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MICHIGAN MEDICINE **UNIVERSITY OF MICHIGAN**	**Area:** *Nursing*
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Nursing Medication Administration

I. Purpose

The purpose of this policy is to provide general guidance for safe and effective administration of medications.

II. Applicability

This policy applies to all UMHHC nursing staff who administers medication. Individuals who are not allowed to administer medications include graduate nurses and nurse externs.

III. Definitions

A. Privileged Provider – Licensed Independent Practitioners (i.e., MD, DO, Dentist, Psychologist) and advanced practice professionals under physician delegation (PAs, NPs, CNMs, CRNAs).

B. Medication Dispensing – the issuance of prescribed medications by authorized pharmacy personnel.

C. Medication Administration – the provision of prescribed medications by authorized nursing personnel in a manner that assures proper patient and medication identification, monitoring of the medication's effect on the patient, knowledge of possible side effects, and appropriate documentation.

D. Medication Related Events – an error made in administering a medication in relation to a near miss, wrong dose, patient, drug, route, rate, time, adverse reaction, the omission of a medication and prescribing or dispensing errors.

E. MAR – medication administration record.

F. Written Orders – An order hand-written or entered electronically.

G. Verification – a "verification" involves a clinician confirming or reviewing critical elements (e.g. patient name, type of blood component, infusion rate, type of medication, IV line connections, etc.) of a procedure including medication administration, in conjunction with another clinician or following a clinician's execution of the procedure.

H. Independent Double-Check – an independent double-check is a procedure in which two clinicians separately check (alone and apart from each other) and then compare results of critical elements of the procedure (e.g. patient name, name of medication, infusion rate calculation) before it is executed. Independent double-check is reserved for high-risk procedures or medications as specified in associated policies or guidelines.

I. Nurse Extern – Is a nursing student currently enrolled in a BSN nursing program and will be entering the

last year of the program, having completed at least one acute care hospital experience prior to beginning the externship. The extern will be working in the assigned UMHHC unit under the authority of the Clinical Nurse Manager.

J. Graduate Nurse – Someone who has successfully completed the course of study (including hospital practice) at an accredited school of nursing and has not completed and/or passed the state nursing boards.

IV. Procedures/Actions

A. **Written Orders**

Refer to: UMHHC Policy 62-10-003 Patient Care Orders http://www.med.umich.edu/i/policies/umh/6210-003.html.

B. **Verbal Orders**

Refer to: UMHHC Policy 62-10-006 Inpatient Verbal Orders http://www.med.umich.edu/i/policies/umh/62-10-006.html.

Refer to: UMHHC Policy 62-10-007 Verbal Orders Ambulatory Care http://www.med.umich.edu/i/policies/umh/62-10-007.html.

C. **Who May Administer Medications**

1. Nursing personnel who are licensed to administer medications include Registered Nurses and Licensed Practical Nurse.

2. Unlicensed assistive personnel (UAP) in Ambulatory Care Clinics may administer specific medications, as identified in Patient Care Unit Policy under the supervision of a licensed individual; once competency has been demonstrated.

   Refer to: Guidelines for the Delegation of Adult and Pediatric Injections, Oral and Inhalation Medications to a Medical Assistant http://www.med.umich.edu/i/acs/nursing/MA%20Delegation/Adult-PedsInjectionsOralMeds.pdf

   i. Patient Care Unit Policies guiding the delegation of administration of medications to UAP must include:

      a. Route and dosage restrictions for administration by the UAP.

      b. Contraindications for the UAP's administration of the medication including patient condition.

      c. Procedure actions for the UAP.

      d. Training and competency demonstration required for the UAP to delegation of medication administered.

      e. Identify resources for the UAP (i.e. RN, MD, etc.).

3. Nursing students under supervision of a registered nurse and/or faculty.

   Refer to: Nursing Clinical Placement: Instructors http://www.med.umich.edu/nursingPDE/clinical_placement/instructors.html

4. Self-administration of medications by the patient or family is permitted when:

     i.   Ordered by the Privileged Provider.

    ii. Verified by the pharmacy.

   iii. Monitored by nursing.

