

Medication Administration

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Reviewed/Revised:	4/05, 5/08, 10/08, 6/09, 5/10, 08/2010
Section:	Nursing

Purpose:

To ensure that all medication(s) are administered accurately and safely.

Policy Statement:

1. Administration of medication is performed by authorized personnel only. Only RNs may administer IV push/bolus medications, either manually or via IV infusion pumps. The only IV medications a Licensed Practical Nurses (LPNs) may administer on general care units are pre-mixed IV antibiotics once they have demonstrated competency in this area.
2. Student nurses affiliated with Boston Medical Center (BMC) may administer medications under the direct supervision of a nursing instructor licensed in the Commonwealth of Massachusetts. Senior nursing students affiliating for independent learning experiences may administer medications (with the exception of intravenous [IV] push medications) under the direct supervision of the RN preceptor.
3. Paramedic students may administer medications under the direct supervision of the RN preceptor in the Emergency Department only..
4. Authorized personnel may only administer medications from containers that are clearly marked with the name of the drug, concentration, dose, route and expiration date. Outdated drugs must not be given. Patients may not take their own medications unless ordered by a physician and per policy.
5. Nursing personnel may only administer medications mixed by themselves or pharmacy except in an emergency.
6. Refer to the BMC medication guidelines for drug-specific information and for information on medications that require cardiac or hemodynamic monitoring.
7. Any patient requiring IV drug therapy which necessitates continuous cardiac and/or hemodynamic monitoring will be monitored in a critical care area, step down unit, labor and delivery unit, or other units that can provide continuous monitoring as required except in an emergency situation
8. IV push chemotherapy agents may only be administered by RNs who have demonstrated competency in this area.
9. Continuous Medication Infusions :
 - Are administered via an Alaris pump or other specific infusion pump.
 - Every IV medication delivered on an Alaris pump that has an available Alaris guardrail

will be administered using the appropriate Alaris Pump Guardrail technology (see addendum for a list of drugs that have Alaris Guardrails)

- Are hung as a mainline when there is no need for a primary infusion of a continuous IV fluid per appropriate medication reference (i.e. BMC medication guidelines, Teddy Bear Book, Pediatric Injectable Drugs, neofax).
- If a continuous IV fluid is needed an order should be obtained
- If there is an order for continuous fluid therapy, the medication and IV fluid therapy solution that is ordered must be compatible and the continuous medication line is accessed at the port closest to the patient.

10. Nurses may administer medications via the following routes:

- Oral/enteral
- Sublingual
- Inhalation
- Dermato-mucosal
- Intradermal
- Epidural (according to specific protocol)
- Peritoneal (according to specific protocol)
- Intravesicular (according to specific protocol)
- Parenteral (IV, IM, SQ)
- Intraosseous
- Rectal
- Umbilical vein and Umbilical artery (according to specific protocol)

11. Nurses may not administer medications via the following routes:

- Intracardiac
- Intra-articular
- Intrasynovial
- Intra-arterial (except nurses instructed in specific administration procedure)
- Intrathecal
- Intraplura

12. Standard Medication Administration Times

- Medications should be administered according to standard medication administration times specified in the eMAR
- Unless delayed for diagnostic testing, medications should be given no earlier than 1/2 hour before the scheduled time or no later than 1/2 hour after the scheduled time
- The eMAR will create scheduled times for administration of medications. The nurse must check scheduled times for appropriateness of scheduled intervals.
- The nurse has the discretion to schedule/reschedule medications to meet specific patient needs (i.e. OR, diagnostic tests, NPO etc.)
- Whenever possible, medications should be timed to avoid waking the patient.
- Cardiac medications will default to specific times; consult with team prior to changing these times.

12. Documentation of Medication Administration

- Medications are documented at “Point of Care” in the eMAR
- Intravenous continuous infusion (IVCI) solutions are documented at the beginning and the end of the shift and with any change in dose.
- One time IV medications are documented at “Point of Care”
- Intravenous continuous infusion (IVCI) medications (medication drips infusing for 4 hours or longer), are documented at the beginning and end of the shift and with any change in

dose.

- Titratable IVCI medications dose changes are documented on the flow sheet (as specified on the eMAR)
- Red cells on the eMAR indicate that the medication was not administered **within the ½** hour of the scheduled time (see statement under Standard Medication Administration Times).
- In the instance that a medication is unable to be administered due to clinical circumstances, the nurse should reschedule the medication time/times to ensure that the next nurse caring for the patient can properly document of medication administration.
- If a dose is not going to be administered due to clinical circumstances the cell should be marked as medication not given.

