Mid Essex Hospital Services NHS
NHS Trust

Injectable Medicines	**Policy** **Register No: 09060** **Status: Public**

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Document Review History

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2.1 5.7.1, 5.7.2, 5.10 added	Lesley Stuart	Sept 2014
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1.0 Purpose

1.1 The use of injectable medication has many healthcare benefits for patients. The complexities associated with the prescription, preparation and administration of injectable medicines means that there are greater potential risks for patients than for other routes of administration.

1.2 Injectable medicines should be prescribed, prepared, administered and monitored only by healthcare staff that understand the risks involved, have been trained to use safe procedures, and have demonstrated their competence for the task.

1.3 This policy should be read in conjunction with the Medicines Management Strategy and closely follows the guidelines set out in the NPSA's Patient Safety Alert 20 – Promoting the Safer Use of Injectable Medicines.

2.0 Aim

2.1 This policy provides a framework that promotes the principles of the NPSA Alert 20 with the aim of reducing the risk to patients of injectable medicine use within MEHT.

3.0 Scope

3.1 The policy covers all routes of injectable medicine administration within MEHT and applies to all healthcare professionals employed by the Trust, involved in the prescribing, supply and storage, preparation, administration and monitoring of injectable medicines.

3.2 This policy does not apply to cytotoxic agents or agents being used in the treatment of malignant disease. The Trust does not undertake any intrathecal chemotherapy of any sort. For the use of injectable cytotoxics, refer to the Trust's Cytotoxic Medicines Policy.

4.0 Training

4.1 Staff should act within their professional codes of practice and undertake training in accordance with the Mandatory Training Policy (Training Needs Analysis).

5.0 Professional Responsibilities for Registered Practitioners associated with Injectable Medicines.

5.1 Any practitioner who is involved in the processes leading to administration of an injectable medication to a patient is accountable for their actions and their omissions.

5.2 Practitioners must exercise their professional judgement and apply their knowledge and skills every time they prescribe, prepare or administer a drug.

5.3 Before administering any medicine, practitioners must know the therapeutic uses of the medicines to be administered, its normal dosage, side effects, precautions and contra-indications and any required management techniques for adverse drug interactions.

5.4 Practitioners must always work within their own Codes of Professional Practice and the Trust Medicines Policy.

5.5 Non Medical Practitioners refer to the Trust Non Medical Prescribing Policy 07049 on the intranet

Doctors

5.6 Any medical practitioner (including FY1 doctors) is permitted to give injectable medication (excluding cytotoxic medicines –see cytotoxic policy). In all cases they are expected to ensure they have the knowledge, skills, and understanding required before they give a drug by an injectable route.

Nurses and midwives

5.7 Provided they are registered, nurses / midwives who have successfully completed the training day and competency assessment for the preparation, administration and monitoring of peripheral intravenous drugs (including newly qualified), may prepare and administer medication via the subcutaneous, intramuscular and peripheral intravenous route.

5.7.1 Newly qualified nurses are required to have at least three months, or pro rata, post-registration experience in an acute hospital setting prior to undertaking the intravenous study day and commencing intravenous administration.

5.7.2 Registered nurses joining from another UK healthcare setting, who provide evidence of previous training and assessment of intravenous drug administration and recent practice, are not required to attend the intravenous study day. They are required to view the ANTT training on the intranet, complete the intravenous competencies, the medical devices competencies for infusion pumps and be observed administering the minimum number of drugs as set out in the competencies.

5.7.3 Central line administration of injectable medicines is permissible only after completion of training and local competency assessment.

Radiographers

5.8 Radiographers who have successfully completed the training pack and competency assessment for the preparation, administration and monitoring of peripheral intravenous drugs may administer intravenously as defined by departmental protocol, or otherwise prescribed by a radiologist, medicines required for contrast enhanced radiological procedures. They may also administer intravenously as defined by departmental protocol, or otherwise prescribed by a holder of an ARSAC certificate specific to the Trust - or someone working under his/her written direction - pre-prepared radio labelled pharmaceuticals and any other medicines required for nuclear medical imaging or therapeutic procedures.

