Totally Implantable Venous Access Device (TIVAD) / Port-a-Cath™ Management Policy and Procedures (Children)
CONTENTS

SECTION | PAGE NO
1. INTRODUCTION | 4
2. PURPOSE | 4
  2.1 Definitions/Explanation of Terms Used | 4
    2.1.1 TIVAD / Port-a-Cath™ | 4
    2.1.2 Valsava Manoeuvre | 4
3. SCOPE | 5
4. RESPONSIBILITIES, ACCOUNTABILITIES AND DUTIES | 5
  4.1 Board of Directors | 5
  4.2 Assistant Directors | 5
  4.3 Clinical Leads / Matrons and Ward Department Managers | 5
  4.4 Clinical staff | 5
5. PROCEDURE/IMPLEMENTATION | 6
  5.1 IMPLANTATION AND IMMEDIATE CARE POST PROCEDURE | 6
    5.1.1 Implantation | 6
    5.1.2 Complications and care immediately post insertion (Hospital setting). | 6
  5.2 CONTINUING CARE OF A PATIENT WITH A PORT-A-CATH™ | 7
    5.2.1 Complications | 7
    5.2.2 Needles | 7
    5.2.3 Patency | 7
    5.2.4 Syringes | 8
    5.2.5 Devices | 8
  5.3 PROCEDURE FOR ACCESSING AND MAINTENANCE FLUSHING OF A PORT-A-CATH™ | 8
    5.3.1 Equipment | 8
  5.4 PROCEDURE TO ALLOW ACCESS TO A PORT-A-CATH™ FOR INTRAVENOUS THERAPY | 11
    5.4.1 Equipment | 11
  5.5 PROCEDURE FOR TAKING A BLOOD SAMPLE FROM A PORT-A-CATH | 12
1. INTRODUCTION

A Totally Implantable Venous Access Device (TIVAD) or Port-a-Cath™ is used for patients who need repeated long term intravenous drug therapy. In many cases other forms of venous access may have become difficult or impossible (Janes, Royle, Davies and Gannon 2008). TIVADs are widely used in people with cystic fibrosis (CF) to provide intermittent venous access for therapeutic infusions. Reports of their use in people with CF suggest that they are safe and effective (Cochrane Library 2010).

2. PURPOSE

The Policy is based on national guidelines for the management of a Port-a-Cath™ utilising sound infection prevention and control principles.

The purpose of this guidance is to promote the appropriate and safe use of Port-a-Caths™ throughout the Trust and provide guidance for staff to:

1. Safely access line when required.
2. Choose a relevant dressing and renew when appropriate.
3. Document the intervention.

2.1 Definitions/Explanation of Terms Used

2.1.1 TIVAD / Port-a-Cath™

A Port-a-Cath™ is a Totally Implantable Venous Access Device (TIVAD) that consists of a portal - a small metal (usually titanium) or plastic chamber - that is sealed at the top with a silicone septum and a thin flexible catheter, made from either polyurethane or silicone. The silicone septum will withstand 1000 – 3600 punctures with a 20 or 22 gauge Huber point needle (Hadaway 2010; Hayden and Goodman 2005; Perucca 2001). Needle gauge is selected dependent on type and rate of infusate as well as the location of the port (Weinstein 2000). Titanium and plastic ports are compatible with MRI imaging techniques (Perucca 2001).

![Port-a-Cath™ Venous System](image)

2.1.2 Valsava Manoeuvre

The Valsalva manoeuvre is performed by moderately forceful attempted exhalation against a closed airway, usually done by the patient closing the mouth, pinching the nose shut while pressing out as if blowing up a balloon.
The manoeuvre is indicated when the Port-a-Cath line tip is blocked (See 5.5).

3. **SCOPE**

The policy applies to all Children’s Community Nurses within Rotherham Doncaster and South Humber NHS Foundation Trust (Trust) whose duties will include delivering care to patients with a Port-a-Cath™ in the community setting.

In appropriate circumstances patients or their carers can be trained, under instruction from appropriately trained staff, to use the system for administering antibiotics in the home (Cochrane Library 2010).

4. **RESPONSIBILITIES, ACCOUNTABILITIES AND DUTIES**

4.1 **Board of Directors**

It is the responsibility of the Board of Directors to have policies in place that meet any legislation, national and local requirements and promote best practice.

4.2 **Care Group Director**

Care Group Directors are responsible for the implementation of the policy within their specific areas.