13. Medication Errors

- All medication errors (e.g., incorrect dose or solution, time, route, patient, drug or medications omitted) must be reported to the physician and the nurse manager/nursing supervisor and an Incident/Medication Safety form is to be completed on line.
- If an error has been made with I.V medication preparation, send the I.V. solution to Risk Management.
- If an error is associated with the pump, sequester pump, label with appropriate label and return to Clinical Engineering

15. Adverse/Allergic Reactions

- When a drug reaction or drug allergy is suspected, the physician, nurse manager/nursing supervisor and pharmacist will be notified immediately and an Incident/Medication Safety form is to be completed on-line.
- When a drug reaction or drug allergy is suspected, the nurse will place a red color-coded wristband (pictured below) on the patient.



- When available, the drug container (package or vial) will be saved and sent to the Pharmacy.
- The nurse will document the symptoms of the suspected drug reaction or allergy in the patients' progress notes.
- Adverse drug reactions or allergies must be documented in all the appropriate places including SCM. Pharmacy is to be notified

16. SCM Down Time:

- During SCM downtime a printed report is available for all units to view the medications administered for the past 24 hours and medications due to be administered in the next 24 hours.
- This report can be used for documentation during the downtime period. This is not a permanent record.
- When downtime has ended, the RN will enter all medication administration occurrences on the eMAR. The SCM application will record these medication administrations as having occurred during downtime.
- Please refer to SCM Downtime Procedures outlined on the internal BMC website.
 1. www.internal.bmc.org
 2. Hang on the Help link found on the top screen in the Blue Bar
 3. Select Sunrise Clinical Manager
 4. Select Downtime Procedures

Application:

All patients receiving medications

Exceptions:

None

Equipment:

Computer with Sunrise Clinical Manager application

Procedure:

BMC endorses the Massachusetts’s Board of Registration in Nursing (BORN) safety standard of the “5 Rights of Medication Administration*” and the “3 checks*” of the medication.*

Prior to administration of any medication the administering nurse should know why the patient is receiving that medication and knowledge of that medication’s actions, dosage, adverse effects, route of administration, compatibilities and specific monitoring parameters is required. It is the responsibility of the nurse administering the medication to consult available resources if unfamiliar with the above.

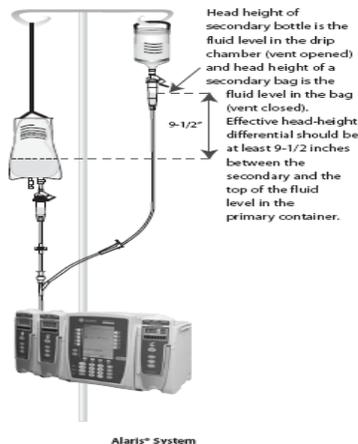
1. The nurse administering the medication will review the medication order. The review process includes:
 - Checking the patient’s SCM profile for presence and accuracy of the following information; Patient’s name, weight in Kilograms and allergies
 - Checking that the medication order is within the dose range for the patient
 - Obtaining the medication and prepare as necessary (checking that the patient, medication, dose, route and frequency are correct). Check expiration date of the drug
2. The nurse who is removing medication from the Pyxis must transport this medication inside a medication cup or bag with the original labeling intact or labeled with the appropriate medication sticker.
3. The nurse who is drawing up medications from a vial or bottle will:
 - Visually inspect the vial or bottle to determine clarity and concentration of medication.
 - The Pyxis Verify Calc Icon may be used to calculate the volume to remove
 - Draw up medication and verify dose and volume to be administered
 - Label any syringe containing medication with a medication label which includes patient’s name, drug, dose and nurse initials
4. The nurse, prior to medication administration will assess physiological parameters (when applicable)
5. If physiological parameters are outside recommended parameters or the parameters written in

- the medication order/order set, the nurse will:
- Contact physician prior to administration of medication
 - Confirm whether the medication should be administered or held
 - Document
6. The nurse will review the current order and the eMAR at the patient's bedside:
 - Identify patient using the two patient identifier process
 - Check for allergies
 - Compare medication to eMAR for right patient, right medication, right dose, right route and right time/frequency
 - Document the actual administration time at "point of care".
 7. The nurse will remain with the patient until the medication is taken. Medications are not left at the bedside. For pediatric patients, parents may give oral medications in the RN or LPN's presence.
 8. If the patient refuses the medication, the nurse will return the unopened/unused medication to the appropriate medication drawer and document on the eMAR as "not given"
 9. The following medications are considered to be high risk medications that require an **independent double check*** by a second nurse, after the initial review process by the nurse administering the medication has been completed.
 - Insulin: **independent double check** documented in the eMAR
 - PCA/Epidurals: **independent double check** documented in the eMAR
 - Chemotherapy: **independent double check** documented in the eMAR
 - Unfractionated Heparin (UFH) Drip: **independent double check** documented in the eMAR
 - TPN: **independent double check** documented on the printed order
 - Flolan: **independent double check** documented in the eMAR with each cartridge change
 9. In the event of an emergency or moderate sedation procedure, the nurse will document medications administered during that event on the appropriate documentation tool (i.e. code record or moderate sedation form)
 10. During instances in which a nurse is unable to use the computer by the bedside, the nurse will document the actual administration of a medication no later than a 1/2 hour after the scheduled time (see policy statement # 11).
 11. For continuous medication infusions being administered via an Alaris pump with the guardrails:
 - When administering an IV medication with the Alaris Guardrail, if an alert appears (indicating the dose is higher or lower than recommended dosing) the RN should investigate the cause of the alert then review the orders to ensure:
 - The pump settings and concentration of drug match the order
 - The medication math calculations and patient weight used in the order are correct as compared to our IV medication guidelines (verified through an independent double check)
 - If all of the pump settings match the order the nurse should collaborate with the ordering physician and/or pharmacist to ensure that the order is correct
 - Alerts should only be bypassed when these steps have been taken and the nurse understands the rationale for administering a higher or lower dose than usually recommended (i.e. the patient might weigh more or less than average or have a tolerance to the medication)
 12. For intermittent medications administered via secondary line (piggyback):
 - Intermittent medications, such as antibiotics, infusing through an Alaris channel that holds an IV bag, upon completion, must have a 20 ml (Pedi and Adult) flush of