Pharmacists

5.9 Pharmacists may perform the calculation check required for preparation of injectable medicines. They may also perform the independent second check of the preparation process. These checks are detailed in section 7.1

Students: from any healthcare profession groups

5.10 Medical and nursing students can participate in the preparation and administration of sub-cutaneous or intramuscular injections under direct supervision.

5.11 Students, regardless of professional group, may only observe the administration of injectable drugs. They may only participate in the preparation of injectables under direct supervision as a third participant. The exception would be student midwives, who are able administer prescribed injectable medication on the midwife exemption list under the direct supervision of a sign-off mentor.

Agency, Bank, and Locum Staff

5.12 Agency, or locum staff, who have undergone prior intravenous therapy training are required to provide evidence of this training and subsequent updates to the nurse in charge before they can administer intravenous medications in the clinical area.

5.13 Agency or locum staff must read the Trust Injectable Medicines Policy (09060) and sign to confirm an understanding of this.

5.14 There are no circumstances under which agency, bank or locum staff should be involved in administration of Total Parenteral Nutrition or administration of inotropic drugs outside of a critical care environment.

NVQ Level III Health Care Assistants

5.15 NVQ Level III Health Care Assistants may flush a peripheral IV device with 2mls of 0.9% sodium chloride ONLY when inserting a peripheral cannula. This must be checked with a Registered Nurse who will countersign the peripheral IV line insertion sticker prior to administration through the device. Non Registered nurses need to have attended the relevant training session and have had their competencies signed off in clinical practice in order to give the 2ml 0.9% sodium chloride flush.

6.0 Prescribing

6.1 Medicines should be given by injection only when the use of any other route is clinically inappropriate, practically impossible or unacceptable to the patient. The necessity for repeated injections/infusions should be regularly reviewed in favour of switching to oral administration as soon as clinically appropriate.

6.2 All prescriptions for injectable medicines, including flushes, must specify the following:

- patient's name
- prescriber's signature
- the approved medicine name
- the dose (also written as mg/kg on a paediatric prescription)
- the frequency of administration
- the date of administration
- the route of administration
- the allergy status of the patient
- the indication and duration for antibiotic treatment

6.3 Further information which may be required includes the following items:

- brand name and formulation of the medicine
- concentration or total quantity of medicine in the final infusion container or syringe
- name and volume of diluent and/or infusion fluid
- rate and duration of administration
- type of rate-control pump or device(s) to be used
- the age and weight of any patient under 16 years of age.
- date on which treatment should be reviewed

6.4 The technical information can be found in the NHS Injectable Medicines Guide which is available on the intranet (MEDUSA from Trust home page).

6.5 When two or more prescription charts or electronic records are in use it is essential that they are cross referenced so that practitioners are aware of all prescribed medicines.

7.0 Supply and Storage

7.1 New injectable medicines should be risk assessed to determine the safest presentation and location for storage and preparation in the clinical area.

7.2 The risks associated with an individual product will vary dependent upon a number of factors. These will include:

- the potential toxicity to the patient resulting from maladministration
- the use of a concentrate to prepare the product
- the need for a complex calculation to obtain the dose or rate of administration
- the complexity of the preparation
- the use of a reconstituted vial or ampoule
- the use of part of multiple ampoules or vials
- the use of a pump or syringe driver
- the use of a non-standard giving set

7.3 Ready-to-administer or ready-to-use products should be stocked in all clinical areas in preference to products needing preparation for use and classified as high-risk. Concentrates should only be supplied where safer alternatives are not available.

7.4 Based upon risk assessments the preparation of medicines may be restricted to specified areas and accredited individuals.

7.5 Some medicines are never held on wards or departments but are issued only following the authorisation of a pharmacist who will ensure that personnel on the ward or department understand how to administer the medicines correctly.

7.6 The following medicines are always defined as high risk and must not be manipulated outside of the Pharmacy Aseptics Unit:

- Parenteral Nutrition: seals may be broken on dual and triple chamber bags but additions must not be made on wards or departments
- Cytotoxic medicines: shall be provided in a ready to use form

7.7 For those areas where High Risk Medicines are stocked, the local induction will make new staff aware of the dangers of the high risk medicines and the need to be familiar with their use and administration.

8.0 Preparation and Administration

8.1 Before beginning preparation, staff must have a prescription/ electronic prescription record or Patient Group Direction, essential information about the product(s), and processes needed for safe preparation and administration. In those circumstances where a doctor or dentist is preparing and administering the injectable medicine, a prescription is not required.

