



health

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Health
REPUBLIC OF SOUTH AFRICA



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Enquiries:

Contract queries:

Ms Marione Schonfeldt

E-mail:

marione.schonfeldt@health.gov.za

Stock queries:

Ms Babalwa Melitafa

E-mail:

Babalwa.Melitafa@health.gov.za

Clinical queries:

Essential Drugs Programme

E-mail: SAEDP@health.gov.za

NOTICE: GUIDANCE ON INSULIN SWITCHING: INSULIN PEN SETS TO INSULIN VIALS AND HUMAN INSULIN PRODUCTS TO INSULIN ANALOGUE PRODUCTS

The National Department of Health (NDoH) is committed to ensuring equitable access to quality healthcare for diabetic patients through ensuring the availability of safe, effective, and cost-effective medicines, in the appropriate dosage form at the appropriate level of care.

As communicated in the Circular: Availability of Insulin Pen Sets, dated 06 May 2024, during the period of supply constraints with insulin pen sets, the NDoH recommends that healthcare workers prioritise the available supply of insulin pen sets for the elderly, visually impaired individuals, arthritic patients, and children. Where insulin vials are prescribed and dispensed, enhanced counselling and adherence monitoring is required to ensure appropriate administration and use.

CLINICAL GUIDANCE

The Primary Healthcare (PHC) Standard Treatment Guidelines (STGs) and Essential Medicines List (EML) provides the following guidance on the use of insulin vials:

Drawing up insulin from vials

- » Clean the top of the insulin bottle with an antiseptic swab.
- » Draw air into the syringe to the number of marks of insulin required and inject this into the bottle; then draw the required dose of insulin into the syringe.
- » Before withdrawing the needle from the insulin bottle, expel the air bubble if one has formed.

Injection technique

- » The skin need not be specially cleaned.
- » Repeated application of antiseptics hardens the skin.
- » Stretching the skin at the injection site is the best way to obtain a painless injection.
- » In thin people, it may be necessary to pinch the skin between thumb and forefinger of one hand.
- » The needle should be inserted briskly at almost 90° to the skin to almost its whole length (needles are usually 0.6–1.2 cm long).
- » Inject the insulin.
- » To avoid insulin leakage, wait 5–10 seconds before withdrawing the needle.
- » Injection sites must be rotated to avoid lipohypertrophy.

Switching from human insulin pen sets to analogue pen sets

(Also refer to Annexures A and B for further guidance. Credit and thanks to the Division of Endocrinology, Groote Schuur Hospital and University of Cape Town; and the Western Cape Department of Health and Wellness).

NOTICE: GUIDANCE ON INSULIN SWITCHING: INSULIN PEN SETS TO INSULIN VIALS AND HUMAN INSULIN PRODUCTS TO INSULIN ANALOGUE PRODUCTS

Patients switching from biphasic human insulin pen set (product example: Actraphane HM[®]) to biphasic analogue insulin pen set (product example: Novomix 30[®])

- **Dosing:** When switching from a biphasic human insulin product to a biphasic analogue insulin, dosing switch would be on a unit per unit basis.
- **Dosing timing:** Administered immediately before a meal. Eat a meal or snack within 10 minutes of insulin injection to avoid low blood sugar.
- **Monitoring:** Increased monitoring may be required at time of switching as guided by healthcare provider.

Patients switching from fast-acting human insulin pen set (product example: Actrapid HM[®]); to ultra-fast-acting analogue insulin pen set (product example: Apidra[®])

- **Dosing:** When switching from a fast-acting human insulin product to an ultra-fast analogue, dosing switch would be on a unit per unit basis.
- **Dosing timing:** Administered with a meal or within 15 minutes before or after starting a meal.
- **Monitoring:** Increased monitoring may be required at time of switching as guided by healthcare provider.

Patients switching from intermediate or long-acting human insulin pen set (product example: Protaphane HM[®]) to long-acting analogue insulin pen set (product example: Optisulin Solostar[®])

- **Dosing:** When switching from a treatment regimen with an intermediate or long-acting insulin to a regimen with a long-acting analogue insulin, **reduce the dose by 20%**.
- **Dosing timing:** Administer once daily at the same time every day.
- **Monitoring:** Increased monitoring may be required at time of switching as guided by healthcare provider.