Refer to: Self-Administration of Medications for Inpatients for Clinical and Educational Purposes
https://pharmwebsp.med.umich.edu/Policies/InpatientServices/
SelfAdministration_of_Medications_by_Patients.docx?Web=1

D. **Process for Medication Administration**

Any person administering medications is responsible for performing these steps prior to the administration of all medications:

1. Review medication order to ensure timing is appropriate based on previous medication administration.

2. Remove medications from a storage area just prior to administration and for only one patient at a time.

    Refer to: UMHHC Policy 179.00 Medication Security.
    https://pharmwebsp.med.umich.edu/Policies/GeneralPharmacyOperations/Medication_Security.docx?Web=1

3. Open the MAR or the order on a computer in the patient's presence or bring the medication order to the patient.

4. Review the MAR or order while in the patient's presence.

5. Verify patient identification using one of the following methods:

    i.   Ask the patient to state their name and date of birth and compare it to matching information on the MAR or order.

    ii. If the patient cannot communicate clearly compare the ID band scan the patient's armband adhered to the patient with matching information on the MAR or order.

6. Compare MAR or order, while in the patient's presence, to the label of the medication.

7. Verify the medication is the right medication, dose, route, time, patient, not expired, no contraindications and labeled correctly. prior to administering IV infusions inspect the medication to ensure there is no visible precipitates and the solution is clear.

8. Provide patient or family education.

9. Perform a scan of the medication using barcode medication administration (BCMA) if utilized within your care area.

10. Administer the medication.

11. Document medication dose, route and site (if applicable) on the MAR or in the patient's medical record.

12. Monitor the patient as needed.

E. **Guidelines for Labeling Medications**

Refer to: UMHHC Policy 07-01-004 Sterile Field Medication Syringe and Container Labeling within

Operative and Invasive Procedure Settings http://www.med.umich.edu/i/policies/umh/0701-004.html.

Refer to: UMHHC Medication Administration Policy. http://www.med.umich.edu/i/policies/umh/07-01-001.html

1. Medications that are removed from their original packaging, not prepared in the patient's presence and not immediately administered to a patient by the person preparing the product must have the syringe or container labeled. The label must include:

   i. Name of the medication.

   ii. Dose or amount.

   iii. Expiration date (when not used within 24 hours). iv. Expiration time (if expiration time is less than 24 hours).

2. Labeling is not required if a medication is prepared in the patient's presence by the same person administering the medication and administered immediately.

F. **IV Labeling and Management**

1. IV infusion should be run through a Smart Infusion Device when applicable using the pumps drug library, except in circumstances where fluids are run via gravity (PACU, Ambulatory, ED, and OR) or there is not a smart pump available for the medication (i.e. epidurals/intrathecal or implantable devices)

2. IV boluses for adult patients on Large Volume Infusion Pumps will be administered utilizing the existing infusion via the Smart pump drug library when applicable. For bolus dosing in pediatrics, a separate syringe of medications is always either received by the pharmacy or drawn up by the RN and infused via the syringe pump using the drug library when applicable.

3. Adults loading doses will be administered through a separate loading dose bag prior to beginning the infusion. In pediatrics, loading doses will be administered through a separate loading dose bag or syringe prior to beginning the infusion.

4. If the pump indicates a soft limit has been reached during programming, re-verification of the order and appropriate dosing should occur.

5. All IV bags, including IVPB containers where medications are added to the original solution, will be labeled using the criteria outlined in the following Policies.

   Refer to: Sterile Field Medication Syringe and Container Labeling within Operative and Invasive Procedure Settings http://www.med.umich.edu/i/policies/umh/07-01-004.html

   Refer to: UMHHC Medication Administration Policy http://www.med.umich.edu/i/policies/umh/07-01-001.html

6. IV tubing is maintained and changed according to Infection Control recommendations

   Refer to: Intravenous Peripheral Catheters: Infection Control Policy http://www.med.umich.edu/i/ice/policies/pdfs/peripheral_catheters/piv.pdf

7. The beginning of each shift, the nurse will check the IV fluids for right solution, and right rate of medications being administered for the right patient. The nurse will trace the line from the bag to the pump to the infusion site.

G. **Patient Education**

1. The Nurse, Pharmacist or Privileged Provider instructs the patient and/or direct caregiver, as to the purpose of the prescribed medications, guidelines for safe administration, possible side effects, and action(s) to take if problems occur.

2. Dieticians may instruct the patient and/or the direct caregiver re: food drug interactions.

3. The Nurse may provide to the patient, or individual who will be administering medications to the patient after discharge, relevant medication education sheets, which may include links to educational websites.

