



Choice of Subcutaneous Bolus Insulin Guideline

Effective: 20 May 2021

1. Guiding Principles

Insulin is a high risk medication. Errors in insulin therapy can cause serious harm or death.

When administering insulin subcutaneously, use of a pre-filled pen device is preferred to drawing the insulin into a syringe¹.

2. Guideline

Subcutaneous bolus dosing of insulin is used for:

- Prandial insulin, given before meals to cover carbohydrate intake
- Supplemental insulin, given to reduce high blood glucose concentrations to target levels.

Rapid acting insulin is generally preferred for bolus use over short acting insulin because it reduces the postprandial rise in blood glucose concentration and the risk of overnight hypoglycaemia².

Subcutaneous insulin must be prescribed on the [MR156A WACHS Insulin Subcutaneous Order and Blood Glucose Record – Adult](#), using the full trade name of the product to prevent selection errors³.

The [WACHS High Risk Medicines Procedure](#) includes a section on insulin. Included in this section is a statement regarding the preference for use of pen devices rather than drawing into a syringe when administering insulin subcutaneously.

Novorapid® (insulin aspart, rapid acting) is available in a pre-filled Flexpen device. Actrapid® (insulin neutral, short acting) is not available in a pre-filled pen form and requires drawing up into a syringe. If this is done, a 1mL insulin syringe must be used. Note that Actrapid® cartridges are single use only, even if used in the same patient¹.

Across WACHS Great Southern (WACHS GS) sites, Novorapid® is the preferred insulin when prescribing and administering bolus insulin doses subcutaneously EXCEPT where the patient is already using an insulin regimen which includes Actrapid® prior to presentation.

This preference does not apply to the preparation of intravenous (IV) insulin infusions, where Actrapid® should be used as per the [WACHS Diabetes – Inpatient Management Clinical Practice Standard](#).

3. Definitions

Pre-filled Pen Device	Disposable insulin pen pre-filled with a non-removable insulin cartridge
Intravenous/Intravenously	Into a vein
Subcutaneous/Subcutaneously	Under the skin
Bolus dose (insulin)	A dose of rapid or short acting insulin given before meals to prevent hyperglycaemia or as a supplementary dose to address a high blood glucose concentration.
Prandial insulin	Insulin given before meals to cover carbohydrate intake
Supplemental insulin	Insulin which is additional to a patient's normal requirement, given to reduce high blood glucose concentrations

4. Roles and Responsibilities

All prescribers are to consider the preference for Novorapid® in pre-filled pen devices when prescribing bolus insulin for their patients.

All nursing staff are to ensure comply with WACHS administration standards (refer to section 3.6 of the [WACHS Medication Prescribing and Administration Policy](#)), including the six rights of medication administration and use of 1mL insulin syringes if a pre-filled insulin device is not available.

5. Compliance

Failure to comply with this policy document may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the [Integrity Policy Framework](#) issued pursuant to section 26 of the [Health Services Act 2016](#) (WA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

All WACHS clinical records must be managed in accordance with [Health Record Management Policy](#).

7. Evaluation

Clinical leads in areas where Actrapid® is kept are to ensure staff are aware of this guideline and monitor insulin related clinical incidents.

The Pharmacy Department are to monitor requests for Actrapid® from clinical areas that do not usually keep it on imprest. Such requests must be reviewed for appropriateness by a clinical pharmacist at times when the Pharmacy Department is open, or the Hospital Nurse Manager after hours, before being supplied.

The WACHS GS Regional Medication Safety Group are to monitor clinical incidents involving insulin through their normal incident review processes.

8. Standards

National Safety and Quality Health Service Standards

Medication Safety Standard: 4.1.b, 4.15.a, 4.15.b

9. Legislation

WA Medicines and Poisons Act (2014)

WA Medicines and Poisons Regulations (2016)

10. References

1. WACHS High Risk Medicines Procedure
2. WACHS Medication Prescribing and Administration Policy
3. eTG Complete: Diabetes [digital] Melbourne: Therapeutic Guidelines Limited, 2019 June. < <https://www-tg-org-au.wachslibresources.health.wa.gov.au>>
4. Australian Medicines Handbook [online] Adelaide: Australian Medicines Handbook Pty Ltd, 2021< <https://amhonline-amh-net-au.wachslibresources.health.wa.gov.au/>>

11. Related Forms

MR156A WACHS Insulin Subcutaneous Order and Blood Glucose Record – Adult

12. Related Policy Documents

WACHS Diabetes – Inpatient Management Clinical Practice Standard

WACHS High Risk Medicines Procedure

WACHS Medication Prescribing and Administration Policy

13. Related WA Health System Policies

MP 0131/20 High Risk Medication Policy

14. Policy Framework

[Clinical Governance, Safety and Quality Framework](#)

15. Appendix

Appendix A: [Novorapid® \(insulin aspart, rapid acting\) and Actrapid® \(insulin neutral, short acting\) comparative table](#)

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on request for a person with a disability**

Contact:	Regional Chief Pharmacist		
Directorate:	Operations Great Southern	EDRMS Record #	ED-CO-21-177861
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Appendix A: Novorapid® (insulin aspart, rapid acting) and Actrapid® (insulin neutral, short acting) comparative table⁴.

Insulin	Brand name	Class	Onset of action	Peak	Duration of Action
Insulin aspart	Novorapid®	Rapid acting	10-15 minutes	1-1.5 hours	3-5 hours
Neutral insulin	Actrapid®	Short acting	30 minutes	2-3 hours	6-8 hours