Advice for healthcare professionals

High strength, fixed combination and biosimilar insulin products: Minimising the risk of medication error – February 2019

Until recently, all insulin was only available as 100 units per ml. However, several new insulin products have been launched in the UK market. Three high strength insulins which have concentrations greater than 100 units/mL are now available;

Details of the new products are as follows:

Active substance	Brand name	Strengths available	Administration devices
Insulin degludec	Tresiba▼	100 units/mL	FlexTouch prefilled pen; cartridge ('Penfill' for use in Novo Nordisk reusable pen)
		200 units/mL	FlexTouch prefilled pen
Insulin degludc and Liraglutide	Xultophy▼	100 units/mL of insulin degludec and 3.6 mg/mL of liraglutide	Prefilled pen
Insulin lispro	Humalog	100 units/mL	KwikPen prefilled pen; vial; cartridge
		200 units/mL	KwikPen prefilled pen
	Humalog Mix25	100 units/mL	KwikPen prefilled pen; vial; cartridge
	Humalog Mix50	100 units/mL	KwikPen prefilled pen; cartridge
Insulin glargine	Lantus	100 units/mL	SoloStar prefilled pen; vial; cartridge
	Toujeo	300 units/mL	SoloStar prefilled pen
	Abasaglar▼ (Bisosimilar)	100 units/mL	KwikPen prefilled pen; cartridge (for use in Lilly reusable pen)

Healthcare providers involved in prescribing, dispensing and administering of these insulins within primary and secondary care need to be aware of the possible risks of medication errors with high strength, fixed combination and biosimilar insulin products already on the market.

In collaboration with:
WEL MOCC- NHS Newham CCG, NHS Tower Hamlets CCG, NHS Waltham Forest CCG
Barts Health NHS Trust

The Do's and Don'ts of prescribing insulin

Do's ☑

- Always prescribe insulins by specifying the **brand**
- Always specify the **strength** of the insulin on the script e.g. 100units/ml
- Prescribe insulin doses in units ensuring that the word '**units**' is spelled out in lower case
- Only use high-strength insulin with the pre-filled pen it is supplied
- Ensure **prescriptions are legible**, that the type of insulin is clear and the dose is unambiguous
- Ensure that your patients/carers are adequately informed on how to use their high-strength insulin
- Tell patients to monitor their blood sugar levels when starting or switching to a high-strength insulin and in the weeks after
- Explain differences in the design of the package and the prefilled pen device, especially if the patient has been transferred from a standard strength insulin to a high-strength insulin. Focus on colour differentiation, warning statements on carton/label and other safety design features (such as tactile elements on the prefilled pen).
- Consult the summary of product characteristics and any educational material relevant to the insulin product before prescribing

Don'ts ☒

- Ever use a syringe to withdraw insulin from a pre-filled pen/cartridge
- Convert/recalculate) doses when transferring patients from one strength of insulin to another-the pen device shows the number of units of insulin to be injected irrespective of strength.

References

1. National Institute for Health and Care Excellence (NICE). (2018, February 2018). *Safer insulin prescribing*. Retrieved from https://www.nice.org.uk/advice/ktt20/chapter/evidence-context
2. European Medicines Agency. (2015, November 27). *Guidance on prevention of medication errors with high-strength insulins.* Retrieved from https://www.ema.europa.eu/documents/medication-error/insulins-high-strength-guidance-prevention-medication-errors_en.pdf
3. NHS Improvement. (2016 , November 16). *Risk of severe harm and death due to withdrawing insulin from pen devices*. Retrieved from https://improvement.nhs.uk/news-alerts/risk-severe-harm-and-death-withdrawing-insulin-pen-devices/

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Date produced: April 2019
Review Date: April 2021
Approved by WEL MOCC: May 2019
Version 1.1

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