NHS
Nottingham and Nottinghamshire

Guidance for switching insulin originator products to biosimilar insulins in adults with Type 2 diabetes in Primary Care

The Nottingham and Nottinghamshire joint formulary includes biosimilar insulins as cost effective alternatives to branded insulins[1]. A biosimilar medicine must be shown to have no clinically meaningful differences from the originator medicine in terms of quality, safety and efficacy and therefore is considered therapeutically equivalent to the originator medicines within their authorised indications.[2] More information about biosimilars can be found in the Nottinghamshire Area Prescribing Committee Biosimilar FAQ document.[3]

The NHS Business Services Authority statistical report shows that in 2022/23, 15% of the total spend on all prescription items prescribed in England was for drug items used in treating diabetes at cost of £1.53 billion[14]. The use of biosimilar alternatives in diabetes treatment offers the opportunity to make significant cost savings and support the NHS in meeting its affordability challenge while maintaining excellent diabetes care[9].

The choice of whether a patient receives a biosimilar or originator biological medicine rests with the responsible clinician in consultation with the patient. NICE recommends using the most cost-effective choice where two or more products are suitable for a patient[2]. Prescribers are reminded to use the preferred biosimilar brands for patients newly starting on insulin. This is reflected in the Nottingham Commissioning position statement for biosimilar and originator biologic medicines.[4]

The preferred biosimilar insulins can be found in the Nottingham and Nottinghamshire formulary[1] . The Nottinghamshire Health Community treatment guideline for the management of Type 2 diabetes in adults[5] also provides a useful summary of formulary insulins and recommendations.

This guidance aims to support switching patients from the originator insulins to the named biosimilar insulins by primary care clinicians who would usually prescribe insulin. It is intended to be used for individuals with Type 2 diabetes ONLY. Although biosimilar insulins are suitable for those with Type 1 diabetes, this guidance is not intended for use in this population, whose insulin is generally managed by a specialist.

This guidance is intended for adult patients with Type 2 diabetes who are prescribed the below and could potentially switch to the preferred biosimilar.

1. Currently prescribed NovoRapid® (Insulin Aspart) other than the preferred biosimilar Trurapi®.
2. Currently prescribed Humalog® 100units/ml (Insulin lispro) other than the preferred biosimilar brand Admelog®.
   The higher strength Humalog® 200units/ml is excluded from this switch.
3. Currently prescribed Lantus® (Insulin glargine) and Abasaglar® (Insulin glargine biosimilar) other than the preferred biosimilar Semglee®.

Written by Umema Adamjee (Medicines Optimisation Pharmacist)
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Exclusion criteria

- Patients currently managed by a diabetes specialist nurse (DSN).
- Patients prescribed a higher strength insulin lispro, Humalog® 200units/ml.
- Patients who refuse to conduct additional glucose monitoring.
- Children and young people under the age of 18.
- Patients on insulin pumps.
- Patients known to be pregnant or planning pregnancy.
- Patients who have had a previous trial of the biosimilar or have recorded allergy.
- Patients using NovoRapid®FlexTouch pens prescribed for dexterity or other physical problems.
- Patients with Type 1 diabetes.

Extra care should be taken when considering switch for patients living with cognitive impairment, dementia or Alzheimer's, or using a smart pen device

Considerations when switching to a biosimilar insulin

- The switch should be carried out as part of a face to face full insulin review by staff trained in diabetes management.
- The decision to switch should be made on an individual patient basis as part of a shared decision and only actioned where clinically appropriate.
- A full exploration of the patient's lifestyle, eating habits, timing of meals plus patient preference should be taken into account.
- It may be apparent after review that a 1:1 insulin switch is not the best course of action for the patient in which case consider an alternative insulin regimen.
- Ensure all insulins including biosimilar insulins are prescribed by brand name.
- Check patients get the intended insulin with the correct delivery device for that insulin and are trained fully on how to use[8]. The Nottingham and Nottinghamshire formulary contains information regarding compatible pen devices for all insulins.
- Update the repeat prescription template and the summary care record.
- Involve and inform relative/carer regarding the change if they are involved in patient care.

Important points

- Prescribers are reminded that whenever a patient's insulin is changed, their insulin passport should be updated.
- Report any suspected adverse reactions to the Medicines Health and Regulatory Agency (MHRA) via the yellow card scheme (https://yellowcard.mhra.gov.uk) Yellow cards can also be obtained using Freephone 0808 1003352.
- Insulin injection technique should be assessed frequently and at least annually.[8]
- Safety net to report any concerns about glucose levels to practice diabetes team.

