

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 1 of 9	
Guidelines on administration of subcutaneous fluids		

Guidelines on Administration of Subcutaneous Fluids	
<b>Developed by: Director of Nursing Office and Clinical Nurse Managers</b>	<b>Date Developed: Revised February 2012 May 2017 May 2020 October 2021  Sept 2023</b>
<b>Developed By: Nursing Department.</b>	<b>Date Approved: February 2012, March 2014, May 2017, May 2020 May 2017 May 2020 October 2021, Sept 2023</b>
<b>Implementation Date: April 2009  February 2012 May 2017 May 2020 October 2021 Sept 2023</b>	<b>Review Date: March 2025.</b>
<b>Policy Reference Number: HIQA Schedule 5 Nutrition</b>	<b>No. of Pages: 8</b>
<b>Status of the Policy: Final</b>	

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 2 of 9	
Guidelines on administration of subcutaneous fluids		

## Introduction.

1.1. The management of unwell older people who have poor venous access, or who are unable to tolerate intravenous cannulation, presents a common and difficult challenge for clinicians in many specialities. Hypodermoclysis has been an alternative option to the traditional intravenous route for over 50 years. This method involves the insertion of a 21 or 23 gauge butterfly cannula under aseptic conditions into subcutaneous tissue. As subcutaneous tissue tends to diminish peripherally and increase in central areas as part of the ageing process, the abdomen, scapula or thighs are all prime sites for administration of subcutaneous fluids. Once the cannula is inserted, it is attached to a giving set and connected to a bag of parenteral fluids, commonly infused at a rate of 2 l over a 24 h

period. As the use of electrolyte-free and hypotonic solutions has been associated with cardiovascular collapse and shock, it is now standard practice to use either 5% dextrose or 0.9% saline solutions. The administration and absorption of subcutaneous vs intravenous saline in elderly patients has been studied with radioisotope tracers, and no difference in absorption rates was demonstrated between either infusion type.

Hypodermoclysis is an effective procedure for providing fluids for both chronic maintenance needs and acute situations associated with mild to moderate dehydration in a long-term care setting. Hypodermoclysis appears safer and can avoid transfers to hospital for rehydration (Dasgupta, 2000).

## 1.0. Advantages of Subcutaneous Fluids.

There are many different clinical situations where fluid administration is vitally

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 3 of 9	
Guidelines on administration of subcutaneous fluids		

important. Within a hospital setting, patients who have had an acute stroke are at risk of dehydration, and post-operative elderly patients may similarly require supplemental

fluids until their oral intake is satisfactory.

Many older patients suffering from intercurrent illnesses such as gastrointestinal upset and infections become dehydrated, often contributing to their admission to hospital. The attendant dangers of hospital admission include delirium as a consequence of environmental change, life-threatening nosocomial infections and exposure to prescribing errors.

## 2.1 Benefits

- Simple method of rehydration when vascular access
- unavailable
- Simple (re)siting of cannulae and fluid administration by nursing staff
- Better tolerated by agitated patients
- Fewer serious adverse systemic effects

Hypodermoclysis also attracts cost savings, both in terms of equipment and staff time. Insertion of the butterfly cannulae used for fluid administration is not only less painful (because of the smaller bore needles), but easily undertaken by nursing staff without need for resident medical input. Any member of staff capable of giving subcutaneous injections may perform cannula insertion.

Studies have shown fewer infective complications with the use of hypodermoclysis. There is no risk of intravascular infection, no line maintenance is required and the possibility of thrombophlebitis is not a concern. The accidental infusion of fluids at too rapid a rate seen with

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 4 of 9	
Guidelines on administration of subcutaneous fluids		

intravenous fluids is similarly not an issue with hypodermoclysis.

## 2.2. Disadvantages

- Ineffective for treatment of shocked patients
- Risk of local oedema and abscesses

3.0 While these findings are persuasive, it is vital that community use of hypodermoclysis forms part of the effective management of older people. The introduction of this form of treatment would largely be for a temporary period of 48 to 72 h, to facilitate rehydration whilst the older person has treatment and recovers from any intercurrent illness. It should not under any circumstances be implemented as a bar to hospital admission with the full benefits of comprehensive geriatric assessment.

## 4.0 Dextrose Solutions.

Concerns have been raised with the use of Dextrose Solutions and Nursing staff should always consult with the medical officer in relation to administration of Dextrose solutions. Studies appraised all provide evidence that appropriate volumes of subcutaneous dextrose infusions (in the form of half-normal saline-glucose 5%, 40 g/L dextrose and 30 mmol/L NaCl, or 5% dextrose solution and 4 g/L NaCl, or two-thirds 5% glucose and one-third normal saline) can be used effectively for the treatment of dehydration, with similar rates of adverse effects to intravenous infusion. The evidence in this area is limited, and larger randomised controlled trials using validated outcome measures would be useful to confirm these results.

