Standard Operating Procedures (SOPs) for Preparing and Administering Intravenous Medicines and Fluids

Plymouth Hospitals NHS
NHS Trust

Date	Version
February 2016	**2**

Purpose

To instruct staff on how to correctly mix and administer intravenous medications and fluids to avoid incompatibilties, microbial contamination, drug instability and adverse effects to the patient.

Scope this document?

Applies to all staff who administer intravenous medications and fluids.

Key Message

Staff working for or on behalf of Plymouth Hospitals NHS Trust who prepare and administer fluids and drugs by injection or infusion must do so in accordance with these SOPs.

Accountabilities

Production	Henrietta Ferguson, Placement & Mentorship Lead Gary Hallett, Charge Nurse / Preceptorship Lead Acute Care Team
Review and approval	Medicines Utilisation and Assurance Committee
Ratification	Medicines Utilisation and Assurance Committee

Links to other policies and procedures

Pharmacy Documents:

- PHNT Medicines Management Policy

PHNT Vascular Access Documents:

- Administration of Medication through a Central Venous Catheter (CVC)
- Removal of a Central Line
- PHNT Central Vascular Access Guidelines

http://www.plymouthhospitals.nhs.uk/ourservices/clinicaldepartments/Pages/VascularAccessTeam.aspx

PHNT Infection Control Documents:

- Guidelines for the Management of Peripheral Intravenous Devices
- Guidelines for the Management of Central Intravenous Catheters
- Hand Hygiene Guidelines
- Guidelines for Aseptic Technique
- Safe Disposal of Sharps Policy

Other Documents:

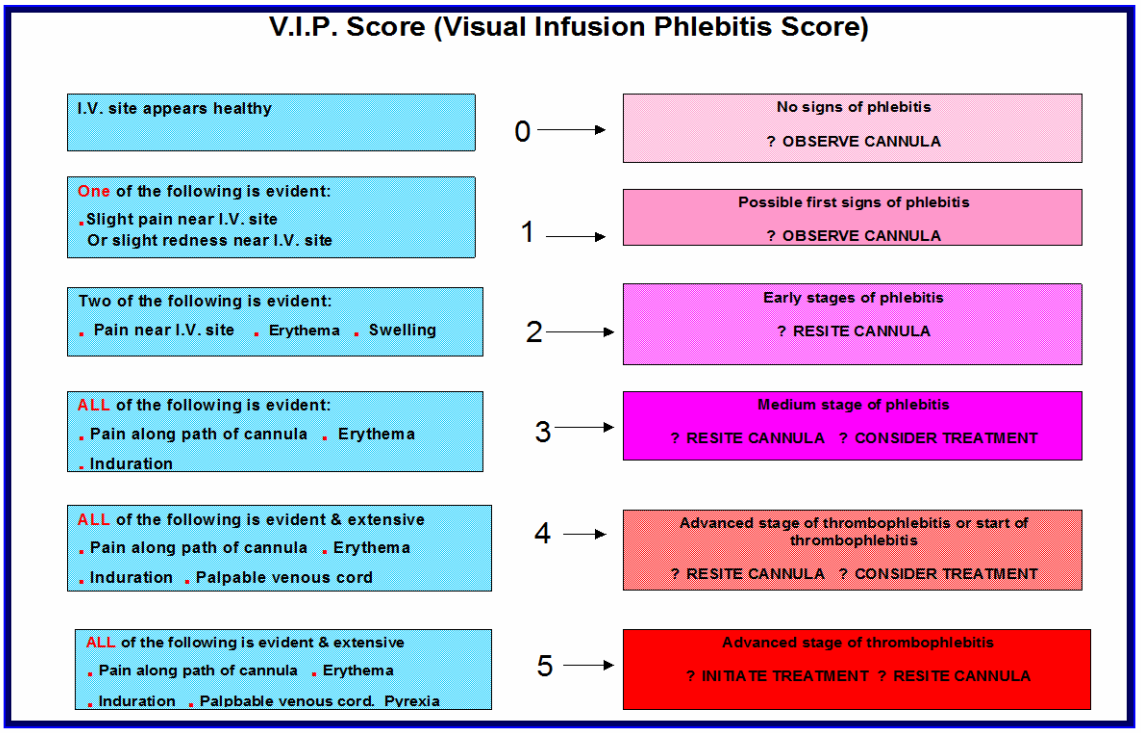
- Royal College Nursing Standards for Infusion Therapy, 2010

Version History	
Version 1	December 2012
Version 2	February 2016 – Clave removed in preference of Closed Connectors. Length of time required to clean Closed Connectors added.