4.3 **Clinical Leads / and Ward Department Managers**

It is the responsibility of the Clinical Leads to facilitate:

- All new staff whose role will involve TIVAD management should attend the Clinical skills simulation training session and complete clinical skills training package.

- Permanent staff whose duties include TIVAD management must attend the clinical skills training day and attend up-dates annually.

- All clinical staff whose duties involve TIVAD management care can demonstrate compliance and competence in relation to the policy.

4.4 **Clinical staff**

The individual nurse is accountable for their practice under the guidance of the Nursing and Midwifery Council Code of Professional Conduct (2017). Therefore, under no circumstances should a nurse undertake the management or care of TIVAD’s unless s/he has the appropriate knowledge, attended the Study Day and have completed the TIVAD Clinical Skills Training Package.

At all times, staff must adhere to their codes of professional conduct (Nursing Midwifery Council (NMC) 2017).
NOTE - It is the responsibility of the individual nurse to inform his or her manager if they do not have the appropriate training.

All staff are required to ensure accurate records are maintained at all times in accordance with the Trust’s Record Keeping Policy.

5. PROCEDURE/IMPLEMENTATION

5.1 IMPLANTATION AND IMMEDIATE CARE POST PROCEDURE

5.1.1 Implantation

Originally these devices were all sited subcutaneously on the anterior chest wall e.g. Port-a-Cath™. They are inserted under local anaesthetic and sedation by a radiologist under X-ray guidance, or by General Anaesthetic if appropriate. The Port-a-Cath™ can be accessed immediately if required. More recently, implantation sites are selected by joint collaboration with the patient, taking into consideration lifestyle and activities undertaken. Patient preference for insertion site is important as they can remain in place for several years. (Goodwin and Carlson 1993).

Port-a-Cath™ Venous System in situ

The most common veins used are subclavian, internal or external jugular veins, cephalic or femoral vein. Ports can also be inserted in the antecubital area of the arm (Hadaway 2010; Hayden and Goodman 2005; Perucca 2001).

5.1.2 Complications and care immediately post insertion (Hospital setting).

Post-procedure complications attributed to Port-a-Cath’s™ should be minimal. However, the patient should be observed for complications associated with any invasive procedure, such as infection, haematoma, surgical emphysema or accumulation of serous fluid at the implant site (Smiths Medical 2011). Following Port-a-Cath™ implantation it is advisable to monitor the patient in hospital for as long as clinically indicated and a chest X-ray should be performed if a pneumothorax is suspected. If the patient’s condition remains satisfactory following a Port-a-Cath™ insertion, and there are no signs of pneumothorax or other complication, discharge home can be the following day.
5.2 CONTINUING CARE OF A PATIENT WITH A PORT-A-CATH™

5.2.1 Complications

Long term Port-a-Cath™ related complications can also occur. These include extravasation, catheter blockage due to thrombosis, local and systemic infection associated with the insertion and maintenance of Central Venous Catheters (CVC) and breakdown of skin integrity over the portal (Department of Health (DoH) 2010). If a patient has pyrexia or complains of any symptoms such as pain, swelling or discolouration of the skin, a doctor or person expert in Port-a-Cath™ complications e.g., specialist nurses, should be informed immediately so that the problem can be investigated.

5.2.2 Needles

Only Huber point (non-coring) ‘Gripper’ needles should be used to access a Port-a-Cath™ to prevent coring of the silicone septum. Needle length needs to be verified correct for portal/patient; if too long, needle and/or portal may be damaged at insertion; if too short, needle may not completely pierce portal septum, and medication may be delivered into surrounding tissue and/or needle may be blocked. (Smiths Medical 2011). Selection of needle length according to patient BMI and depth of insertion needs consideration.

5.2.3 Patency

Port-a-Caths™ need to be flushed every 4-6 weeks to maintain patency. (Weinstein 2007; Camp Sorrell 2004). The purpose of flushing procedure is to ensure that patency of the lumen is maintained.

The line is to be flushed with 10ml normal saline 0.9% followed by Heparin Sodium as prescribed (see procedure). The concentration of heparin should be the lowest possible that will maintain patency; usually 10iu heparin in 1 ml 0.9% sodium chloride except with implanted ports which may require 100iu/ml heparin (Royal College of Nursing (RCN) 2010).

