Subcutaneous Fluid & Medication Administration

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Policy/Purpose

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

Safety requirements

Sub cutaneous medication/fluid requires double independent checking as per the CDHB Roles and Responsibilities and Medication and Fluid checking Policies.

Sub Cut Injections - Insulin

Scope for SC Insulin injections

Nursing, Midwifery, Medical Staff, Students of Nursing and Midwifery as per scope in the CDHB Students Responsibilities with Medication and Fluid Policy, other Approved Persons in the Hospital Service setting. **This is a double independent check route.**

Associated documents

- Infection Prevention and Control Manual
- Fluid and Medication Management Manual
- Medication/Infusion Chart or MedChart

Policy Statements

Refer to the Lippincott procedure on Subcutaneous 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 another 10 seconds to avoid insulin leakage

Insulin Pen - Assembly and directions for use

- Pull off pen cap
- Unclip or unscrew cartridge holder from base of pen.
- Insert cartridge of Insulin into cartridge holder, coloured end first.
- Clip / screw cartridge holder back onto base of pen.
- Screw needle firmly onto top of cartridge.

- When insulin is cloudy, turn pen up and down 20 times to mix insulin.
- Remove needle covers
- Check dosage window reads 0 and then dial 2 units.
- Hold pen with needle pointing upwards. Tap cartridge holder.
- Push dose selector knob in as far as it will go.
- If insulin does not appear at the needle tip, repeat previous three steps.
- Dial the number of units of Insulin for injection.
- Elevate the skin then inject needle into skin fold at a 90 degree angle.
- Push dose selector knob in as far as it will go and dose window reads 0.
- Release skin, leave the needle in for 10 seconds, continue to push dose selector knob while withdrawing the needle from the skin.

Please Note: Change needles after each use in the hospital setting, and dispose of used needles in sharps container.

Don't store open pen in the refrigerator and discard after 28days of use.

- Needles for the pens can be reordered via iProc (31 g x 8mm pen needles, pack of 30 – order no. 130243)

Storage of Insulin

- Insulin vials in use do not need to be refrigerated, but should be kept in a cool place. Insulin pens should not be refrigerated.
- Refrigerate insulin NOT in use.
- When opening a vial or cartridge, the date should be recorded on the vial or cartridge. Discard after 28 days (4 weeks).

  Lippincott procedure for Mixing Drugs

  Lippincott procedure for Subcutaneous Injection – please refer to Insulin sections

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. The Diabetes centre can be consulted during working hours.

Sub Cut Injections - Low Molecular Weight Heparin (LMWH)

Scope for SC LMWH injections

Nursing, Midwifery, Medical Staff, Students of Nursing and Midwifery as per scope in the CDHB Students Responsibilities with Medication and Fluid Policy, other Approved Persons in the Hospital Service setting. **This is a double independent check route.**

Associated documents

- Infection Prevention and Control Manual
- Fluid and Medication Management Manual
- Medication/Infusion Chart or MedChart

Policy Statements

Refer to the Lippincott procedure on subcutaneous administration – LWWH 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

1.1 Gravity Fed Sub Cut infusions (for hydration)

Scope for infusions (except NikiT/GH)

1st or 2nd IV certified nurse with another 1st or 2nd level certified nurse/ Students of Nursing with the above certified nurse, as per the Nursing Students Roles and Responsibilities policy

Exception: SMHS Registered Nurses who have obtained competency for only SC infusion administration and monitoring

Policy Statements

Refer to the Lippincott procedure on SC fluid administration (Hypodermoclysis), after reading the following CDHB policy statements

- Never use an electronic pump for SC 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 5 cms
- A 22 gauge is used for SC infusions
- Assess the patient's skin/tissue to determine the best angle for needle insertion for infusion – 30 – 45 degree angle is recommended; choose the best angle to ensure the infusion enters the subcutaneous tissue layer.
- Ensure that the needle is moved after insertion.
- Label the site with the below blue sticker.

SC Cannula

Insertion Date___/___/___/ Time AM / PM

Gauge:____
Site:_____

Print Name _____
SIG:____

Removal Date ___/____/___

(Blue Sticker)
QL00003

- 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.
- Cannula should be removed as soon as clinically indicated when infusion or bolus therapy no longer required.
- Insuflon must be changed at least every 72hrs.
- BD Saf-T-Intima must be changed at least weekly.

- Rotate insertion site when re cannulation required and if continuing therapy.

Lippincott Procedures Subcutaneous infusion, continuous (hypodermoclysis)

Intermittent Sub Cut medication bolus

- Refer to statements above in the SC infusion section and the Lippincott procedure
- In situations where medication is prescribed as incremental boluses consider using a sub cut catheter for initial and repeat doses.
- A sub cut incremental opioid policy is currently under development with the Acute Pain Management Team

Continuous Sub Cut medication administration

For administration of medication for symptom control in Oncology and Palliative care refer to the Palliative Care Guidelines- intranet).

To be delivered by Alaris GH Syringe Driver or Niki T 34 Syringe Pump

Scope for Niki T 34 Syringe pump

Registered Nurses who have been trained in Niki T34 management, according to the Niki T34 syringe driver checklist, by an appropriate assessor.

This is a double independent check route which requires both staff to have completed the Niki T34 syringe driver checklist

Contact your nearest palliative care resource personnel if you have no assessors available.

Scope for Alaris GH Syringe drivers

Only IV certified staff can deliver medication via the GH Syringe driver. This is a double independent check route

Associated documents

- Resource for Alaris GH syringe driver
- Palliative Care website on subcutaneous administration
- Palliative care website – Niki T 34 Syringe Pump instructions

Policy statements

- Use and management of the Niki T 34 Syringe Pump are outlined on the Palliative care website and checklist.
- Use and management of the Alaris GH syringe driver is outlined in competency training.
- Follow other SC infusion policy statements as above for labelling, review and management.

Measurement/Evaluation

Incident management system

Patient review by the Diabetes Service for Insulin management

References

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- Administration via a syringe or pen: Frid, A., Hirsch, L., Gaspar, R., Hicks, D., Kruegle, G., Liersch, J., et al, New injection recommendations for patients with diabetes. Diabetes and Metabolism, 2010. **36**(S2): p. S3 - 18.
- Manufactures instructions

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