   Refer to: Patient Education Website.http://www.med.umich.edu/i/pteducation/index.htm

4. It is recommended that UMHHC internal resources/references are used whenever possible.

H. **Documentation**

1. Medications will be recorded on the MAR, intraoperative anesthesia record, the problem summary list, or noted in the patient medical record in military time.

2. Medications must be documented at the time of administration unless administered in an urgent or emergent situation. If administered in an urgent or emergent situation the medication should be documented as soon as the nurse is able to access the record.

3. Immunizations are documented on the MAR for inpatient nurses and in the Vaccine Summary for ambulatory care.

   Refer to: Standing Orders for Administering Pneumococcal Polysaccharide Vaccine to Patients Admitted as an Inpatient or for Observation http://www.med.umich.edu/i/policies/umh/6210-011.html

   Refer to: Standing Orders for Administering Influenza Vaccine to Patients Admitted as an Inpatient or for Observation http://www.med.umich.edu/i/policies/umh/62-10-010.html
   Refer to: Ambulatory Care Immunization Protocol
   http://www.med.umich.edu/i/acs/nursing/standingorders/docs/Influenza.Pneumo.Vaccination_.pdf

4. Application and reading of Tuberculin Purified Protein Derivate (PPD) or other skin tests are documented on the MAR.

5. If a patient has a medication patch in place on admission including pre-op and ED, the LIP must write an order for the patch if it is meant to stay on or write a discontinue patch order and the nurse must waste the patch if it contains controlled substance.

6. Verification of placement of medication patches (e.g. fentanyl, nicotine, birth control, etc.) must be documented on the MAR in the following occurrences and include location of the patch:

   i. On admission (if present) in the new order (indicate patch present on admission).

   ii. Once a shift.

   iii. Any time the patient returns to the floor from a procedure/test.

   iv. When a patient is transferred to another unit.

   v. When a new patch is placed.

   Refer to: Medication Administration: Topical in Elsevier for application of the patch.

https://login.elsevierperformancemanager.com/systemlogin.aspx?virtualname=umichiganmiannarbor&forcelogin=true

7. If medication is not given at the scheduled time and that dose is never intended to be given, the dose should be marked as "not given" with rationale or it should be rescheduled as needed.

   Refer to: The Standard Medication Administration Times Policyhttps://pharmwebsp.med.umich.edu/Policies/InpatientServices/Standard_Medication_Admin istration_Times.docx?Web=1

8. The Privileged Provider must be contacted any time a medication is withheld or not given as prescribed, including patient refusal and emesis, unless the medication is held based on the specified parameters within the order (e.g. "hold if systolic blood pressure is less than 90, hold if patient has loose stools, etc.).
   If the patient experienced emesis after administration of a medication the medication should be marked as not given and the prescriber should be notified for re-dosing.

9. When a partial dose is given or a dose within a range is given, the actual dose administered is documented.

   Refer to: Patient Care Orders Policyhttp://www.med.umich.edu/i/policies/umh/62-10003.html.

10. In the event that a nurse administers a dose of medication during the shift and omits documenting the dose:

    i. The nurse who confirms that the dose was given by the previous nurse (e.g. on-coming RN) will document on the MAR using the selection mark as done by other.

    ii. The on-coming nurse then selects the name of the nurse that administered the medication and documents the dose.

    iii. The nurse that administered the dose will receive a flag in their signature box to co-sign.

    iv. The nurse who administered the dose will acknowledge the task through signature manager.

11. The policies listed below require the nurse to perform either a verification or independent double check. Refer to specific policies for medication administration and documentation instructions:

    Refer to: PCAhttp://www.med.umich.edu/i/nursing/policies/PCA.pdf

    Refer to: Epidural and Peripheral Nerve Catheters: Guidelines for Analgesia by Catheter Techniques http://www.med.umich.edu/i/nursing/policies/epiduralNerveCath.pdf

    Refer to: Chemotherapyhttp://www.med.umich.edu/i/nursing/policies/cytotoxic.pdf

    Refer to: Utilization of Insulin Concentrate U-500 Insulin http://www.med.umich.edu/i/policies/umh/07-01-025.htm.