It is important to use a positive pressure flushing technique. This is thought to minimise reflux of blood into the tip of the catheter and thus prevent clotting. (RCN 2016).
A positive pressure flush can be best accomplished by applying positive pressure on the syringe plunger throughout the flush and clamping the extension line just prior to the syringe being completely empty.

5.2.4 Syringes

A vital consideration is that syringe size directly impacts the amount of pressure (psi) generated by the syringe. Excessive pressure may result in catheter rupture and embolisation. It is important to use syringes of 10ml or greater size when administering flushes or drugs creating a pressure of less than 40 psi. (Smiths Medical 2011; Baranowski 1995).

5.2.5 Devices

It is recommended that peripheral devices, e.g.: bungs, bionectors used to access points, should be changed as per local Trust policy. (RCN 2016).

5.3 PROCEDURE FOR ACCESSING AND MAINTENANCE FLUSHING OF A PORT-A-CATH™.

NOTE. This procedure is for maintenance flushing of Port-a-Caths™. If the needle is to remain in for on-going treatment please refer to the procedure to allow access for intravenous therapy below.

5.3.1 EQUIPMENT

Sterile Dressing pack including apron
Sterile surgeons gloves of appropriate size
Clinell universal wipes
Chloraprep™ 2% - 3ml sponge applicator
Luer lock syringe – 10ml x 2
1 Blunt Fill needle with Filter
1 Green hypodermic needle (needs to be a blunt needle for plastic vial or a blunt filter needle for drawing up from a glass vial. Alternatively filter medical straws can be used.
10ml Sodium chloride 0.9% for injection
Heparin Sodium as prescribed (Weinstein 2007)
Huber non-coring ‘Gripper’ plus needle 20/22 gauge (appropriate length)
Plaster Sharps box
Trust approved hand gel
Ethyl Chloride spray to use as required (if Emla or Ametop cream has not been prescribed)
Appropriate waste bag

This is an aseptic non-touch technique (ANTT).

<table>
<thead>
<tr>
<th>PRINCIPLE</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Explain and discuss the procedure to the patient and gain verbal consent. To ensure the patient understands the procedure and gives their valid consent.</td>
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</tr>
<tr>
<td>2 Assist patient into a suitable position, supine or sitting in For patient comfort and ease of access.</td>
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<tr>
<td>3</td>
<td>Ascertain that the patient has had no pain or discomfort with the Port-a-Cath™ before palpating the position of the portal. If pain or swelling present seek expert advice. Decontaminate hands with alcohol hand rub prior to palpating the position.</td>
</tr>
<tr>
<td>4</td>
<td>Check with patient where Port-a-Cath™ is sited and locate port by palpation.</td>
</tr>
<tr>
<td>5</td>
<td>Clean dressing area/trolley with clinell universal wipes. Allow area/trolley to dry. Wash hands, open packs onto clean dressing area/trolley, place equipment on sterile field, decontaminate hands with alcohol rub and put on sterile gloves and apron.</td>
</tr>
<tr>
<td>6</td>
<td>Clean skin with chloraprep™ 3ml applicator, starting at the portal and working outwards in a spiral motion to at least 8cm over 30 seconds. Allow to dry.</td>
</tr>
<tr>
<td>7</td>
<td>Prime the huber needle and extension tubing with 0.9% sodium chloride. Leave the syringe attached. Close the clamp on the extension tube.</td>
</tr>
<tr>
<td>8</td>
<td>Locate the dressing field close to the Port-a-Cath™. Relocate and stabilise the portal by placing first and middle fingers of non-dominant hand either side of the Port-a-Cath™.</td>
</tr>
<tr>
<td>9</td>
<td>Push the Huber non-coring needle at a 90 degree angle to the Port-a-Cath™ firmly through the skin and the silicone septum until the</td>
</tr>
</tbody>
</table>
needle touches the metal at the back of the Port-a-Cath™, as illustrated below. NB This can often be felt as a Tap.