Last Approval	Due for Review
February 2016	February 2019

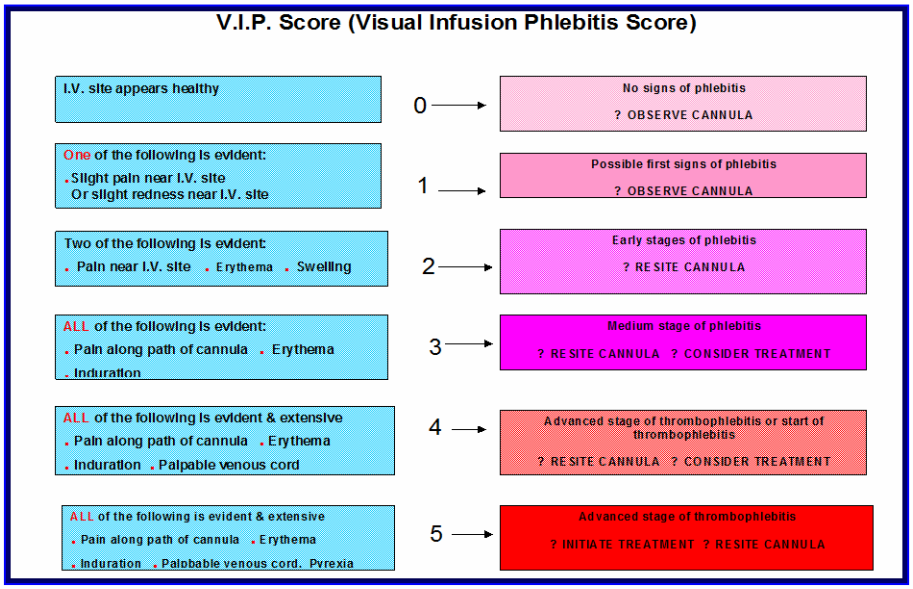
1 Process that must be followed when administering a medication by intravenous bolus

- Hands must be decontaminated prior to accessing the cannula
- Gloves (and other standard precautions when necessary) must be worn and a clean non touch must be technique used.
- Clean connectors/ports with 70% isopropyl alcohol/2% Chlorhexidine impregnated swab (e.g. Sanicloth) for 30 seconds and allow to dry before and after procedure.
- All syringes containing drawn-up medication or flushing solution must be labelled with name of medicine or flushing solution and the dose/strength, unless the risk of doing so (eg contaminating a sterile field) is perceived by the individual practitioner to outweigh the risk of mis-identifying un-labelled syringe(s). The individual practitioner is then responsible for ensuring that any un-labelled syringes are not mis-identified.
- Use a 10ml syringe or larger for the initial flush (labelled as above) to prevent damage to cannula and reduce pressure on the vein.
- Prepare the drug, labelled as above and administer using the administration guidance in the appropriate drug monograph, to ensure correct dilution and rate of administration.
- Always time using a watch/clock.
- In this Trust bolus injections are given via a cannula with a closed connector. The injection port should only be used in exceptional circumstances.
- Flush with a compatible fluid (A few drugs are incompatible with 0.9% sodium chloride – check the appropriate drug monograph).
- Dispose of waste and sharps according to PHNT infection, prevention and control policy
- Document and evaluate actions
- Check the cannula site for signs of phlebitis (Visual Infusion Phlebitis (VIP) score, and signs of infiltration or extravasation before, during and following administration of any drug. For the treatment of phlebitis refer to Appendix 2.