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Guidance for switching insulin originator products to biosimilars in primary care[8,9,11]

Patient on NovoRapid® or on Lantus®/Abasaglar® or Humalog®

YES

Does the patient have good glucose control/stable?

NO

Does the patient have hypoglycaemic episodes? Assess daily pattern to identify when lower ranges are occurring using glucose monitoring diary.

NO

Consider switch to biosimilar dose for dose if the patient's blood glucose is higher than their target blood glucose levels.

For patients on NovoRapid® (Insulin aspart) switch to Trurapi®
For patients on Humalog® (Insulin lispro) switch to Admelog®
For patients on Lantus®/Abasaglar® (Insulin glargine) switch to Semglee®

- Patient should monitor blood glucose more closely.
- Review the patient in a week and titrate the dose of biosimilar as necessary to achieve patient individualised target blood glucose levels. Titration should be by 2 units[15] or 10% if on higher doses.[16]

YES

Is HbA1c greater than 58mmol?

NO

YES

Consider switch to biosimilar dose for dose.

For patients on Novorapid® (Insulin aspart) switch to Trurapi®
For patients on Humalog® (Insulin lispro) switch to Admelog®
For patients on Lantus®/Abasaglar® (Insulin glargine) switch to Semglee®

- Patient should monitor blood glucose more closely.
- Review the patient in a week and titrate the dose of biosimilar as necessary to achieve patient individualised target blood glucose levels. Titration should be by 2 units[15] or 10% if on higher doses.[16]

After dose titration, if the patient does not reach target blood glucose, please consider an alternative insulin regimen.

Consider switch to biosimilar: For hypoglycaemia reduce dose by 20%. For rapid acting insulin, assess which dose is causing the hypoglycaemic episode and reduce dose by 20%. For those with optimal glucose control, reduce dose by 10%.

For patients on Novorapid®(Insulin aspart) switch to Trurapi®
For patients on Humalog® (Insulin lispro) switch to Admelog®
For patients on Lantus®/Abasaglar®(Insulin glargine) switch to Semglee®

- Verify current dose and reduce by 10-20% as guided above.
- Advise patient to monitor blood glucose more closely.
- Patient to be given a self-titration plan. If not possible then review patient weekly and titrate the dose of the biosimilar as necessary to achieve individualised target blood glucose levels. Titration should be by 2 units[15] or 10% if on higher doses.[16]
- Advice can be sought from the diabetes specialist nurses and within a multidisciplinary meeting.

CONSULTATION CHECKLIST FOR SWITCH

- Discuss rationale for switch with the patient, offer information and obtain consent.
- Advise the switch will allow cost savings with no anticipated difference in day-to-day control without compromising on efficacy and safety.
- Ensure dose and device counselling is re-offered. Reinforce good injection technique.
- Reinforce correct hypoglycaemic treatment plan and assess if hypo unaware.
- Ensure insulin passport is updated.
- Advise patient to contact healthcare professional if any concerns.

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Biosimilar Insulin	Cost (March 2024)	Reference Insulin	Cost (March 2024)	Potential cost saving per box of 5 pens
Insulin Aspart 100units/ml Trurapi® 3ml SoloStar pens (5 pens) (SmPc)	£21.42	NovoRapid ®3ml FlexPens (5 pens) NovoRapid® 3ml FlexTouch pens (5 pens)	£30.60 £32.13	**£9.18** **£10.71**
Trurapi® 3ml cartridges (5 pens) (SmPC)	£19.82	NovoRapid® 3ml cartridges (5 pens)	£28.31	**£8.49**
Insulin Lispro 100 units/ml Admelog® 3ml SoloStar pens (5 pens) (SmPC)	£22.10	Humalog® 3ml KwikPen (5 pens)	£29.46	**£7.36**
Admelog® 3ml cartridges (5 pens) (SmPC)	£21.23	Humalog® 3ml cartridges (5 pens)	£28.31	**£7.08**
Insulin glargine 100units/ml Semglee ®3ml prefilled pens (5 pens) (SmPC)	£29.99	Lantus® 3ml SoloStar pens (5 pens)	£34.75	**£4.76**
Semglee ®3ml prefilled pens (5 pens) (SmPC)	£29.99	Abasaglar® 3ml Kwikpen pens (5 pens)	£34.75	**£4.76**

SmPC – Summary of product characteristics

Table 1 showing cost comparison an available delivery devices of originator and biosimilar insulins

Please note that more information on devices, compatible pens, timings of onset, duration and of administration can be found on the individual monograph entries in the Nottingham and Nottinghamshire formulary.

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