| 10 | Open clamp and after checking for flashback of blood to confirm patency, slowly inject sodium chloride, adopting a pulsating motion to create turbulence within the line. Ask the patient if they experience any pain on flushing. Observe the site for any swelling. | To flush Port-a-Cath™ and maintain patency. There is no requirement to routinely withdraw blood and discard it prior to flushing (RCN 2016). Correct flushing technique contributes significantly to the preservation of line patency. Pain and/or swelling could indicate a misplaced needle or other complication. |
| 11 | Assess patency of Port-a-Cath™ whilst injecting sodium Chloride. | If the needle is correctly placed and the Port-a-Cath™ is patent, there should be little resistance. |
| 11a | If resistance is felt check that the needle is located correctly and is touching the back of the Port-a-Cath™ and you have released the clamp. | If the needle is not touching the back of the Port-a-Cath™ the silicone septum will block the hole in the side of the needle. |
| 11b | If the needle is thought to be correctly located and resistance is still felt, seek expert advice. | Port-a-Cath™ will need further investigation so that appropriate treatment can be commenced. |
| 11c | If there is any doubt that the needle is incorrectly sited, it may be necessary to remove the needle and site a new one. | A misplaced needle will result in pain and resistance when flushing. |
| 12 | Apply positive pressure on the syringe plunger before closing the clamp. Close clamp and remove syringe. | To prevent backflow of blood and air entry to the line. |
13 | Attach syringe containing prescribed heparin sodium, open clamp, inject heparinised sodium and close clamp using positive pressure prior to clamping. | To prevent flow of blood into the line which may result in line blockage |
---|---|---|
14 | Relocate and stabilise the Port-a-Cath™ by placing first and middle fingers of non-dominant hand either side of it and gently but firmly pull the needle out. | To prevent the movement of the Port-a-Cath™ on withdrawal of the needle. |
15 | Repeat flushing of Port-a-Cath™ every 4 – 6 weeks. (RCN 2016; Weinstein 2007). | Flushing procedure is to ensure patency of the Port-a-Cath lumen is maintained. |

### 5.4 PROCEDURE TO ALLOW ACCESS TO A PORT-A-CATH™ FOR INTRAVENOUS THERAPY

#### 5.4.1 EQUIPMENT

- Sterile Dressing pack and apron
- Sterile surgeons gloves of appropriate size
- Chloraprep™ 2% - 3ml sponge applicator
- Luer lock syringe – 10ml x 2
- 1 Blunt Fill needle with filter for a glass vial or 1 drawing up blunt needle for a plastic vial. Or a filter medical straw
- 1 drawing up blunt needle Or a filter medical straw
- 10ml Sodium chloride 0.9% for injection
- Heparin Sodium as prescribed
- Huber non-coring ‘Gripper’ plus needle of appropriate gauge and length
- Bionector, or suitable needle-less bung
- Sterile scissors
- Transparent semi-permeable dressing - check for allergies to different brands
- Sharps box
- Ethyl chloride spray if required
- Appropriate waste bag

**NOTE:** if allergic to ALL brands for transparent dressing, Softpore™ may be used as an alternative, although patient will need to ensure dressing is changed after bathing as this dressing is not waterproof.

This is an Aseptic non-Touch Technique (ANTT).

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Follow procedure for flushing</td>
</tr>
</tbody>
</table>
numbers 1 – 13.

2. Attach bionector bung. To allow needleless access

3. Remove the white plastic gripper top from the Huber needle. Prevent the needle fracturing. To provide patient comfort

4. Apply a 3cm x 3cm square of gauze over the needle area and the transparent semipermeable dressing over the top ensuring the whole area is sealed and the extension line is not causing pressure on patient’s skin. (DoH 2010). To enable dressing to be changed without dislodging needle. To support needle and allow for showering and bathing. To prevent pressure degrading skin integrity.

5. Discard used equipment and waste according to Trust policy. Protection of patient, staff and Environment.

6. Document needle size used. To ensure appropriate selection on subsequent occasions.

END

5.5  PROCEDURE FOR TAKING A BLOOD SAMPLE FROM A PORT-A-CATH

To prolong the life span of a Port-a-Cath™ it should ideally never be accessed purely for blood sampling. Routine blood sampling should be planned when the Port-a-Cath™ is accessed for flushing or IV Therapy.

If a patient has had problems with a blocked or partially blocked Port-a-Cath™ it is advisable to take blood samples via an alternative route.

Difficulty may be encountered when taking blood samples. One of the causes is that the tip of the soft catheter lies against the wall of the vessel and the suction required to draw blood brings this into close contact, leading to temporary occlusion. There could also be a collapse of the catheter walls when using the vacuum system which may necessitate the use of syringes to obtain the blood. Measures to dislodge the tip include asking the patient to:

1. Cough and breathe deeply
2. Lie patient down
3. Roll from side to side
4. Raise his/her arms
5. Perform the Valsalva manoeuvre, if possible
6. Increase general activity, e.g. walk up and down stairs.