8.2 In the Anaesthetics and Theatres directorate, Anaesthetic Practitioner may prepare items under the direction of an anaesthetist without a prescription or PGD. Technical information required is available in the electronic Injectable Medicines Guide (MEDUSA) which should be available on all clinical workstations in these areas.

8.3 Open systems (including gallipots or other types of open container such as moulded plastic procedure trays) are not used as a container for injectable medication - with the exception only of embolization procedures involving embolic agents that need to be prepared openly. This practice risks one medication being confused with another, and medication intended for injection being confused with other substances, such as skin antiseptics, that are routinely contained in gallipots or other open containers. Additionally, an 'open system' can become contaminated by bacteria.

8.4 Aseptic non touch technique should be used during preparation and administration (see Aseptic ANTT Guideline - 08038).

8.5 If more than one injectable medicines needs to be prepared then it must be prepared and administered before another one is made i.e. no batch production should take place. Making up several bags of medicines and placing them in trays can potentially lead to incorrect labelling and administration.

8.6 Injectable medicines prepared in clinical areas should always be administered immediately after preparation: they should not be stored before use. Administration of infusions prepared in clinical areas should be completed within 24 hours of preparation.

8.7 Prepared injectables must be drawn directly from their original container or ampoules into a syringe and then either administered immediately, or if they are not for immediate use, the syringe is labelled and checked for later use.

8.8 All syringes, including flushes and infusions, must be labelled immediately after preparation by the person who prepared them. "Flag labelling" should be used to make sure that volume graduations on syringes are not obscured. The only exception to this in general clinical areas is where preparation and bolus (push) administration is one uninterrupted process and the unlabelled product does not leave the hands of the person who prepared it. In theatres a scrubbed nurse drawing up and handing a syringe to a surgeon is also considered to be undertaking one uninterrupted process. Only one unlabelled medicine must be handled at one time. As intravenous bolus medications are usually given using a flush-medication-flush technique, even when only one intravenous medicine is being administered, the flush must be labelled so that the person administering them does not confuse the flush with the medication.

8.9 The standard should be implemented in the Trust as follows:

8.10 **Labelling of Bolus Injections**

8.10.1 Critical Care and Theatres use the internationally recognised colour coded system.

8.10.2 General wards and clinical areas should prepare blank labels as part of the preparation process and attach to the syringe for differentiation of preparations during transportation to the patient. As the purpose of the label here, is simply to identify contents of syringe, that are given immediately after preparation (unlike preparation for infusions), information such as diluents used etc are not required.

8.11 **Labelling of Infusions**

8.11.1 Any intravenous product prepared by adding to an infusion bag shall be labelled.

8.11.2 Standard labels are available from pharmacy.

8.11.3 Where manufacturer's labels are used, the following minimum information must be provided:

- Patient name
- Date of preparation
- Time of preparation
- Drug name
- The concentration (expressed as total mass of drug in total volume of infusion)
- The diluent's name
- The expiry date and time (following preparation)
- The initial of the person preparing
- The initial of the person checking
- Route
- Ward

8.11.4 Complex calculations must be documented in the medical or nursing notes for future reference.

8.11.5 The person administering the medication and the person checking the preparation and administration should make a record of the administration as soon as possible after the event.

8.12 **Labelling of syringes for use during sterile procedures**

8.12.1 In these circumstances a risk assessment should be undertaken by the directorate. If the provision of sterile labels is deemed appropriate, contact the Supplies Department who will be able to assist with their procurement. If other methods of differentiating prepared injections are used, then a standard operating procedure should be developed and displayed in the area where the activity is undertaken.

8.12.2 Medical devices with Luer connectors must be used only for preparation and administration of injectable medicines. Medicines for oral/enteral use must be prepared and administered using only devices specified for the purpose with non-Luer connections.

8.12.3 When preparing infusions the number of additions to the infusion bag via the additive entry port should be minimised.

8.12.4 Multiple use of unpreserved injectable medicines is not permitted. Most injectable medicines are licensed for “once-only” use. Unless the manufacturer’s label specifically indicates that the injection contains a preservative, the container should be used to prepare a single dose for a single patient on one occasion only. This includes bags of infusion fluid which should be used once only.