2 Process that must be followed when administering a medication by intermittent intravenous infusion

- Hands must be decontaminated prior to accessing the cannula
- Gloves (and other standard precautions when necessary) must be worn and a clean non touch technique must be used.
- If the infusion is not provided in a ready prepared formulation, follow the guidance in the appropriate drug monograph.
- Check infusion solution visually for clarity and absence of particles/cloudiness, if in doubt do not give and contact pharmacy.
- Non-mechanical devices such as Dosiflows may only be used where the fluid will provide no risk to the patient (i.e. crystalloid infusion containing no drugs, potassium or magnesium).
- Clean connectors/ports with 70% isopropyl alcohol/2% Chlorhexidine impregnated swab (e.g. Sanicloth) for 30 seconds and allow to dry before connecting and after disconnecting.
- If intermittent infusions of more than one drug are to be administered in the same set, confirm the compatibility of the drugs before administration. If compatibility is not confirmed then either flush between infusions with a flush compatible with both drugs or replace the set in between each drug administration.
- Where a primary infusion exists use a multi lumen closed connector to connect another solution set (if compatible) to the primary infusion. When the intermittent infusion is finished, discard the set and flush the connector with a compatible solution.
- All syringes containing drawn-up medication or flushing solution must be labelled with name of medicine or flushing solution and the dose/strength, unless the risk of doing so (eg contaminating a sterile field) is perceived by the individual practitioner to outweigh the risk of mis-identifying un-labelled syringe(s). The individual practitioner is then responsible for ensuring that any un-labelled syringes are not mis-identified. Administration sets should be dated.
- Blood transfusions can only be administered by staff who have completed this competency.
- Flush cannula before and after infusion, usually with 0.9% Sodium Chloride, but only if this is compatible with the medication that is to be infused, using 10ml or larger syringe (labelled as above).
- Use antisyphon line wherever possible when using a syringe driver.
- Ensure that the line is primed before attaching to the patient. This will prevent Air Embolism. For the management of air embolism refer to Appendix 2.
- Check the cannula site for signs of phlebitis (Visual Infusion Phlebitis (VIP) score, and signs of infiltration or extravasation before, during and following administration of any infusion. For the treatment of phlebitis refer to Appendix 2.



Administering a medication by intermittent intravenous infusion via a burette set

- An alternative to bolus administration for regular dosing. Used where a slower administration rate or greater dilution is required to avoid toxicity.
- Because of the increased infection, incompatibility and needlestick injury risk, Burettes should only be used by staff who use them regularly and are familiar with them, e.g. Paediatrics and Theatres.

Hazards

In addition to the above

- Burettes are open systems having an air inlet on the burette chamber and so have increased potential for microbial contamination.
- Using the burette for more than one drug increases the chance of incompatibilities – use of a separate burette for each drug is recommended.
- Sequential drug additions will result in a change in the contents of the burette with time and will create labelling problems – again, it is best to use one burette per drug.
- Thorough mixing within the burette chamber is difficult.
- Due to using a needle to add drugs into the burette there is an increased risk of practitioners sustaining needlestick injuries, so caution should be used.

Process

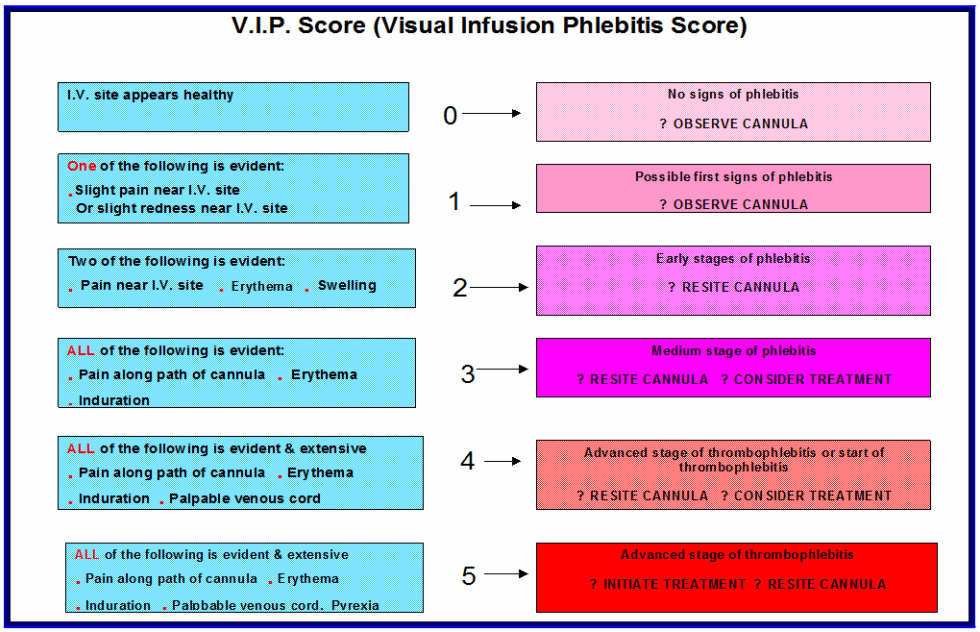
In addition to the process described above:

- Attach the burette administration set directly onto a closed connector to prevent infection risk of opening the closed IV system.
- The burette chamber air filter must never be allowed to get wet. If it does the system will not function and infusion flow will be interrupted.
- When preparing an infusion in the burette chamber always add the diluent before the drug solution and mix thoroughly with all the clamps closed. Never lay on it's side.
- After mixing check the solution for clouding or particles.
- Always fix a completed white 'Drug Additive' label to the burette chamber when adding a drug, being sure that any previous labels have been removed.
- When contents of the burette containing additives have run through, remove 'Drug Additive' label.
- If drug requires protection from light, cover burette appropriately.

