LEGACY HEALTH

PATIENT CARE
Policy: **900.3102**
Origination Date: **MAR 1997**
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SECTION: **DRUG ADMINISTRATION**
TITLE: **MEDICATIONS: ADMINISTRATION**

FACILITY:

☒ Legacy Emanuel Hospital and Health Center (as applicable: ☐ LEMC only ☐ RCH only ☐ Unity only)

☒ Legacy Good Samaritan Medical Center	☐ Legacy Medical Group
☒ Legacy Meridian Park Medical Center	☐ Legacy Urgent Care
☒ Legacy Mount Hood Medical Center	☐ Legacy Visiting Nurse Association (Hospice)
☒ Legacy Salmon Creek Medical Center	☐ Legacy Lab Services
☒ Legacy Silverton Medical Center	☐ Legacy Research Institute
☐ Administrative / System Support Services	☐ Other:

POPULATION: **X Adult** **X Pediatric** **X Neonate**
(Adult >18 years of age; Pediatric 0-18 and adult patients under care of a pediatric specialty physician at RCH; Neonate 0-28 days and continued hospitalization in the NICU)

TABLE OF CONTENTS:

Purpose
Responsible Staff
Definitions
Policy
Implementation Process:
1. Administration of medications by hospital clinicians
    a. Nurses
    b. Students
    c. Pharmacists
    d. Respiratory Therapists
    e. Other ancillary personnel
    f. Licensed Independent Practitioners (LIP) and Advanced Practice Providers (APP)
2. Standard Administration Time
3. Self-administration of medications in the hospital
4. Preparation for administration
    a. Surgical/procedural areas
5. Labeling of medications
6. Medication administration
    a. Patient verification
    b. Barcoding
    c. Special considerations
    d. Education
7. Range Orders and Titration orders,
8. Therapeutic duplication of PRN medications
9. Medication disposal
10. Medication documentation

PURPOSE:

1. Designate individuals who may administer medications. Hospital personnel not designated in this policy are not authorized to access or administer medications.
2. Describe a safe process for medication administration.
3. Establish a consistent standard for medication administration within defined administration times.

4. Incorporate evidenced based practices, National Patient Safety Goals (NPSG) and requirements of regulatory bodies into policy and procedure.
5. Provide overall standardized guidance for identification, preparation, labeling and administration of use of medications and/or solutions.

KEYPOINT*: Best practice is to ensure the medication use process addresses system vulnerabilities in each stage (i.e., prescribing, dispensing, administering, and monitoring) and applies to prescribers, pharmacists, nurses, and other practitioners involved in the medication-use process.*

RESPONSIBLE STAFF:

Any licensed practitioner with scope of practice allowing medication administration, including but not limited to: LIP, APP, registered nurse (RN), licensed practical nurse (LPN), medical assistant, pharmacist, respiratory care practitioner, and/or any and all members of the surgical team within perspective scopes of practice.

DEFINITIONS:

- Direct Supervision: The RN or LIP must be physically present or available in the immediate patient care area to intervene if necessary
- Hazardous Drugs: A drug that exhibits one or more of the following characteristics in humans or animals:
    - Carcinogenicity
    - Teratogenicity or other developmental toxicity
    - Reproductive toxicity
    - Genotoxicity
    - Structure and toxicity profiles of new drugs that mimic existing drugs determined hazardous by the above criteria.
- Independent Dual Verification: (i.e., independent double checks): Process in which a second person authorized to prepare or administer Legacy identified high alert medications (e.g., chemotherapy, thrombolytic) conducts a verification of the accuracy of the prescribed therapy, without revealing findings to the other verifier until both have completed the process. See LH.900.3028 High-alert and Look-alike, Sound Alike (LASA) Medications/IV Medication Restrictions
- Stable: A predictable condition; a situation where the patient's clinical and behavioral state is known, not characterized by rapid changes, and does not require continuous reassessment and evaluation by the RN. The condition remains unchanged, unwavering, not fluctuating.
- Static Clock: Initial dose is the start of the ordered time interval.
- Time Critical Medication: Those for which an early or late administration, of greater than 30 minutes, might cause harm or have significant negative impact on the intended therapeutic or pharmacological effects. Examples include first dose antibiotics, medications given associated with a lab draw and medications prescribed more frequently than every 4 hours.

POLICY:

1. Medications are administered in accordance with:
    a. Role specific scope of practice.
    b. Laws, regulations, accreditation and/or hospital standards.
    c. The Six Rights of Medication Administration (right patient, right drug, right dose, right route, right time, right administration).
    d. The orders of a prescriber who is responsible for the patient's care.

2. Medications are not administered:
    a. Against a patient's will, unless the patient's legal status is such that all legal procedures allowing for the administration of medications against a patient's will have been completed, and it has been deemed clinically beneficial to do so. See LH.900.3284 Involuntary Patients.
    b. Without patient's/family's knowledge.

i. A patient may be given medication in food, either to render it more palatable or more easily swallowed but must always be informed medication is present in the food and provided education regarding the medication, as appropriate for age or cognition.
ii. Possible exceptions are when a patient is under guardianship, cognitive improvement is not expected, the procedure is to prevent increased agitation, or the guardian agrees to the procedure.
iii. Additional exceptions include:
    1. Intubated patients when consent to treat is obtained from the patient, family, or legal healthcare representative
    2. Emergency situations when medication consent is deemed in the patient's best interest (see LH 900.4058 Informed Consent, Verification of Refusal, and Verification of Release)

3. Continuous titratable infusions are restricted to specific patient care areas, see LH.900.3028 High-alert and Look-alike, Sound Alike (LASA) Medications/IV Medication Restrictions.