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 5 of 9	
Guidelines on administration of subcutaneous fluids		

## 5.0. Clinical Care.

### 5.1. Standard

The nurse must assess the patient for appropriateness and duration of the prescribed therapy (Hypodermoclysis Working Group, 1998). Drug dose, volume, concentration and rate should be appropriate with regard to the integrity and condition of the patient's subcutaneous tissue (Hypodermoclysis Working Group, 1998).

5.2. In this service hypodermoclysis must only be considered for subcutaneous medications as prescribed or hydration therapy. The nurse must satisfy themselves in consultation of medical officer of the prescribed medication, rate of administration, availability of sites, required therapy, diagnosis, anticipated length of therapy.

and maintenance of the integrity of the subcutaneous tissue (Hypodermoclysis Working Group, 1998).

5.3 The nurse should be educated and competent in the use of medications, solutions and subcutaneous administration procedures (Hypodermoclysis Working Group, 1998).

5.4. Consideration should be given to the use of an electronic device – for example, a syringe driver – when administering medications via the subcutaneous infusion route (Hopwood, 2008).

5.5. A standard administration set (20 drops per ml) should be used for the administration of fluids and solutions (hypodermoclysis) which should be gravity fed, not pumped (Hypodermoclysis Working Group, 1998).

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 6 of 9	
Guidelines on administration of subcutaneous fluids		

5.6. The selected access site should have intact skin and be located away from bony prominences, areas of infection, inflamed or broken skin, the patient's waistline, previously irradiated skin, sites near a joint and lymphoedematous limbs (Hypodermoclysis Working Group, 1998; Mitten, 2001; Hopwood, 2008).

5.7. The access site should be prepared using aseptic technique and observing standard precautions (Hopwood, 2008).

5.8. A sterile transparent occlusive dressing should be used to cover the administration site (Hypodermoclysis Working Group, 1998; Hopwood, 2008).

5.9. To reduce the risk of complications, the subcutaneous access site should be observed

regularly, rotated a minimum of every three days or if the patient complains of pain at the

administration site, the skin is red and/or inflamed, the skin is white and/or hard, or blood

is present in the administration set, plastic cannula or winged infusion device (Hypodermoclysis Working Group, 1998; INS, 2006; Hopwood, 2008).

5.10. The device selected should be of the smallest gauge and shortest length necessary to establish subcutaneous access (Hypodermoclysis Working Group, 1998).

5.11. Research has shown that using peripheral cannula, rather than steel winged infusion

devices, results in the subcutaneous site remaining viable for longer (Torre, 2002).

5.12. The medication or solution should be as near to isotonic as possible (Hypodermoclysis Working Group, 1998).

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 7 of 9	
Guidelines on administration of subcutaneous fluids		

5.13. Documentation in the patient's medical and nursing notes should include evaluation of the need for subcutaneous infusion, patient response to therapy, and the established intervals of monitoring the infusion site (Hypodermoclysis Working Group, 1998).

## 6.0 Infection Control

The importance of using effective infection control measures is integral to all aspects of infusion therapy. Aseptic technique is a common term used to define necessary infection control measures to prevent pathogenic micro-organisms on hands, surfaces or equipment from being introduced to susceptible sites such as subcutaneous devices during clinical practice. A best practice example is aseptic non-touch technique (ANTT) comprising a number of fundamental components including reducing environmental risks, hand cleansing, non-touch technique protection for 'key parts', correct cleaning of 'key parts', use of gloves and sterile fields (Rowley & Laird, 2006).

### 7.0. Consent

"It is a general legal and ethical principle that valid consent must be obtained before starting treatment or physical investigation or providing personal care" (DH, 2001d). All patients have a right to receive accurate information about their condition and intended treatment. It is the responsibility of the individual practitioner proposing to carry out the treatment to ensure that the patient understands what is proposed (NMC, 2008b). Consent can be given orally, in writing or by co-operation and consultation with families (NMC, 2008b).

The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 8 of 9	
Guidelines on administration of subcutaneous fluids		

## 8.0. Governance.

Nurse undertaking this procedure must satisfy themselves that they are competent in the following areas in relation to subcutaneous infusions.

- patient's perspective on living with a fluid access device
- risk management in order to reduce the risk of blood spills and needlestick injury
- professional and legal aspects (consent, professional guidance, knowledge and skill maintenance, and documentation)
- performing the procedure
- prevention and management of complications during insertion (nerve injury, haematoma, etc.)
- monitoring and care of the site (flushing, dressing, removal, etc.)
- product evaluation
- patient information and education
- documentation

It is the responsibility of the nurse manager to bring this document to the attention of all staff involved in administration of subcutaneous fluids or medicines.



The Village Residence	POLICY NO:	
	Date reviewed	February 2012 March 2014, May 2017 May 2020 October 2021, Sept 2023
	Page 9 of 9	
Guidelines on administration of subcutaneous fluids		

**Read and Understood sheet.**

Name

Date.