

# HOME PARENTERAL NUTRITION TOOLKIT

A 'good practice' guide  
for Health Care Professionals  
Patients & Carers when training  
to infuse a parenteral support  
infusion

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*Setting up Home Parenteral Support, Catheter  
Care Management & Discharge Planning on  
Parenteral Support for patients with Intestinal  
Failure*

Authored by:  
Mia Small, Nurse Consultant, St Marks Intestinal  
Rehabilitation Unit & Cathy Cawley, Lead Nurse,  
Intestinal Failure Unit, Salford Care Organisation

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## **Foreword**

Many patients with chronic Intestinal Failure (IF) may have already experienced serious illness and undergone long complex treatments previously and for this reason care needs to be pro-active, preventative, and individualised and this toolkit has been designed to help in the rehabilitation process. The aim of the toolkit is to provide information, education and to enable patients and their carers to successfully manage and infuse home parenteral nutrition (HPN). The toolkit has been collated by nutrition nurses who regularly discharge patients on HPN. The guide has been designed to drive safety across patients on HPN and signpost patients, healthcare professionals and/or carers on a broad range of practical issues such as the importance of asepsis, non-touching of Key Parts during catheter care management and to help simplify the process of patients being discharged home on parenteral nutrition (PN).

Promoting independence and patient choice for patients who require HPN is vital when preparing patients for discharge and patients being able to care for themselves wherever possible, is of paramount importance. Evidence has shown the increasingly successful treatment of administering intravenous nutrition for patients with IF both in hospital and at home is a collaborative approach determined via the careful management of central venous catheters, combined with educating patients and their carers the importance of electrolyte balance, psychological well-being, promoting of independence and delivering careful dietary advice. Furthermore, encouraging patients to train to self-care for their catheters to infuse intravenous feeds, where appropriate, provides the patient with independence, a sense of control and may improve quality of life.

The NHS HPN framework and agreement requires close links with specific homecare companies with established links between hospital and community. This incorporates a shared vision of primary and secondary care for providing safe catheter care during the infusion of PN.

The toolkit is intended to serve as a guide for training, administration, and outline the discharge process for patients with Intestinal Failure who require parenteral support at home. It is aimed at health care professionals, carers and patients, those people who will be responsible for administering home parenteral support. Consequently, improving efficiency and patient flow within hospitals whilst maintaining high quality care to patients. Although the toolkit relates to the British Intestinal Failure Alliance (BIFA) Standardised Parenteral Support Catheter Guidelines the toolkit can also be used in attaining core basic skills such as aseptic handwashing, correct glove application and understanding and applying the recommended disinfection practice.

## **Central Venous Catheter (CVC) care**

For individuals who are reliant on home parenteral nutrition (HPN) the prevention of catheter related blood stream infections (CRBSI) and salvage of infected CVC is vital to maintaining long term venous access in patients. Raising awareness and reducing the risk and incidence of catheter related infection is of paramount importance when caring for patients receiving parenteral support (PS)<sup>3</sup>. For example, it is important for people who receive PS to understand how infection occurs, where infection comes from as there are several ways in which infection can occur. Such as the skin surrounding the exit site of a CVC can be a source of local infection as the skin may become over colonized by micro-organisms<sup>4</sup>. This could be from the environment (for example if the area is not kept covered with a sterile dressing), from the hands during dressing changes if they have not been adequately washed, from using contaminated (unclean) equipment, or from contact with bodily fluids, for example stoma or fistula content. The catheter hub also is a major source of blood stream infections<sup>5</sup>. For instance, catheter hub contamination can occur from the hands, from any contact with non-sterile equipment, from using contaminated equipment, or from contact with body fluids, for example stoma or fistula content.

## **British Intestinal Failure Alliance (BIFA) Unified Protocol, Standardised Parenteral Support Catheter Guidelines**

There are numerous ways of effectively performing an aseptic technique, therefore there are variances between hospitals and within community in the way caring for a cvc and administering parenteral support has been taught and performed. Consequently, NHS England requested a standardised set of procedures due to the huge differences in catheter care protocols for parenteral support infusions to reduce confusion for patients, service users and health care professionals. This toolkit outlines key principles of ANTT<sup>6</sup> and demonstrates the BIFA standardised parenteral support (PS) guidelines<sup>2</sup>. The unified protocol is recommended when disconnecting, connecting, and applying a dressing change for a PS infusion. The protocol was developed by the IF units at St Marks hospital and Salford Care Organisation. The protocol was supported by the National Nurses Nutrition Group (NNNG), British Association for Parenteral and Enteral Nutrition (BAPEN), and the patient support group PINNT, support and advocacy for people on home artificial nutrition.