- Always document and evaluate actions, including VIP score.
- All syringes containing drawn-up medication or flushing solution must be labelled with name of medicine or flushing solution and the dose/strength, unless the risk of doing so (eg contaminating a sterile field) is perceived by the individual practitioner to outweigh the risk of mis-identifying un-labelled syringe(s). The individual practitioner is then responsible for ensuring that any un-labelled syringes are not mis-identified. Administration sets should be dated.
- If other fluids or drugs are running through the cannula or central line check that everything is compatible. Use a multi lumen closed connector as required. Consider if separate intravenous access is necessary.

3 Process that must be followed when administering a medication by continuous intravenous infusion

- Hands must be decontaminated prior to accessing the cannula
- Gloves (and other standard precautions when necessary) must be worn and a clean non touch technique must be used
- If the infusion is not provided in a ready prepared formulation, follow the guidance in the appropriate drug monograph on the addition of the drug to intravenous fluids.
- Check infusion solution visually for clarity and absence of particles/cloudiness, if in doubt do not give and contact pharmacy.
- Non-mechanical devices such as Dosiflows may only be used where the fluid will provide no risk to the patient (i.e. crystalloid infusion containing no drugs, potassium or magnesium).
- Clean connectors/ports with 70% isopropyl alcohol/2% Chlorhexidine impregnated swab (e.g. Sanicloth) for 30 seconds and allow to dry before connecting and after disconnecting.
- Always document and evaluate actions, including VIP score.
- All syringes containing drawn-up medication or flushing solution must be labelled with name of medicine or flushing solution and the dose/strength, unless the risk of doing so (eg contaminating a sterile field) is perceived by the individual practitioner to outweigh the risk of mis-identifying un-labelled syringe(s). The individual practitioner is then responsible for ensuring that any un-labelled syringes are not mis-identified. Administration sets should be dated.
- Where drug administration requires simultaneous use of two continuous infusions use a solution set for each, connected via a multi lumen closed connector.
- Use an antisyphon line whenever possible when using a syringe driver
- Flush cannula before and after infusion, usually with 0.9% Sodium Chloride, but only if this is compatible with the medication that is to be infused, using 10ml or larger syringe (labelled as above).
- Ensure that the line is primed before attaching to the patient. This will prevent Air Embolism. For the management of air embolism, refer to Appendix 2.
- Check the cannula site for signs of phlebitis (Visual Infusion Phlebitis (VIP) score, and signs of infiltration or extravasation before, during and following administration of any infusion. For the treatment of phlebitis refer to Appendix 2.



4 Process that must be followed when adding drugs to infusion fluids

- The persons checking and preparing the IV infusion must be the persons administering and checking the infusion at the patient's bedside.
- Before making any addition check for availability of a suitable ready prepared solution from Pharmacy.
- Refer to the appropriate drug monograph for suitable diluents and infusion fluids to ensure drug stability.
- With the exception of certain multi-dose vials (Heparin and Insulin) all ampoules, vials, bags and bottles containing ready-diluted drug or plain saline, glucose or other diluent must be treated as single use only. Bags of saline or glucose must not be kept on the ward or at the bedside for repeated use to prepare drug infusions for syringe drivers. These must be discarded after single use.

- Mix the drug thoroughly with the contents of the infusion container.

    - **CAUTION**:Insufficient mixing can result in inadvertent administration of highly concentrated drug, potentially causing serious adverse effects.

- Complete the white 'Drug Additive' label and fix to the infusion container, taking care not to obscure details of the fluid bag.
- Enter the expiry date and time of the infusion onto the "Drug Additive" label. This will generally be 24 hours from preparation and never longer than 24 hours. However, several drug infusions have an expiry shorter than 24 hours.
- Check the infusion for cloudiness or particles
- Cover the infusion container (or burette if in use) if protection from light is required.
- Once prepared a drug infusion is for immediate administration and should not be kept or stored for administration at a later point in time.