4. Safe injection practices and standard precautions: Follow safe injection practices, which are part of standard precautions to help prevent transmission of infection.
    a. See LH 600.25 Standard and Transmission-Based Precaution Guidelines.
    b. Follow proper infection control practices (e.g., perform hand hygiene, clean top of vials with alcohol pad before accessing).
    c. Maintain aseptic technique during preparation and administration of injected medications and when delivering medications or solutions to a sterile or clean field (i.e., operating or procedural room setup).
        i. Never administer medications from the same syringe to more than one patient, even if the needle is changed.
        ii. Never enter a vial with a used syringe or needle.
        iii. Disinfect the vial diaphragm or access point before use, applying friction and allowing to dry. The pop-off cap on medication vials is a dust cover and not intended to maintain sterility of the diaphragm/access point.
        iv. Avoid removing stoppers from vials for the purpose of pouring medications or solutions into another container and/or when administering to a sterile and/or clean field.
            1. Use transfer devices, if/when necessary and/or when possible (e.g., sterile vial spike, filter straw, plastic catheter, ready-to-administer device (i.e., Carpuject), syringe and needle, closed system device, etc.)
        v. Use bags of IV solutions for one patient. Avoid using bags of intravenous solution as a common source of supply for more than one patient.
        vi. Always use facemasks when injecting medications or inserting a catheter in the epidural, subarachnoid (intrathecal), or subdural spaces.
        vii. Check the label to see if packaged as single-dose or single-use. Single-dose or single-use medications should only be used for one patient.
    d. Multidose vials:
        i. Limit use and dedicate them to a single patient whenever possible. Preservatives have no effect on bloodborne viruses.
        ii. Discard when the beyond-use date has been reached, when doses are drawn in a patient treatment area, or any time the sterility of the vial is in question.

5. The following clinical information must be available to those involved in the medication management: patient age, sex, current medications, diagnoses, co-morbidities and concurrent conditions, relevant lab values, allergies and sensitivities, height, and weight (kg), pregnancy and lactation status.

6. Use of Smart Infusion Pump Systems, see LH.900.3361 Use of Smart Infusion Pump Systems:
    a. Use of a smart infusion pump for administration of intravenous medication is preferred, with use of device system safety programs (i.e., Alaris Guardrails), and shall be used for:

i. Pediatric patients: All intravenous medication infusions, both continuous (if infused over greater than 5 minutes) and intermittent.
ii. Adult patients: All continuous medication infusions and any intermittent infusions requiring an infusion duration of 30 minutes or longer.
iii. All continuous infusions of vasoactive medications or medications considered as a vesicant or irritant. A central line is the preferred site for the administration of vasoactive medications. See LH.900.5385 Peripheral Intravenous Infusion of Vasopressors for criteria of peripheral line administration.
iv. Patient care areas such as PACU/OR as determined by the medication.

7. If extravasation occurs refer to Elsevier Clinical Skills for management procedures: See Intravenous Therapy: Prevention and Management of Extravasations.

8. High alert medications: Specific medications are restricted to certain patient care areas or require specific independent dual verification prior to administration or monitoring.
    a. See LH.900.3028 High-alert and Look-alike, Sound Alike (LASA) Medications/IV Medication Restrictions and LH.912.3001 Medication Independent Verification for Neonatal and Pediatric Patients.

9. Hazardous medications: All hazardous medications require special handling to protect the employee and:
    a. Shall not be split or crushed in patient care areas. Splitting or crushing of hazardous medications should be done in appropriate hazardous compounding area within pharmacy.
    b. Hazardous drug designation dictates personal protection equipment requirements.
        i. See LH.900.3901 Hazardous Drugs: Safe Handling.

IMPLEMENTATION PROCESS:

1. Medication Administration/role and scope of practice for specific medications:
    a. Private duty nurses (RNs and LPNs) shall not administer any medication.
    b. Students: Nursing or paramedic students in clinical practice rotations may administer prescribed medication(s) by accepted routes within the scope of their role and level of education.
        i. Students must have direct supervision by their assigned Legacy Health RN or their Clinical Instructor/Preceptor during all aspects of the medication administration process.
        ii. Prior to any administration and interventions, all medications will have calculations checked and cosigned on the electronic medication administration record (MAR) by clinical faculty or RN assigned to the patient.
    c. Pharmacists:
        i. Must have documented training in medication administration to participate in medication administration procedures and/or interventions per scope of practice.
            1. If pharmacists have not received training on administration by a particular route, they cannot administer a medication by this route.
        ii. Medications may be administered in:
            1. For inpatient pharmacists: Urgent or emergency situations under the direct supervision of a LIP to prevent delays in patient care if there are no other licensed personnel who are readily available to administer the medication.
                i. Providers and nurses will not specifically order or task the pharmacist to administer a stat medication unless faced with a critical situation where delay in the administration will cause harm to a patient
            2. For Medication Management Services: For patients currently being managed under Clinical Drug Therapy Management (CDTM) protocols.
            3. Pharmacists can refuse to administer a medication if outside their training.
        iii. Will be responsible for ensuring the medication administration is appropriately documented.
        iv. Cannot administer medications for moderate or deep sedation.
    d. Roles who may administer medication within their scope of practice and per state licensing rules, under the direction of LIP, and with documented education on medication administration include:

i. Nurses
ii. Authorized licensed technologists/technicians
iii. Physical therapists
iv. Respiratory care practitioners
v. Occupational therapists
vi. Speech and language pathologists
vii. Medical assistants

Nursing Education and Training Requirements for Specific Medications by Role

	RN	LPN	Nursing student
Anticoagulant	Yes	Yes (under supervision of RN)	Requires direct supervision of clinical faculty or assigned RN IV heparin infusions - only senior students
Chemotherapy*	Yes – Requires route-specific training and certification for IV	Oral Only - Requires route-specific training	No
Controlled substance	Yes	Yes (under supervision of RN)	Requires direct supervision of clinical faculty or assigned RN who is responsible for the chain of custody and documentation in the EHR. Cannot access in ADC and witness and/or co-sign waste in EHR or ADC
Epidural	Yes –Specialized training required	No Can monitor patients on an epidural.	No
IV medications	Yes	Yes –Specialized training required (under supervision of RN)	Junior and senior students only. Requires direct supervision of clinical faculty or assigned RN
Investigation Medications	Yes	Yes (under supervision of RN)	No
PCAs	Yes	Can program and perform program changes with an RN or Pharmacist independently dual verifying with the LIP's orders	No