## **Aseptic Technique**

The risk and incidence of local and systemic infection can be significantly reduced if strictly adhered procedures are applied during the care of the catheter and the administration of parenteral support. Using an aseptic technique when caring for a CVC aims to reduce both skin colonization and catheter hub contamination. Asepsis is the absence of bacteria, viruses, and other micro-organisms<sup>7</sup> and is used widely in healthcare - essentially for all clinical procedures from basic wound care to surgery.

## **Standard vs Surgical ANTT®**

The ANTT framework describes two types of technique – Standard ANTT® or Surgical ANTT® - based on the complexity of the procedure and the number of Key-Sites and Key-Parts. What is not clear from these definitions is how many Key-Parts / Sites count as numerous, which can lead to confusion and debate between health care professionals as to which technique is the correct one to use. It is important to remember that the principles are the same for each approach, so both are acceptable for catheter care for home parenteral support.

## **Catheter related problems**

Prompt identification and management of any long-term CVC complication is vital <sup>8</sup>as it is imperative to preserve venous access in patients receiving home parenteral support as they may require life-long intravenous support.

## **Standardised Catheter Guidelines for Parenteral Support**

[www.bapen.org.uk/pdfs/bifa/standardised-parenteral-support-catheter-guidelines.pdf](http://www.bapen.org.uk/pdfs/bifa/standardised-parenteral-support-catheter-guidelines.pdf) <sup>2</sup>

This guidance on connecting, disconnecting, and changing the dressing for parenteral support (includes nutrition and fluid) catheters, was requested by NHS England, supported by BAPEN, NNNG, BIFA, BSG and PINNT. These guidelines were initially agreed between St Mark's and Salford Royal IF units and are supported by National Nursing Nutrition Group (NNNG), British Society of Gastroenterology (BSG), BIFA and PINNT, support and advocacy for people on home artificial nutrition.

The 3 documents provide the principles of the disconnecting, connecting, and changing the dressing for a parenteral support infusion, assuming a basic understanding of asepsis. Therefore, much of the detail in previous documents has been omitted. The procedure documents are not intended to replace training but will act as a quick reference guide during and after training.

## **Top Tips for Discharging a Patient on Home Parenteral Support in England**

<https://www.bapen.org.uk/pdfs/bifa/bifa-top-tips-series-8.pdf>

## **Key Parts of a Central Venous Catheter**

### **Needle Free Connector (NFC) or sometimes known as Needle Free Device (NFD)**

This is a device that permits the connection of administration sets, and syringes to the hub of the catheter without the use of needles. The NFC / NFD should always be disinfected using pressure and friction prior to being accessed.

### **Catheter hub**

The open end of the catheter is referred to as the catheter hub. It is made of a rigid plastic material device and must always be covered with a Needle Free Device (NFD) / Needle Free Connector (NFC) to prevent air entry.

### **Clamp**

If the catheter has a clamp this is situated above the hub and should always sit on the thicker reinforced part of the catheter. This is designed to protect the catheter from damage. This is a safety device which should be used if the NFD is removed to prevent the flow of fluid, air, or blood into or out of the catheter.

### **Dacron Cuff**

For tunnelled catheters the cuff should not normally be visible. The cuff sits underneath the skin at the point where the catheter enters the exit site. Once a catheter has been sited, tissue grows around the cuff over time, and this prevents the catheter from falling out.

## **Glossary of terms for Parenteral Support (PS)**

**Alcohol hand rub.** An alcohol containing product (gel or foam) designed to reduce the number of micro-organisms on the hands. It should be applied to clean, dry hands, and the hands rubbed together, following the steps in the aseptic hand washing technique, until they are completely dry.

**Aseptic hand wash.** A thorough hand wash procedure concentrating particularly on the areas of the hands where resident bacteria can be found. To be effective the handwash solution must come into contact with all of the surfaces of the hands and wrists. While there are many different hand washing techniques cited in the literature (with 6-13 steps) the principles are the same, to make sure all surfaces of the hands (including the wrists), are adequately washed, rinsed, and dried, especially those areas which may be missed such as fingertips, thumbs and between the fingers.

**Central venous catheter.** A vascular access device whose tip lies in the lower third of the superior vena cava or the upper third of the inferior vena cava (ideally at the vena cava/right atrial junction). They can either be centrally inserted via the subclavian, internal jugular or femoral veins or peripherally inserted via the

brachiocephalic veins. The femoral route, which may have a higher risk of infection, is chosen when the upper veins cannot be accessed.

**Disinfectant wipes.** Single use wipes containing 2% chlorhexidine and 70% isopropyl alcohol (2% CHG & 70% IPA). The combination of both disinfectants is thought to be more effective than when either is used alone.

**Key Part.** Things which if touched directly or indirectly could result in the introduction of micro-organisms. They include the catheter hub, the end of the giving set, syringe tip and the skin surrounding the exit site.

