NHS
Humber Teaching
NHS Foundation Trust

Infusion Therapy Workbook

Registered Practitioner undertaking Infusion Therapy Training

Infusion Therapy Facilitator

Date commenced

Version 1.0
Approved 4 November 2019

Contents

INTRODUCTION

All Registered Health Care Professionals undertaking infusion therapy must firstly demonstrate evidence of competence, skills and knowledge in relation to the specific task to be undertaken and have completed the appropriate training as outlined in Appendix 1 of the Protocol for Intravenous Infusion.

The Trust provides training for a cohort of experienced registered staff to enable them to become Trust-approved Infusion Therapy Facilitators. Your Infusion Therapy Facilitator will support you in developing clinical competence, skills and knowledge in relation to infusion therapy and support practice supervision updates.

In order to fulfil the requirements set out by the trust you must complete both elements of the Infusion Therapy training programme:

- Complete the relevant section(s) of this Infusion Therapy Workbook (specific to your role)
- Undertake a period of supervised practice with your nominated Infusion Therapy Facilitator who will provide direct sign off when you can demonstrate safe and effective practice

As a registered practitioner you will be required to keep this workbook, record of training and clinical competence updates as evidence of your continued practice development.

Upon completion of the infusion therapy competency programme the Infusion Therapy Facilitator will inform the Learning Centre.

Continued competency will be assessed through direct observation and life supervision annually you're your approved infusion therapy facilitator.

This workbook should be used in conjunction with the Infusion Therapy Policy and Protocol for Intravenous Infusions which can be located on the policy and procedures page of the intranet.

PART 1: PATIENT SAFETY AND INFECTION PREVENTION AND CONTROL

GENERAL

Documentation

Documentation in patient records must contain complete information regarding any/all infusion therapies, vascular access and adverse drug reactions.

Documentation must comply with the guidelines for records and record-keeping within the healthcare professional's code

Expiry Dates

Manufacturer's guidelines will be followed in relation to storage and expiry dates will be verified prior to administration.

Labelling

Clear, accurate labelling should be used for product and drug identification. Where pre-prepared ready to use injectable medicines are not available the medications must be drawn up using a closed system and the syringes and should be labelled with the patient's name and date of birth, drug name, dose, route of administration, expire date and batch number. This will minimise the risk associated with 'wrong route errors'.

Contaminated or Out of Date Products

Any contaminated or out of date products will be removed immediately from clinical use and reported to pharmacy.

Patient Safety Incidents

All patient safety incidents will be reported via the Trust's Datix system.

INFECTION PREVENTION AND CONTROL

General Infection Prevention and Control Principles and Practices

All infusion-related procedures require the use of aseptic technique, observation of standard precautions and use of sterile products. See Infection and Prevention Control policies.

Disposable gloves should be worn to protect hands from contamination from blood and body fluids, and to reduce the risk of cross contamination to both patient and staff.

The choice of sterile or non-sterile gloves should be made based on an assessment of the risks of the procedure however sterile gloves are to be worn when handling central venous access devices or add on devices.

Disposable plastic aprons should be worn whilst carrying out all infusion procedures due to the risk of contact with blood/body fluids or contamination of uniform.

Reconstitution and Compatibility

Aseptic technique should be used throughout reconstitution.

Cleaning should be undertaken using 2% chlorhexidine gluconate in 70% alcohol or locally determined alternative if chlorhexidine allergy Blunt fill and blunt filter needles should be used for medication preparation from vials and glass ampoules.

Manufacturers' guidelines should be followed for reconstituting and administration of a specific medication https://about.medicinescomplete.com/publication/injectable-drugs-guide.

Adequate flushing with 10ml Sodium Chloride 0.9% for injection is require between the administration of each drug to prevent incompatibilities from occurring

An IV injection should **never** be administered via a running infusion that also contains a medicine additive. Any infusion containing a medicine will be stopped temporarily with the line being flushed both before and after the injection is given

Safe Use and Disposal of Sharps and Hazardous Material

All needles and cannulas should have a safety device with engineered sharps injury protection.

