoid dehydration.

Acute pancreatitis is rare but serious, you must seek medical advice if you develop persistent severe abdominal pain.

The pens should be stored in your fridge when not in use.

Each pen contains one dose.

Use one pen each week and then dispose of it into a yellow sharps bin.

If you are changing from a daily GLP-1 analogue to dulaglutide (Trulicity®) start Trulicity the day after you finish your old GLP-1 analogue

If you are changing from a weekly GLP-1 analogue to Trulicity® then start Trulicity a week after your last injection of your old GLP-1 analogue



Patient leaflet and Counselling check list Semaglutide —Ozempic®

At your appointment today we have agreed to start treatment with a WEEKLY injectable medicine to help manage your type 2 diabetes. This medicine is called:

Semaglutide (Ozempic)

This medicine belongs to a class of medicines known as a GLP-1 analogues.

During your appointment we discussed how to use the pen and how to administer the medicine. Further information about the device and how to use it may be found in the patient information provided with your medicine and also online at the following link.

<https://www.novonordisk.co.uk/ozempic-pen-demo-video.html>

Although this medicine is given as an injection, it works differently to insulin. GLP-1 analogues should help reduce your blood glucose levels and may also help you lose weight, especially if you follow a healthy diet and take regular exercise.

These injections do not work for everyone and if left unchecked may not be the best use of NHS resources. We therefore need to regularly monitor whether it is being effective.

In order to do this, we follow the guidance from the National Institute of Health and Clinical Excellence (NICE). This states that treatment with these medicines should only be continued after 6 months if a patient sees a reduction in their HbA1c (measurement of long term blood sugar control) of 11mmol/mol and a reduction in their weight of 3% or more.

If the GLP-1 analogue injection does not provide these beneficial outcomes after 6 months, we will need to consider alternative options to manage your condition and stop the GLP1 analogue injection.

If treatment is continued after 6 months, we will continue to monitor your HbA1c and weight on a regular basis. If the beneficial effects are not maintained, then again we will need to consider alternative options to manage your condition this may include stopping the GLP-1 analogue.

Make it safe! - The Ozempic pen looks similar to the victoza pen. The patient should be counselled about this similarity and be reminded of the change to a weekly regimen. Ask them to repeat back to you confirmation they have understood the change in dose.

Today	6 month's target
Weight (3% loss required)	
HbA1c (11mmol/mol reduction required)	
eGFR (to check your kidney function)	To be measured in 6 months

As with all medicines, side effects are possible and affect each person differently. We want you to be familiar with the following:

Feeling sick or being sick and upset stomach are common side effects. These reactions are mild and short lived. If they do not go away or become severe you must seek medical advice and take steps to avoid dehydration.

Acute pancreatitis is rare but serious, you must seek medical advice if you develop persistent severe abdominal pain.

Store the pen in your fridge.

Each pen is a different strength. With each increase in dose you will receive the next strength pen.

Each pen contains 4 doses, enough for 4 weeks use.

Each pack contains four needles. Use a new needle for each dose administered. The pens and needles should be disposed of in a yellow sharps bin

Changing from Daily GLP-1 analogue to weekly
Start Ozempic the day after you finish your old GLP-1 analogue.

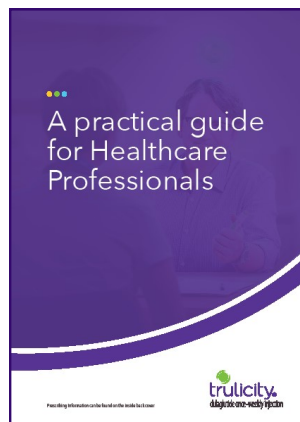
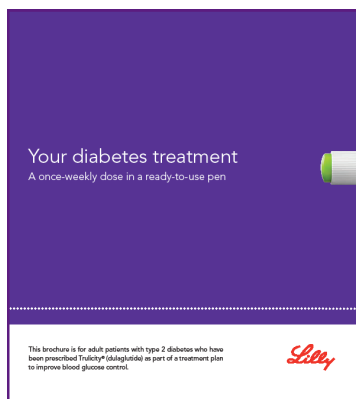
Changing from weekly GLP-1 analogue
Start Ozempic ONE week after your last injection of your old GLP-1 analogue



Resources Dulaglutide (Trulicity®)

Patient leaflets and Healthcare professional advice

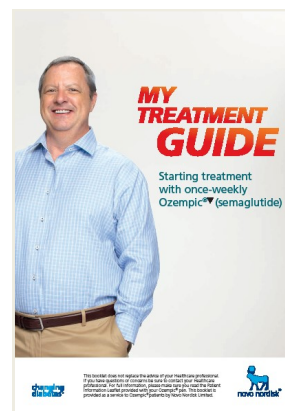
Click on the pictures to open. Copies may be sent electronically or ordered via medicines management. <https://www.lillydiabetes.co.uk/hcp/trulicity>



Resources Semaglutide (Ozempic®)

Patient leaflets and Healthcare professional advice

Click on the pictures to open. Copies may be sent electronically or ordered via medicines management



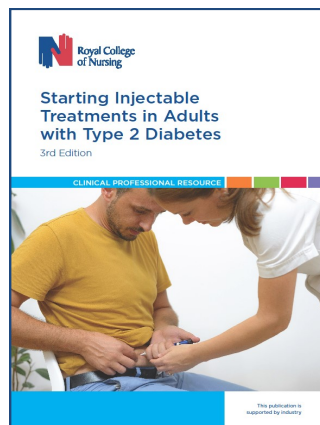
Useful websites regarding initiating injectable treatments and injection technique

The Royal College of Nursing produced the following useful guide in 2019. Please click on the picture to open.

Additional professional resources are also available on their website

<https://www.rcn.org.uk/clinical-topics/diabetes/professional-resources>

Shropshire and Telford and Wrekin CCG also have access to the online learning resources about injectables provided by EDEN. To access please register at <https://www.edendiabetes.com/elearning-2>



The TREND diabetes led by diabetes specialist nurses have produced some excellent materials regarding injection technique. Please click on the pictures to access. <https://trend-uk.org/injection-technique-matters/>

