Pharmacological Therapy Policy Practice Guidance Note
Subcutaneous Fluid Administration in Adult Patients - V03

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Author/Designation: Gill Gallagher – Clinical Nurse Manager
Responsible Officer Designation: Medical Director

This Practice Guidance Note Should be read in conjunction with the following sections of the Trust Medicine Policy NTW(C)17:
- UHM-PGN-01 – Safe, secure medicine handling and supply
- UHM-PGN-02 – Prescribing Medicines
- UHM-PGN-03 – Administration of Medicines

NTW(C)38 – Pharmacological Therapy Policy, Practice guidance note:
PPT-PGN 14 - Administration of Intravenous Fluids

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Appendices - listed separate to PGN

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1 Introduction

1.1 It is estimated that a healthy adult individual requires at least 2 – 2.5 litres of fluid daily, (Edwards 2001) which together with foods and metabolic processes results in an intake of approximately 3 litres a day.

1.2 Patients who are able to take oral fluids or high fluid content foods e.g. jelly, melon, strawberries etc should be encouraged and/or facilitated to do this. This must be done at least hourly and documented in appropriate food and fluid charts.

1.3 Administering fluids via the subcutaneous route should only be used after careful consideration is given to maintaining adequate fluid intake via the oral route.

1.4 Subcutaneous fluids can be given to maintain adequate hydration in patients with mild to moderate dehydration. (Health practitioners should refer to the basic skills training package developed by Northumberland, Tyne and Wear NHS Foundation Trust (the Trust/NTW) which gives further information on fluid balance management and physical signs and symptoms relating to dehydration).

1.5 **Subcutaneous fluid administration is not recommended for patients who need rapid administration of fluids or in patients in whom precise control of fluid balance is deemed clinically important.** It is contra-indicated in patients with clotting disorders or those who have problems with fluid overload (such as patients with cardiac failure).

2 Objectives

- To provide evidence based information, allowing the registered nurse to identify their role, in the delivery of subcutaneous fluid administration
- To equip the registered nurse with the necessary skills to complete the procedure competently and safely
- To provide instruction on the procedure for this treatment.

3 Scope of guidance

3.1 The purpose of this guidance is to provide a framework for safe practice for all relevant clinical staff on the administration of 0.9% sodium chloride to adults.

3.2 The guidance applies to all clinical staff within the Trust that are involved in setting up and maintaining subcutaneous fluids as part of their role in caring for patients who are not tolerating fluids in their usual manner and are at risk of becoming/or are dehydrated as a result.

3.3 The qualified nurse must be competent and confident in subcutaneous injection technique which will then be further supported by this practice guidance note to
be able to safely deliver fluids via the subcutaneous route. An education session and competency based assessment must be completed by the registered nurse.

4 Responsibilities

4.1 In accordance with the Nursing and Midwifery Council Code 2015 code; standards of conduct, performance and ethics for nurses and midwives, nurses must;

4.2 Recognise and work within the limits of your competence

4.2.1 To achieve this, you must:

- Accurately assess signs of normal or worsening physical and mental health in the person receiving care
- Make a timely and appropriate referral to another practitioner when it is in the best interests of the individual needing any action, care or treatment
- Ask for help from a suitably qualified and experienced healthcare professional to carry out any action or procedure that is beyond the limits of your competence
- Take account of your own personal safety as well as the safety of people in your care, and
- Complete the necessary training before carrying out a new role

5 Equipment

- Patient case notes (where available)
- Current prescription chart and any accompanying documentation e.g. fluid balance chart
- Prescribed fluid i.e. Sodium Chloride 0.9%
- BD Insyte 22 GA (Vialon material) / BD Insyte – W, 24GA (prevents needle stick injuries)
- Codan - SMS – System Primary Set Ref 37.3143 (instructions for use included)
- Alcohol swabs
- Transparent semi-permeable dressing. (e.g. Tegaderm IV)
- Drip stand
- Sharps box
- Alcohol hand gel
- Non-Sterile gloves
- Clinical waste bag
- Dressing trolley or tray (decontaminated as per NTWIPC guidance)
- Disposable apron
6 Procedure

6.1 When dehydration is suspected, where possible, a blood sample will be taken and sent for urea and electrolyte levels prior to commencing subcutaneous fluid administration.