2. Standard medication administration times - See Appendix A
    a. Administration of medication shall be standardized in accordance with Medication Administration Times, see Appendix A.
        i. Guidelines for standard medication administration times do not apply to antibiotics and medications administered to neonates or newborns, except ampicillin for intravenous or intramuscular administration.
    b. Time critical medications must be administered within 30 minutes before or after the scheduled dosing time.
    c. Scheduled medications must be administered within 1 hour before or after the scheduled administration time.
        i. Exceptions include medications administered more frequently than every 4 hours and medications with specific times ordered by prescriber.
        ii. Reason for omission, late or early administration shall be noted in the medication record.
    d. As needed (PRN) medications must be administered at the intervals and within the parameters prescribed.
        i. The first dose may be administered at the time "PRN" parameters are met.
    e. Adjusting medication administration times:
        i. Pharmacists will use their clinical judgement to adjust medication administration times.

ii. Nursing can retime a single dose of medication, but must:
    1. Document in EHR the reason for retiming.
    2. Pharmacy to retime medications beyond single dose retiming. Consult with pharmacy as needed for questions about timing or retiming of medication.
        i. See Medication Administration Scheduling Guide - Appendix B.

3. Self-administration in the hospital:
    a. Physician's order must specify "self-administered" within the administration instructions.
    b. Specific order shall be entered for each medication to include drug name, dose, frequency, and route.
    c. On order verification, the pharmacist will designate “self-administered”.
    d. Injectable medications that may be self-administered include:
        i. Patient’s own subcutaneous insulin pump: *LH 900.5860,* Adult and Pediatric Patients on Continuous Subcutaneous Insulin Infusion Management.
        ii. Patient on IV prostacyclin analog therapy*: LH 900.5205* Adult Patients on Continuous Intravenous/Subcutaneous Prostacyclin Analog Management.
        iii. Patient on implanted pain pump

4. Preparation for Administration

KEYPOINT: *During medication preparation and administration, distractions or interruptions are minimized.*

a. Medications (all patient care areas):
    i. Prior to medication administration, the pharmacist and/or administering personnel will:
        1. Clarify questions regarding order interpretation or appropriateness of a medication with the ordering provider.
        2. Review contraindications to drug administration including:
            i. Patient allergies/sensitivities: If patient has an identified allergy or sensitivity to a medication, the medication will be held and both the physician and pharmacist notified.
            ii. Drug incompatibilities: IV medications that are incompatible must be administered via separate vascular access devices.
                i. Exception: Central vascular access devices with multiple lumens. Incompatible medications or solutions may be administered through the same CVAD when separate administration sets for each medication or solution is connected to separate catheter lumens.
                ii. A vascular access device is flushed with sodium chloride 0.9% or other compatible fluid between IV medication or solution administrations.
                iii. Consult with the pharmacist to discuss altering drug administration times for medications that are incompatible.
        3. If a contraindication is noted, the order must be verified with the ordering provider.
    ii. When medication is received or obtained, it must be assessed through visual inspection for quality and appropriateness, prior to administration to the patient. Medications must be wasted or returned to the pharmacy if they are or have:
        1. Visible signs of deterioration, contamination, bacterial or mold growth.
        2. Exceeded the expiration date of the drug product.
        3. Questionable sterility.
        4. A damaged or illegible label.
        5. Been discontinued by the physician.
        6. Ordered for a patient transferred from the nursing unit, left the hospital, or expired.
        7. Received/obtained in error.
    iii. See LH 916.5906, Drug Product Problem Reporting for additional information.

iv. All medications shall be administered from originally labeled manufacturer's package when feasible or from prepackaged containers with labels made or approved by pharmacy.
v. Non-unit dose packaged liquid medications intended for oral use will be drawn up in oral syringes or unit dose cups only.
vi. Use oral liquid dose packaging for administration of oral liquid medications. Syringes for injection (e.g., IM, IV, SQ, etc.) will not be used to administer oral liquid medications.
vii. Injectable medications to be administered orally will be dispensed by pharmacy in oral liquid dose packaging.
viii. Before changing administration route, consult a pharmacist.
ix. When a medication requires splitting (e.g., ½ tablet), a patient or medication specific pill cutter should be used.
    1. Pill cutter shall be labeled with patient or medication name to prevent cross contamination.
x. Intravenous medications:
    1. Before connecting or upon arrival to a new care setting, IV administration set (tubing) should be traced from the patient/vascular access device to the point of origin (medication bag).
    2. Once an IV container is spiked, it cannot be re-spiked or reused.
    3. Intravenous pre-manufactured intravenous fluids without added medication(s), not patient specific, do not require additional labeling.
    4. Each time a parenteral medication and/or solution is administered, aseptic technique is followed.

b. Medication Administration to a Sterile and/or Clean Field - (Surgical and Procedural Areas): Follow all applicable sections above in addition to the following specifics for the Surgical and Procedural areas.

i. Verbally and visually confirm medication, strength, dosage, and expiration date to a second person (e.g., scrub tech, surgeon, etc.) immediately prior to administering to the field.
ii. Deliver medications or solutions in an aseptic manner, which may require a transfer device or syringe, as applicable, to an identified, appropriate sized container, labeled for the medication/solution.
    1. Medication labels are not to be pre-made. They must be made at the time of medication verification (section b., i. above) and delivered to a designated container on the sterile field.
iii. Label all medications and solutions on and off the field.
    1. Labeling to include medication name, strength, and amount/volume (if not apparent from container).
    2. If applicable, also include preparation date, diluent, expiration date (within one hour of compounding label), and initials of the individual prepping.
iv. Preparation of compounded, non-hazardous medications.
    1. Hazardous medications may not be compounded outside pharmacy.
    2. All medication compounding will be from sterile products and aseptically prepared.
    3. Mixtures of medications can be written on one label.
    4. Stability of compounded medications should be confirmed by pharmacy.
v. Chemicals and reagents (e.g., formalin, saline, Lugol's solution, radiopaque dyes, glutaraldehyde, irrigations, etc.) are to be treated with the same or greater care and caution as medications.
    1. As some of the items which can be included in the above category are toxic solutions or chemicals, these require additional PPE when handling (i.e., formalin, glutaraldehyde, etc.).
vi. When passing medication, verbal verification of the medication, strength, and dose, via the medication label being read aloud, should occur with LIP prior to administration.
vii. At time of relief of RN circulator or scrub person, the entering and exiting staff are to have a verbal, patient care handoff/shift report. The information exchange should include

verifying all medications, solutions, chemicals, and reagents and their locations on sterile and/or clean fields, including how much has currently been used and medications available, but not opened.
1. Verbal and visual confirmation should be done by the scrub person relief/change of shift.
2. Discard any unlabeled solutions on the sterile field.