8.12.5 When preparing injectable medicines, infusion fluids should not be used to dilute or reconstitute more than one preparation. Decanting spikes should not be used.

8.12.6 Risks associated with the route of administration should be considered when deciding the most appropriate location for preparation. Preparation of intrathecal injections (non cytotoxic only) is permitted in theatre and critical care areas; however, preparation within the pharmacy is preferred whenever the stability of the medicine allows.

8.12.7 An independent second check should occur for preparation of injectable medicines except when a life threatening emergency prevents this. (The checker can be a doctor, registered nurse, anaesthetic assistant, pharmacist, radiographer or medical physicist who has undertaken training in drug administration, see policy 08103 Administration of medicines to in-patients). Where a doctor or dentist has prepared the injectable medicine, the second check is recommended but it is at the discretion of the individual practitioner. The second checker **must remain present** for the administration of the injectable medicine.

8.12.8 Before administering an injection, the following should be available: a current prescription, or a Patient Group Direction or other written instructions, essential technical information and a prepared and labelled injectable medicine. The patient’s identity must be confirmed (e.g. by the wristband if an inpatient.) An independent check from a second registered practitioner is required.

8.12.9 In those circumstances where a doctor or dentist has prepared and is administering the injectable medicine, a prescription or electronic prescription record is not required. Similarly, where a doctor or dentist is administering the injectable medicine, the second check is recommended but not required; therefore it is at the discretion of the individual practitioner. Where other members of staff are administering the injectable on behalf of the doctor or dentist, this guidance does apply.

8.12.10 The patient’s cannula site must be checked before giving intravenous medication. If the visual infusion phlebitis (VIP) score (as described in the Trust High Impact Intervention [HII] monitoring tool) is 2 or more the cannula must not be used but removed and replaced. The VIP (Visual Infusion Phlebitis) score must be documented in the HII monitoring tool three times per day.

8.12.11 The person administering the medicine should personally make a record of administration as soon as possible after the event. This is extremely important in circumstances such as theatres or outpatient clinics where the person administering the injectable may also be the prescriber and there may be no written prescription, or electronic prescription record

8.21 Administration Sets

8.21.1 In all cases the integrity of the packaging must be ascertained before use.

8.21.2 Set out below are the recommended maximum times before administration sets shall be changed.

8.21.3 In all cases where contamination is suspected or the integrity of the product or system has been compromised the set shall be changed immediately.

8.21.4 If a giving set is disconnected from a patient, any remaining solution and giving set must be discarded following the Trust's policy on disposal of clinical waste.

8.21.5 The administration and fluid balance charts must be annotated to record the fluid administered.

8.21.6 Administration sets and unused fluids must be disposed of in accordance with the Trust's Waste Disposal Policy

- **Continuous Administration Sets**: primary and secondary continuous sets shall be changed at least every 72 hours. Primary sets which have been disconnected from the patient or secondary sets that have been disconnected from the primary must be discarded

- **Intermittent Administration Sets:** primary intermittent administration sets shall be discarded after each use

- **Parenteral Nutrition:** administration sets used to deliver parenteral nutrition must be changed every 24 hours. Parenteral nutrition bags must not be re-spiked

- **Blood and Whole Blood Components:** the use of administration sets for blood and whole blood component must be done in accordance with Blood Transfusion Policy

8.22 Administration of IV medicines using a pump

8.22.1 When a medicine is to be administered using a pump TWO qualified members of staff must be present when the infusion pump is set up and check the data entry into the pump independently of each other.

9.0 Monitoring of the patient

9.1 After administration, if possible, ask the patient to report any soreness at the injection site or discomfort of any sort.

9.2 Make a detailed record of administration.

9.3 Re-check the administration site for signs of leakage, infection or inflammation and continue to monitor the patient, contents of the infusion container and the rate of infusion according to local policy.

9.4 Check that the arrangements for monitoring fluid balance or clinical parameters have been made. Ensure that relevant documentation is made available for subsequent regular monitoring to take place.

9.5 Infusions should be monitored to ensure safe administration of prescribed treatment. A minimum standard for active infusions recommends monitoring of the patient, the cannula and infusion site, the administration set, and the infusion pump or device on an hourly basis.

