

Work competence statement

Injectable medicines competence 2

Preparation of injectable medicines

Summary	This proposed practice competence is directly applicable to healthcare professionals who undertake the preparation of injectable medicines in clinical areas prior to administration to adults or children. It includes interpretation of the prescribed instruction, reviewing indications and contraindications for use, calculation of administration volume and rate of administration, and preparation and labelling of the injectable medication in readiness for administration.
Indicative links to KSF Dimension & Level	<i>Health and wellbeing HWB7: Interventions and treatments</i> <i>Level 3: Plan, deliver and evaluate interventions and/or treatments</i>
Origin	This is a new workforce competence proposed and developed by the National Patient Safety Agency (NPSA).
Activity scope	<p>Key words and concepts</p> <p><i>Prescription</i> The document which describes the medication determined by a properly authorised individual for an individually named patient. It includes the medication to be used, the dose, dilution, mode of delivery and time period for delivery.</p> <p><i>Monitoring regimen</i> A systematic plan for observing the physiological impact of prescribed medication therapy, enabling subsequent adjustment to maintain or improve the health of a patient.</p> <p><i>Communication</i> with professional colleagues includes communication within and between appropriate members of teams.</p> <p><i>Appropriate members of the team</i> Include: registered nurse, midwife, doctor, pharmacist, laboratory scientific officer and phlebotomist or any other member of the healthcare team.</p> <p><i>Adverse reactions related to any fluid or drugs given through a cannula</i> Include: neurogenic, anaphylactic and hypovolaemic shock, cardiogenic shock, septic shock and allergy.</p>
Performance criteria	<p>You need to:</p> <ol style="list-style-type: none"> 1. Read the patient's notes, prescription and relevant protocol or clinical guideline 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. <p>The prescription should include the following:</p>

	<ul style="list-style-type: none"> • 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. <p>Where relevant, the prescription or a readily available local protocol must specify the following:</p> <ul style="list-style-type: none"> • brand name and formulation of the medicine; • concentration of the total quantity of medicine in the final infusion container or syringe; • name and volume of diluent or infusion fluid; • rate and duration of administration; • stability information concerning the medicine to help determine the correct expiry date and time; • type of rate control infusion device or pump required; • the age and weight of all children under the age of 16 years; • arrangement for fluid balance or clinical monitoring should be made on an individual basis and according to local protocol and clinical need. <ol style="list-style-type: none"> 3. Confirm 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). 4. Assess the appropriateness of the intended treatment against the patient's current health status and concurrent medication. 5. Check the medication against the treatment plan, prescription, patient information and local protocol with regard to: <ul style="list-style-type: none"> • 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. 6. 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), alcohol wipes, disposable protective gloves, clean re-useable plastic tray and sharps bin for disposal of waste. 7. 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. 8. Calculate the volume of medication required to give the prescribed dose.
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	<p>Make a record of the calculation in the patient's notes and arrange for an appropriate co-worker to check the calculation.</p> <ol style="list-style-type: none"> 9. Prepare the label for the prepared medication. 10. Cleanse hands according to local policy and put on a pair of disposable gloves. Disinfect the surface of the plastic tray in which preparation is to be undertaken. 11. 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 <i>Safer use of injectable medication</i> and Health and Safety procedures. 12. Immediately label the prepared medication. Do not leave unlabelled syringes or infusion bags unattended or in the presence of other unlabelled medication, as this may lead to error. 13. 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. 14. 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. 15. Where a monitoring regimen has been prescribed, ensure that appropriate documentation for recording monitored parameters is made available, for example, fluid balance chart. 16. Record the reason(s) for any deviations from the clinical guidelines on the prescription and in the patient's notes. 17. Communicate with appropriate professional colleagues as required by local guidelines. 18. 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.
<p>Knowledge and understanding</p>	<p>You need to apply:</p> <p><i>Legislation, regulations and guidelines</i></p> <ol style="list-style-type: none"> 1. An in-depth understanding of national and local injectable medication guidelines and their application. 2. A working understanding of the local guidelines for patient records, their storage and confidentiality of information. 3. An in-depth understanding of the national and local prescribing guidelines. 4. A working understanding of the Guidelines on the Administration of Medicines. 5. A working understanding of local guidelines for waste and sharps handling and disposal. 6. A working understanding of risk management and patient safety principles and causes of medication errors.

	<p><i>Clinical knowledge</i></p> <ol style="list-style-type: none"> 7. A working understanding of the disease progression and the potential impact on physiological systems. 8. A working understanding of the relevance of other treatment modalities and clinical conditions. 9. An in-depth understanding of diagnosis, care plan, protocol and guidelines. 10. An in-depth understanding of the principles and practice of prescribing injectable medication. 11. An in-depth understanding of the indications and contraindications for injectable medication. 12. An in-depth understanding of drug calculations appropriate to the prescribed injectable medication, dose dilution and length of delivery. 13. An in-depth understanding of the side effects of injectable medicines and their assessment, monitoring, prevention and management. <p><i>Technical knowledge</i></p> <ol style="list-style-type: none"> 14. A working understanding of different venous access devices and their care. 15. A working understanding of administration by the subcutaneous route, and intravenous bolus and/or infusions. <p><i>Procedures and patient management</i></p> <ol style="list-style-type: none"> 16. A factual knowledge of the roles and responsibilities of other team members. 17. A working understanding of the limits of one's own knowledge and experience, and the importance of not operating beyond these.
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