All needles and syringes will be disposed of as per Waste Management Policy/Waste Management Standard Operating Procedure.

Cleaning and Disinfection of Reusable Equipment

Refer to the Medical and Non-Medical Devices Policy and the Cleaning Equipment Guidance for details on cleaning and disinfection of medical devices.

INFUSION EQUIPMENT

Administration Sets

Administration sets used for a continuous infusion must be changed every 96 hours, however, they must be changed if they become disconnected, or the integrity of the product or system has been compromised

Administration sets must be changed using aseptic technique, observing standard precautions and following manufacturers' recommendations

Only recommended or designated administration sets will be used in electronic infusion devices.

Date and time labels must be applied to ensure administration sets are changed at the correct Interval.

Care must be taken to avoid backtracking when more than one IV set is connected through multiple ports. Backtracking is where fluid flows away from the intended delivery point and can result in interruption of treatment and/or accidental bolus. The latter can lead to overdose, speed shock and ultimately may result in death. If appropriate, consider alternatives.

Flow Control Devices – Manual and Electronic

Manual flow control devices are not be suitable for all environments where infusion therapy is being delivered, especially when there is limited opportunity for monitoring. Therefore, electronic flow control is favoured for reasons of patient safety and accuracy of flow rates.

However, there may be situations when the rate of infusions can be regulated by manual flow control devices to ensure timely delivery of the prescribed therapy for example in resuscitation situations. In such situation the Registered Health Care Professional is responsible for monitoring the patient.

For the administration of intravenous fluids the following information will be recorded on the Intravenous Fluid Monitoring Chart (Appendix 2 of the Protocol for Intravenous Infusion: date, time infusion started, expected completion time, medical device serial number, rate setting, total volume

infused, volume remaining, check of IV cannula site.

Never use a damaged or defective electronic infusion devices and/or equipment used in those Devices. Report any damaged or defective equipment to the Estates Department as per the Medical and Non-Medical Devices Policy.

Registered HCPs are responsible for regular monitoring of the infusion rate of the prescribed therapy.

Tourniquets

Tourniquets should be properly applied to promote venous distention and to impede venous but not arterial blood flow.

Apply the tourniquet proximal to the selected insertion site. A pulse should be palpable distal to the tourniquet location.

Tourniquets should be single use in order to reduce the risk of cross contamination and infection.

PART 2: PERIPHERAL CANNULA

Peripheral cannulas will only be inserted by medical doctors who have a comprehensive understanding of anatomy and physiology, vascular assessment techniques and insertion techniques appropriate to the specific device.

A peripheral cannula should be selected for short term therapy of three to five days and for bolus injections or short infusions in the outpatient/day unit or community ward setting.

Peripheral cannulas should be equipped with a safety device with sharps injury protection.

Once inserted the device will require stabilising with a sterile transparent film dressing that does not interfere with visual assessment and monitoring of the access site. Dressings can remain in place for the duration that the cannula remains in situ (three to five days) unless the dressing's integrity is compromised, moisture collects under the dressing or it is visibly contaminated.

Peripheral devices should not be routinely used for blood sampling but blood can be taken immediately following insertion. Do not take blood from an existing peripheral venous access site because this may give false results.

Consideration should be given to the use of an extension set between the peripheral catheter and needleless connector to reduce catheter manipulation.

Following insertion, using only Luer-Lok™ connections and syringes, flush the cannula with 5-10mls of normal saline for IV injection.

The gauge, product name, batch and/or lot number, number of attempts, anatomical location should be recorded in the clinical records (Intravenous Cannula Record).

Aftercare

Hand hygiene and standard precautions including non-sterile gloves and single use disposable apron protocols must be adhered to when accessing and caring for peripheral cannulas.

The Visual Infusion Phlebitis score 1-5 will be documented daily and appropriate action taken and documented on the Intravenous Cannula Record.

All add-on devices should be of a closed Luer-Lok™ design.

Aseptic technique must be used and standard precautions must be observed for all add-on device changes. All add on devices must be decontaminated using 2% chlorhexidine gluconate in 70% alcohol which should be allowed to air dry prior to accessing. Aseptic technique will be used.

