Clinical Standard Operating Procedures for the

ADMINISTRATION OF MEDICINES

SETTING Trust wide

FOR STAFF All staff who are involved in the prescribing or supply of medicines

PATIENTS Any patient who is receiving medicines

Contents

1. Personnel authorised to administer medicines

Personnel who are authorised to administer medicines to adults are listed in the [redacted]

Only qualified and registered healthcare professionals may administer medicines to children. Student nurses (child branch or otherwise) may under the direct supervision of a Registered practitioner administer oral medicines to infants and children.

2. Responsibility of the practitioner or authorised practitioner

- The authorised practitioner is responsible for their own actions in administering a medicine.
- Administration of medicines must always follow the 'Five Rights' approach to ensure the basic principles of medicines administration are adhered to;

1. Right Patient
2. Right Drug
3. Right Dose
4. Right Time
5. Right Route

- A practitioner must never administer a medicine without an authorised prescription except when following the protocol for exceptions to prescribed orders. Medicines must be administered within **90 minutes** of the prescribed time. A clinical judgement should be made as to the appropriateness of administration outside this time since administration more than 90 minutes from the prescribed time is classified as a delayed dose.
- All critical medicines should be administered within **ONE hour** of the prescribed time in accordance with the standard operating procedure: [redacted]. Critical medicines are those where omission or delay is likely to cause harm:

1. Injected and oral antibiotics, antifungals and antivirals
2. Anticoagulants
3. Thrombolytics
4. Anticonvulsants
5. Insulins
6. Short acting bronchodilators
7. Aminophylline infusion
8. Strong opioid analgesics
9. Immunosuppressants for avoidance of transplant rejection
10. 'Stat' or one-off doses of any medicine if prescribed for an administration before the next scheduled drug round.
11. Medication to treat Parkinson's disease.
    These must be administered at exact times for individual patients, not just at drug rounds.
12. Desmopressin (all routes for diabetes insipidus)
13. Steroids for Adrenal insufficiency.

- If a patient does not receive a dose of a critical medicine, this must be documented by the nurse on both the drug chart/ EPMA record and in the medical notes to ensure that the prescriber and medical team are made aware of the omission.
- If the patient refuses a critical medicine, it is important that this is clearly documented in the medical notes and that the medical team ensure that the patient is fully informed of the reasons why the medicine has been prescribed for them. If the patient still refuses the medicine, then this must be documented in the medical notes, with a clear annotation to say that the benefits of the medicine have been explained to the patient and that the patient has made a conscientious decision to refuse the medicine.

3. Administering Prescribed medicines to patients

It is responsibility of the person administering the prescribed medicines to the patient to ensure that:

- The patient receives all of the medicines they require
- The patient only receives medicines that have been prescribed for them (not any other patient's medicines)
- The patient has an appropriate understanding of their medication and any potential side effects.

The person administering the medicine according to the prescription must therefore:

- Confirm conclusively that the identity of the patient is the same as the identity specified on the prescription and medicines.
- Read the name and instructions of each of the medicines to the patient* confirming that:
- The patient* understands how they should take each medicine
- The patient* has all of their required medicines
- The patient* understands how to store their medicines safely
- The patient* understands the uses and important side effects of each medicine

*Where the patient is a child, the parent or legal guardian may be substituted.

4. Procedure for the administration of an oral medicine

a) **Check patient's name on the wrist band and on the paper drug chart or EPMA record at the patient's bedside.**

b) **Check patient has no recorded drug allergies. Check the alerts on EPMA.**

c) **Check the name and form of medicine.**

d) **Check the time of the last dose(to ensure it has not already been given)**
If administering 'PRN'/when required medication, check the whole of the paper prescription chart or EPMA record and any supplementary charts to ensure that the same or similar medication has not already been given.

e) **Check the start date and time of dosage**
(Should the medicine still be given?) Check 'valid for' dates, review and stop dates of anti-infective and PRN medicines.

f) **Check the route of administration**

g) **Ensure there is a prescribers signature or that the prescriber has authorised the prescription in EPMA**

h) **Identify the correct medicine container and check that the expiry date has not passed**
For adults, where more than three dosage units (e.g. three tablets, capsules) have to be administered as one dose, the dose should be confirmed with the British National Formulary or hospital pharmacy.