**Parenteral Support (PS).** A term which covers both parenteral nutrition (PN) and parenteral fluids (PF).

**Port Protector cap.** A disposable single use disinfection cap that contains 70% Isopropyl Alcohol (IPA). The port protector twists onto the end of the Needle Free Connector (NFC) / Needle Free Device (NFD) to passively disinfect and protect from cross contamination during infusion free periods.

**Positive pressure clamping technique.** The catheter is clamped while flushing with the last one millilitre of solution to seal a column of fluid within the catheter. This may reduce the backflow of blood and thereby the risk of occlusion.

**Push-Pause flushing technique.** Flushing with a stop/start motion causes turbulence of fluid within the catheter that may help reduce the build-up of any deposits and reduce the risk of **occlusion**.

**2% chlorhexidine gluconate (CHG) and 70% isopropyl alcohol (IPA) sponge applicator.** These single use sponges contain 2% CHG and 70% IPA are designed to disinfect the skin around the exit site. By using gentle, repeated back and forth strokes for 30 seconds this provides an effective reduction on bacterial load on the skin. The disinfectant should be allowed to dry for at least 30 seconds.

**Social (or routine) hand wash.** A general hand wash to remove transient microbes picked up on the hands during daily activities.

**Sterile gloves.** These have traditionally been advised as best practice for the administration of parenteral support however non-sterile gloves can be used (see HPN Centre recommendation). Sterile gloves had been thought to reduce the risk of infection by reducing the transfer of micro-organisms to and from the wearer's hand. The wearing of gloves is not a substitute for handwashing.

**Sterile towel.** This can be either supplied separately or within a dressing pack. The towel is used to create the aseptic field onto which the sterile items are placed. A second sterile towel is used to lie under the patient's catheter when accessing the catheter.

## Home Parenteral Support Toolkit: Core Training Guide for trainers

### Introduction



This home parenteral support (nutrition and/or fluids) toolkit: core training has been put together by nutrition nurses on the NHSE Task and Finish group. It provides a practical guide for nutrition nurses undertaking core training for patients (and/or carers) being discharged on home parenteral support. The kit comprises a guide for trainers and a guide for patients.

### What is core training?

Due to the rise in demand for home parenteral support nursing, alongside the shortage of homecare nurses to provide training, a new model of care needs to be introduced that will reduce the amount of nursing patients required. By having patients (and/or carers) becoming competent in the core skills **of hand hygiene, glove application and disinfection** before discharge, this should reduce the number of nursing visits needed for training.

### Who should undergo core training?

- By completing the **Appendix C Patient Needs Assessment** form, this will determine if a patient is for training or if there is an identifiable carer to train. This form will also identify if the training is for partial training or for full training. It is appreciated, that in some circumstances patients may not be able to undertake all procedures or be suitable for any training.
- **Appendix D Home Parenteral Nutrition Patient competencies** – This form should be completed if the patient is to be fully trained.
- **Appendix D Supplement 1 Home Parenteral Nutrition Core Patient Competencies** – See Page 18 of this booklet, this form should be completed if the patient is to be trained in basic core competencies.
- **Appendix P Home Parenteral Nutrition Nurse Competencies** – This form should be completed by the nurse delivering basic core competencies training or full training to a patient or carer.

The appendices above can be accessed via the National Framework Agreement for the Supply of Home Parenteral Nutrition for England commissioned via NHS England & Commercial Medicine Unit (CMU). To download the NHS HPN Framework forms, contact your pharmacy and procurement department. They will have access to the web catalogue managed by CMU. Alternatively, you can register with NHS networks for HPN and join the NHS Futures platform.

### [Homecare National Frameworks - FutureNHS Collaboration Platform](#)



## Hand hygiene

Hands are the most common vehicle by which micro-organisms are transmitted, therefore effective hand hygiene is essential to remove them and reduce the risk of infection. Hand hygiene is a general term that covers both handwashing *and* hand decontamination.

There are two types of micro-organisms present on the skin which effective hand hygiene will address, such as transient skin flora and resident skin flora.

**Transient skin flora** These micro-organisms are acquired on the skin through contact with other people, objects, or the environment. These can be easily removed by handwashing.

**Resident skin flora** These are micro-organisms, which have adapted to the natural condition of the skin. They live in deep skin crevices, hair follicles, sweat glands, and moist areas, such as beneath rings. These are harder to remove.

**Handwashing** Hands must be washed thoroughly to ensure micro-organisms are removed, but should not damage the skin, as this will increase the risk of infection. Micro-organisms will remain on areas of the hand not exposed to soap and water therefore, the handwashing technique needs to consider *all* aspects of the hands. The figure below shows the distribution of areas of the hand that are frequently missed during handwashing.

Distribution of areas of hand frequently missed during handwashing



Mechanical friction, caused by moving the hands together backwards and forwards helps dislodge micro-organisms and is therefore believed to be the most important element of handwashing.