    Refer to: Parenteral Use of epoprostenol (Flolan®), thermostable epoprostenol (Veletri®) and treprostinil (Remodulin®)http://www.med.umich.edu/i/policies/umh/07-01-042.html

I. **Controlled Substances**

   Refer to: Nursing Management of Controlled Substances Policyhttp://www.med.umich.edu/i/nursing/Policies/controlledSubstance.pdf

J. **Medication Storage**

1. Medications will be stored according to Pharmacy Medication Security Policy.
https://pharmwebsp.med.umich.edu/Policies/GeneralPharmacyOperations/Medication_Security.docx?Web=1

2. Pill cutter/crusher will be dedicated to single patient use whenever possible and stored in a designated location with a patient label. Pill cutter/crusher must be cleaned between use and discarded if residual cannot be cleaned.

K. **Medication Related Events**

1. When a medication related event occurs:

   i. Assess and support the patient; provide necessary care.

   ii. Notify the patient's physician.

   iii. Document the drug administered, time, route, patient response and action taken.

   iv. Complete a patient safety report. Refer to Patient Safety Reporting Policy:
   http://www.med.umich.edu/i/policies/umh/03-07-001.htm

   v. Facts surrounding the incident shall be discussed with the patient as appropriate by designated treating staff.

L. **Exceptional Occurrences**

1. Investigational Medications may be administered under the following circumstances:

   i. A signed informed consent form is on the patient's chart.

   ii. Investigational Drug Information is made available by the primary investigator, investigational drug service pharmacy and/or the drug company that is sponsoring the drug.

   iii. An order has been issued by the physician investigator or an appropriate designee.

   iv. Student nurses may not administer investigational medications.

   v. Refer to: Patient's own meds

   vi. Only those medications verified by the hospital pharmacy and ordered by the Privileged Provider may be administered by the nurse.

   vii. If the medications are not to be used during the patient's hospitalization, they are given to the patient's family or stored with Security and returned to the patient at the time of discharge or discarded with the patient's knowledge.

2. Refer to: Medication at the Bedside https://pharmwebsp.med.umich.edu/Policies/InpatientServices/Bedside_Medications.docx?W eb=1

3. Medications prescribed for patient at discharge:

   i. Prescriptions for discharge medications are sent to the Ambulatory Care Pharmacy for dispensing or given to the patient/family to be filled at the pharmacy of their choice.

   ii. Leave-on-pass prescriptions are handled in the same manner as discharge prescriptions.

   iii. Medications are not dispensed from unit stock except in areas where there is a Physician Dispensing policy in place or Pharmacy has a unit agreement and policy in place.

   Refer to: UMHHC Policy 07-01-045 Drug Samples in UMHHC http://www.med.umich.edu/i/

policies/umh/07-01-045.html.

Refer to: V-130-00: UMH PACU Physician Dispensing Program http://www.med.umich.edu/i/anes/tcpub/policies/main_or_pacu/policy/physician_dispen sing_program.htm.

M. **IV Electrolyte Administration**

1. Adults

   Refer to: Intravenous Electrolyte Ordering and Administration at UMHHC Policy. http://www.med.umich.edu/i/policies/umh/07-01-020.htm.

2. Pediatric

   Refer to: Guidelines for IV Electrolyte Administration in Pediatric and Neonatal Patients. https://cw.i.medicine.umich.edu/system/files/policies/Peds%20IV%20Electrolyte%20Policy.pdf

N. **Heparin/Saline Lock**

1. Heparin/Saline lock is defined as an IV access whose patency is maintained by intermittent flushes of a solution, which may or may not contain heparin.

2. The saline or heparin lock is the standard of care for maintaining IV access (see venous access grid for appropriate flush to use). Administration of Keep Vein Open fluids (KVO) requires a Privileged Provider order. The order must include KVO rate and fluid type.

   Refer to: Venous Access Policy http://www.med.umich.edu/i/nursing/Policies/VenousAccessGuidelines.pdf

3. At minimum, venous access lines are flushed as outlined in the Venous Access Grid. More frequent flushing may be required based on patient condition http://www.med.umich.edu/i/nursing/policies/VAgrid.pdf.