When add-on devices are used, they should be changed with each cannula or administration set replacement, or whenever the integrity of either product is compromised, and according to manufacturer's recommendations

Blood pressure cuffs and tourniquets should be avoided if possible on an extremity where a peripheral device has been placed.

PART 3: CENTRAL VENOUS ACCESS DEVICES (central line and PICC lines)

Registered Health Care Professionals will have comprehensive understanding related to the central venous access devices and will have undertaken initially training followed by annual competency-based assessment.

Following the insertion and confirmed positioning of a Central Venous Access Device (a skin tunnelled catheter, i.e. Hickman line or Peripherally Inserted Central Catheter (PICC) within an acute hospital setting a patient may be transferred or referred for care within our community services.

Dressings and Stabilisation Devices

A sterile transparent film dressing must be applied and maintained. Dressings must be changed at least once every seven days or more frequently if the dressing's integrity is compromised, moisture collects under the dressing or it is visibly contaminated.

An aseptic technique should be used for each dressing change and any contact with the insertion site or catheter.

Cleansing of the central venous access site should be carried out at dressing change using a single application of 2% chlorhexidine gluconate in 70% isopropyl alcohol (or povidone iodine in alcohol for those with an allergy to chlorhexidine) and allowed to air dry.

In addition to sterile dressings, products employed to stabilise devices may include sutures, engineered stabilisation devices and sterile wound closure strips. Ensure a clear plan of care is in place outlining when and if any sutures or closure strips are due for removal and by whom.

At each contact the Registered Health Care Professional will observe the exit site for signs of inflammation or infection.

At each contact the Registered Health Care Professional will observe for migration. If migration is observed the line should not be re-advanced. The line should not be used. Urgent contact should be made with the referring hospital or team.

Extra care should be taken when removing dressings or stabilisation devices to ensure migration does not take place.

Do not use sharp objects or scissors to aid in the removal of dressings. **Never** access a central venous access device with a needle. Always ensure devices are accessed using a needle free system and add on devices are of a closed Luer-Lok™ design.

If a CVAD is accidentally ruptured, split, or compromised in any way this could result in an immediate threat to life and therefore requires urgent action. Ensure patient safety is maintained by securing and/or clamping the line, the patient will require emergency transfer to the acute hospital by dialling 999.

Assessing Patency and Flushing Central Venous Access Devices

The HCP should aspirate central venous access devices to check blood return to confirm patency, assess catheter function and prevent complications prior to administration of medications and/or solutions

In the absence of a blood return for central venous access devices, an attempt should be made to flush the device; if resistance is met **force should not be applied**.

The patency of the vascular access device will be checked prior to each administration of medications and/or solutions.

10mls of Sterile 0.9% sodium chloride should be used to flush and lock catheter lumens that are accessed frequently.

Flushing with 10mls of 0.9% sodium chloride solution to ensure and maintain patency should be performed before, between and after the administration of incompatible medications and/or solutions.

1.9% saline flushes should be prescribed. For further details on the procedure for flushing central venous access devices refer to Appendices 5a, 5b, and 5c of the Protocol for Intravenous Infusion.

Catheter Complications

The practitioner caring for the patient with a central venous access device should be knowledgeable about the complications of catheter dislodgement, malposition, occlusion, pinch-off syndrome, thrombosis, fibrin sheath, extravasation and vessel perforation. In any event referral should be made to the acute hospital for assessment and management. Refer to Appendix 6 of the Protocol for Intravenous Infusion.

Medication and Solution Administration

The administration of medicines via a vascular access device should only be undertaken when no other route is suitable. The administration of medications and solutions should be in accordance with a prescription from an authorised prescriber.

Aseptic technique must be used and standard precautions adhered to in the administration of injectable medications and solutions.

The registered authorised HCP should check any medication to be given via a vascular access device with another registered authorised professional prior to administration. It should also be the registered health care professional who then administers the IV medication.

Cytotoxic Chemotherapy

The Trust **does not** support the administration of IV chemotherapeutic agents, however, patients in the community setting may require the disconnection of an ambulatory pump containing chemotherapy and as such registered nurses caring for these patients should ensure they have adequate knowledge and understanding in order to carry out this procedure safely.