(Gorski, Perucca and Hunter 2010; Moureau 1999)
Obtaining blood samples from a Port-a-Cath™ can lead to inaccurate results, especially coagulation and antibiotic assays (Frey 2003). The discard method is the standard accepted method (Homes 1998). This ensures removal of any heparin or saline solution. (See following procedure).

This procedure needs to be undertaken in a timely fashion. If blood does not flow freely the procedure must be abandoned as delay may risk blood clotting in the Port-a-Cath™ necessitating its removal.

This is an Aseptic Non-Touch Technique (ANTT).

5.5.1 EQUIPMENT

Alcohol rub – hand wash solution
Sterile Dressing pack and apron
Sterile gloves of appropriate size
1 x Chlorhexidine 2% with 70% alcohol skin wipes – individual sterile - for disinfection of hubs and connection ports
Luer lock syringe – 10ml x 2
1 Blunt Fill needle with Filter
2 Blunt drawing up needle as per comments on pg 9 x 10ml Sodium chloride 0.9% for injection
Microtainers used in children
Heparin Sodium as prescribed
Huber non-coring ‘Gripper’™ needle of correct gauge and length
Bionector or suitable needleless bung
Appropriate waste bag

Ensure Blood specimen bottles correctly labelled as per Trust policy ensuring expiry dates checked.

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Perform procedure using aseptic technique. Wash hands with bacterial soap and water or alcohol rub as per Trust policy.</td>
<td>To reduce risk of infection and contamination of blood samples obtained.</td>
</tr>
<tr>
<td>2 Prepare tray or trolley and take to patient. Clean hands as above and open sterile pack and equipment.</td>
<td>To reduce risk of contamination of contents.</td>
</tr>
<tr>
<td>3 Clean hands with alcohol hand rub. Put on sterile gloves and apron. Using gauze from dressing pack, remove bung. Clean end of catheter line with Chlorhexidine 2% with 70% alcohol skin wipes (in individual packaging) and allow</td>
<td>To minimize risk of introducing infection. To prevent contamination of practitioner’s hands with blood.</td>
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<td>---</td>
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</tr>
<tr>
<td><strong>4</strong> Attach syringe containing 10ml sodium chloride, open clamp and inject 10ml sodium chloride immediately withdrawing 10ml blood. Close clamp and discard syringe.</td>
<td>To enable disinfection process to be completed. To prevent contamination of blood sample.</td>
</tr>
<tr>
<td><strong>5</strong> Attach the microtainer system to the line, release the clamp, Attach 10ml syringe and withdraw blood sample.</td>
<td>To obtain required volume of blood for sampling. Order of samples: 1. Cultures 5ml each bottle (if needed). 2. Clotting screens (Blue). 3. (Yellow/Gold) – LFT/U&amp;E/CRP/TFT/ (Vit ADEK photosensitive). 4. EDTA (Purple) FBC/ESR/HbA1c/ 5. Fluoride Oxalate (Grey) Glucose. <strong>It is important to complete this task as soon as possible to prevent blood clotting in the line.</strong></td>
</tr>
<tr>
<td><strong>Ask assistant to invert all blood tubes for recommended times</strong></td>
<td></td>
</tr>
<tr>
<td><strong>6</strong> Attach 10ml luer lock syringe, open the clamp and inject 10ml 0.9% sodium chloride adopting a pulsating motion to create turbulence within the line. Close the clamp and discard syringe.</td>
<td>To flush blood from line To regain line patency.</td>
</tr>
<tr>
<td><strong>7</strong> Attach the heparin sodium syringe, open the clamp and inject, adopting a pulsating motion to create turbulence within the line, clamp line whilst using positive pressure technique, and discard the syringe.</td>
<td>To maintain patency and positive pressure in the line, needle and extension set.</td>
</tr>
<tr>
<td><strong>8</strong> Fit new /sterile bionector.</td>
<td>To prevent air entry, infection and allow needleless access.</td>
</tr>
</tbody>
</table>
5.6

PROCEDURE TO ADMINISTER INTRAVENOUS MEDICATIONS VIA AN ACCESSED PORT-A-CATH™

The administration of medications and solutions shall be initiated upon the order of a doctor or an authorised nurse prescriber or as part of a Patient Group Direction (NMC 2008a).