viii. All original containers from medications or solutions used during any procedure must remain in the surgery/procedure room for reference until the conclusion of the procedure.

ix. All labeled containers on the sterile field are discarded at the conclusion of the procedure following proper disposal processes per LH.900.4412 Management of Pharmaceutical Waste.

c. Medication Labeling of all medications, solution containers and delivery devices will occur when any medication or solution is transferred from an original package to another container.

i. Will be labeled as soon as it is prepared, even if there is only one medication or solution involved.
1. If medications or solutions are administered at the time they are verified and transferred to a secondary container (i.e., drawn up in a syringe and immediately administered, disposable procedure trays prepared and immediately used, etc.), no additional labeling is required.
2. Any medication prepared for administration, but not administered immediately, must be labeled with a minimum of the following:
    a. Drug name, strength, amount, dilution and diluent name and volume, expiration date and the name of the person who prepared the dose.
    b. IV admixtures must also include the date and time of preparation and diluent.
3. Immediately discard any solution or medication found in any area, including surgical/procedural areas, without an identification label.
4. Any patient specific medication prepared by someone other than the person administering the medication must also be labeled with the following:
    a. Name of the patient
    b. The location where the medication is to be delivered
    c. Directions for use
    d. Applicable accessory and cautionary instructions

5. Medication Administration:

a. Patient Identification and verification see LH.900.4297 Patient Identity Verification and Banding:

i. Two identifiers will be checked prior to medication administration, with the patient, family, care provider handoff, and/or team participation in Universal Protocol.
1. Verify the patient identification by having the patient state their name, date of birth and scanning the patient's wristband.
2. If the patient is unable to verbalize two identifiers, the family may provide identifiers (e.g., name, date of birth). In behavioral health, if the patient is unable or unwilling to wear patient identification wristband and/or provide patient identifiers, a photograph in the electronic health record (EHR) may be used to identify the patient.
3. For intubated patients, patient verification may be provided by the family/legal decision-maker and can be used as one form of patient identification between care team handoffs. Also, the care team will check the name and DOB against the EHR and the photo, if available.
4. For patient identity verification in emergency situations, please follow guidelines outlined in LH 900.4058 Informed Consent, Verification of Refusal, and Verification of Release.

ii. Barcode scanning: The patient's wristband and each medication to be administered will be scanned immediately prior to administration.
1. The nurse must verify the EHR medication order description matches the medication package label at the bedside when barcode scanning.

2. If a dose consists of more than one package, all individual units administered must be scanned.
3. If the correct patient medication has an unreadable barcode, proceed with verifying the 6 rights of correct medication administration.
    a. Document the administration by overriding the medication scan and selecting the appropriate reason for not scanning.
4. Some medications may have more than one barcode.
    a. If one of the barcodes does not scan, attempt to scan the other barcode.

b. Patient Education, Monitoring and Documentation
    i. Whenever the patient can receive education, or family is available, the patient/family will be educated about their medication during administration.
    ii. Patient education includes but is not limited to:
        1. The name of the medication
        2. Indication for its use
        3. Anticipated effects
        4. Potential side effects or adverse drug reactions
    iii. When administering a first dose of a medication, monitor patient response and document any unexpected responses.
    iv. In patients with psychiatric history or those with history of medication non-adherence, closely observe patient for behaviors such as cheeking/pocketing or regurgitation of medications.

c. Controlled Substances: For ADC dispensing workflow, please refer to policy LH.916.3211 Controlled Substances Management and Surveillance on Patient Care Units and for directions on incremental doses see LH.900.3243 Storage and Handling of Medications and Pharmaceutical Supplies in Patient Care Areas. Controlled substances in syringes/vials are to be used to administer a single dose and only for one patient, except for the following situations where incremental dosing is allowed:
    i. Patient must be in an intensive care unit, operating room or PACU; *and*
    ii. The clinician administering the medication must stay at bedside and not transfer the controlled substance to another clinician; *and*
    iii. It is anticipated small incremental doses will be administered by a single clinician over a short period of time:
        1. Less than 60 minutes to achieve effect
        2. If further doses are needed beyond 60 minutes, remaining medication must be wasted and a new dose dispensed.
    iv. See below for medication wasting and disposal procedures.

d. Range Orders and Titration:
    i. Range orders are permitted for PCA and epidural infusions, PRN opioids, PRN sedatives, PRN anxiolytics, PRN antihypertensives, PRN inhaled medications, insulin per supplemental scale and continuous infusions that are titrated. See LH.900.3233 Medication Orders for details
        1. Ranges for continuous titratable infusions are allowed for both dose and frequency in critical care, emergency department and procedural areas.
    i. For range orders, the medication will be administered initially using the lowest dose ordered.
        1. The lowest does may be repeated based on the titration interval to determine the effective dose.
        2. Unless otherwise specified within the order, the titration interval is defined as every 30 minutes for injectable medications, 60 minutes for enteral medication and 5 minutes for inhaled medications.
        3. Doses will be administered using a static clock.
        4. Contact the LIP if the maximum dose in the ordered range is reached without symptom relief.
        5. The cumulative titrated dose must not exceed the maximum dose in the ordered range.

ii. Titration orders (for continuous infusions): wide interpatient variability exists in the efficacy, onset of action, time to peak and duration of action of medications, requiring individualization of medication dosages, titration, and evaluation of response.
    1. Titration should occur no faster than ordered frequency.
        a. The ordered frequency is the least amount of time in which a medication can be titrated and is not required frequency of assessment and intervention.