Handling of cytotoxic of drugs in the workplace requires safe practice and risk assessment. The patient will be referred from the acute hospital oncology team and provided with equipment including a cytotoxic sharps bin (which will be securely fastened and returned by the patient to the acute hospital) and spillage kits. The acute hospital should also provide a written procedure for the disconnection of the ambulatory pump in line with their Trust policy. Where a written procedure is not available please see appendices 5e and 5f of the Protocol for Intravenous Infusion.

All staff caring for patient requiring the disconnection of ambulatory chemotherapy pump will have received local training and be able to evidence annual competency updates.

Blood Sampling

Refer to Appendices 5d and 5e of the Protocol for Intravenous Infusion for further details on obtaining blood samples from central venous access devices.

PART 4: MANAGING INFUSION RELATED COMPLICATIONS

The HCP should be competent in assessing the patient receiving an IV medication or fluids for the following administration or device-related complications.

Phlebitis

Peripheral cannula insertion sites will be monitored at a minimum of every 12 hours using a Visual Infusion Phlebitis (VIP) score (Appendix 4 of the Protocol for Intravenous Infusion) which is used for measuring degrees or severity of phlebitis/thrombophlebitis.

Signs and symptoms phlebitis include:

- Pain at the cannula site
- Erythema
- Swelling
- Induration
- Palpable venous cord
- Pyrexia

Take action as outlined in the VIP scoring tool see Appendix 4 of the Protocol for Intravenous Infusion.

Any incident of phlebitis along with the intervention, treatment and corrective action will be documented in the patient's records.

Infiltration and Extravasation

Infiltration is defined as the inadvertent administration of non-vesicant medication or solution into the surrounding subcutaneous or subdermal tissue instead of into the intended vascular pathway.

Extravasation is defined as the inadvertent administration of **vesicant** medication or solution into the surrounding subcutaneous or subdermal tissue instead of into the intended vascular pathway.

Sign and symptoms infiltration/extravasation include:

- Pain during infusion
- Pain at cannula site
- Swelling at the cannula site

On observing/suspecting infiltration/extravasation the infusion will be immediately stopped.

The peripheral cannula will be removed with on-going observation of the affected area.

Inform the medic and organise for a replacement cannula to be inserted.

Where a patient is receiving ambulatory chemotherapy via a CVAD and extravasation/ infiltration or rupture of the CVAD is suspected urgent advice will be sought from the referring oncology team and the patient will be transferred to the acute hospital for further management.

The severity of the infiltration/extravasation and actions performed will be documented in the patient's clinical records.

Prevention and Management of Infusion/Device-related Bloodstream Infections

Catheter-related blood stream infections are frequently associated with the use of IV devices and can result in life threatening complications.

Standard precautions and aseptic technique should be adopted when accessing any component of the device, site or line.

Monitor patients for signs and symptoms of infection including:

- Increased heart rate
- High or low temperature
- Low blood pressure
- Abnormal breathing pattern
- Altered level of consciousness/new confusion
- Shaking/rigor

Monitor vital signs using the NEWS2 chart at a **minimum** 12-hourly. Refer to the Deteriorating Patient Policy.

Advise patient to informing nursing staff if they feel unwell/hot/cold/shivery/or have general malaise.

Escalate suspected infection or a rise in NEWS2 score as per the Deteriorating Patient Policy.

When accessing the vascular access device, add on devices and vascular access sites aseptic technique and standard precautions should be undertaken and the device/add-on devices and site cleaned with 2% chlorhexidine gluconate in 70% alcohol, providing that the patient is not sensitive. The hub should be cleaned for a minimum of 15 seconds and allowed to air dry.

Thrombosis

HCPs caring for patients with vascular access devices should be aware of the potentially complications of thrombosis in associated with the use of central venous catheters.

For inpatients, ensure a VTE risk assessment has been completed.

The HCP will observe for secondary effects of thrombosis; for example, pulmonary embolism (PE), deep vein thrombosis (DVT) and report any signs or symptoms immediately.