Flushing with 0.9% sodium chloride solution to ensure and maintain patency shall be performed before, between and after the administration of incompatible medications and/or solutions. (RCN 2016; NICE 2003) the volume of the flush solution should be equal to at least twice the volume of the catheter and add-on devices – usually 5 – 10ml Heparin sodium as prescribed should be administered to ‘hep-lock’ the line on completion of administering medications and when not in use.

All flush solutions should only be administered following a prescription (National Patient Safety Agency 2008). A PGD is in place within the Trust to support this.

5.6.1 Equipment

Long Extension line with filter.
1 x Chlorhexidine 2% with 70% alcohol skin wipes - for disinfection of Hubs and connection ports.
Omnifuse pump or graseby 500 pump if needed.
2 blunt needles (needs to be a blunt needle for plastic vial or a blunt filter needle for drawing up from a glass vial. Alternatively filter medical straws can be used.
Sterile pack with gloves and apron
Appropriate waste bag
Syringes appropriate for medication but no small than 10mls
1 10ml flush saline
1 10ml heparin for IV
Sharps bin
60ml needed for infusion otherwise syringe size selected for dose if medication is bolus (no smaller than 10ml)
Trust approved alcohol rub

This is an Aseptic Non-touch Technique (ANTT).

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Identify correct patient as per Trust policy</td>
</tr>
<tr>
<td>2</td>
<td>Check prescription chart</td>
</tr>
<tr>
<td>Step</td>
<td>Task</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>according to the local drug administration policy to ascertain type of medication and correct dosage needed. Check drug and expiry date.</td>
</tr>
<tr>
<td>2</td>
<td>Wash hands or use alcohol gel hand rub as per Trust policy</td>
</tr>
<tr>
<td>3</td>
<td>Take prepared drugs to Patient.</td>
</tr>
<tr>
<td>4</td>
<td>Prepare drugs as per local intravenous therapy guidelines</td>
</tr>
<tr>
<td>5</td>
<td>Clean bionector using an a Chlorhexidine 2% with 70% alcohol wipe (in individual packaging). Allow to dry.</td>
</tr>
<tr>
<td>6</td>
<td>Attach syringe containing 10ml 0.9% sodium chloride to bionector using clockwise ¼ turn to lock syringe in place. Open clamp, inject using positive pressure technique, observe for any swelling around Port-a-Cath™ site. Ask patient if they feel any pain.</td>
</tr>
<tr>
<td>7</td>
<td>Clamp catheter, remove empty syringe and connect syringe containing 1st intravenous medication to bionector – via extension line, secure syringe in Omnifuse pump and commence infusion. Or administer Bolus depending on medication and prescription</td>
</tr>
<tr>
<td>8</td>
<td>On completion of infusion, clamp extension line above and below bionector, remove empty syringe and attach syringe containing 10ml 0.9%, to extension line ensuring ANTT is adopted, unclamp both clamps, inject using positive pressure technique.</td>
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</tr>
<tr>
<td>10</td>
<td>Clamp both clamps, remove empty syringe, discard and attach 2nd medication syringe, unclamp both clamps and recommence infusion.</td>
</tr>
<tr>
<td>11</td>
<td>Clamp both clamps, remove and discard empty medication syringe.</td>
</tr>
<tr>
<td>12</td>
<td>Attach final syringe containing 10ml 0.9% sodium chloride, unclamp both clamps, inject using positive pressure technique, clamp.</td>
</tr>
<tr>
<td>13</td>
<td>Remove empty syringe and discard.</td>
</tr>
<tr>
<td>14</td>
<td>Attach syringe containing heparin sodium as prescribed and give as bolus injection using positive pressure technique whilst clamping. Remove empty syringe and discard.</td>
</tr>
<tr>
<td>15</td>
<td>Dispose of waste in line with Trust policy</td>
</tr>
</tbody>
</table>

### 5.6.2 Troubleshooting

Immediate action is necessary to successfully restore patency. A Port-a-Cath™ may become blocked for several reasons:

1. Incorrect or infrequent flushing technique, infusion being switched off or running too slowly or precipitation formation due to inadequate flushing between solutions/drugs.

2. Build-up of crystallised drug or ‘sludge’ in the Port-a-Cath™ chamber. Often characterised by gradual build-up of resistance when flushing. May be improved by more frequent flushes (e.g. every 2 weeks).

3. Formation of blood clot at the catheter tip. Often characterised by sudden catheter occlusion when previous flushes have shown no resistance.