9.6 Extravasation

9.6.1 As the signs of extravasations can occur during or after administration this should be considered when an area of inflammation is identified in a patient who has had a venous access device in situ.

9.6.2 Extravasation should be suspected if one or more of the following are present:

- Patient complains of burning, stinging or any discomfort at the vascular access device's injection site.
- Inability to aspirate blood from the vascular access device
- Resistance is felt when the drug is given as a bolus.
- There is an obstruction to flow of fluid when an infusion is in progress.
- Swelling or leakage is observed at the injection site.

9.6.3 Reference should be made to the Trust Extravasation Guidelines

9.7 Anaphylaxis

9.7.1 Anaphylaxis is a severe, life-threatening generalised or systemic hypersensitivity reaction.

9.7.2 It is characterised by rapidly developing life-threatening airway and/or breathing and/or circulation problems usually associated with skin or mucosal changes

9.7.3 Certain antibiotics, anaesthetic, NSAIDs, aspirin or other drugs have been implicated as triggers.

9.7.4 Staff should be aware of the signs and symptoms of anaphylaxis and how to access help quickly if required.

9.7.5 See www.resus.org.uk for further information.

9.8 Patient Self Administration of Injectable Medicines

9.8.1 In designated directorates, patients and their carers may be trained to self administer injectable medicines. In such cases the patient / carer should be assessed as suitable to self administer, trained and competency assessed in the relevant methods of preparation, administration and monitoring using Trust approved documentation.

10.0 Infection Control

10.1 The following policies are to be adhered to with regards to Infection control:

- 04072 Hand Hygiene
- 08038 Aseptic ANTT (Aseptic Non Touch Technique)
- 07036 Venepuncture Technique

10.2. Disposable gloves and plastic aprons must be used to protect both the staff member and patient against contamination by blood, body fluids and micro-organisms.

10.2. Non sterile, non powdered, non latex gloves are adequate. Gloves and aprons must be discarded after each procedure as “orange bag” waste – refer to Waste Management Policy – 04088.

11.0 Implementation and Communication

11.1 Once ratified by DRAG this policy will be placed on the Trust’s internet and website and notified to staff in Focus.

11.2 This policy will be referred to during the Medicines Management session delivered to Junior Doctors by the Pharmacy Department at their induction.

11.3 Areas of this policy relevant to Nursing Staff will be addressed at the mandatory Medicines Management training for nurses delivered by the Pharmacy Department.

12.0 Audit and Monitoring

12.1 The Pharmacy department has a responsibility for monitoring all prescribing and administration of medicines. This is done daily by the intervention reporting scheme as outlined in the Intervention policy and a full report is presented to the Medicines Management Safety Group (MMSG) bimonthly.

12.2 Significant prescribing errors identified will also be reported using the DATIX Form following the Trust’s Investigating & Learning from Incidents policy and fed back to the MMSG.

12.3 The MMSG is a group made up of wide representation of stakeholders who meet bimonthly within MEHT and any action plans will be allocated as appropriate.

12.4 Any administration errors identified will also be reported using the DATIX Form following the Trust’s Investigating & Learning from Incidents policy and fed back to the MMSG.

12.5 Key learning points will be disseminated by a Drug Safety Bulletin every 2 months which shall be attached to the Trust’s weekly newsletter “Focus”.

12..6 Injectable medicines shall be subject to risk assessment in accordance with the NPSA risk assessment tool for products by pharmacy.

12.7 Annual risk assessment of clinical areas – nurse in charge and designated pharmacist (see Appendix 1).

12.8 An audit of injectable medicines practices should be included in annual directorate clinical governance reports. It is the responsibility of the directorate clinical audit lead to ensure that this completed. This should indicate a summary of risk assessment results, incident reports, compliance with NPSA Alert 20 recommendations and detail in-year actions

12.9 The report should be communicated to Trust MMSG and clinical effectiveness committee.

13.0 References

- NPSA. Patient Safety Alert 20- Promoting Safer Use of Injectable Medicines
- Nurses and Midwifery Council 2007
- NPSA. Patients Safety Alert 8 – Restricted Use of Open Systems for Injectable Medicines

Appendix 1

Promoting safer use of injectable medicines - Risk assessment tool