COMMUNICATION AND DISSEMINATION OF INFORMATION

Further communication on product availability will be shared with provinces as it becomes available. Provinces and Healthcare Facilities are requested to distribute and communicate this information in consultation with the Pharmaceutical and Therapeutics Committees. Kindly share with all healthcare professionals and relevant stakeholders.

Kind regards,

K. Jamaloodien

MS KHADIJA JAMALOODIEN
CHIEF DIRECTOR: SECTOR-WIDE PROCUREMENT
DATE: 21/6/2024

ANNEXURE A

RECOMMENDATIONS FOR MANAGING THE SWITCHOVER IN CHILDREN AND ADOLESCENTS WITH TYPE 1 DIABETES

Type 1 diabetes in children and adolescents

Points to note

- There is no/very low endogenous insulin
 - full replacement is required, or else DKA results (with cerebral oedema risk)
- The developing brain is more at risk of damage with hypoglycaemia and suppressed ketones when insulin dose higher than required
- Children's needs change with growth and puberty – frequent review and individualisation required
- All changes to therapy need explicit patient/family education



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Groote Schuur Hospital/UCT

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Difference in switching in Children/Adolescents

- Pens to syringes
 - smaller 50u (or even 30u) syringes for accuracy
 - can mix soluble and isophane (Actrapid and Protophane)
- Soluble to rapid acting glulisine insulin (Actrapid to Apidra)
 - dose for dose (no reduction required)
 - timing needs to be emphasised (within 15 minutes of meal)
 - 'inbetween' carbs may need additional injections
- Isophane to long acting glargine insulin (Protophane to Optisulin)
 - total daily basal dose reduced by 20%
 - may not last 24 hours, split into morning and night dose may be needed



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ANNEXURE B

RECOMMENDATIONS FOR MANAGING THE SWITCHOVER IN ADULTS.



DIVISION OF ENDOCRINOLOGY

Groote Schuur Hospital
University of Cape Town



28 May 2024

Switching to using regular human insulin vials and syringes

Regular human insulin will not be available in a pen for the foreseeable future, requiring all patients to switch to using vials and syringes. Unfortunately, not all patients may be able to use an insulin syringe. Therefore, the following guide has been created to assist with the conversion process safely. However, it is crucial to prioritize the clinical judgment of the treating clinician at all times.

VERY IMPORTANT

Any change in the insulin regimen OR type of insulin must be accompanied by the following:

1. Patient education on the new insulin and new regimen
2. Increased monitoring of the fingerprick glucose
3. Provision must be made for the patient to access immediate advice if a problem arises

Regimen: Protaphane only	Regimen: Actrapid and Protaphane
<p><i>Able to use an insulin syringe</i> Change to a Protaphane vial</p> <p><i>Cannot use an insulin syringe</i> Change to an Optisulin pen (Reduce the dose by 20%)</p>	<p><i>Able to use an insulin syringe</i> Change to an Actrapid vial and Protaphane vial</p> <p><i>Cannot use an insulin syringe</i> Change to an Apidra pen (No dose reduction) Change to an Optisulin pen (Reduce the dose by 20%)</p> <p>Apidra must be given WITH meals, no delay required</p>

Regimen: Actraphane

Able to use an insulin syringe
Change to an Actraphane vial

Cannot use an insulin syringe
Change to an Apidra pen and Optisulin pen

- Step 1: Reduce the dose of Actraphane by 20%
- Step 2: 30% of the dose (from Step 1) must be given as Apidra (rapid-acting) and 70% of the dose (from Step 1) must be given as Optisulin (long-acting)
- Step 3: Apidra and Optisulin must be given WITH breakfast and WITH supper (no delay required)

Example: someone using 40 units of Actraphane 20 minutes before breakfast and 28 units of Actraphane 20 minutes before supper

- The new insulin dose will be 32 units before breakfast (Actraphane dose reduced by 20%) and 22 units before supper (Actraphane dose reduced by 20%)
- Give 10 units of Apidra (30% of the new insulin dose) and 22 units of Optisulin (70% of the new insulin dose) WITH breakfast and 7 units of Apidra (30% of the new insulin dose) and 15 units of Optisulin (70% of the new insulin dose) WITH supper

Cannot use an insulin syringe AND unable to differentiate the different pens
Change to an Optisulin pen only 50% WITH breakfast and 50% WITH supper **(Reduce the dose by 20%)**