Sign and symptoms of CVAD related thrombosis may include:

- swelling of the neck, chest, arm or leg
- pain particularly unilateral leg pain or pain on inspiration
- skin discoloration
- skin temperature changes
- infusion difficulties and an inability to aspirate blood

Whether a PE or DVT is suspected or is an incidental finding following a routine chest X-ray the patient will require urgent medical assessment and transfer to the acute trust for initiation of appropriate therapy.

Haematoma

HCPs caring for patients with vascular access devices should be aware of the potentially complications of haematomas and haemorrhage associated with the use of central venous catheters.

Signs and symptoms of a CVAD related haematoma or haemorrhage may include:

- Visible bleeding at the exit site
- Swelling or bruising
- Hypotension
- Chest pain

If the HCP identifies or has concern about a haematoma or bleeding related to any venous access device urgent advice will be sought for the medical doctor.

In the rare event of a significant haematoma or moderate to severe haemorrhage an emergency ambulance will be called (dial 999).

Air Embolus

HCPs caring for patients with vascular access devices should be aware of the potentially lethal complications of air embolus associated with the use of central venous catheters.

Signs and symptoms of air embolism include:

- Chest pain
- Dyspnoea
- Tachycardic or irregular pulse
- Hypotension

If air embolism is suspected, call for an emergency ambulance (dial 999). Inform the medical doctor for the ward/unit.

Monitor vital signs every 15 minutes until the paramedics arrives HCPs should know how to recognise an air embolism and the action to be taken to manage air embolism.

Central venous access devices including central venous catheters and PICC lines will on every occasion be removed by the acute hospital team and never whilst in the care of Humber Teaching NHS Foundation Trust.

When removing a peripheral cannula apply gentle digital pressure to the vein entry site until haemostasis is achieved and apply a sterile occlusive, airtight (air-impermeable) dressing immediately after advising the patient to ensure it remains in situ for 24 hours.

Air-in-line detectors should be used to monitor for air bubbles in administration sets when delivered via an electronic infusion device.

Air should be ‘purged’ from administration sets and extension tubing prior to attachment to a vascular access device. All equipment used with vascular access devices should have Luer-Lok™ connections, equipment with safety features designed to detect and or prevent air embolism, for example electronic infusion devices with air sensors/alarms and administration sets with eliminating filters.

Clamps on the catheter and the administration set should be closed when changing equipment Infusion bags and containers should not be allowed to run dry/empty during an infusion.

Pneumothorax and Haemothorax

Patients referred of transferred into the care of Humber Teaching NHS Foundation Trust will have had the position of the central venous access device radiological assessed for any signs of post insertion pneumothorax/haemothorax and to clarify the catheters position. However, HCPs should be competent to identify pneumothorax/haemothorax in order that emergency treatment can be

sought.

Signs or symptoms of pneumo/haemothorax may include:

- Pain on inspiration and expiration,
- Dyspnoea

If pneumothorax and haemathorax is suspected call for an emergency ambulance (dial 999). Inform the medical doctor for the ward/unit.

Monitor vital signs every 15 minutes until the paramedics arrives.

If is pneumothorax or haemothorax is suspected call for an emergency ambulance (dial 999). Inform the medical doctor for the ward/unit.

Speed Shock/Fluid Overload and Electrolyte Imbalance

Speed shock is a sudden physiological adverse reaction because of an IV medication being administered too quickly.

The HCP administering the medication and/or infusion will have the knowledge of the speed or rate over which to perform administration of infusions to prevent speed shock or fluid overload and/or electrolyte imbalance. The prescription should be always referred to: any discrepancies or concerns should be raised with the prescriber or a medic.

Signs and symptoms of speed shock may include:

- flushed face
- headache
- dizziness
- tight feeling in the chest
- irregular pulse/tachycardia
- hypotension
- loss of consciousness
- cardiac arrest

Signs and symptoms of fluid overload may include:

- restlessness
- dyspnoea
- cough
- tachycardia
- hypertension
- low oxygen saturations

Regular monitoring of the patient is required during the administration of fluids, including vital signs and fluid balance charts.

