

Quick guide: Initiating or switching to a biosimilar insulin

Biosimilar insulins approved in the UK have been demonstrated to be equivalent to the originator insulins they are based on in terms of quality, efficacy, safety and immunogenicity. The opportunity to make a biosimilar insulin arises with patent expiry on the originator insulin; thus, they are typically cheaper and their use could enable significant cost savings to the NHS. This quick reference guide is an accompaniment to the [in-depth review of biosimilar insulins](#) by David Morris published in this journal and offers a brief summary of the practical concerns when initiating or switching to a biosimilar insulin.

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Initiating in insulin-naïve individuals

Consider a biosimilar as the first choice, following recommendations of the local Area Prescribing Committee.

Switching to a biosimilar insulin

The decision to switch an insulin to its biosimilar version must be undertaken by a clinician with a special interest in diabetes, experienced and competent in prescribing insulins, in conjunction with the individual concerned, and never substituted at the point of dispensing.

The Association of British Clinical Diabetologists (Jayagopal et al, 2018) and Diabetes UK (2019) advise against switching in individuals with stable glycaemic control. However, in contrast, the NHS commissioning framework for biosimilars (NHS England, 2017) recommends their use in this group.

- If the person was previously achieving optimal glycaemic control, it is prudent to start the biosimilar at a 10% lower dose than the originator insulin and then titrate back up to the original dose as necessary.

For those individuals with poor glycaemic control, a switch to a biosimilar is reasonable, in addition to tackling the underlying reasons for the poor control.

- Where there have been persistently low glucose levels or below-target HbA_{1c}, it is appropriate to reduce the starting dose of the biosimilar by 20%.
- If glucose levels have been running high or HbA_{1c} is above target, the biosimilar should be initiated at the same dose as the originator insulin and uptitrated subsequently as necessary.

Safety aspects to consider

Prescribing insulins by brand name is important to avoid inadvertent substitution in the dispensing process.

Individuals who switch to a biosimilar insulin must be fully informed and receive appropriate education. Consider potential differences between the insulins in terms of:

- Delivery device (whether based on cartridges or reusable pens) and administration.
- Storage conditions and shelf life (check Summaries of Product Characteristics).

Encourage individuals who switch to monitor their glucose readings more closely to identify any variability in glucose profile compared to the reference insulin.

Biosimilar medicines, including insulins, have been accorded a black triangle status in their early years of use. Healthcare professionals should report any issues or adverse effects to the MHRA using the [Yellow Card system](#).

Cost of biosimilar insulins available in the UK, and potential cost savings from using them.

Biosimilar insulin	Cost	Reference insulin	Cost	Potential cost saving
Insulin glargine 100 units/mL				
Abasaglar 3 mL Kwipens (n=5) [SmPC]	£35.28	Lantus 3 mL SoloStar pens (n=5)	£34.75	None
Abasaglar 3 mL cartridges (n=5) [SmPC]	£35.28	Lantus 3 mL cartridges (n=5)	£34.75	None
Semglee 3 mL pre-filled pens (n=5) [SmPC]	£29.99	Lantus 3 mL SoloStar pens (n=5)	£34.75	£4.76
Insulin lispro 100 units/mL				
Admelog 3 mL SoloStar pens (n=5) [SmPC]	£22.10	Humalog 3 mL KwikPens (n=5)	£29.46	£7.36
Admelog 3 mL cartridges (n=5) [SmPC]	£21.23	Humalog 3 mL cartridges (n=5)	£28.31	£7.08
Insulin aspart 100 units/mL				
Trurapi 3 mL SoloStar pens (n=5) [SmPC]	£21.42	NovoRapid 3 mL FlexPens (n=5)	£30.60	£9.18
		NovoRapid 3 mL FlexTouch pens (n=5)	£32.13	£10.71
Trurapi 3 mL cartridges (n=5) [SmPC]	£19.82	NovoRapid 3 mL cartridges (n=5)	£28.31	£8.49

Prices according to British National Formulary as of 6 January 2022.

SmPC=Summary of Product Characteristics.

Recommended reading

Down S, Beba H, Brown P et al (2019) Guideline for the managed introduction of biosimilar basal insulin. *Guidelines*. MGP Ltd., Chesham. Available at: <https://bit.ly/3n3Q2y5> (accessed 04.01.22)

References

- Diabetes UK (2019) *Biosimilar insulins. Position statement*. DUK, London. Available at: <https://bit.ly/3qPAAaN> (accessed 04.01.22)
- Jayagopal V, Drummond R, Nagi D (2018) Association of British Clinical Diabetologists (ABCD) position statement on the use of biosimilar insulin. *Br J Diabetes* 18: 171–4
- NHS England (2017) *Commissioning framework for biological medicines (including biosimilar medicines)*. NHSE, London. Available at: <https://bit.ly/32M4eWB> (accessed 04.01.22)