

## Sub cutaneous fluid and medication

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### Purpose

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The administration of sub cutaneous medications and fluids will be undertaken in such a manner as to reduce the risk to the patient/personnel involved, following best practice standards and optimising patient outcomes.

### Applicability

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#### **Scope for hypodermoclysis (gravity fed) infusions (NOT via Niki T 34 (BD BodyGuard T)/Agilia SP syringe infusion pump)**

A peripheral IV endorsed nurse with another peripheral IV endorsed nurse as per their scope of practice

**Exception:** SMHS registered nurses who have obtained endorsement for only sub cutaneous infusion administration and monitoring.

#### **Scope for Niki T 34 (BD BodyGuard T) Syringe pump use/training**

Training on symptom management and delivery via Niki T34 pumps is encouraged. A self-learning package is in development for staff completion which includes a practical sign off component. In the adult oncology haematology setting in Christchurch Hospital Campus all registered nurses are trained in the use of Niki T34 management.

Staff can contact B5 or the Palliative Care Service (afterhours via the switchboard) to assist with set up, guidance and advice as required, until the areas training competency is finalised.

Only peripheral IV endorsed staff can check and deliver medication via the Niki T 34 (BD BodyGuard T). This is a double independent check route.

**Scope for Agilia SP syringe infusion pump**

Only peripheral IV or CVAD endorsed staff can check and deliver medication via the Agilia SP syringe infusion pump. This is a double independent check route.

**Scope for sub cutaneous insulin and Low Molecular Weight Heparin injections**

Nursing, Midwifery, Medical personnel as per their scope, and students of nursing and midwifery as defined by their roles and responsibilities in the CDHB Students Roles and Responsibilities with Medication and Fluid Policy. Other Approved Persons in the Hospital Service setting as per the CDHB Roles and Responsibilities Policy. This is a double independent check route.

**Low Molecular Weight Heparin Injection**

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**Refer to the Lippincott procedure on sub cutaneous administration in the Low molecular weight heparin section, after reading the following CDHB policy statements**

Ensure the patient's current weight is recorded on the patient's drug chart if the medication is for therapeutic (treatment) requirements

For 60mg doses or greater invert the syringe allowing for the air bubble to float to plunger end before discarding the medication not required.

Do not expel the air bubble from syringe before the injection.

Tap the syringe so that the air bubble rises to plunger end.

The manufacturer states the injection must be given at a 90-degree angle

**Gravity fed sub cutaneous infusions**

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**Refer to the [Lippincott procedure on sub cutaneous fluid administration \(Hypodermoclysis\)](#), after reading the following CDHB policy statements.**

Never use an electronic pump for sub cutaneous fluid infusions.

Select appropriate infusion site using clinical judgement and in consultation with the patient.

If the abdominal area is selected avoid the umbilicus by 5cm.

A 22 gauge is used for sub cutaneous infusions.

Assess the patient's skin/tissue to determine the best angle for needle insertion for infusion – 30 to 45-degree angle is recommended; choose the best angle to ensure the infusion enters the sub cutaneous tissue layer.

Ensure that the needle is removed after insertion.

Document the insertion time and date in the clinical record.

**Intermittent sub cutaneous medication bolus**

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In situations where medication is prescribed as incremental boluses consider using a sub cut catheter for initial and repeat doses.

## Continuous sub cutaneous medication administration

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For administration of medication for symptom control in Oncology and Palliative care refer to the End of Life Care and Bereavement site (PRISM) and Hospital Health Pathways.

To be delivered by an Aligia SP Syringe infusion pump or Niki T 34 (BD BodyGuard T) Syringe Pump.

## Monitoring of all infusion or injection sites

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The cannula insertion site should be monitored at least every four hours for leaking, exudate, localised heat, localised inflammation, pain, tenderness, hardness, burning, itching, unresolved blanching, excessive oedema, redness or necrosis.

Re-siting of the cannula should be undertaken at the **onset** of a site reaction of the surrounding skin, when there is dislodgement of the cannula or crystallisation of medications in the infusion line.

Site reaction will be indicated by any of the above signs or symptoms.

**BD Saf-T-Intima or Insuflon** must be changed if there is an infection, inflammation, the cannula has dislodged or as clinically appropriate.

Cannula should be removed as soon as clinically indicated when infusion or bolus therapy no longer required.