If speed shock or fluid overload is suspected, call for an emergency ambulance (dial 999). Inform the medical doctor for the ward/unit.

Cardiac Tamponade

An incidence of cardiac tamponade associated with vascular access should be reported as an adverse patient outcome.

The HCP should be competent to identify the acutely ill patient following a possible tamponade and take appropriate action (NICE, 2007).

All information relating to the event should be documented in the patient's nursing and medical notes.

Assessment of the risk of tamponade should be carried out by a skilled professional. Risk factors include, but are not limited to, the patient's health status, anticoagulant therapy, and the procedure being performed. Tamponade is associated with central venous catheters and can occur on insertion or subsequently, particularly if the catheter is placed in the heart chambers.

The practitioner should demonstrate knowledge of the signs and symptoms of tamponade. Observation of the signs and symptoms of tamponade occurrence should prompt immediate treatment to relieve cardiac compression.

Ongoing observation and assessment of the patient should be performed and documented.

Information relating to the cause, action taken and outcome of the event should be documented in the patient's records.

Incidence of tamponade, together with the cause, should be recorded so that possible steps for future prevention can be identified.

Insertion and removal will be conducted within an acute hospital.

COMPETENCE ASSESSMENT PART 1: PATIENT SAFETY AND INFECTION PREVENTION AND CONTROL

Through discussion with the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate knowledge and understanding of the following:

- **Defensible documentation in relation to infusion therapy**
- **Expiry dates**
- **Labelling**
- **Contaminated or out of date products**
- **Reporting of patient safety incidents**
- **Infection prevention measures**

Registered Health Care Professional's comments:

Infusion Therapy Facilitator's comments:

Patient Safety and Infection Prevention and Control Observed Practice Assessment

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
General Infection Prevention and Control Principles and Practices • Uses aseptic technique • Observation of standard precautions • Use of sterile products		
Reconstitution and Compatibility • Aseptic technique throughout reconstitution. • Cleaning should be undertaken using 2% chlorhexidine gluconate in 70% alcohol or locally determined alternative if chlorhexidine allergy • Uses blunt fill and blunt filter needles appropriately • Manufacturers' guidelines are followed		
Safe Use and Disposal of Sharps and Hazardous Material • Safety devices used correctly • All needles and syringes disposed of as per Waste Management Policy/Waste Management Standard Operating Procedure.		
Cleaning and Disinfection of Reusable Equipment • Is able to appropriately clean and disinfect reusable equipment		

COMPETENCE ASSESSMENT PART 2: IV THERAPY – PERIPHERAL CANNULA

Through discussion with the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate knowledge and understanding of the following:

- **Indications for use**
- **Complications/risks associated with a peripheral cannula**
- **Is able to describe aftercare including stabilisation, visual assessment, maintaining patency**
- **Demonstrates knowledge and understanding of the VIP score**
- **When to renew IV administration sets**
- **Describe different types of IV administration sets**
- **Defines the terms bolus and infusion**

Registered Health Care Professional's comments:

Infusion Therapy Facilitator's comments:

IV Administration via a Peripheral Cannula Observed Practice Assessment

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
• Demonstrates effective hand hygiene and standard precautions including decontamination of device prior to use		
• Is observed conducting a visual assessment of the cannula site using the VIP score and takes appropriate action		
• Selects the correct equipment for the procedure (Luer-Lok™ connections, safety devices, extension sets etc.		
Infusion Equipment and Administration Sets • Correct IV administration set is selected and set up as per manufacturers guidelines • Aseptic technique and standard precautions are observed when changing and setting up an infusion set • Demonstrates safe and effective priming of the IV administration set • Demonstrates safe and effective set up of the electronic IV delivery system including setting parameters such as rate/volume to be infused • Demonstrates competence in troubleshooting		
Administration (Infusion) • Carries out pre-administration checks including drug to be administered, prescription chart, dose, route, expiry date, allergies, patient name, DOB and NHS number (with a second checker). • Is able to demonstrate safe and adequate flushing with 10ml Sodium Chloride 0.9% for injection prior to, between medications and after completion. • Demonstrates the accurate completion of the Intravenous Fluid Monitoring Chart with date, time infusion started, expected completion time, medical device serial number, rate setting, total volume infused, volume remaining, check of IV cannula site. • Demonstrates regular monitoring of the infusion rate of the prescribed therapy.		
Administration (bolus) • Carries out pre-administration checks including drug to be administered, prescription chart, dose, route, expiry date, allergies, patient name, DOB and NHS Number (with a second checker)		