KEY POINT: *Emergent situations and acute patient decompensation may require more frequent titration or greater dose adjustments than outlines in the order. Consult with the LIP for dose adjustments outside of the order parameters.*

        b. During administration of medication intended to be dosed via titration, dosing will be continuously titrated up or down to maintain the specified clinical endpoint as closely as possible. The lowest effective dose to achieve and maintain the goal clinical endpoint should be used at all times.
        c. Wean continuous infusions per ordered protocol, LIP order, or when goal parameter is maintained with decreasing doses.
            1. Weaning may occur more slowly and over longer periods of time than escalation titration.
        d. The medication should not be titrated beyond the maximum dose established in the order. Any adjustments to the maximum ordered dose should be evaluated and changed by the LIP.
        e. Medication may be titrated to off if the medication is no longer needed to meet the ordered clinical endpoint. In the presence of an active order this is considered 'pausing' of the medication. This allows the nurse to stop the medication but restart if patient does not meet the clinical endpoint for therapy.
        f. For continuous sedative and vasoactive agents where the medication has been titrated to off and an active order remains, the medication may be restarted within the initial ordered dose range and titrated within the scope of the order instructions. Medication therapies not needed or paused for 2 or more hours should be considered for discontinuation at the discretion of the LIP.
        g. A continuous infusion is discontinued when a provider removes the medication from the active MAR.
        h. Continuous infusions and corresponding orders are evaluated on a daily basis through ongoing communication between the nurse performing the titration, the ordering provider, and/or during interdisciplinary team rounds.
        i. Document titration parameter (e.g., MAP) with each dose titration.
        j. De-escalating titratable infusion(s): wide interpatient variability exists in the efficacy, onset of action, time to peak and duration of action of medications, requiring individualization of medication dosages, titration, and evaluation of response.

e. Multi-Modal Titratable Therapies:
    i. If multiple agents are needed to achieve the goal clinical endpoint, these agents may be titrated simultaneously or in a stepwise manner based on individual patient response.
    ii. In most cases, the primary (initial) infusion should be titrated to achieve the goal clinical endpoint first. If the primary infusion is maximized or causing adverse reactions, then additional (additive or synergistic) infusions may be titrated to achieve the goal clinical endpoint.
    iii. In most cases, the additional infusion(s) may be titrated to off followed by the primary infusion when the goal clinical endpoint is achieved or the patient no longer requires the medication therapies.
    iv. The provider team should be consulted if the patient response does not follow or allow for titration as outlined in 5e ii & iii.

v. For example, in septic shock, the preferred primary infusion is norepinephrine. Norepinephrine should be titrated to the lowest effective dose to achieve the target blood pressure set by the LIP. A secondary vasoconstrictor may be ordered by the LIP. The nurse may titrate the secondary infusion to the lowest effective dose to achieve the goal clinical endpoint.

f. Administration of intermittent infusions:
   i. Best practice recommends administering small-volume intermittent infusions as secondary infusions when possible and based on nurse clinical judgement.
   ii. If a patient does not have a compatible continuous primary fluid currently ordered and running, the RN may activate the Adult or Newborn/NICU/Peds/PICU Catheter Flush Protocol Catheter Flush Protocol in Epic.
   iii. Upon completion of the secondary intermittent infusion, the primary administration set is flushed with 30mL of the compatible primary infusion at the same rate as the secondary intermittent infusion. This method ensures accurate dose delivery, avoids infusion incompatibilities, and prevents potential bolus dosing of the secondary infusion.

g. Therapeutic duplication of PRN medication orders: Occurs when more than one medication is ordered for the same indication.
   i. If more than one PRN medication is ordered for the same indication, explicit directions must be provided regarding when each agent should be administered, such as priority, sequence and/or patient condition for use.
   ii. If the same or different medications are ordered by multiple routes: Then the oral dosage form is preferred (first choice) unless the patient is unable to take PO.
   iii. If ibuprofen and acetaminophen are both ordered PRN: Ibuprofen is preferred (first choice).
   iv. 1. Acetaminophen may be added if patient response is insufficient or substituted if patient or family prefers its use. If unclear duplicate orders:
      1. Review LH 900.3233 Medications: Orders
      2. Contact the LIP for further clarification.

h. Medication disposal:
   i. Per LH.900.4412 Management of Pharmaceutical Waste, any remaining, unused or partially used medications will be disposed of appropriately, placed in an appropriate pharmaceutical waste container and documented accordingly.

i. Medication documentation:
   i. Use the Medication Administration (MAR) Record or relevant flowsheet in EHR (e.g., Intraop Navigator for OR).
      1. Include medication, strength, dosage, route (e.g., IV, topical, local, irrigation) and the name of the clinician administering the medication.
      2. Document the site of injection for subcutaneous, intramuscular, or intradermal routes.
      3. Recommend documentation of vascular access device used for IV medication or solution administration.
      4. Patient/family education documented with first dose of each medication.
      5. Infusion stop time documented for intravenous infusions > 15 minutes in duration
   ii. Vaccines: Specific documentation guidelines are included in: 900.4011 Adult and Pediatric Inpatient Vaccine Screening and Immunization Influenza, and Pneumococcal, and COVID-19*(*Adult Patients Only).
   iii. Blood product derivatives:
      1. The lot number for blood derived products must be documented (e.g., albumin, immune globulin, etc.) on the MAR.
      2. For albumin not dispensed in original manufacturer's container:
         a. Pharmacy will document lot number in the administration instructions section of the order.
            1. Nursing will use this information to document lot number on the MAR at administration.
            2. LH.915.4282 Blood and Blood Products Administration and Monitoring.