4. Catheter rupture-usually there is sudden occlusion and this may be associated with pain or swelling.

5. Patient complaining of swelling in hands/neck/face. Catheter tip has moved.
5.6.3 Points to check:

1. Check that all clamps are open when attempting flush.
2. Ensure that the needle is sited correctly. Is the needle pushed down far enough into the Port-a-Cath™? Re-needle if necessary.
3. Is there any inflammation at the needle insertion site?
4. Does the patient have any pain?
5. Seek expert/medical advice.

Immediate referral to registered nurse or doctor with advanced knowledge in management of Port-a-Cath™ devices is appropriate if you still have concerns.

5.7 PROCEDURE GUIDELINE TO UNBLOCK AN OCCLUSION

Catheters may become occluded for a number of reasons, e.g. not being flushed adequately or using the incorrect flushing technique, infusion being switched off or running too slowly or precipitation formation due to inadequate flushing between solutions/drugs. Clearance of a catheter occlusion is best performed using a negative pressure approach. The establishment of negative pressure within a catheter means creating a vacuum by aspiration of the air or ‘dead space’ within a catheter (Moureau 1999; Dougherty 2006; Gabriel 2008). Unblocking a catheter is not a quick procedure and can take up to 30 minutes to achieve success. Seek specialist nurse / medical advice if the line is patent is not easily achieved.

5.7.1 Equipment

Sterile dressing pack including apron
Alcohol hand rub
1x Chlorhexidine 2% with 70% alcohol skin wipes – individual sterile
Bionector (or needless injector cap)
10ml syringe
0.9% sodium chloride as prescribed
Heparin Sodium as prescribed

<table>
<thead>
<tr>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Explain and discuss the procedure with the patient. To ensure the patient understands the procedure and gives his/her consent (NMC 2008b).</td>
</tr>
<tr>
<td>2</td>
<td>Perform the procedure using ANTT. To minimise the risk of infection (DOH 2010).</td>
</tr>
<tr>
<td>3</td>
<td>Wash hands with soap and water or alcohol hand rub as per Trust policy. To minimise the risk of cross infection (DOH 2010).</td>
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<tr>
<td>4</td>
<td>Open sterile dressing pack and empty equipment onto it. To create a clean working area (DOH 2010).</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>5</td>
<td>Clean hands using alcohol hand rub.</td>
</tr>
<tr>
<td>6</td>
<td>Clean connections using wipes before disconnection.</td>
</tr>
<tr>
<td>7</td>
<td>Remove any extension sets or injection caps.</td>
</tr>
<tr>
<td>8</td>
<td>Attempt to flush with 0.9% sodium chloride using a 10ml syringe.</td>
</tr>
<tr>
<td>9</td>
<td>If there is pressure within the catheter lumen, attempt to gently instil the 0.9% sodium chloride using a 'to and fro' motion (push-pull) over a few minutes.</td>
</tr>
<tr>
<td>10</td>
<td>If nothing can be aspirated seek specialist advice. Child will be referred to hospital for further assessment</td>
</tr>
</tbody>
</table>

Totally Implantable Venous Access Device (TIVAD) or Port-a-Cath™ Management Policy and Procedures

<table>
<thead>
<tr>
<th>Staff groups requiring training</th>
<th>How often should this be undertaken</th>
<th>Length of training</th>
<th>Delivery method</th>
<th>Training delivered by whom</th>
<th>Where are the records of attendance held?</th>
</tr>
</thead>
<tbody>
<tr>
<td>New starters and permanent staff – relevant to role</td>
<td>On employment and yearly update assessment as per Clinical skills training package</td>
<td>Half day</td>
<td>Simulation E-learning Demonstration Observation Assessment</td>
<td>RED CENTRE Community Practice Educators Clinical Educators Competent confident trained staff up to date with relevant assessments</td>
<td>Electronic Staff Record system (ESR)</td>
</tr>
<tr>
<td>Dissemination of the policy and its content</td>
<td>Upon ratification of the policy and to new starters</td>
<td>-</td>
<td>Face to face and email</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. **TRAINING IMPLICATIONS**

Staff will receive instruction and direction regarding CVAD procedures and information from a number of sources:

- Policies and Procedure Manuals
- Line Manager/ Community Practice Educators
- Clinical Skills workshops – dates available on the Trust Learning and Development site via RED Centre.
- Clinical Skills Training Package
- Trust intranet