NEVER add drugs to an infusion container after the giving set has been attached. The burette system is the only exception, where additions to the burette chamber may be made.
NEVER add drugs to parenteral nutrition solutions, lipid preparations or infusions of mannitol or sodium bicarbonate.

NEVER add any drugs to blood or blood products.
Avoid multiple drug additions as compatibility cannot be guaranteed.
When drawing up from glass vials a filter needle is recommended. If these are not available the smallest gauge needle should be used (INS 2006).

5 Process that must be applied to the infusion system

- The infusion system should always be considered as a possible source of infection.
- The use of 3 way taps and Y connectors should be avoided wherever possible
- Manipulation of the system should be kept to a minimum
- Add on devices should be kept to the absolute minimum and should be changed at the periods recommended by the manufacturer or at a maximum of 72 hours when the cannula is changed.
- If contamination of fluid is suspected, i.e. visible particulate matter in the fluid or evidence of an acute reaction to the infusate (fever, anaphylactic reaction, etc.), a sterile closure should be placed on the end of the tubing. The tubing and container should be placed in a plastic bag, secured, labelled and advice sought from medical staff. The attending doctor should inform the on-call Consultant Microbiologist and Pharmacy technical services etc. The Quality Assurance Manager in pharmacy should also be informed. An incident form should be completed.

6 Process relating to intravenous administration sets that must be followed

- Intravenous administration sets must be labelled with date and time of when they were set up. They should be changed every 72 hours (DoH 2006) with the following exceptions:
  - Blood administration sets should have a 200micron filter and should be changed after the administration of 2 units of red cells, Platelets or FFP or at the end of 12 hours (PHNT Blood Transfusion Policy 2010).
  - TPN and lipid administration sets must be changed when the infusion bag is changed or when contamination of the product or system is suspected.
  - Sets used for drugs which react with plastic may require more frequent changes. This is specified in section 4. In the case of insulin infusions, the bulk of insulin absorption to the PVC of the bag and/or line apparently occurs in the first 30 to 60 minutes of the infusion. Therefore there will be a drop in the delivered amount of insulin at a set rate of infusion for the first 30 to 60 minutes after each new line change. The clinical significance of this absorption is debatable as the rate of the infusion is adjusted to maintain the required blood glucose level.
- **Note**: There is a risk of air embolism (and microbial contamination) occurring when partly used collapsible infusion fluid containers are reconnected to administration sets. Hence:
  - Ensure that partly used bags of intravenous fluids and administration sets are discarded immediately after disconnection from the venous access device, (MHRA 2003).
  - Ensure that such bags are NOT reconnected to the administration sets under any circumstances.
  - Anti Syphon lines should be used for all infusions that are administered through a syringe driver (see section 4)
  - Administration of medication via injection ports on IV administration sets must be avoided as there is an increased risk of needlestick injury with this method.

7 Process that must be applied during the administration and checking

1. Read the patient's notes, prescription and identify any special instructions, investigations (including abnormal blood test results), baseline parameters such as weight, or issues for which you need to seek advice.
2. Confirm that the prescription has been written clearly and fully to enable accurate and safe interpretation of the therapeutic instruction intended by the prescription, and also safe preparation. The prescription should include the following:
    - Patient's name, hospital/NHS number, date of birth or address;
    - The allergy status of the patient;
    - Date and time;
    - The approved name of the injectable medication (in full, do not abbreviate);
    - The dose and frequency (ensuring, where necessary, that recent parameters have been used to calculate dose, for example, weight and laboratory test results);
    - The route of administration, for example, intravenous, sub-cutaneous, epidural;
    - Date and time for re-assessment of the prescription;
    - Start and finish date/time or maximum number of doses;
    - Prescriber's signature.
    - The age and weight of all children under the age of 16 years

3. Patient checks to be made, should include:

    - Arrangement for fluid balance or clinical monitoring should be made on an individual basis and according to section 4 and clinical need.

    - Confirmation that the parenteral route is the most appropriate route for administration of medication to the patient (i.e. consider and exclude oral or other routes of administration).

    - Assess the appropriateness of the intended treatment against the patient's current health status and concurrent medication.

4. Check the medication against the treatment plan, prescription, patient information and local protocol with regard to:

    - Patient's identification on prescription chart and on labelled medication;
    - Allergy status (where relevant for the medication involved);
    - Critical test results (including blood results);
    - Regimen and individual medication name;
    - Name of medication;
    - The medication's fitness for administration (assessed by appearance and condition);
    - Diluents and dilution volumes;
    - Dose;
    - Administration route and duration;
    - Type of infusion control device or pump;
    - Expiry date/time of the medication.

