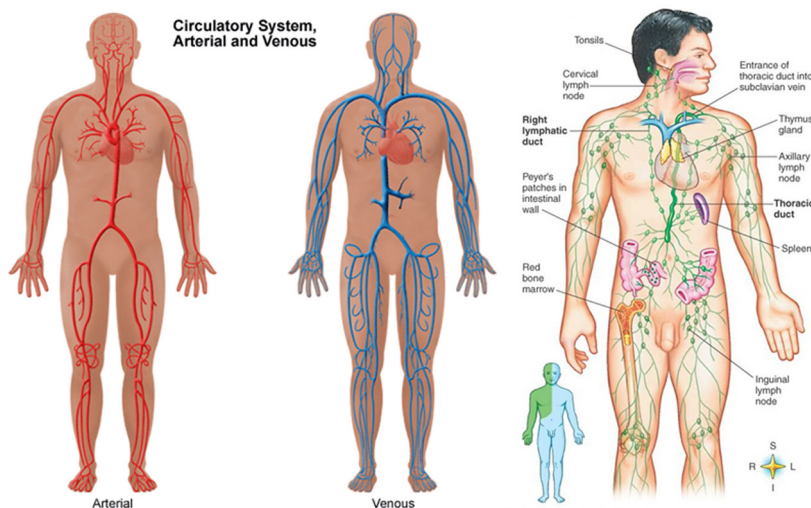


## Definition

The infusion of a solution into the subcutaneous tissues is called hypodermoclysis. The subcutaneous compartment (hypodermis) is a layer of loose supporting tissue under the skin. Subcutaneous fluid absorption is possible due to the large number of capillaries ensuring complete and rapid absorption from the site in order to achieve fluid maintenance or replacement in mildly dehydrated patients, for whom intravenous access is not possible or appropriate.

## Vascular & Lymphatic system



## Assessing hydration levels

Although there is no 'gold standard' for assessment of hydration status, it appears that changes in body weight, along with urine osmolality, specific gravity, conductivity and colour are among the most widely used indices. Furthermore, they provide reasonable results, especially when the analysis is based on the first morning urine sample.

## Indications

- To correct mild dehydration
- Maintain hydration in patients who are unable to take adequate fluids
- Impaired venous access
- Impaired oral access (patients with dysphagia)
- Non-compliance or impractical to insert a cannula for intravenous fluids

## Preventing dehydration

### Drinking aids

- Patients should have access to supportive equipment so they can drink independently (CQC, 2010)
- Those identified as having difficulties reaching, holding or lifting cups are usually offered standard drinking aids
- Flexible straws
- Spouted beakers
- Modified mugs
- However, in many cases, these do not enable patients to drink independently, forcing them to wait for help or suffer the indignity of spilling drinks



### Consider

- The Hydrant
- The red jug scheme

### Causes of dehydration

- Diarrhoea
- Vomiting
- Gastroenteritis
- Pyrexia
- Sweating
- Alcohol
- Diabetes
- Medication such as laxatives and diuretics
- Refusal to drink for fear of incontinence
- Cognitive impairment
- Illness causing physical and mental stress
- Reduced sensation of thirst in older adults
- Fluid restriction



## Contraindications

- Severe dehydration, severe electrolyte disturbance, shock or poor tissue perfusion
- Fluid requirement of more than 2 litres of fluid in 24 hours period
- Haemorrhage
- As a vehicle for other drugs
- Patients in cardiac or renal failure and renal dialysis
- Caution in patients with pre-existing heart disorders because of risk of circulatory overload
- For patients with coagulation defects
- As a treatment for hypercalcaemia
- In children
- End stage terminal care

## Suitable fluids

- Sodium Chloride 0.9% is the fluid of choice
- Sodium Chloride 0.45% & 4% Glucose can be administered
- Potassium & Glucose is associated with increase of abscess formation

## Palliative care

- There is considerable debate and opinion in the literature about pros and cons of artificial hydration in terminal care
- Evidence base is limited but suggests that it is unlikely to significantly influence survival in the imminently dying
- The End Of Life Integrated Care Pathway for the dying states, inappropriate interventions be discontinued in the last 48 hours of life

## Never administrate to

- Cardiac/renal failure patients who require precise fluid management
- Patients with clotting disorders
- Patients with low serum albumin
- Fluid requirement of >3000mls in 24hrs
- Severe dehydration, shock or poor tissue perfusion
- Risk assess patients who live alone

## Site rotation indications

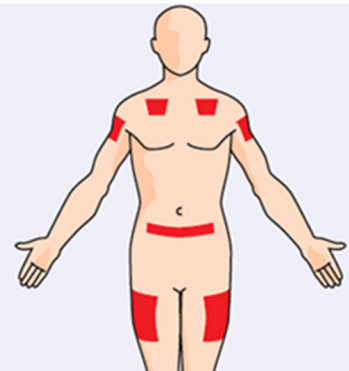
- Pain at administration site
- Localised inflammation
- Skin at insertion site becoming white and hard
- Blood present in giving set or butterfly
- Dislodged needle
- Localised oedema
- Bleeding/bruising

## Suitable infusion sites

When choosing a site for infusion factors, to consider include:

- Patient mobility
- Comfort
- Access
- Skin condition

Sub-cutaneous infusions should be sited in a position with good lymphatic drainage to maximise absorption.



## Sites to avoid

- Pre-existing oedematous sites
- Sites of previous radiotherapy
- Areas of rash
- Bony prominences
- Joints
- Sites over tumours
- Broken or infected skin
- Ascites
- Lymphoedema