O. **Intravenous Push Medications**

1. A nurse may push medications as designated by:

   i. UMHHC Electronic medication references (Lexi-Comp [pediatric dosing], Micromedex, Facts & Comparison, Epocrates, Unit References, BLS, and ACLS guidelines).

   ii. A medication is not given IV push when dilution of the medication in greater than 50 cc fluid is required before entering the blood stream.

   iii. Medication should not be altered from the original packaging, if compounding is required contact pharmacy for assistance.

   Refer to: Guidelines for Administration of Selected Medication via Intravenous Route for Adult and Pediatric In-Patient and ED Locations

P. **Intramuscular Injections**

   Refer to: Elsevier Clinical Skills, Adult & Pediatric Skills: https://login.elsevierperformancemanager.com/systemlogin.aspx?virtualname=umichiganmiannarbor&forcelogin=true

Q. **Multidose/Single dose vials**

Refer to: Multiple Dose and Single Dose Vial Medications Policies

https://pharmwebsp.med.umich.edu/Policies/SterileProducts/Single_Dose_Vial_Medications.docx?Web=1

https://pharmwebsp.med.umich.edu/Policies/SterileProducts/Multiple_Dose_Vial_Medications.docx?Web=1

https://pharmwebsp.med.umich.edu/Policies/GeneralPharmacyOperations/Multiple_Dose_Product_Medications.docx?Web=1

V. References

A. 2017 National Patient Safety Goals.

B. Medication Administration Policy http://www.med.umich.edu/i/policies/umh/07-01-001.html.

VI. Related Policies/Guidelines/Standards/Procedures

A. Patient Care Order Policy:http://www.med.umich.edu/i/policies/umh/62-10-003.html.

B. Inpatient Verbal Order Policy:http://www.med.umich.edu/i/policies/umh/62-10-006.html.

C. Self-administration of medications policy: https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/InpatientServices/Administration_of_Medications_Brought_in_by_Patients.docx&action=default

D. Order Management in UM Care Link: http://www.med.umich.edu/i/nursing/policies/OrderManagement.pdf.

E. Patient Education Website: http://www.med.umich.edu/i/pteducation/index.htm.

F. Pneumococcal Vaccine to Adult Inpatients Policy: http://www.med.umich.edu/i/policies/umh/6210-011.html.

G. Influenza Vaccine to Adult Inpatients Policy:http://www.med.umich.edu/i/policies/umh/62-10010.html.

H. PCA Policy:http://www.med.umich.edu/i/nursing/policies/PCA.pdf.

I. Chemotherapy Policy:http://www.med.umich.edu/i/nursing/policies/cytotoxic.pdf.

J. Controlled Substances Policy: https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/GeneralPharmacyOperations/controlled_substances.docx&action=default

K. Pharmacy Inpatient Medication Area Inspection Policy: https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/GeneralPharmacyOperations/Medication_Area_Inspections.docx&action=default

L. Patients own medications Policy: https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/InpatientServices/Administration_of_Medications_Brought_in_by_Patients.docx&action=default

M. Intravenous Electrolyte Ordering and Administration at UMHHC Policy: http://www.med.umich.edu/i/policies/umh/07-01-020.htm.

N. Guidelines for IV Electrolyte Administration in Pediatric and Neonatal Patients: http://www.med.umich.edu/i/policies/umh/07-01-021.html

O. Elsevier Nursing Skills: https://login.elsevierperformancemanager.com/systemlogin.aspx?virtualname=umichiganmiannarbor&forcelogin=true

P. Multiple Dose Vial Medications Policy: https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/SterileProducts/Multiple_Dose_Vial_Medications.docx&action=default

Q. https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/SterileProducts/Single_Dose_Vial_Medications.docx&action=default

R. Sterile Field Medication Syringe and Container Labeling within Operative and Invasive Procedure Settings: http://www.med.umich.edu/i/policies/umh/07-01-004.html.

S. Self-Administration of Medications for Inpatients for Clinical or Educational Purposes Inpatient Pharmacy Services Policy: https://pharmwebsp.med.umich.edu/layouts/15/WopiFrame.aspx?sourcedoc=/Policies/Inpatient Services/Self-Administration_of_Medications_by_Patients.docx&action=default

T. Medication Reconciliation Policy: http://www.med.umich.edu/i/policies/umh/07-01-002.html.

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Original guideline documents are held by EBS. Direct questions to **Nurse-EBS_Administration@med.umich.edu**.

Attachments

No Attachments

Applicability

UMHS Clinical