5. Assemble the required materials in a clean location designated for the task. This area should be uncluttered and free from interruption and distraction. Materials will include; medication ampoules/vials, diluent, needle(s), 70% alcohol/2% Chlorhexidine wipes, disposable protective gloves, clean re-useable plastic tray, detergent wipe, and sharps bin for disposal of waste.

6. Check that the medication selected matches with the product prescribed. Check packaging and containers for damage and ensure that the materials have not passed their expiry date. Check that storage up to this point has been as required, for example, in the fridge.

7. Calculate the volume of medication required to give the prescribed dose.

8. Make a record of the calculation in the patient's notes and arrange for an appropriate co-worker to check the calculation.

9. Cleanse hands according to local policy and put on a pair of disposable gloves. Clean the surface of the plastic tray with a detergent wipe in which preparation is to be undertaken.

10. Prepare and arrange the medication, diluents and needles on the tray and using a 'non-touch technique' (i.e. avoid touching areas where bacterial contamination may be introduced), prepare the medication according to prescription requirements, with reference to relevant technical information, NPSA guidance on *Safer use of injectable medication* and Health and Safety procedures.

11. Immediately label the prepared medication with drug name and dosage. Do not leave unlabelled syringes or infusion bags unattended or in the presence of other unlabelled medication, as this may lead to error.

12. If multiple preparations of injectable medications are being undertaken, or if there is a delay between preparation and administration, syringes and infusion fluids should be labelled immediately, according to local policy.

13. Place the final syringe or infusion, the empty ampoule/vial and prescription chart in a clean tray for transportation to the patient for immediate administration.

14. Where a monitoring regimen has been prescribed, ensure that appropriate documentation for recording monitored parameters is made available, for example, fluid balance chart.

15. Record the reason(s) for any deviations from the clinical guidelines on the prescription and in the patient's notes.

16. Communicate with appropriate professional colleagues as required by local guidelines.

17. Recognise when you need help and seek advice and support from an appropriate source when the needs of the individual and the complexity of the case are beyond your competence and capability

8 Procedure for the preparation and administration of intravenous medications

Equipment

- Patient's prescription chart
- Injection tray with sharps bin
- Gloves
- Appropriate drug and diluent
- 10 ml or larger syringes/ needles
- 70%alcohol / 2% chlorhexidine wipes
- Labels

Action	**Rationale**
1. Positively identify the patient and explain the procedure. Obtain informed consent (See Trust's consent procedure)	To ensure patient safety and informed consent is given.
2. Wash hands using soap and water and dry thoroughly. Apply standard personal protective equipment.	To minimise the risk of infection
3. Assemble equipment needed and prepare them according to pharmacy recommendations. (Refer to the drug monographs).	To ensure drug(s) are reconstituted correctly.
4. With another registered healthcare professional, check the product name, strength and volume of intravenous fluid against the prescription chart. Also check expiry dates.	To ensure the correct type and quantity of fluid are administered

5. Check that packages are intact.	To maintain asepsis
6. Calculate the volume of medicine solution needed to give the prescribed dose. Write the calculation down and obtain an independent check by another registered healthcare professional.	To reduce the risk of drug error
7. Inspect the container and contents in a good light for cracks, punctures, air bubbles, haziness, discolouration and crystalline particulate matter.	To prevent ineffective, toxic or foreign matter being infused into the patient.
8. Check the type and amount of drug to be added. Consider;	To minimise any risk of error.
a. Compatibility of fluid and additive b. Stability of mixture over the prescribed period c. Any special directions for dilution d. Sensitivity to external factors such as light e. Any anticipated allergic reaction	To ensure safe and effective administration of the drug. To enable anticipation of toxicities and the nursing implications of these
If any doubts exist about the listed points, consult pharmacy or the prescriber.	
9. Any additives must be prepared immediately before use.	To prevent possible microbial growth ordegradation
10. Wash and dry hands thoroughly (item 2)	To reduce the risk of cross contamination.
11. Expose the injection site on the container by removing any seal present.	
12. Clean the site with a 70% alcohol/2% chlorhexidine swab for 30 seconds and allow to dry for 30 seconds.	To maintain asepsis.
13. If preparing an infusion for administration with a bag, bottle or burette, inject the prepared drug with a 21 or 23g needle.	To enable resealing of latex rubber injection site.
14. If the addition is made into a burette at the bedside: a. Avoid contamination of the needle and inlet port b. Check that the correct quantity of fluid is in the chamber c. Switch the infusion off briefly	To maintain asepsis and prevent incompatibility. To ensure correct dilution. To ensure a bolus in not given
Action	**Rationale**
15. Invert the container a number of times, especially if adding to a flexible infusion bag.	To ensure adequate mixing of the drug
16. Check again for discolouration (item 7) even if the mixture is theoretically compatible.	To detect any incompatibility and degradation.
17. Complete the drug additive label and fix it onto the bag, bottle, burette or syringe.	To identify which drug has been added, when and by whom