For children, all doses must be confirmed with a suitable reference source e.g. BNFC since one dosage unit may be too much for some patients.

For children, it may be necessary to halve or quarter a tablet to obtain the dose. Most tablets can be halved or quartered, crushed & mixed with a little water to aid administration. Exceptions include oral cytotoxic medicines and most modified release and enteric-coated preparations. Appropriate hygiene precautions must be taken before handling tablets including hand washing. If a dose is not a convenient fraction of a tablet, and cannot be rounded to a convenient fraction, and there is no oral liquid available, then the tablet can be dispersed in a known volume of water e.g. 5ml and a proportion of that volume given. Where the drug is soluble in water this is acceptably accurate, as the drug will be evenly distributed in solution. For drugs that are not soluble in water this method should only be used as a last resort as the risks of giving an inaccurate dose is higher. The practitioner must ensure the drug is evenly suspended immediately before administration to reduce this risk.

i) **Read the dosage**
Check for any specific instructions on the paper chart, electronic record or medicine container
Where a dose range or 'prn' dose is prescribed, the most appropriate dose is to be administered following assessment of the clinical need of the patient.

j) **Additional charts**
Check for the use of additional charts. Follow specific instructions documented on such charts.
If any of the above are unclear refer to the medical staff

k) **Appropriate container**
The correct dose should be administered in an appropriate container e.g. medicine pot, 5ml spoon and oral or enteral syringe.
If a syringe is required for enteral (including naso-gastric, PEG or gastrostomy) administration then an enteral syringe must be used.

Oral suspensions must be shaken properly before measuring the dose to ensure an even distribution of active drug in the bottle.

l) **Second check paediatric doses**
Any oral medicine being administered to a child must be independently checked by another registered practitioner unless the medicine is included in the list of medicines covered by the paediatric administration of medicine single checking SOP.

m) **Identity of patient**
Recheck the identity by comparing the patient's identity bracelet with the details on the medicines' chart/ EPMA system. A red name band denotes that the patient has allergies.

n) **Ensure a drink is given with oral medicines**
For adults, a useful guide is 20mls water for oral pre-medication, 50-100mls for all solid dosage forms. The patient should be in as upright a position as possible.

For children, the volume will depend on the age of the child.

o) **Tubes**
Nasogastric, PEG and gastrostomy tubes should be flushed using an enteral syringe as described in the enteral nutrition guidelines for adults and according to local procedures for children.

p) **Ensure medicine is swallowed**
Ensure oral medication is taken and swallowed by the patient prior to signing the drug chart / EPMA record to say that the medicine has been administered.

5. Procedure for the administration of an Intravenous medicine

Injectable preparations may only be administered by practitioners who are competent in the administration of medicines parenterally. Competency will be assessed as per the scope of professional practice policy and must have included the IV training course provided by UHBW or a previous employer. Practitioners who administer cytotoxic injectable medicines must be competent to do so, having undergone additional training in order to administer.

Assistant Practitioners who have received formal trust training in cannulation are permitted to administer up to 10mls of 0.9% sodium chloride injection to confirm patency of the cannula they have placed. The sodium chloride injection must be checked with a registered health professional competent in intravenous drug administration. [redacted] and [redacted] documents are available. Subsequent flushing of the cannula must not be undertaken.

a) **Check patient's name on paper drug chart or EPMA record**

b) **Check patient has no recorded drug allergies. Check the alerts on EPMA**

c) **Check the name and form of medicine**

d) **Check the time of the last dose(to ensure it has not already been given)**
If administering 'PRN'/when required medication, check the whole of the paper prescription chart or EPMA record and any supplementary charts to ensure that the same or similar medication has not already been given.

e) **Check the start date and time of dosage**
(Should the medicine still be given?) Check 'valid for' dates, review and stop dates of anti-infective and PRN medicines.

f) **Check the route of administration**

g) **Ensure there is a prescriber's signature, or that the prescriber has authorised the EPMA prescription.**

h) **Identify the correct medicine container and check that the expiry date has not passed**
For adults, where more than three dosage units (e.g. three ampoules, vials) have to be administered as one dose, the dose should be confirmed with the British National Formulary, your ward pharmacist or hospital pharmacy.

