Chequers Academy

Will be expanded upon in class – may be some questions!

Cannulation and IV Infusion Management

Legal Aspects & Health and Safety

(to be used in conjunction with infection prevention in venepuncture)

Updated Nov 24 - JM

Health and Safety in Cannulation

Cannulation is considered higher risk than venepuncture primarily due to its invasiveness and the associated potential complications. While both procedures involve puncturing a vein, cannulation involves inserting a cannula (a thin plastic tube) that stays in place to allow the administration of fluids or medications, as opposed to venepuncture, which is typically for single, short-term access to draw blood.

The key reasons for the elevated risk in cannulation include:

Infection Risk: Cannulas remain in the vein for extended periods, creating a prolonged pathway for potential bacterial entry. This increases the risk of infections such as phlebitis or bloodstream infections compared to venepuncture, which is typically a quick, one-time procedure.

Mechanical Complications: Cannulation can lead to mechanical issues like infiltration (leakage of fluid into surrounding tissues) or occlusion (blockage of the cannula), which are less likely in venepuncture.

Training and Technique: Proper insertion and maintenance of cannulas require more training and skill. Misplacement or improper technique can result in vein damage or tissue trauma, raising the procedure's complexity and risk level.

Patient Discomfort: Cannulation is often more painful and causes more localized irritation than venepuncture, partly due to the cannula's presence and movement within the vein.

These differences emphasise the importance of thorough training, adherence to aseptic techniques, and diligent monitoring during cannulation to mitigate risks. For more details on procedural policies and risks, you can review related NHS guidelines and professional nursing resources.

Infection Prevention in IV Therapy

Cannulas provide entry directly into the vein giving systemic access. The introduction of any pathogens during this process poses a high risk of systemic infection, which can be potentially lethal to patients. For this reason, aseptic non-touch technique (ANTT) should be strictly practiced when citing, managing or removing a cannula for patient safety.

The same principles of infection prevention and sharp management as the venepuncture course should be applied in addition to the following additional precautions:

- A stronger pre injection swab preparation should be used for cannulation and when for cleaning the cannula port when attaching and detaching an IV line. The recommendation is 2% Chlorhexidine/70% alcohol swabs, however, please follow your organisation's policies.
- Cannula's in situ should be observed for complications such as phlebititis as per company protocol (usually 4 hours).
- It is essential that the area is kept clean and that during this check, any soiled dressings are replaced (this can occur when changing IV lines).
- Cannula's should not usually be left in situ for more than 72 hours unless there are exceptional circumstances (such as very poor veins/difficulty cannulating) and the site remains healthy. This should be clearly documented in a management plan.

IV Medications

All IV medications are prescription only medication (POM) in the UK. This means the medication requires a prescription from a licensed healthcare provider due to the potency, potential side effects, or risk of misuse. In the case of IV, all injectable medications in the UK are prescription only medications.

IV (intravenous) therapy administration carries several risks, which can arise from the invasiveness of the procedure, improper technique, or complications related to the equipment or the medication itself. Here are key risks associated with IV therapy in addition to those associated with venepuncture and cannulation:

1. Infection:
    - Insertion of an IV line breaks the skin barrier, increasing the risk of local or systemic infections, such as bloodstream infections or phlebitis (NICE, 2017; RCN, 2016).
    - Poor aseptic technique during insertion or maintenance can exacerbate these risks.

2. Infiltration and Extravasation:
    - Infiltration occurs when IV fluid leaks into surrounding tissues, while extravasation involves the leakage of vesicant drugs, which can cause severe tissue damage (Rickard et al., 2012).

3. Thrombophlebitis:
    - Irritation or injury to the vein can result in thrombophlebitis, characterised by pain, swelling, and redness along the vein (Ray-Barruel et al., 2014).

4. Air Embolism:
    - Improper priming of IV lines or device disconnection can introduce air into the bloodstream, potentially leading to life-threatening complications (Phillips & Gorski, 2014).

5. Medication Errors:
    - Errors in drug administration, such as incorrect dosage or infusion rate, may cause adverse drug reactions, overdose, or under-treatment (Hallam et al., 2016).

6. Catheter-Related Bloodstream Infections (CRBSIs):
    - Long-term use of IV catheters without proper care can lead to CRBSIs, necessitating strict adherence to infection control guidelines (O'Grady et al., 2011).

7. Fluid Overload:
    - Administering fluids too rapidly or in excessive amounts can cause fluid overload, particularly in patients with compromised cardiovascular or renal function (NICE, 2017).

8. Equipment-Related Issues:
    - Malfunctioning IV pumps, misplaced cannulas, or issues with the catheter can lead to treatment delays or complications (Helm et al., 2015).

Administration of Prescribed Products

The Medicines and Healthcare products Regulatory Agency (MHRA) states that *any person* can administer certain prescribed products, i.e., Botulism Toxin, in accordance with the guidance of an *appropriate practitioner.* This means that according to the MHRA, Non-prescribers, and non-medics can administer procedures using prescribed products following instruction from either a doctor, Nurse, dentist, or appropriately qualified independent prescriber.

Even where the person administering the medication is not a health professional, they **remain accountable** for their actions and can be taken to Court for their actions, regardless of the presence of a professional body.

Nurses and healthcare providers must administer medications within their scope of practice and training. It is important to undertake continuous professional education to stay updated with current best practice, policies and competence.

Non-medics or nurses are not allowed to prescribe these products for use, but if they have been given a prescription with specific instructions by the prescriber for the client, then the non-medic or nurse may administer the treatment.

It is advised that practitioners planning to administer IV medications should be:

- Practically trained to use the appropriate equipment.
- Comprehensive medicine management training is undertaken and up to date.
- Understand the prescription including aspects of reconstitution, and the correct amount of time to give the fluid over.
- Have a good understanding of the medication to be given including effects, side effects and contraindications as well as any special instructions such as observations needed pre/post procedure. There are some resources at the end of this bookless to help with this.
- Adhere to company regulatory requirements – this may include observation and assessment to ensure competence.

It is important to note that the manufacturers of many products used in aesthetic procedures state that the treatments should be administered by medical practitioners. Non-medics should consider these guidelines carefully and ensure they have the correct and appropriate training and professional indemnity insurance in place.

Resources

- Medicines and Healthcare products Regulatory Agency (MHRA); Specific information relating to pharmacovigilance- MHRA Products | Home

- British National Formulary; Information about all drugs used in the UK - BNF (British National Formulary) | NICE

- The Green Book; Covers all vaccinations and immunisations - Immunisation against infectious disease - GOV.UK

- Royal College of Nursing; Standards for IV Infusions - Standards for infusion therapy | Infection prevention and control | Royal College of Nursing

- Gov.UK; Information for Aesthetics - The licensing of non-surgical cosmetic procedures in England - GOV.UK

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