18. Place the container in a clinically clean tray. Gel hands and proceed to the patient.	To maintain asepsis.
19. Both the checker and person administering medication should check identity of the patient (name, date of birth, hospital number) with the patient, their identity band, prescription chart. Check for allergies and check label on infusion bag or syringe corresponds with patient identity band.	To minimise the risk of error. .
20. Observe cannula site using VIP score	To determine if it is safe to use cannula.
21. If a closed connector is in use, wipe thoroughly with a 70% alcohol/2% chlorhexidine wipe for 30 seconds. Wait for 30 seconds to allow the alcohol to dry before proceeding.	To minimise the risk of infection. Drying action of alcohol eradicates bacteria.
22. **From this point you must use an aseptic non-touch technique.**	To reduce the risk of infection
23. Flush cannula with 5mls-10mls of 0.9% of sodium chloride in a 10ml or larger syringe or check existing infusion is running well if compatible with drug.	To confirm patency of cannula. To reduce the pressure exerted on the vein To reduce the risk of precipitation
24. If existing infusion bag is in place: • Stop the infusion • Change over the infusion bags using a non-touch technique If no infusion in place: • Connect the prepared infusion bag to a giving set and prime the line • Connect the giving set to the patient using a non-touch technique	To maintain asepsis. To reduce the risk of air embolus
26. If the existing infusion has been administered via a syringe pump: • Stop the infusion • Clamp line • Disconnect old syringe, using a non-touch technique • Insert new syringe into syringe pump. • Purge the infusion via the syringe pump until a bubble of fluid appears at the tip of the syringe • Connect to infusion set using a non-touch technique	To maintain asepsis. To take up the mechanical slack in the system.
27. Start the infusion and adjust the flow rate as prescribed.	To deliver the infusion at the correct rate over the correct period of time.

Action	**Rationale**
28. If the addition is made into a burette, the infusion can be restarted immediately following mixing, recording and flow rate adjustment.	
29. Ask the patient if any abnormal sensations are experienced.	To assess complications at an early stage
30. If patient's bed space was moved to do this procedure i.e. table, call bell return to	To facilitate and promote patient independence

previous positions.	
31. Dispose of waste according to Infection Control policy.	To ensure safe disposal of waste and reduce risk of injury.
32. Wash and dry hands thoroughly (item 2)	To prevent cross contamination.
33. Complete prescription chart documentation requirements.	To maintain accurate records. To provide reference in the event of queries and prevent duplication of treatment.

9 Procedure for Adding Intravenous Additives and for Continuous Administration

Continuous administration of intravenous therapy relates to using drug additives into a bag or burette over a period of time.

Equipment

- Clinically clean tray containing the prepared drug(s) to be administered
- Patient's prescription chart
- Protective clothing required by hospital policy e.g. gloves
- Intravenous infusion fluid appropriate for drug being administered
- Drug addition label
- Sterile equipment
- Small sharps box taken to patient

Action	Rationale
1. Identify the patient and explain the procedure. Obtain informed consent	To ensure patient safety and informed consent is given
2. Allow the patient time to ask questions and check any known allergies	To involve the patient in their treatment and to reduce the possible risk of anaphylactic reaction
3. Check any infusion in progress	To assess patency of cannula site.
4. Wash hands using soap and water and dry thoroughly and apply clean gloves	To minimise the risk of infection
5. Assemble equipment needed and prepare the medication according to section 4.	To ensure drug(s) are reconstituted correctly.
6. With another Registered healthcare practitioner, check the product name, expiry date, strength and volume of intravenous fluid against the prescription chart.	To ensure the correct type and quantity of fluid are administered.