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
• Demonstrates safe and effective delivery of bolus IV therapy as per the manufacturers guidelines and the prescription • Is able to demonstrate safe and adequate flushing with 10ml Sodium Chloride 0.9% for injection prior to, between, and after administration		

COMPETENCE ASSESSMENT PART 3: IV THERAPY – PICC LINE

Through discussion with the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate comprehensive knowledge and understanding of the following:

- **Indications for use**
- **Anatomy and physiology in relation to PICC line placement**
- **Complications/risks associated with a PICC line**
- **Aftercare including stabilisation, visual assessment, maintaining patency**
- **Demonstrates knowledge and understanding of the VIP score in relation to a PICC line**

Registered Health Care Professional's comments:

Infusion Therapy Facilitator's comments:

IV Administration via a PICC Line Observed Practice Assessment

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
• Confirms that the central venous access device is safe to use and that this has been confirmed on X-ray		
• Demonstrates effective hand hygiene and standard precautions including decontamination of device prior to use		
• Selects the correct equipment for the procedure (Luer-Lok™ connections, safety devices, extension sets etc.		
• Observes the exit site for signs of inflammation or infection and takes appropriate action		
• Is able to demonstrate the safe removal of dressing/stabilisation devices		
• Is able to clean the exit site and the PICC line as per Trust protocol		
• Is able to apply suitable dressing as per the Trust protocol		
• Observes for signs of migration and take appropriate action		
• Aspirates blood to confirm patency, flushes the device; if resistance is met does not apply force.		
• Is able to demonstrate the correct procedure for taking blood samples from the PICC line.		
Infusion Equipment and Administration Sets • Correct IV administration set is selected and set up as per manufacturers guidelines • Aseptic technique and standard precautions are observed when changing and setting up an infusion set • Demonstrates safe and effective priming of the IV administration set • Demonstrates safe and effective set up of the electronic IV delivery system including setting parameters such as rate/volume to be infused • Demonstrates competence in troubleshooting		
Administration (Infusion) • Carries out pre-administration checks including drug to be administered, prescription chart, dose, route, expiry date, allergies, patient name, DOB and NHS number (with a second		

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
checker). • Is able to demonstrate safe and adequate flushing with 10ml Sodium Chloride 0.9% for injection prior to, between medications and after completion. • Demonstrates the accurate completion of the Intravenous Fluid Monitoring Chart with date, time infusion started, expected completion time, medical device serial number, rate setting, total volume infused, volume remaining, check of IV cannula site. • Demonstrates regular monitoring of the infusion rate of the prescribed therapy.		
Administration (bolus) • Carries out pre-administration checks including drug to be administered, prescription chart, dose, route, expiry date, allergies, patient name, DOB and NHS Number (with a second checker). • Demonstrates safe and effective delivery of bolus IV therapy as per the manufacturer's guidelines and the prescription. • Is able to demonstrate safe and adequate flushing with 10ml Sodium Chloride 0.9% for injection prior to, between, and after administration.		

COMPETENCE ASSESSMENT PART 3: IV THERAPY VIA A CENTRAL LINE

Through discussion with the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate comprehensive knowledge and understanding of the following:

- **Indications for use**
- **Anatomy and physiology in relation to central line placement**
- **Complications/risks associated with a central line**
- **Aftercare including stabilisation, visual assessment, maintaining patency**

Registered Health Care Professional's comments:

Infusion Therapy Facilitator's comments:

IV Administration via a Central Line Observed Practice Assessment

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
• Confirms that the central venous access device is safe to use and that this has been confirmed on X-ray		
• Demonstrates effective hand hygiene and standard precautions including decontamination of device prior to use		
• Selects the correct equipment for the procedure (Luer-Lok™ connections, safety devices, extension sets etc.		
• Observes the exit site for signs of inflammation or infection and takes appropriate action		
• Is able to demonstrate the safe removal of dressing/stabilisation devices		
• Is able to clean the exit site and the central line as per Trust protocol		
• Is able to apply suitable dressing as per the Trust protocol		
• Observes for signs of migration and take appropriate action		
• Aspirates blood to confirm patency, flushes the device; if resistance is met does not apply force.		
• Is able to demonstrate the correct procedure for taking blood samples from the central line.		
Infusion Equipment and Administration Sets • Correct IV administration set is selected and set up as per manufacturers guidelines • Aseptic technique and standard precautions are observed when changing and setting up an infusion set • Demonstrates safe and effective priming of the IV administration set • Demonstrates safe and effective set up of the electronic IV delivery system including setting parameters such as rate/volume to be infused • Demonstrates competence in troubleshooting		
Administration (Infusion) • Carries out pre-administration checks including drug to be administered, prescription chart, dose, route, expiry date,		

Following observation and a period of supervised practice by the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate clinical competency and skills in the following:	Signature of ITF	Date
allergies, patient name, DOB and NHS number (with a second checker) • Is able to demonstrate safe and adequate flushing with 10ml Sodium Chloride 0.9% for injection prior to, between medications and after completion. • Demonstrates the accurate completion of the Intravenous Fluid Monitoring Chart with date, time infusion started, expected completion time, medical device serial number, rate setting, total volume infused, volume remaining. • Demonstrates regular monitoring of the infusion rate of the prescribed therapy.		
Administration (bolus) • Carries out pre-administration checks including drug to be administered, prescription chart, dose, route, expiry date, allergies, patient name, DOB and NHS number (with a second checker) • Demonstrates safe and effective delivery of bolus IV therapy as per the manufacturers guidelines and the prescription • Is able to demonstrate safe and adequate flushing with 10ml Sodium Chloride 0.9% for injection prior to, between, and after administration.		

COMPETENCE ASSESSMENT PART 4: MANAGING INFUSION RELATED COMPLICATIONS

Infusion related complications are uncommon and as a result assessing management of such occurrences in practice through observed practice assessment is not always achievable however, HCPs caring for patients with vascular access devices should be aware of the potentially complications associated with the use of central venous catheters and be able to demonstrate comprehensive knowledge and understanding of signs, symptoms and required actions in relation to such complications.

Through discussion with the Infusion Therapy Facilitator the Registered Health Care Professional is able demonstrate comprehensive knowledge and understanding of the following:

- **Phlebitis**
- **Infiltration and Extravasation**
- **Prevention and Management of Infusion/Device-related Bloodstream Infections**
- **Thrombosis**
- **Haematoma**
- **Air Embolism**
- **Pneumothorax and Haemothorax**
- **Speed Shock/Fluid Overload and Electrolyte Imbalance**
- **Cardiac Tamponade**

Registered Health Care Professional's comments:

Infusion Therapy Facilitator's comments:

Name of the Registered Practitioner……

Name of the Infusion Therapy Facilitator…….

	The Registered HCP has demonstrated comprehensive knowledge and understanding in the following	Observed Practice Assessment
PART 1: PATIENT SAFETY AND IPC	**Signed (ITF)…….** **Date……**	**Signed (ITF)…….** **Date…….**
PART 2: IV THERAPY VIA A PERIPHERAL CANNULA	**Signed (ITF)…….** **Date……**	**Signed (ITF)…….** **Date…….**
PART 3: IV THERAPY VIA A PICC LINE	**Signed (ITF)…….** **Date……**	**Signed (ITF)…….** **Date…….**
PART 3: IV THERAPY VIA A CENTRAL LINE	**Signed (ITF)…….** **Date……**	**Signed (ITF)…….** **Date…….**
PART 4: MANAGING INFUSION-RELATED COMPLICATIONS	**Signed (ITF)…….** **Date……**	
Signature of HCP	**……**	**……**