Key Words:	medication, administration, vaccine, blood product, titration, range, duplication, lpn, cna, surgical services, sterile field, clean field, sterile technique, aseptic technique, dual verification, medication labeling, labeling, medication disposal, pain, pain management, titration, barcode scanning, patient education, self-administration, surgical and procedural medication administration, multimodal
References:	Institute for Safe Medication Practices (ISMP). (2020). Hidden medication loss when using a primary administration set for small-volume intermittent infusions. ISMP Medication Safety Alert! Acute Care, 26 (2). https://ismp.org/resources/hidden-medication-loss-when-using-primary-administration-set-small-volume-intermittent Gorski, Lisa, MS, RN, HHCNS-BC, CRNI, Hadaway, Lynn, MEd, RN, NPD-BC, CRNI, et al. (2021). Infusion Therapy Standards of Practice, 8th Edition. *Journal of Infusion Nursing*, *44*, S1-S224. https://doi.org/10.1097/NAN.0000000000000396 Joint Commission Perspectives®, June 2020, Volume 40, Issue 6. The Joint Commission Clarifies Expectations for Implementing Medication Titration Orders Standards and Scope of Practice for the Licensed Practical Nurse and Registered Nurse ORS 678.150 WAC 246-840-010
Replaces:	916.3908 Pharmacist Medication Administration Guidelines 900.3239 Self Administration of Medications for Patients 900.3283 Standard Medication Administration Times
Approval:	CSR P&T NEC MECs MQ&C
Originators:	Medication Use Committee
Owner:	Pharmacy Services

APPENDIX A: Medication Administration Times

Administration times for scheduled medications are as follows:

Q 24 H SCH	0900
Q 12 H SCH	0900, 2100
Q 8 H SCH	0600, 1400, 2200
Q 6 H SCH	0600, 1200, 1800, 2400
Q4 H SCH	0400, 0800, 1200, 1600, 2000, 0000
Q 3 H SCH	0300, 0600, 0900, 1200, 1500, 1800, 2100, 2400
Q 2 H	Even Hours (0800, 1000, 1200, 1400, etc.)
Daily	0900 (see exceptions below)
BID	0900, 2100 (see exceptions below)
TID	0900, 1600, 2200 (see exceptions below)
QID	0900, 1400, 1800, 2200
AC	0600, 1130, 1700
PC	0900, 1300, 1830
HS	2100 (see exception below)
QPM	2100
QShift	Not acceptable

Time specific medications:

Medication	Timing
Bisphosphonates	30 minutes before first meal, beverage, or medication of day
Furosemide and / or Potassium Chloride BID doses	0900, 1800
Pediatric HS doses	2000
Insulin rapid acting (e.g., aspart) – nutritional doses	With meals, no sooner than 10 minutes before meal, within 30 minutes of pre-meal CBG
Insulin regular- nutritional doses	30 minutes before meals
Isosorbide Dinitrate	0900, 1300, 1700
Levothyroxine	30-60 minutes before breakfast
Proton Pump Inhibitor (pantoprazole, omeprazole)	AC breakfast
Statins (lovastatin, pravastatin, atorvastatin, simvastatin	At bedtime
Warfarin	Daily dose 1800

Time critical medications:
Nimodipine: administer within 30 minutes before or 30 minutes after scheduled administration time.
Medications timed for a specific drug serum level.
Medications prescribed more frequently than every 4 hours.

APPENDIX B: Medication Administration Scheduling Guide

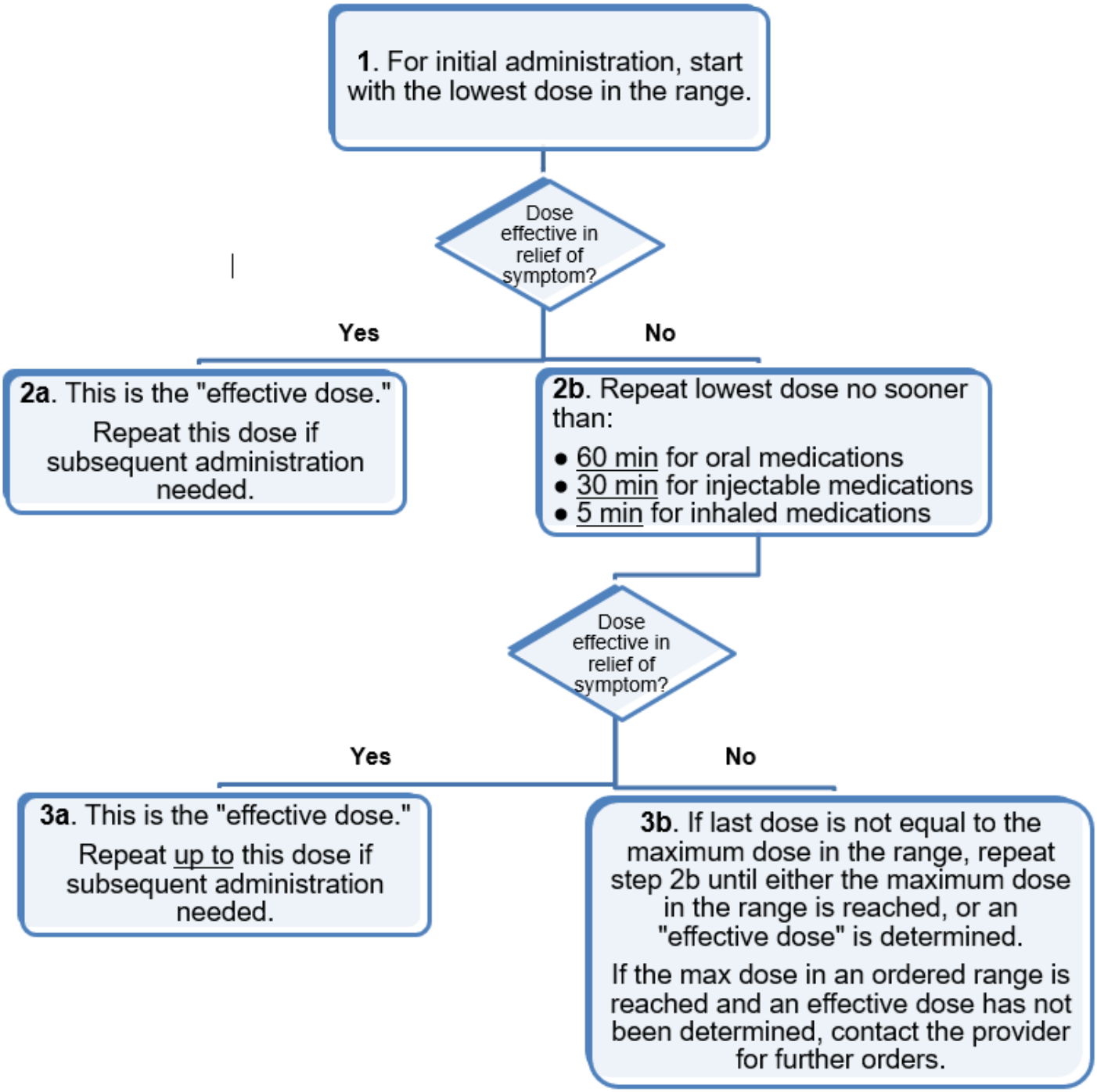
New order/missed dose decision guide (does not apply to NICU)