compatible solution infused through the same line to flush remaining antibiotic for a time period less than 1 hour.

- If the secondary container is glass or semi-rigid, open the vent on the drip chamber
- If the patient needs a continuous rate to KVO, an order should be obtained
- **If being administered via an Alaris Pump:** (First option)
 - For patients with a primary infusion: Set the secondary line rate and volume to be infused (VTBI) on the infusion pump, open secondary set roller clamp, and start Alaris pump.
 - If the patient does not have a primary infusion ordered, set the pump to run the primary and secondary medication line at the same rate but set the primary line volume to be infused at 20ml.
- **If being administered via Gravity:** (Not recommended except when no other option).
 - Open the secondary roller clamp and adjust the clamp on the primary set to the appropriate rate.

12. Set up of the intermittent medication via a secondary line (piggyback) is pictured below.



13. Intermittent medications, such as antibiotics, infusing through an Alaris channel that holds a syringe, upon completion must have a 2 ml flush of compatible solution infused through the same line to flush remaining antibiotic for a time period less than 1 hour

14. For **neonates** who have a Pediatric Total Fluid Order, two RN's will independently check the Total Fluid Order against the rate on the Alaris pump and document initials on the bedside flow sheet.

* **An Independent double check** means that two nurses will check **independently** of one another the following factors (but are not limited to these factors)

1. **Right Patient** identification using two identifiers per policy
2. **Right Drug** (check against eMAR and physician order)
3. **Right Dose**, including mathematic calculations using appropriate factors (e.g. mg/kg, mg/m², etc) and that is within the range for the patient population
4. **Right Route** of administration
5. **Right Time/Frequency**

When administering IV medications that require an **Independent double check**, in addition to the 5 Rights of Medication Administration, ensure:

1. Proper Compatibility/Concentration/Dilution
2. Appropriate pump and right rate

After the 5 rights of medication administration and IV considerations are confirmed, the nurse documents the administration of the medication and indicates the name of the co-signer in the co-signature box on the eMAR

***The co-signer will document in SCM that he/she has performed the independent double check**

Responsibility:

RN, LPN

Clinical Information:

1. “3 Checks” of medication label: The Massachusetts BORN ¹ reminds nurses to check a label 3 times before administering any medication.

- Check the medication label when taking the medication out of the Pyxis/stored area.
- Check the medication label before pouring, opening packaging or accessing the medication for administration.
- Check the medication label before discarding blisterpak/hanging medication and administering it to the patient

2. The recommended practice is to bring a computer to the patient when administering medications.
3. Current orders mean that the actual SCM order is being viewed.
4. Point of care means the actual time a nurse performs an action. In this instance it means when a medication is administered.
5. In the instance that the appropriate medication pump is not available and the RN needs to administer a medication infusion, he or she should prioritize the pumps available on the unit/floor so that every IV medication is delivered on the appropriate pump.
6. For more clinical information on intermittent medication administration via a secondary line (piggyback) refer to Smith, Duell and Martin, seventh addition pp 1110-1111.
7. For more clinical information on IV push medication administration refer to Smith, Duell and Martin, seventh addition pp. 1115.

Forms:

Patient's eMAR

Other Related Policies:

Hospitalwide Policy: Clinical Care/Patient Rights

03.33.000 Patient Identification

Nursing Policies

10.04.06 Intravenous Therapy

10.01.04 Nursing Student Clinical Placement Policy

Pharmacy Policies

13.07.10 High Risk Medications

13.10.30 Medication Orders

Initiated by:

Nursing

Reviewed by:

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References:

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APPROVAL DATE	COMMITTEE
	Nursing Policy and Procedure Committee
	Nurse Practice
	Nurse Executive