AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

FACT SHEET
for clinicians

Safer insulin prescribing

Guidance for Australian prescribers

Purpose

To highlight the importance of detailed prescribing for safe and quality use of insulin.

Key points

Insulins are high-risk medicines with a high incidence of medication error and related harm when used incorrectly.

There is a risk of fatal hypoglycaemic events should an individual inadvertently take the wrong dose, formulation or brand of insulin.[1,2]

Safe and quality use of insulins requires clear information transfer from initial prescribing to dispensing to administration by consumers and/or their carers.

To safely prescribe insulins, always include the following on all prescriptions for insulin:

- Active ingredient name
- Strength with 'units' written in full
- Brand name
- Formulation
- Route
- Dose with 'units' written in full
- Frequency and timing of dose.

Background

Insulin products come in multiple strengths, different formulations, and mixed combinations of active ingredients with look-alike, sound-alike names. There is a high risk of confusion and incorrect product selection, leading to patient harm.[3]

Medication errors involving the wrong name or wrong dose of insulin are common, compounded by similar looking packaging and delivery devices.[1,2]

Always include the brand name

Prescribing medicines using the active ingredient name is safe in most situations and an important part of understanding how to use medicines. However, insulin products cause confusion. Prescribing insulins by brand name[4,5], in addition to the active ingredient name helps ensure the prescription is clear[3] for both clinicians and consumers. Without the brand name, the prescription may be incorrectly dispensed and administered.

General practice software and active ingredient prescribing

Prescriptions are generated with the active ingredient name for most medicines, including those on the **List of Medicines for Brand Consideration (LMBC)**. Prescribing software has been developed to alert prescribers to include the brand name for medicines on the LMBC. However, systems differ, and alerts are not always active or may be overlooked. Prescribers need to be vigilant and check the brand name has been included on all prescriptions for insulin.

For further details refer to the ***Active ingredient prescribing – User guide for Australian prescribers***.

Insulin safety advice, both locally and internationally[6,7], emphasises the need to include the brand name on a prescription for insulin to support safe use. The examples in Box 1 and Box 2 on page 2 highlight this.

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Box 1: Insulin aspart formulations

Fiasp is a novel formulation of insulin aspart. The inclusion of nicotinamide allows a faster onset of action and a greater early glucose-lowering effect compared to the originator brand of insulin aspart, NovoRapid.[8]

Fiasp and NovoRapid brands of insulin aspart are not equivalent or interchangeable.

Fiasp has a greater risk of hypoglycaemia with delay in food intake.[5]

Fiasp and NovoRapid are available in the same strength, with similar delivery systems. When prescribed by active ingredient without the brand name, their descriptions may both appear as **insulin aspart 100 units/mL injection**.

Including the **brand name** will distinguish between the two products and avoid selection errors at the point of dispensing[5]:

- Insulin aspart 100 units/mL injection (Fiasp)
- Insulin aspart 100 units/mL injection (NovoRapid).

Box 2: Insulin glargine – high-concentration

Insulin glargine is a long-acting insulin that can cause prolonged hypoglycaemia if administered incorrectly. It is available in two strengths, 100 units/mL and 300 units/mL and in various delivery systems including vial, cartridge and pen.

Different concentrations of insulin glargine are not equivalent or directly interchangeable.

The 300 units/mL formulation (Toujeo) is three times more concentrated than the 100 units/mL formulation (Optisulin). This results in slower absorption, more consistent insulin activity, and a longer duration of action.[9]

Administration errors and harm have been reported in association with inadvertent use of high concentration insulin glargine.[10] Careful dose adjustments and close monitoring are required if switching from one formulation to the other to reduce the risk of hypoglycaemia.[10]

It is important to specify the strength on the prescription. Including the **brand name** will emphasise the product to be used.

Stop, Think, Check!

Stop and review the active ingredient name, strength, and formulation when selecting and prescribing an insulin product for your patient

Insulins have similar looking and sounding names, strengths, and forms, which may be easily misread in a medicine selection list.

Think about the clarity of your prescription for the pharmacist to dispense, nurse to administer, or patient to use

An unclear or incomplete prescription can impact the safe use and administration of insulin.

Workloads may be impacted, and therapy delayed if a prescription is unclear or ambiguous.

Think about your patient's understanding of their insulin. For instance:

- Is this a new insulin for them?
- Do they know the active ingredient name and brand name of their insulin?
- Do they know what the delivery device looks like and how to administer correctly?
- Do they know what dose to administer, how often and at what time? Is this clear on the prescription?

Check the brand name is included on the prescription for insulin

This will remove ambiguity and minimise risks of prescribing, dispensing and administration errors. General practice prescribing software should have a pop-up alert or check box. Make sure it is activated! This alert will prompt you include the brand name.

Useful resources

- New South Wales Therapeutic Advisory Group. Know your insulins – version 1.3, March 2022
- Western Australia Health. Know your insulins. September 2020. Western Australia Medication Safety Collaborative.

Questions

For more information, please visit: **safetyandquality.gov.au/our-work/medication-safety**.

You can also contact the Medication Safety team at: **medsafety@safetyandquality.gov.au**.

References

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