The largest concentration of micro-organisms is found under the fingernails; therefore, nails should not be so long as to interfere with the handwashing process. There have been numerous reports linking the use of artificial nails with an increased risk of line infections. Consequently, their use is not recommended.

Nailbrushes are not recommended as they will harbour micro-organisms, and could also damage the skin, making it more susceptible to infection. If possible, remove rings, especially those with ridges or stones, as these can trap micro-organisms, and interfere with effective handwashing. If rings cannot be removed,

incorporate the washing (and drying) of them into the handwashing technique. Try to rotate the rings and wash the skin underneath them.

If you have any cuts or abrasions on your hands, then cover them with a waterproof plaster, and wear 2 pairs of sterile gloves. The use of liquid soap rather than bar soap is recommended as bar soap can easily become contaminated during handwashing.

The hands should be moistened with running water before applying the liquid soap. This ensures complete coverage of the hands with soap, while also reducing the drying effect of the soap on the skin. It is important to use running water rather than standing water, for example water in a bowl or basin, as hands could become re-contaminated. The temperature of the water does not matter as it does not affect how many micro-organisms are removed and having the temperature too hot can lead to skin irritation.

### Handwashing technique

1. Roll up sleeves to elbows, remove watch, any bracelets, and/or diamond / studded rings.
2. Turn on taps and wet hands thoroughly.
3. Apply 3-5mL soap to cupped hands.
4. Rub hands together 5 times, backwards and forwards, following the steps outlined below.
5. This procedure should take a minimum of 20 seconds and incorporate cleaning of the wrists and up to elbows if advised by local centre.
6. Rinse hands with water. Dry hands thoroughly with clean paper towels and work from hands upwards.

#### Aseptic

#### Handwashing

#### technique



1

Palm to palm



2

Right palm over back of left hand.  
Left palm over back of right hand



3

Palm to palm fingers interlaced



4

Backs of fingers to opposing palms with fingers interlaced



5

Rotational rubbing of right thumb clasped over left palm and left palm over right palm



6

Rotational rubbing backwards and forwards with clasped fingers of right hand in palm of left and vice versa

There are two distinct types of handwashing *procedure*, however the handwashing technique is the same for both:

- social (or routine) handwash
- 6-stage (aseptic) handwash

## Social handwash

The aim of a social (or routine) handwash is to remove transient micro-organisms on the hands during daily activities.

## 6-stage (aseptic) handwash

The 6-stage (aseptic) hand wash is more thorough, concentrating particularly on the areas of the hands where resident bacteria can be found. After washing, the hands and wrists and lower arms if appropriate, should be rinsed thoroughly to avoid any residual soap irritating the skin, and then dried. This will remove dead skin cells and micro-organisms dislodged by the handwashing procedure. Paper towels should be used to dry the hands as they are disposable. Cloth towels rapidly become damp and are therefore quickly contaminated. It is important that clean, dry towels are used. (Sterile paper towels are not thought to be necessary when performing an aseptic technique, and are currently only advised for sterile procedures, i.e. surgery). You can use disposable paper kitchen towels for this. The used paper towels should be disposed of in a foot operated pedal bin. This will prevent the hands being re-contaminated by touching the lid of the bin. The use of a clean, dry paper towel to turn off the taps, move the drip stand, or carry the backpack containing the feed prior to disconnecting, is also recommended for the same reason. If you do not have a foot operated pedal bin, then discard the towels on the floor and dispose of them *after* you have completed the aseptic technique.

## Hand decontamination

In addition to handwashing, hands can be effectively decontaminated by applying alcohol hand rub. The hand rub will rapidly destroy any micro-organisms on the skin surface. Alcohol hand rub should be applied to clean, dry hands, and the hands rubbed together, following the steps in the handwashing technique, until they are completely dry.

## Skin care

Damaged or sore skin can make washing hands uncomfortable, and increases the risk of infection; therefore, it is important to keep your skin healthy.

To protect the skin warm, not hot water, should be used to wash the hands. Water that is too hot or too cold can crack the skin and allow micro-organisms to enter.



The regular use of hand lotion can help prevent chapped hands - in particular, the cuticles - which can increase the risk micro-organisms entering the skin. Even skin that does not look dry to the naked eye may have small cracks in it. You should apply hand lotion at the end of each procedure to help keep your hands well moisturised.

## Questions

1. Why is hand hygiene so important?
2. Where is the most concentration of micro-organisms found?
3. Why should you rinse your hands with water before adding the handwash solution?
4. Why is it important to use disposable paper towels to dry your hands?
5. How long should you wash your hands for?

It has been standard practice for many years to use sterile gloves for any procedures involving central venous catheters and best practice to use sterile gloves as this also acts as a reminder that this is a very strict sterile procedure that is being undertaken, however, as a non-touch technique is used it is acceptable for non-sterile gloves to be used. Sterile gloves are still used by most Trusts / HPN centres but if you are admitted to your local hospital, it is important to be aware that they may use non-sterile gloves.