## Insulin – all routes

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Refer to the Lippincott procedure on Sub-cutaneous administration, Insulin administration after reading the following CDHB policy statements:

### Use of patients own medication

A patient's own medications may be used while they are in hospital if the criteria for use of patient's own medications is met. Refer to 'Use of Patient's Own Medications Policy).

### Mixing insulin in an insulin syringe

Do not mix Glargine (Lantus) with any other insulin or solution

### Site selection

In the hospital setting the preferred site for injection is the abdomen, avoiding the umbilicus by 5cm. Where the patient has had abdominal surgery select the thigh and lastly the arm for injection

### Administration via an insulin syringe or pen

When the needle has been inserted and the insulin administered, leave the needle in place for a total of 10 – 15 seconds to avoid insulin leakage.

The preferred insulin syringe for staff administration is the BD SafetyGlide™ 8mm.

Patients own pens are to be **used by patients only**, they are to complete the whole process themselves inclusive of removing and replacing pen needle. The preferred needle size is 31G x 5mm, unless otherwise clinically indicated. If they are unable to do this then insulin is to be administered by staff via a BD SafetyGlide syringe - 8mm (rationale: prevent needle stick injuries).

All cloudy insulins should be inverted 20 times to mix before administration.

[Lippincott procedure for Mixing Drugs](#)

[Lippincott procedure for Subcutaneous Injection – please refer to Insulin sections](#)

## Storage of Insulin

Multi use insulin vials, cartridges and patient pens **IN USE** are not to be refrigerated but should be kept away from direct light and at room temperature in the medication room in a box/bin.

Discard after 28 days (4 weeks) from opening.

Refrigerate insulin **NOT** in use.

When opening a vial or cartridge, the date should be recorded on the approved sticker (refer to consumables section) and placed on the cartridge for both multi use and patient own insulin

Patients own insulin pens are to be labelled with the patient NHI and full name


## Continuous Subcutaneous Insulin infusion (CSII) Pumps

If an adult patient is admitted with an insulin pump and cannot manage this themselves, they need to be changed to an alternative delivery system. For any advice needed contact the Diabetes Service via the hospital switch board.

Ensure patient **ALWAYS** has insulin onboard.

[Lippincott procedure for sub cutaneous insulin infusion, continuous](#)

## Consumables

<p>Label #7 DO NOT USE AFTER OPENING</p> <p>Non-stock item</p> 	Item Type:	Goods billed by quantity
	Item Description:	Label - #7a Do not use after opening
	Category:	42142301
	UOM:	RL
	Unit Price:	11.56
	Supplier:	CDC Pharmaceuticals
	Supplier Item:	360465
Needles for patients pens (paeds and adults)	31G x 5mm diabetes Thin Wall Micro-Fine Plus BD (100 pkt) Oracle code 265920	

	31G x <b>8mm</b> Diabetes Thin wall Micro-fine BD (100 pkt) Oracle code 255308
BD SafetyGlide insulin delivery syringes	Syringe Insulin <b>0.5ml</b> Thin-Wall with 30GA 8mm Needle SafetyGlide BD, Oracle Code 267913

### Associated material/supporting resources

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#### [Infection Prevention and Control related policies](#)

Fluid and Medication Checking Procedure ref 2402384

CDHB Roles and Responsibilities policy ref 2401678

Student Nurse Midwife Roles and Responsibilities (ref 2401682) and associated charts

Oxygen and Infusions chart ref 2401442 or electronic medication/fluid chart

#### [Subcutaneous administration of medications \(Palliative Care Service Website\)](#)

#### [Lippincott procedure for Mixing Drugs](#)

#### [Lippincott procedure for Subcutaneous Injection – please refer to Insulin sections](#)

#### [Lippincott procedure for Subcutaneous insulin infusion, continuous](#)

#### [Agilia Assist training app](#) (Agilia SP MC)

### References

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Caccialanza, R., Constans, T., Cotogni, P., Zaloga, G.P., & Pontes-Arruda, A. Subcutaneous infusion of fluids for hydration or nutrition: a review. JPEN J Parenter Enteral Nutr. 2018;42(2):296-307. doi:10.1177/0148607116676593

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Frid, A., Hirsch, L., Gaspar, R., Hicks, D., Kruegle, G., Liersch, J., et al. (2010). Site selection: New injection recommendations for patients with diabetes. *Diabetes and Metabolism* **36**(S2). S3 - 18.

Manufacturer's instructions