Action	Rationale
7. Check that packages are intact.	To maintain asepsis.
8. Inspect the container and contents in a good light for cracks, punctures, air bubbles, haziness, discoloration and crystalline particulate matter.	To prevent any toxic or foreign matter being infused into the patient.
9. Check the type and amount of drug to be	To minimise any risk of error.

added. Consider; a. Compatibility of fluid and additive b. Stability of mixture over the prescribed period c. Any special directions for dilution d. Sensitivity to external factors such as light e. Any anticipated allergic reactions **If any doubts exist about the listed points, consult the drug monographs or pharmacy.**	To ensure safe and effective administration of the drug. To enable anticipation of toxicities and the nursing implications of these.
10. Any additives must be prepared immediately before use.	To prevent possible microbial growth or degradation.
11. Expose the injection site on the container by removing any seal present	
12. Clean the site with a 70%alcohol/ 2%Chlorhexidine swab for 30 seconds and allow to dry for 30 seconds.	To prevent bacterial contamination of the drug
13. Inject the prepared drug using a sterile needle into the bag, bottle or burette. a. Avoid contamination of the needle and inlet port b. Check that the correct quantity of fluid is in the chamber of burette c. Switch the infusion off briefly if attached to patient	To maintain asepsis and prevent incompatibility. To ensure correct dilution. To ensure a bolus in not given
14. Invert the container a number of times, especially if adding to a flexible infusion bag.	To ensure adequate mixing of the drug.
15. Check again for discoloration (item 7) even if the mixture is theoretically compatible.	To detect any incompatibility and degradation.
16. Complete the drug additive label and fix it onto the bag, bottle or burette.	To identify which drug has been added, when and by whom.
17. For new infusions or existing line is older than 72 hours or drugs are not compatible, prime a new giving set by running fluid through. Place label with date and time onto the giving set.	To maintain asepsis.
18. Place the container in a clinically clean receptacle. Remove gloves and wash hands and proceed to the patient. Take a small sharps box and clean gloves to the bed side.	To dispose of sharps safely after the procedure.
Action	**Rationale**
19. Check identity of the patient with the prescription chart and with the checking nurse (see item 6)	To minimise the risk of error.
20. Inspect the cannula entry site using the Visual Infusion Phlebitis (VIP) score. Bandages or tubgrip MUST BE REMOVED if it has been necessary to apply them	To observe the insertion site and take appropriate action as necessary

21. Apply clean gloves	
22. Clean the closed connector (e.g. Clave) by wiping thoroughly with a 70% alcohol/2% Chlorhexidine swab e.g. Sanicloth. Wait for the alcohol to dry before proceeding	To minimise the risk of infection. Drying action of alcohol eradicates bacteria.
From this point you must use an aseptic non-touch technique	
23. For new infusions. Flush 5-10mls of prescribed and checked 0.9% sodium chloride into the cannula by pushing and turning syringe into closed connector. If there is resistance stop and remove cannula.	To reduce the risk of dispersing a blood clot. To reduce the risk of infection To confirm patency of cannula.
24. If existing infusion is in place; a) Stop the infusion b) Change over the infusion bags using a non-touch technique	To reduce the risk of precipitation.
25. For new infusions connect the giving set to the patient using a non-touch technique	To achieve a safe and aseptic change over.
26. Start the infusion and adjust the flow rate as prescribed.	To deliver the infusion at the correct rate over the correct period of time.
27. If the addition is made into a burette, the infusion can be restarted immediately following mixing, recording and flow rate adjustment.	
28. Ask the patient if any abnormal sensations are experienced.	To assess complications at an early stage.
29. If patient's bed space was moved to do this procedure i.e. table, call bell return to previous positions.	To facilitate and promote patient independence.
30. Dispose of needles safely into the sharps box taken to the patient. Place all remaining waste in appropriate waste bags.	To ensure safe disposal of waste and reduce risk of needlestick injury.
31. Wash and dry hands thoroughly (item 4)	To prevent cross contamination.
32. Complete prescription chart documentation requirements.	To maintain accurate records. To provide reference in the event of queries and prevent duplication of treatment.

10 References

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11 Document Accountability

Production	Henrietta Ferguson, Placement & Mentorship Lead Gary Hallett, Charge Nurse / Preceptorship Lead Acute Care Team
Review and approval	Medicines Utilisation and Assurance Committee

12 Overall responsibility for this document

The Director of Pharmacy has overall responsibility for the safe preparation and administration of medicines in this Trust, and therefore has overall responsibility for this document.

13 Dissemination and Implementation of this document

- This SOP will be publicised in Vital signs and in the weekly staff news brief. The SOP will be held in the Pharmacy Dept. Section of PHNT StaffNett.