## Questions

1. What is the purpose of wearing gloves?
2. Why is it necessary to wear gloves even if the hands have been washed?
3. Why is the use of non-sterile gloves acceptable?



Patients should be advised that although nursing is provided by a commercial company it is funded by the NHS and is only for patients who are unable to undertake the procedures themselves (and for whom there isn't an identifiable carer). The reason why a patient on HPN needs nursing will need to be submitted on the Blueteq application form (your pharmacist should be able to help with this). After 12 months, the blueteq form will need to be renewed to ensure continuation of nursing is still required or if the patient has been identified as being able to train but does not progress through the rest of their training once home.

## How is core training undertaken?

There is a theory and practical element for each of the core training procedures. Patients should read the theory element and then answer the questions, followed by a practical assessment.

### Hand hygiene theory

Ask the patient to read the *hand hygiene* section first for patients and answer the questions.

### Practical assessment (if equipment available)

You will need;

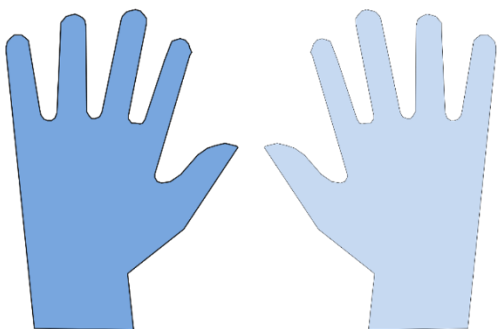
- UV disclosing lotion and UV torch light



Ask your infection control nurses if they have disclosing lotion and a UV light you can borrow. You may find it easier if you had your own lotion and light. Ask your nurse manager if they will authorise the purchase of these items. If not, they can be bought inexpensively via the internet.

- Demonstrate the different stages of aseptic handwashing procedure
- Apply UV disclosing lotion to the patient's hands and ask them to rub it in over their hands and wrists
- Shine the UV light over their hands and wrists to ensure all areas have been covered with UV disclosing lotion
- Ask the patient to wash their hands using the stages technique you have demonstrated
- Shine the UV light over the hands and wrists to show how much disclosing lotion has been removed and any areas the patient has missed
- Have the patient mark the areas they missed on the corresponding diagram below in their workbook.

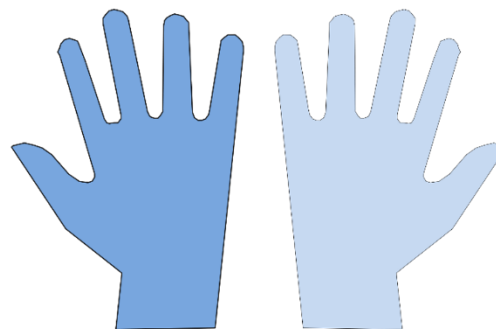
Left hand



Front of hand

Back of hand

Right hand



Front of hand

Back of hand

### Putting on sterile gloves (Theory)

Describe to the patient the importance of *putting on sterile gloves* without contamination.

## Practical Assessment: putting on sterile gloves.

You will be shown how to put on sterile gloves using the steps outlined below. You will then put on a pair and receive guidance from your trainer. Your trainer will leave you with several sterile gloves for you to practice on your own. When you think you are ready your trainer will assess you.

You will need sterile gloves.

1. Demonstrate sterile glove application without contaminating the gloves and so that they remain sterile.
2. Ask patient or carer to apply their own pair of sterile gloves giving guidance where needed.
3. Give the patient or carer several pairs of sterile gloves to practice with on their own and ask them to inform you when they are ready to be assessed.
4. Assess patient applying sterile gloves without contaminating the gloves.



1 Pull apart the outer packaging



2 Drop gloves onto aseptic field away from other sterile items



3 Open paper wrapper making sure the cuffs are pointing toward you



4 Open the paper covering taking care not to touch the gloves



5 Pick up the cuff of the right glove with the fingers of your left hand



6 Still holding the cuff, slide fingers and thumb of your right hand into the glove



7 Position fingers while pulling glove on.  
**DO NOT ADJUST GLOVE AT THIS STAGE**



8 Slide gloved fingers of right hand behind the folded cuff of the left glove



9 Guide fingers and thumb of left hand into glove, then pull on the glove while inserting the left hand


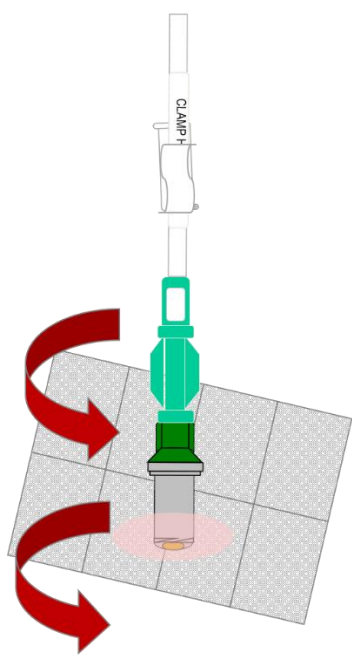


10 Fingers of both gloves can now be adjusted


## Disinfection (Theory)

Describe the importance of cleaning and disinfecting the trolley/surface area and the Needle Free Device (NFD) / Needle Free Connector (NFC) using the information below and asking the questions underneath.


