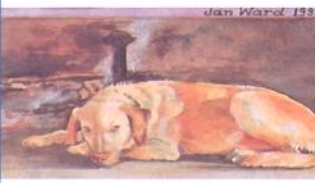


Infusion of Fluids Under the Skin or Subcutaneous Hydration



ACT Palliative Care
Society Inc.



Calvary
Health Care
ACT



Australian Government
Department of Health and Ageing

Introduction

Subcutaneous (S/C) hydration is a safe and effective means of providing extra fluid to the body when, for one reason or another, a person is unable to swallow. The fluid is exactly the same as the solution commonly used in acute care hospitals for intravenous (IV) hydration. In this case it is given through a needle that is placed under the skin rather than directly into a vein.

The tissue layer directly under the skin has the ability to absorb enormous amounts of fluids. Even a relatively small area of tissue on a thin person can comfortably absorb up to half a cup (50-100mls) per hour without causing discomfort.

When and why would it be done?

In certain circumstances it can be appropriate to consider the use of this method of administering fluids. These circumstances include when:

- Illness or its treatment prevents someone from swallowing safely, or when partial or complete blockages of the stomach or the bowel prevent the passage of food and fluids through the body. Extra fluids can be administered on a temporary basis to prevent a person from becoming dehydrated while other treatment strategies that may solve these swallowing problems or blockages are being explored. In instances where people have continuing problems with swallowing or blockages in the stomach or bowel, subcutaneous fluids can sometimes be considered as an appropriate means of dealing with any uncomfortable thirst should this arise.
- The body needs some help to clear drugs, chemicals or toxins that have built up in the system. Extra fluid can be used to help the kidneys to flush out the system.
- Someone is in the last phases of their illness and their body is winding down and they are not strong enough or awake enough to safely swallow enough fluids to prevent an uncomfortable thirst.

The decision to give fluids under the skin depends primarily on comfort. Losing interest in drinking is a normal part of the dying process and going without fluids at this time is not thought to cause discomfort in most people. Regular monitoring and careful attention to the care of the mouth is considered to be the best means of ensuring comfort when fluid intake drops away. In fact, when someone stops drinking as they come close to death, hydration is not normally started, nor is it routinely considered. Only when there is evidence to suggest that thirst is contributing to discomfort would such an intervention be considered. Although such things are difficult to prove one way or the other, the use of subcutaneous fluids is not generally thought to prolong the life of someone who is in the advanced stages of a life limiting disease.

Giving fluids under the skin

The equipment required to do this is very simple. It is a procedure that is easily and routinely done at home. A very small needle with tubing attached is inserted into the skin and held in place with a piece of clear plastic dressing. The needle stings a bit when it goes in, but should not cause any more pain after that. The nurse or doctor who places the needle under the skin can choose from a range of sites including the upper surfaces of the chest, the abdomen, the upper thighs or even the upper arms. The needle is then connected to a bag of sterile salt water solution called 'Normal Saline' by way of a length of clear plastic tubing.

The contents of the bag drain slowly into the tissues beneath the skin with the aid of gravity. The rate of flow can be regulated by a clamp which can be rolled from a shut to a fully open position.

In order to work, the bag of fluid must be kept higher than the person and this can easily be achieved by the use of either a drip stand (provided by the nursing service) or by way of a simple wire coat hanger hooked onto a door or curtain rail.

Managing the infusion

The nurse or doctor will set up the infusion and will take you step-by-step through the business of managing it in their absence. Often infusions are started at the end of the day. The fluid runs in slowly overnight and the empty bag is taken down in the morning. Some people however, have fluids running slowly all the time. With education and support many carers feel able to manage the infusion themselves, simply because it is very safe and easy to administer and nothing much can really go wrong with it. Feel free to discuss this option with the nurse or doctor in your care team, and be assured that you will get the support you need to manage the infusion safely.

Once it is set up, it virtually runs itself. The rolling clamp restricts the flow to an approximate number of drops per minute as set by the nurse or doctor. Check with the nurse or doctor about what rate it should be running at. The drop rate does not need to be precise so do not worry about trying to achieve 100% accuracy.

You can check that the fluid is getting through by watching the drops fall into the small chamber just below the bag. It may be possible to see some bulging of the skin at the place where the needle enters the skin. This is normal.

If the infusion runs too fast and the skin bulges enough to cause a tightness or any discomfort you can adjust the rolling clamp until the rate of drops slows or stops. If the person you are caring for reports discomfort it might be a good idea to stop the infusion and let the area rest for an hour then restart again at a slower rate.

If the infusion stops

This may occur because the tubing has become kinked or caught underneath the body, or it may be the bag isn't high enough or that the position of

the needle in the tissues layer has moved and has interrupted the flow of fluid. Check for kinks in the tubing and try repositioning the person. This usually fixes this problem. Further elevation of the bag or opening up of the rolling clamp can also be enough to get the fluid flowing.

If there is air in the tubing don't worry. It would only be a problem if air was flowing directly into a vein but air doesn't readily flow into tissue and if it does it is easily absorbed. Small bubbles of air can be ignored but if the line is full of air, it may be that one of the connections is loose or the tubing has become disconnected. Stop the infusion by rolling the valve shut, and discuss the problem with the nurse from your care team.

If the injection site is leaking, looks red or the dressing is peeling off let the nurse in your care team know. These problems mean that the needle may have to be redressed or a new needle positioned into a different spot.

If you need advice or instruction about solving a problem with the infusion of fluids feel free to discuss it with the nurse at any time. None of these situations are an emergency and if they happen in the middle of the night the nurse is unlikely to come out to fix it up straight away. The easiest and simplest solution is usually to stop the infusion and sort out the problem in the morning.

Acknowledgement

The producers of this fact sheet acknowledge the Palliative Care Council of South Australia for the source material from which some of the contents of this fact sheet was drawn.

Disclaimer

The information contained in this fact sheet is for general guidance only. Whilst every effort has been made to ensure that the information is correct and in keeping with accepted standards of practice at the time of publication, neither the authors nor the publisher can accept any legal responsibility for any errors or omissions. It is the responsibility of the reader before using any drug, technique or procedure to seek appropriate professional advice.

This information should be read in conjunction with the advice provided by your palliative care team.