For children, all doses must be confirmed since one dosage unit may be too much for some patients.

i) **Read the dosage**
Check for any specific instructions on the drug chart, EPMA record or container.
Where a dose range or 'prn' dose is prescribed, the most appropriate dose is to be administered following assessment of the clinical need of the patient.

j) **Additional charts**
Check for the use of additional charts. Follow specific instructions documented on such charts.
If any of the above are unclear refer to the medical staff

k) **Therapeutic Levels**
It is essential to ensure the therapeutic levels of some drugs are monitored e.g. Gentamicin, Vancomycin. If this is the case with the drug you are about to administer, check if the level is required before administration.

l) **Ensure that the access to be used is patent**
Ensure you know that you are accessing the correct line.

m) **Follow the principles of asepsis**

Assemble the equipment and drugs required, check for any obvious faults or contamination, wash hands or use an antiseptic hand rub and use gloves, carry out the reconstitution/preparation in a suitable area, use an aseptic 'non touch' technique procedure.
Ensure that reputable reference sources are used if preparation instructions and rate of administration information is required.

For paediatrics, when administering injections with a dose less than 1ml in volume, a 1ml syringe graduated to 0.05ml must be used.

Due to the difficulty in accurately measuring volumes less than 0.05ml, if a dose works out at less than 0.05ml in volume then the injection solution must be diluted before measuring the dose to enable a larger volume to be measured.

If patients are prescribed an intravenous infusion that is supplied in 'ready to hang' bottles or bags, the correct volume should be withdrawn, checked and administered using a burette or syringe as appropriate unless the full contents of the container are to be given. Cytotoxic chemotherapy, intravenous feeding solutions and immunosuppressant drugs should not be withdrawn but care must be taken to limit the volume to be administered.

n) **Label the Product**
If the medicine is to be administered by infusion, complete an additive/ syringe label (which should contain name of medicine(s), dose, volume, diluent, patient name, ward, date and time of preparation, prepared by and checked by signatures) and attach it to the product. Flushes must also be labelled.

o) **Independent check**
Check the drug details as above, any calculations, the administration device settings and connections, and the patient identity at the patient's bedside. Check any calculations carefully; the second or independent checker must check the calculation independently. Ensure that the appropriate intravenous administration sets and infusion control equipment are used to ensure accurate drug delivery.

In paediatrics, pre & post IV drug administration flushes of sodium chloride 0.9% or glucose 5% can be considered to be part of the drug administration process and must be included in the independent second check for intravenous drug administration. Any ampoules or bags used for the flush must be independently checked along with the containers from the administered drug, and the prescription sheet signed by both practitioners to include the drug administration & any associated flushes.

p) **Patency**
During administration check that the device remains patent and monitor the condition of the patient

q) **Extravasation**
While checking patency of the device check the infusion is not causing extravasation by observing the site. If using a pump, monitor the pressure of the pump in addition to observing the site

r) **Drug infusion monitoring chart**
For medicines administered by infusion, record checks using an infusion monitoring chart or EPMA record two hourly (hourly for paediatrics) and at shift handover.
Check the infusions running against the prescription paying particular attention to the drug, route, concentration, rate, diluent and delivery device at shift changeover or when the patient is transferred from theatre/recovery or another ward.

In critically ill patients where it would be detrimental to patient care to wait for a check to change the rate of an infusion pump, and providing initial checks of settings and connections were completed, changes to the infusion rate of syringe pumps may be made without further checks provided the member of staff has undertaken training and is signed off as competent in the use of the device.

s) **Post Infusion Flushes**
The giving sets used for small volume (<250ml) infusions of medicines must be flushed in accordance with the instructions on the Medusa monograph for the medicine, and in line with the recommendations in the 2021 NIVAS guidance. This is to ensure that the total dose of prescribed medicine has been given and not left as residue in the giving set.

t) **Disposal of sharps**
Dispose of sharps in the sharps bin without re-sheathing any needles

u) **Phlebitis score**
Ensure that a visual infusion phlebitis score is completed every 8 hours and at shift handover for adults or 4-6 hourly for children. Review the access site prior to each manipulation/intervention.