### Disinfection of the Needle Free Device (NFD) / Needle Free Connector (NFC)




Single use 2% Chlorhexidine & 70% Isopropyl Alcohol wipe



Pressure and friction in a twisting action as if juicing an orange



Minimum of 15 seconds



Allow to dry for 30 seconds

## Questions

1. Why is it so important that the membrane of the Needle Free Device (NFD)/Needle Free Connector (NFC) is effectively disinfected?
2. How long should the connector be disinfected for?
3. What technique should be used when disinfecting the membrane of a Needle Free Device (NFD) / Needle Free Connector (NFC)
4. How long should the Needle Free Device (NFD) / Needle Free Connector (NFC) be allowed to dry before accessing it?

## Practical Assessment

There are two parts to this assessment. One assessing how long the patient disinfests the Needle Free Device (NFD) / Needle Free Connector (NFC) for, and the other how effective their disinfection is.

## Assessing time

You will need

- Dummy central venous catheter, if not available, use IV extension set
  - Needle Free Device (NFD) / Needle Free Connector (NFC)
  - Single use 2% CHG & 70% IPA wipes
  - Something to measure time, for example stopwatch function on a smart phone.
1. Give the patient a dummy catheter with a Needle Free Device (NFD) / Needle Free Connector (NFC) attached, or an IV extension set with integrated needle free device / connector.
  2. Ask them to disinfect the Needle Free Device (NFD) / Needle Free Connector (NFC) with a 2% Chlorhexidine and 70% Isopropyl Alcohol wipe.
  3. Ask them to disinfect the Needle Free Device (NFD) / Needle Free Connector (NFC) for 15 seconds whilst you time them. Ask them to repeat the process so they know how long 15 seconds feels.

This data will hopefully demonstrate the need to time the disinfection. This can be achieved by using the stopwatch function on their smart phone which they would need to start before commencing a procedure. Alternatively, a clock with a sweeping second hand can be used.

## Assessing the efficacy of disinfection



The practical assessment for assessing the efficacy of the patient's disinfecting technique should not be undertaken on the patient's actual central venous catheter. This is due to the possible injection of UV disclosing liquid.

You will need

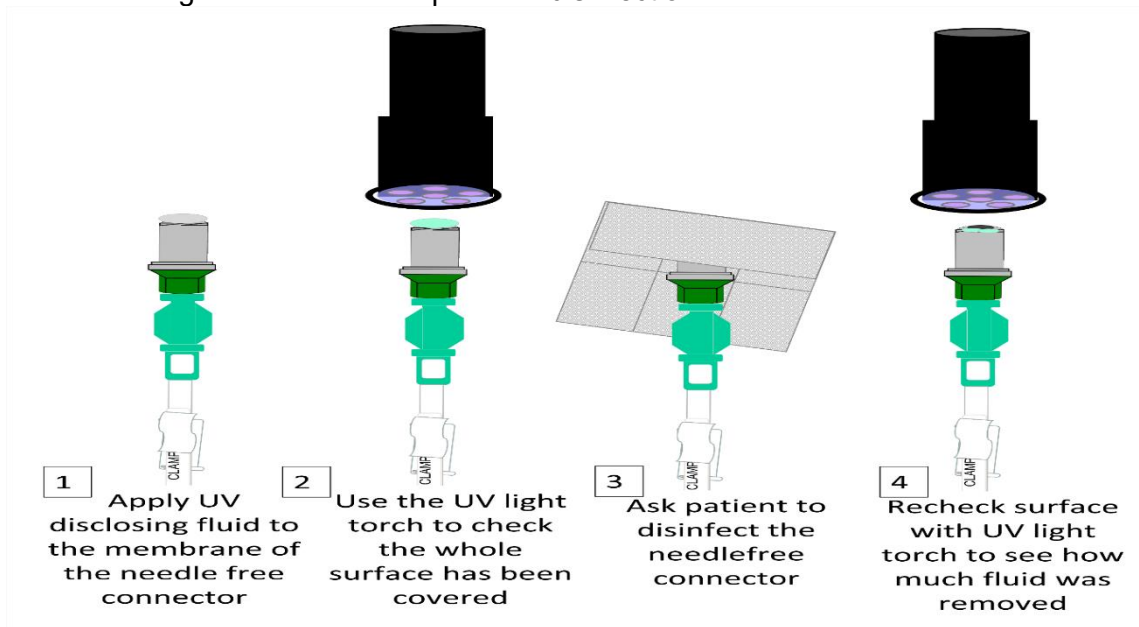
- UV disclosing liquid
- UV torch light
- Dummy central venous catheter\*, or IV extension sets
- Needle Free Device (NFD) / Needle Free Connector (NFC) connectors (if using dummy central venous catheter)
- Single use 2% CHG & 70% IPA wipes
- Something to measure time, for example stopwatch function on a smart phone

\*If a dummy central venous catheter is used it should be disinfected as per local trust guidelines between patient use.