- Prepare the patient and explain the procedure, give re-assurance and gain their consent. – (if patient lacks capacity to give consent then, refer to the Trust’s policy, NTW(C)05, Consent to Examination or Treatment
- Medical/authorised nursing staff to document procedure in patient notes
- Limit amount of people in the area during procedure
- Clean dressing trolley or tray with alcohol wipe and set all equipment ready. (Trust Policy NTW(C)18 – Tissue Viability practice guidance note – TV-PGN-03 - Aseptic non-touch technique)
- Check fluid type against prescription, in accordance with medicine policy and get another healthcare professional to check that the correct fluid has been selected
- Check expiry date, batch number and for discolouration
- Document and sign on the appropriate, fluid recording charts, and medicine kardex
- Cross check the identity of the patient with the prescription sheet
- Wash hands with soap and water, then perform alcohol rub
- Connect fluid to giving set and prime the line. (Priming the system ensures patency and expels air prior to application)
- Ensure the patient is in a comfortable position.
- Wash hands using soap and water. Dry hands thoroughly
- Apply alcohol gel to hands. (Trust Policy NTW(C)23 – Infection, Prevention and Control practice guidance note, IPC-PGN-04.1. Hand hygiene and use of alcohol gel)
- Put on non-sterile gloves
- Suspend the fluid bag on the drip stand
- A fatty area allows for volume of infusion (1000mls – 2000mls in 24 hours. For example; 500mls every 4 – 6 hours). The patients comfort must be considered when choosing a site. Best sites are abdomen lateral aspects of upper arms and thighs, anterior chest wall and
occasionally the back. Avoid boney prominences, joints, lymphoedema and old radiotherapy sites or any area with any type of rash on the skin

- Clean the chosen site with an alcohol swab and allow to air dry. The site must be clean, unbroken and free from oedema

- Grasp the skin firmly and pinch into a fold to elevate the subcutaneous tissue. Insert Cannula at 45 degrees and release the skin. **Withdraw the inner cannula needle and dispose of in a sharps box. (NB If blood appears in the infusion line, (this indicates that the cannula is in the wrong position and is in a blood vessel). Remove cannula and cover with a sterile dressing. Repeat the process at an alternative site**

- **Attach the pre-primed giving set to the cannula.**

- Coil line once and secure with transparent dressing to allow observation of site

- Remove gloves and wash hands

- Set to the prescribed rate and commence infusion (see appendix 1)

- Ensure patient is comfortable

- Document the site, rate and time the infusion commenced, in relevant care plan, chart and case notes – two nurses to sign and witness all documentation involved

- On completion of the procedure, waste must be disposed of in the sharps container and clinical waste bag

## 7 Observations

- Inspect site 1 hour after infusion start for local irritation or fluid leakage
  - **Action** - stop infusion and ask doctor to review

- Observe for signs of fluid overload i.e. peripheral oedema, dyspnoea
  - **Action** – discontinue infusion and inform the doctor immediately to review

- Observe for oedema at infusion site
  - **Action** – Consider a different site for infusion

- Observe 2 hourly for local irritation, infection, bruising and pain. Record observations in care plan and subcutaneous infusion chart
  - **Action** - Dependent upon severity, observe the site and record. Consider re-siting infusion. Dress the site as required, review with doctor
8 Management

- Record all fluid input, including sub-cutaneous fluids and oral intake and fluid output including urine and vomit, on fluid balance chart
- Monitor Urea and electrolytes every 24 hours whilst infusion in situ
- Change the site and the infusion set, every 2-3 days and rotate the site, document.
- If any of the above complications arise, stop infusion, remove the cannulae and contact the doctor
- Individualised care plan (appendix 2) to capture above activity, evaluate daily to ensure infusion is discontinued when appropriate

9 References

- Nursing and midwifery council 2015 Standards of Conduct, performance and ethics for nurses and midwives, published January 2015 with effect from 31 March 2015
- The Royal Marsden Hospital Manual of clinical Nursing procedures, seventh edition 2008