Q Day **9**	00	01	02	03	04 **Give at 0900**	05	06	07	08	**09**	10	11	12	13	14 **Give now**, then resume daily at 0900 tomorrow	15	16	17	18	19	20	21	22	23 give @ 0900 tomorrow
BID **9-21**	00	01	02	03	04 hold dose and give at 0900	05	06	07	08	**09**	10	11	12	13	14 **Give dose now**, resume BID dosing at 2100	15	16	17	18	19	20	**21**	22	23 **Give dose now** resume BID dosing at 0900
Q 12 H **9-21**	00	01	02	03	04 hold dose and give at 0900	05	06	07	08	**09**	10	11	12	13	14 **Give dose now** and resume q 12 h dosing at 2100	15	16	17	18	19	20	**21**	22	23 **Give dose now**, resume q 12 h dosing at 0900
Q 8 H **06-14-22**	00	01	02 **Give dose now**, resume q 8 h dosing at 0600	03	04	05	**06**	07	08	09	10 **Give dose now** and resume q 8 h dosing at 1400	11	12	13	**14**	15	16	17	18 **Give dose now** and resume q 8 h dosing at 2200	19	20	21	**22**	23 **Give dose now**, resume q 8 h dosing at 0600
TID **09-16-22**	00	01	02	03	04 hold and give at 0900	05	06	07	08	**09**	10 **Give dose now**, resume TID dosing at 1600	11	12	13	14 **Give dose now**, resume TID dosing at 2200	15	**16**	17	18	19	20	21	**22**	23 **Give dose now**, resume TID dosing at 0900
Q 6 H **0-06-12-18**	**00** **Give dose now**, resume q 6 h dosing at 0600	01	02	03	04	05	**06** **Give dose now**, resume q 6 h dosing at 1200	07	08	09	10	11	**12** **Give dose now**, resume q 6 h dosing at 1800	13	14	15	16	17	**18** **Give dose now**, resume q 6 h dosing at 0000	19	20	21	22	23 **Give now** resume q 6 h at 0600
QID **9-14-18-22**	00	01	02	03	04 hold and give at 0900	05	06	07	08	**09** **Give dose now**, resume QID at 1400	10	11	12	13	**14** **Give dose now**, resume QID at 1800	15	16	17	**18** **Give dose now**, resume QID dosing at 2200	19	20	21	**22**	23 **Give dose now**, resume QID dosing at 0900
AC & HS **0730-1130-17-22**	00	01	02	03 hold and give at 0730	04	05	06	**0730** **Give dose now**, resume QID at 1130	08	09	10	**1130** **Give dose now**, resume QID at 1700	12	13	14	15	16	**17** **Give dose now**, resume QID dosing at 2200	18	19	20	21	**22**	23 **Give dose now**, resume QID dosing at 0730
Q 2 H **Even hours**	**00**	01	**02**	03	**04**	05	**06**	07	**08**	09	**10**	11	**12**	13	**14**	15	**16**	17	**18**	19	**20**	21	**22**	23
	Give medications q 2h on even hours								Give medications q 2h on even hours								Give medications q 2h on even hours							
Q 4 H **00-04-08** **12-16-20**	**00**	**01** **Give dose now** resume q 4h @ 0500	02	03	**04**	**05** **Give dose now**, resume q 4 h at 0900	06	07	**08**	**09** **Give dose now,** resume q 4 h at 1300	10	11	**12**	**13** **Give dose now,** resume q 4 h at 1700	14	15	**16**	**17** **Give dose now,** resume q 4 h at 2100	18	19	**20**	**21** **Give dose now,** resume q 4 h at 0100	22	23 **Give now** & @ 0500

: * The first dose of antibiotics are to be given as soon as the medication is available. Subsequent doses are to slide to the next standard administration tim
Call pharmacy for information on how to slide heparin and LMWH doses.