1. Apply UV disclosing liquid to the membrane of a number of Needle Free Devices (NFD) / Needle Free Connectors (NFC). Using a small brush, for example a makeup or artist's brush can help with applying the liquid. Apply a generous amount to the connector and wait for it to dry. Note: It takes a little practice to get the technique right.



2. Use the UV torch light to check that the entire surface has been covered. Add additional liquid if needed.
3. Ask the patient to disinfect the connector for a minimum of 15 seconds using pressure and friction as if juicing an orange. The connector should then be allowed to dry for 30 seconds before accessing.
4. Use the UV torch light reassess the connector revealing how much UV disclosing liquid is left indicating how effective the patient's disinfection.



### Recording the outcomes of core training

Please complete the core training patient competency check list (page 18).

### Frequently asked questions



*What if a patient is unable to demonstrate competency with one or all the core training elements?*

If the core training identifies a clinical reason why the patient is unable to achieve competency then they will need long term nursing. Providing there is a clinical reason for long term nursing then this is acceptable. It is not acceptable if a patient doesn't want to learn.



*What if a patient refuses to undertake core training?*

Advise patients that undertaking core training skills for HPN administration is essential as part of discharge planning may act as an incentive for the patient to train. It is also important to state prior to HPN training that NHS England expect most patients to be able to undertake their own procedures, as nursing is only for patients who are not able to undertake their own care and where there is no identifiable carer to train.



*Do we have to use the toolkit?*

It is highly recommended. The national review of home parenteral support nursing revealed that not all Trusts / HPN centres had experience of training patients and/or training materials to use. It also identified that not all Trusts included a theory element to their training. It is appreciated that some Trusts may have extensive experience of patient training but having a standard approach to how it is undertaken – including assessing efficacy of the core skills should improve patient outcomes. NHS England support core training, and the homecare companies have been advised to request core training is undertaken before the patient is discharged.



*What if we are remotely discharging a patient?*

It may still be possible for the patient to receive core training at the remote hospital site. The toolkit can be shared with them. The only element where a remote Trust / centre may struggle is in assessing the efficacy of Needle Free Device (NFD) / Needle Free Connector (NFC) disinfection if they are not able to access UV disclosing liquid. Most Trusts however should have access to UV disclosing lotion via their infection control nurses for assessing efficacy of handwashing.

## Appendix D Supplement 1

# Home Parenteral Nutrition Core Patient Competencies

Name \_\_\_\_\_

The following core competencies should be achieved before discharge.

- Hand hygiene
- Glove application
- Disinfection

| Learning outcome  | Achieved (date) | Signature |
|---|-----------------|-----------|
| <b>1. Handwashing/decontamination</b>   |                 |           |
| a. Washes and dries hands effectively   |                 |           |
| b. Applies alcohol hand rub correctly   |                 |           |
| <b>2. Glove application</b>   |                 |           |
| a. Applies and removes gloves (if recommended) correctly  |                 |           |
| <b>3 Disinfection</b>   |                 |           |
| a. Can wash & disinfect surface area. Can disinfect and identify the membrane of the needle free device / connector that they will be using at home |                 |           |
| b. Disinfects needle free device / connector for minimum of 15 seconds with pressure and friction, and allows to dry for 30 seconds                 |                 |           |

|                                 |                   |
|---------------------------------|-------------------|
| <b>Date training completed.</b> |                   |
| <b>Signature</b>                | <b>Print Name</b> |

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# HPN Training Diary

**Patient Name**

Hospital Number

Carer name *(if applicable)*

Home Care Company

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**Date Training commenced**

**Reason for assessment** please circle

Initial Training / Re-assessment

**Central Venous Access Device**

**HPN Regimen**

**Date sign-off achieved**

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| Action   | Discussed & demonstrated | Successful Attempts |  |  |  |  |  |  |
|--|--------------------------|---------------------|--|--|--|--|--|--|
| <b>Aseptic hand-wash</b>   |                          |                     |  |  |  |  |  |  |
| <b>Trolley Washing / Surface area</b> <ul style="list-style-type: none"> <li>• Washing</li> <li>• Drying</li> <li>• Alco wipe</li> <li>• Assembling equipment</li> </ul> |                          |                     |  |  |  |  |  |  |
| Preparing an aseptic pack <ul style="list-style-type: none"> <li>• Opening</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Setting out sterile pack</li> </ul>   |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Adding pack items</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Adding disinfectant wipe / port protector</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Alco gel appropriately</li> </ul>   |                          |                     |  |  |  |  |  |  |