References for the administration of medicines

If a practitioner is unclear as to the correct drug diluent or method of drug preparation they should obtain this information from the most appropriate information source before proceeding. The following information sources are available:-

I. The summaries of product characteristics (SPC or datasheet; available on http://www.medicines.org.uk/emc/default.aspx)

II. Injectable medicines guide (Medusa) (http://www.injguide.nhs.uk/?ID=7cb63917dffc246335eccf68158f57ee977)

III. British National Formulary (BNF) Appendix: Intravenous Additives

IV. British National Formulary for Children includes information on administration of injectable medicines as part of the drug monographs.

6. Treatment of Anaphylaxis

Practitioners may administer first dose IV drugs if they meet the following criteria:

1. Adrenaline (Epinephrine) must be immediately available to be administered in case of anaphylaxis. In this instance the intramuscular administration of Adrenaline (Epinephrine) may be made without a prescription and/or in the absence of a medical practitioner

2. Attendance at authorised training on the recognition and treatment of anaphylaxis

7. Epidurals

A practitioner can change epidural infusions under divisional policy, provided he/she has received appropriate training.

8. Cytotoxics

Administration of injectable cytotoxic chemotherapy and administration of intrathecal chemotherapy is only to be undertaken by appropriately trained and accredited practitioners

9. Vaccinations

Administration of vaccines must be in line with any recommendations contained within 'The Green Book', previously known as 'Immunisation against Infectious Diseases'. Department of Health.

10. Checking of Medicines for Administration

An 'independent check' incorporates all aspects of medicines administration and is not solely a confirmation of the identity of the medicine and dose to be administered.

Where medicines are checked, the checker must independently work out any calculation, check all aspects of the administration, including the settings and connections for any infusion device, check the patient's identity at the bedside and sign on the prescription chart or electronic record as a second signatory.

Student nurses (child branch or otherwise) are not permitted to check any medications for children. They may under the direct supervision of a Registered practitioner administer oral medicines to infants and children and observe practice to develop skills in the administration of medication to children.

All injectable preparations (other than those exempted below), chemotherapy and Controlled Drugs must be checked by **two** appropriate professional individuals, **one of whom must be the administering practitioner.**

Except for most paediatric administration, solo administration may be undertaken by a practitioner for:

- Oral medicines (except controlled drugs, chemotherapy and the list of medicines suitable for single checking in paediatrics)
- Inhaled medicines
- Topical medicines (including eye drops)
- Subcutaneous anticoagulants
- Isotonic intravenous maintenance fluids that **do not** require further additions. NB colloids and hypertonic fluids are **not** covered
- Sodium chloride 0.9% flushes of lines
- Resuscitation/ treatment of anaphylaxis

If a second check of a medicine is required but is not possible and standard practice is that routine solo administration is undertaken by a practitioner, a risk assessment must be completed and signed off by medicines governance group. The risk assessment must specify the area and the medicines concerned.

In the event that qualified medical staff undertake solo administration, they are responsible for their actions in doing so.

Allied Healthcare Professionals and Clinical Perfusion Scientists may undertake solo administration in circumstances where an independent check is unavailable, provided that the practice is ratified and outlined in an agreed protocol.

11.Recording the Administration of Medicines

- The accountable practitioner who has administered or supervised the administration of the drug must, at the time of administration, sign with initials in the appropriate column on the medicines chart or in the appropriate place on the EPMA record.
- Do not leave a patient without ensuring he/she has taken the medicine.
- Never sign or complete the administration field for a drug until it has been administered.
- If the medication is given outside of the 60 (for critical medicines) or 90 minutes (for non-critical medicines) target, the time the medication was given must be recorded clearly next to administration box on paper drug charts and clearly documented in the EPMA system.

If a drug is refused or omitted the chart or EPMA record must be endorsed with the reason for non-administration in accordance with the trust approved non administration codes.

12. Administration of Nebulised Medicines

Nebulised medicines must be administered using a portable nebuliser. Medical air ports are not to be used for administration of nebulised medication.