± Note HS medication administration is scheduled for 2100

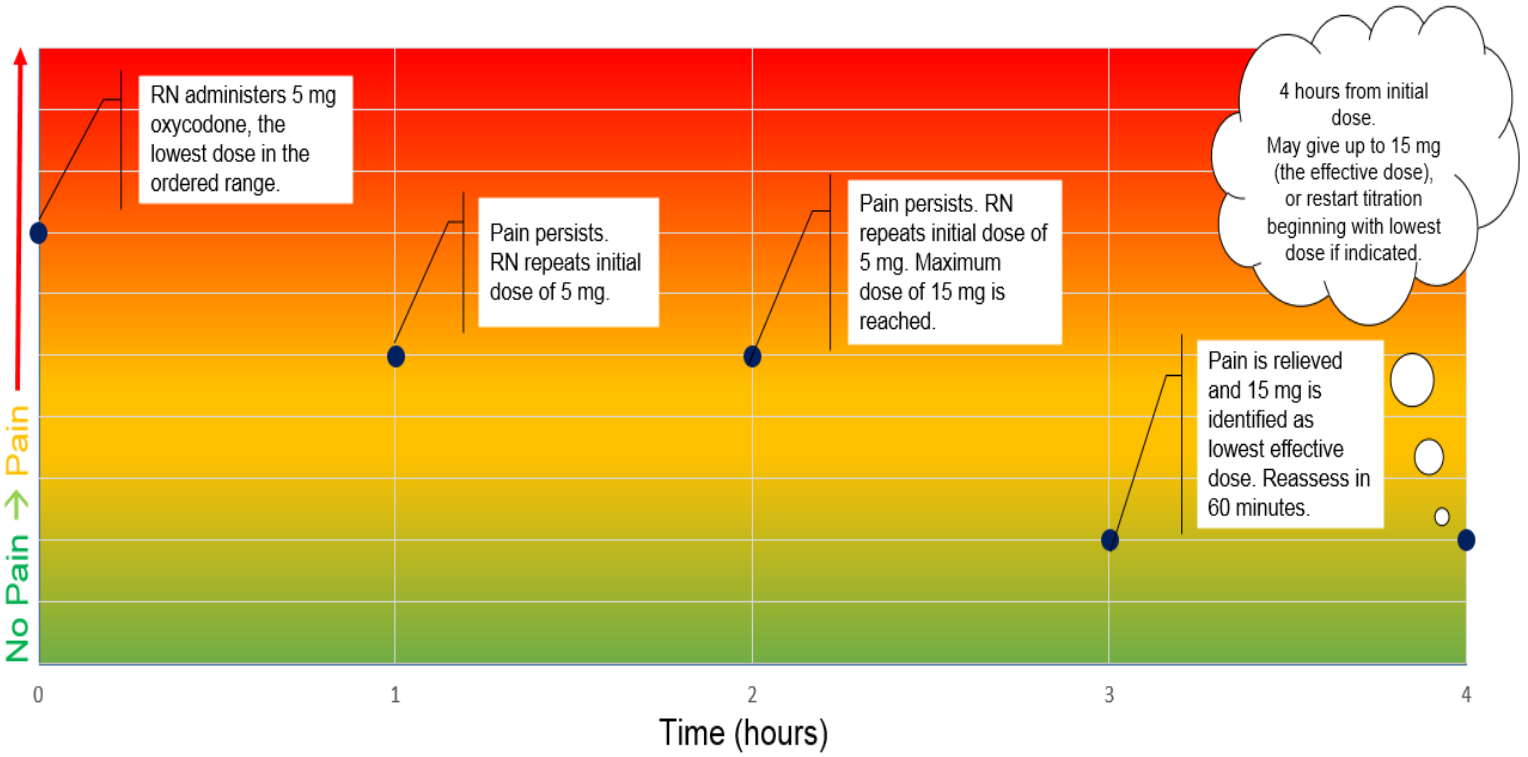
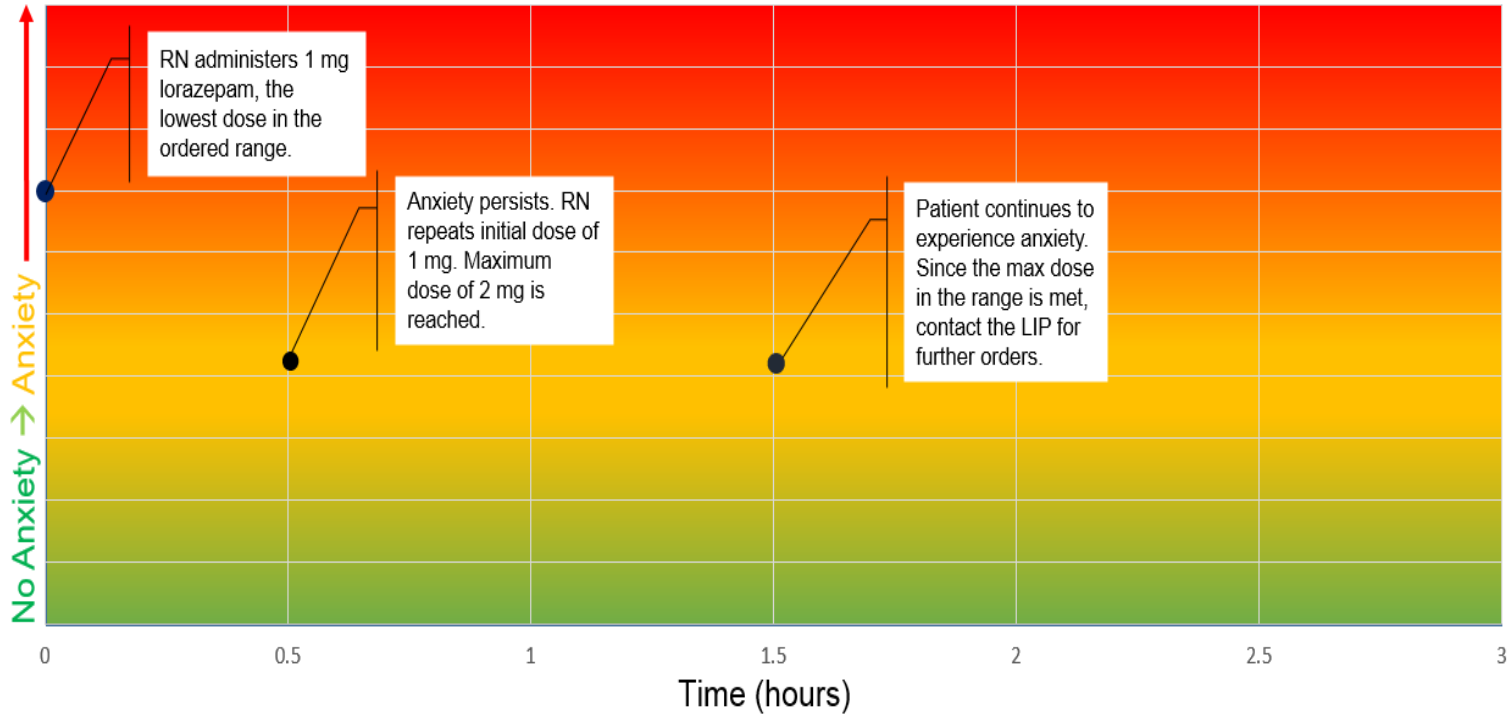
APPENDIX C: Administration of PRN Medications with Range Doses



KEY POINT: *Restart administration beginning with the lowest dose if patient clinical status changes*

KEY POINT: *All PRN medications with a dose range are administered using a static clock (e.g. the initial dose is the start of the ordered time interval).*

Example 1: Oxycodone 5-15 mg PO q4h PRN pain



Example 2: Lorazepam 1-2 mg IV q2h PRN anxiety