*The Training Needs Analysis (TNA) for this policy can be found in the Training Needs Analysis document which is part of the Trust’s Mandatory Risk Management Training Policy located under policy section of the Trust website.*

7. **MONITORING ARRANGEMENTS**

<table>
<thead>
<tr>
<th>Area for Monitoring</th>
<th>How</th>
<th>Who by</th>
<th>Reported to</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training compliance and following up on those who fail to attend</td>
<td>Follow up in writing with relevant trainers/managers</td>
<td>Line Managers</td>
<td>Community Practice Educators Managers</td>
<td>Yearly</td>
</tr>
<tr>
<td>Any Service User feedback, Complaints or Your Opinion Counts which relate to none compliance with the standards in this policy</td>
<td>Investigation Feedback Review</td>
<td>Manager</td>
<td>Care group Quality and governance meeting</td>
<td>On-going as the need arises</td>
</tr>
</tbody>
</table>

8. **EQUALITY IMPACT ASSESSMENT SCREENING.**

The completed Equality Impact Assessment for this Policy has been published on this Policy’s webpage on the Trust website.

8.1 **Privacy, Dignity and Respect**

The NHS Constitution states that all patients should feel that their privacy and dignity are respected while they are in hospital. High Quality Care for All (2008), Lord Darzi’s review of the NHS, identifies the need to organise care around the individual, ‘*not just clinically but in terms of dignity and respect*’.

As a consequence the Trust is required to articulate its intent to deliver care with privacy and dignity that treats all service users with respect. Therefore, all procedural documents will be considered, if relevant, to reflect the requirement to treat everyone with privacy, dignity and respect, (when appropriate this should also include how same sex accommodation is provided).

**Indicate how this will be met**

*Care delivered within the scope of this policy will be within a community setting, in Community hospital setting and in patients own homes.*

*Care will be organised taken the patients’ and families’ views and beliefs into consideration and all care will be delivered with consideration of the patients’ requirement of privacy.*
Central to any aspect of care delivered to adults and young people aged 16 years or over will be the consideration of the individuals capacity to participate in the decision making process. Consequently, no intervention should be carried out without either the individuals informed consent, or the powers included in a legal framework, or by order of the Court.

Therefore, the Trust is required to make sure that all staff working with individuals who use our service are familiar with the provisions within the Mental Capacity Act. For this reason all procedural documents will be considered, if relevant to reflect the provisions of the Mental Capacity Act 2005 to ensure that the interests of an individual whose capacity is in question can continue to make as many decisions for themselves as possible.

Where there are concerns about the patients ability to give valid consent a Mental Capacity assessment will need to be undertaken and recorded on MCA 1 If the person lacks capacity to consent then a best interests decision will need to be made as to whether or not to proceed and recorded on MCA 2.

### 9. LINKS TO ANY ASSOCIATED DOCUMENTS

- Policy for consent to examination or treatment (follow link below or search on the Trust internet, clinical policies)
  
  Consent to Care and Treatment Policy | RDaSH NHS Foundation Trust

- Aseptic technique and aseptic non-touch technique – (follow link below or search on the Trust internet, clinical policies)
  

- Hand hygiene Policy and procedure – (follow link below or search on the Trust internet, clinical policies)
  

- Standard infection prevention and control precautions policy – (follow link below or search on the Trust internet, clinical policies)

- Policy for the management of sharps/inoculation injuries and other blood or body fluid exposure incidents – (follow link below or search on the Trust internet, clinical policies)
  

- Policy for the management of blood and body fluid spillages – (follow link below
or search on the Trust internet, clinical policies)

Waste Policy – (follow link below or search on the Trust internet, clinical policies)

PGD – Administration of Heparin Sodium to Line Lock a Vascular Access Device
http://www.rdash.nhs.uk/29744/pgd-administration-of-heparin-sodium-to-line-lock-a-vascular-access-device/

NICE Clinical Guideline 139 Prevention and Control of healthcare-associated infection in primary and community care – last accessed 23.04.18
Healthcare-associated infections: prevention and control in primary and community care | Guidance and guidelines | NICE

10 REFERENCES


Nursing and Midwifery Council (2017) The Code: Standards of conduct, performance and ethics for nurses and midwives

Nursing And Midwifery Council (2008a) Standards for Medicines Management


Royal College of Nursing (2016) Infusion Nursing Standards of practice. [online] available at Standards for infusion therapy | Royal College of Nursing [accessed on 23.04.18)]