13. Covert administration of Medicines

The covert administration of medication to a patient with capacity is deception. If an individual has capacity to consent or refuse treatment, then under NO circumstances can medication be administered covertly. Please see the [redacted] and [redacted]

14. Controlled Drugs

See separate [redacted] and related [redacted]

All prescriptions for schedule 2 Controlled Drugs must be checked by two registered practitioners, one of which must be the administering practitioner.

Record in the Ward or Department Controlled Drug Register at the time of administration:-

- Date and time of administration
- name of patient
- dose administered and any vial contents wasted
- signature of the nurse/doctor administering the drug and the witness
- remaining balance of stock, checked on return to the cupboard

Any discrepancies must be brought to the attention of the nurse in charge and pharmacist by the end of the working day.

Record in the drug chart/ EPMA record, the time of administering the dose and if a dose range is prescribed, record the actual dose given.

The contents of partly used ampoules, syringes, or small volume liquid medicines must be disposed of with a minimum of delay. This must be witnessed by a registered practitioner and the controlled drugs register must be clearly annotated to show the wasted dose.

15. Verbal Orders

- Trust policy is that verbal orders for medicines are not permitted except in a medical emergency where the doctor is not available to attend as described below.
- There has been an incident reported within the trust where a patient in status epilepticus who required rectal diazepam did not receive it in a timely fashion as the incident occurred out of hours and the on call doctor was involved in another emergency (an arrest situation). The doctor gave a verbal order for the diazepam which the nurses would not accept.
- In an emergency situation, it is acceptable for a doctor to give a verbal order providing two nurses independently take the order and repeat the intended medicine and dose back to the doctor. The name and dose of the required medicine along with the full name of the prescriber issuing the verbal order must be written down in the medical notes by the nurses receiving the verbal order. Both nurses must countersign the entry in the medical notes to confirm that the name and dose of medicine written down is what the prescriber has ordered.
- All occurrences of administration of a medicine on the basis of a verbal order must be reported as a clinical incident, clearly stating that it was a medical emergency and why the doctor could not attend to prescribe the medicine before administration.
- The doctor must attend to complete the paper or EPMA prescription as soon as the situation with which they are dealing with is resolved.

The human medicines regulations 2012 list the following medicines as exempt from regulation 214(2), meaning that they can be administered in an emergency situation without a prescription:

Adrenaline 1:1000 up to 1mg for intramuscular use in anaphylaxis
Atropine sulphate and obidoxime chloride injection
Atropine sulphate and pralidoxime chloride injection
Atropine sulphate injection
Atropine sulphate, pralidoxime mesilate and avizafone injection
Chlorphenamine injection
Dicobalt edetate injection
Glucagon injection
Glucose injection
Hydrocortisone injection
Naloxone hydrochloride
Pralidoxime chloride injection
Pralidoxime mesilate injection
Promethazine hydrochloride injection
Snake venom antiserum
Sodium nitrate injection
Sodium thiosulphate injection
Sterile pralidoxime

16.Unlicensed Medicines

The procedure for administration of an unlicensed medicine should be as for all other medicines however attention should be drawn to the fact that the information available in the patient information leaflet may not be directly applicable to the patient. For additional information on unlicensed medicines, see [redacted]

17. Advanced Therapy Medicinal Products (ATMPs)

All ATMPs must be administered strictly in line with the product specific administration information, clinical trial protocol or local protocol for use as agreed by MAG, with all necessary independent checks carried out throughout the administration process in line with the details included in sections 4, 5 and 10 of this SOP.

18.Parenteral Nutrition

Obtain advice from the specialist adult and paediatric intravenous nutrition teams.

19.Multi dose vials / Vial sharing

Multi dose vials e.g. insulin should be used for one patient only and must not be returned to ward stock where there is a chance that they may be used to administer a dose to another patient. Once used for a patient, multi dose vials must be clearly labelled with that patients name and ideally should be stored in the patient's bedside medicines locker.

RELATED DOCUMENTS	Policy for the Administration of Medicines. Covert Medication Guidelines
AUTHORISING BODY	Medicine Governance Group
QUERIES	Contact your ward pharmacist or your Pharmacy dispensary