| Action   | Discussed & demonstrated | Successful Attempts |  |  |  |  |  |  |
|--|--------------------------|---------------------|--|--|--|--|--|--|
| <b>Disconnection</b><br><ul style="list-style-type: none"> <li>• Expel air from flush</li> </ul> |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Taking down outer dressing</li> </ul>                   |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Putting on gloves</li> </ul>                            |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Disinfecting the NFD</li> </ul>                         |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Using clean &amp; dirty hands appropriately</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Administering flushes</li> </ul>                        |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Connecting port protector</li> </ul>                    |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Securing the catheter</li> </ul>                        |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Alco gel appropriately</li> </ul>                       |                          |                     |  |  |  |  |  |  |
| <b>NFD Change</b><br><ul style="list-style-type: none"> <li>• Clamp &amp; remove NFD</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>• Disinfect the hub</li> </ul>                            |                          |                     |  |  |  |  |  |  |

| Action   | Discussed & demonstrated | Successful Attempts |  |  |  |  |  |  |
|--|--------------------------|---------------------|--|--|--|--|--|--|
| <ul style="list-style-type: none"> <li>Replacing NFD &amp; unclamp</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Exit site Dressing</li> </ul>   |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Removal of Dressing</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Checking Exit site</li> </ul>   |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Appropriately applying Chloraprep sponge applicator</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Air dry &amp; apply clean dressing</li> </ul>   |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Securing the catheter</li> </ul>  |                          |                     |  |  |  |  |  |  |
| <ul style="list-style-type: none"> <li>Alco gel appropriately</li> </ul>   |                          |                     |  |  |  |  |  |  |
|  |                          | Any Comments:       |  |  |  |  |  |  |
| <b>Prime Giving Set</b> <ul style="list-style-type: none"> <li>Removal of Tab from port</li> <li>Putting on disposable gloves (carer only)</li> <li>Handling of the giving set</li> <li>Spiking the bag with giving set</li> </ul> |                          |                     |  |  |  |  |  |  |
|  |                          |                     |  |  |  |  |  |  |
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| <ul style="list-style-type: none"> <li>• Priming the Set</li> <li>• Protecting the end of the giving set if not ready to connect</li> <li>• Alco gel appropriately</li> </ul> |  |  |  |  |  |  |  |  |
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| Action   | Discussed & demonstrated | Successful Attempts |  |  |  |  |  |  |
|--|--------------------------|---------------------|--|--|--|--|--|--|
| <b>Connecting to Bag</b> <ul style="list-style-type: none"> <li>• Removal of outer dressing</li> <li>• Putting on gloves</li> <li>• Removal of port protector</li> <li>• Cleaning the NFD</li> <li>• Connecting the giving set</li> <li>• Removing gloves &amp; unclamping the giving set</li> <li>• Starting the infusion pump</li> <li>• Alco gel appropriately</li> </ul> |                          |                     |  |  |  |  |  |  |
| <b>Infusion Pump</b> <ul style="list-style-type: none"> <li>• Inserting the giving set</li> </ul>  |                          |                     |  |  |  |  |  |  |

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| <ul style="list-style-type: none"> <li>• Setting the infusion volume</li> <li>• Troubleshooting</li> </ul>  |                      |  |  |  |  |  |  |
|   |                      |  |  |  |  |  |  |
|   | <b>Any Comments:</b> |  |  |  |  |  |  |
| <b>Complications</b> <ul style="list-style-type: none"> <li>• Sluggish Catheter</li> <li>• Catheter damage</li> <li>• Faulty Pump or giving set</li> <li>• Exit site problem</li> </ul> |                      |  |  |  |  |  |  |
|   |                      |  |  |  |  |  |  |
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# Training Diary

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## Further Reading

1. Phillips, P. Top Tips for Discharging a Patient on Home Parenteral Support in England
2. Cawley, C., Lal, S., Nightingale, J. & Small, M. Standardised Parenteral Support Catheter Guidelines. 9 (2018)
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4. Pironi, L. *et al.* ESPEN guidelines on chronic intestinal failure in adults. *Clinical Nutrition* **35**, 247–307 (2016)
5. Pironi, L. *et al.* ESPEN guideline on home parenteral nutrition. *Clinical Nutrition* **39**, 1645–1666 (2020)
6. Rowley, S., Clare, S., Macqueen, S. & Molyneux, R. ANTT v2: An updated practice framework for aseptic technique. *Br J Nurs* **19**, S5–S11 (2010)
7. Loveday, H. P. *et al.* epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *Journal of Hospital Infection* **86**, S1–S70 (2014)
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