



**LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES
HARBOR-UCLA MEDICAL CENTER**

SUBJECT: MEDICATION PRESCRIBING

POLICY NO. 325A

CATEGORY: Provision of Care	EFFECTIVE DATE: 2/08
POLICY CONTACT: Julianne Joo, PharmD	UPDATE/REVISION DATE: 9/22
REVIEWED BY COMMITTEE(S): Pharmacy and Therapeutics, Medical Executive	

PURPOSE:

To provide guidelines for safe medication prescribing and to avoid preventable medication prescribing errors.

POLICY:

At Harbor-UCLA Medical Center, all prescribers are required to follow the medication prescribing guidelines set forth in this policy in the interest of patient safety. Medication orders that are illegible or unclear must be corrected or clarified before the order can be accepted. Orders must be entered in the eHR (electronic health record) and must comply with the requirements outlined in the policy. Orders not orderable in eHR must be written on approved forms and must comply with applicable requirements.

PROCEDURE:

1. Orders may be placed by physicians and (under standardized procedure and/or privileges permitting placing orders), by advanced practice providers and pharmacists (related to ordering medications or monitoring their effects).
2. Medical students may propose orders, but such orders must be co-signed by a licensed physician prior to being carried out.
3. Registered dietitian may propose orders using the Medical Nutrition Therapy Guidelines (see Appendix A).
4. **Legibility:**
 - a. For written orders, prescribers are required to write legibly. Illegible orders will not be accepted. The prescriber must sign all orders and legibly print his/her name and hospital identification number. Preprinted "real time" orders require the signature of the prescriber. All orders are to be written in dark ink in the Physician's Orders section of the medical record or on a prescriber order form which will be filed in the Physician's Orders section.
 - b. Written orders must be clear, legible, and complete, including date, time written, and authentication using the ordering physician's signature and unique ID number. Orders written by medical students should include the student's printed name and the designation "MS" followed by the year of training (III or IV).
 - c. If an error is made on a written order, a single line must be drawn through the entire order and "error"

REVISED: 5/11, 12/11, 2/12, 8/12, 7/13, 10/15, 10/16, 1/17, 2/17, 6/18, 11/19, 2/20, 6/20, 2/21, 6/21, 9/22

REVIEWED: 5/11, 2/12, 8/12, 7/13, 10/15, 10/16, 1/17, 2/17, 6/18, 11/19, 2/20, 6/20, 2/21, 6/21, 9/22

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must be written along with the date, time and the ordering individual's initials. A new order must then be written, if appropriate.

- d. When an order on a written preprinted order set has been pre-checked as part of the printed order set, and the prescriber would like to discontinue the pre-checked order, a single line must be drawn through the pre-checked box and "error" must be written along with the date, time, and the ordering individual's initials.
- e. Multiple-page order forms must have provider signature on each page that has written or checked orders.

5. Completeness:

Each medication order/prescription should address the following:

- a. Patient's name and medical record number
- b. Admitting orders must include the name of the attending physician, the admitting diagnosis, frequency of vital signs if not routine for the level of care setting, diet, and activity level.
- c. Patient height, weight for medications that are dosed based on weight, ideal body weight, or body surface area.
- d. Allergies or a statement indicating that none are known (NKA or NKMA)—see Hospital Policy 334.
- e. Name of medication (generic preferred).
- f. Dosage of medication expressed in metric units, except in instances where dosage must be expressed otherwise (e.g., units). Orders for a medication expressed as part of a medication container (e.g., half ampule or two vials) will not be accepted by the pharmacist.
- g. Route of administration (e.g., oral, rectal, topical, intravenous, intra-muscular, subcutaneous, etc.).
- h. Number of authorized refills or duration of therapy when applicable.
- i. Pediatric orders: All inpatient medication orders for patients in the pediatric service require weight-based (e.g., mg/kg, units/kg) or body surface area-based (e.g., mg/m²) dosage calculation. The calculated final dose for administration is also to be included. Orders for medications that are not usually ordered by weight or dosage unit do not require the calculation (e.g., eye drops, topical preparations, multivitamins). Nebulized medications may be ordered with either weight-based or non-weight-based dosing (see appendix F for pharmacy albuterol nebulizer solution mixing instructions).
- j. All oral and intravenous potassium supplements, including potassium chloride, potassium acetate, and potassium phosphate must be ordered in terms of mEq of potassium contained in the drug. If the medication is dosed according to body weight, then both the calculated dose and mEq/kg/time interval must be specified in the physician order.
- k. Chemotherapy orders: To be expressed in metric units per meter squared; the calculated doses to be included. Only authorized prescriber shall write orders. The prescriber's name, signature, service and beeper number shall be included in the order.
 - i. All new antineoplastic orders (oral and injectable) and biologics with antineoplastic properties must be written on the hospital approved chemotherapy order form. Use **"Adult Chemotherapy/Biotherapy Order Form (Oral and Parenteral)"**, Form # HH941A for adult patients, and **"Pediatric Chemotherapy Order Form (Oral and Parenteral)"**, Form # P009 for pediatric patients, **Intellidose, or PowerPlan Orderables**. Orders for chemotherapy on surgical, GU/GYN, hematology/oncology, and pediatric hematology/oncology may be written only by designated licensed prescriber(s).
 - ii. Other services such as dermatology, nephrology, neurology, ophthalmology, and rheumatology may use chemotherapy for specific disease condition(s) according to approved restrictions using pre-built PowerPlans Orderables or chemotherapy/biotherapy order forms.
 - iii. Orders shall be verified and co-signed by an approved attending physician with the following exception:
 - a. Intellidose orders



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- b. PowerPlan Orderables for antineoplastic agents used for non-oncology treatment written by a fellow
- c. Orders written by Department Chair approved Mid-level providers
- d. Oral Antineoplastic agents can be ordered by any provider for therapy continuation. **Note:** All new oral chemotherapy orders shall be ordered in eHR or on a chemotherapy order form. The name of the provider from the approved service must be specified on the order.
- iv. When prescribing an antineoplastic agent (first dose) for an oncologic indication, a discussion with the patient (or authorized designee) of the risks and benefits must take place and be documented in the medical record.
- v. Patient's height (cm), weight (kg), and body surface area (BSA) in m² shall be included in the order. **Note:** Using ideal body weight instead of actual body weight for calculation shall be indicated as such. For example, the statement, "Used ideal body weight instead of actual body weight", shall be written in the order.
- vi. Any dose reduction or dose increase from original protocol shall be documented in the provider order form. **Note:** Reason for dose reduction/increase AND percentage of the dose reduction/increase are to be documented in the chemotherapy provider order for processing.
- vii. Length of treatment shall be ordered.
 - a. D1-D4 shall be written as Day 1, Day 2, Day 3, Day 4, or Day 1 to Day 4 duration of infusion.
 - b. The pharmacy will use standard diluent, unless otherwise indicated.
- viii. Chemotherapy Protocols
 - a. Protocols of research-based, clinical trials, and/or non-standard regimens/protocols must be submitted and approved by the attending physician.
 - b. Pharmacy will maintain a file of previously approved regimens/protocols.
 - c. If the regimens/protocols are not available in the eHR, the provider or the pharmacy shall provide a copy of the chemotherapy protocol to the nursing staff.
- ix. Complete directions for use including the route of administration and frequency of administration. Reason for dose reduction/increase AND percentage of the dose reduction/increase are to be documented in the chemotherapy provider order for processing.
- I. Complete directions for use including the route of administration and frequency of administration.
 - Pediatric Drip Orders: Initial physician orders shall specify the following:
 - For drugs in which the weight-matched standard concentration is used:
 - i. Name of drug
 - ii. Dose to deliver in units/kg/time (e.g., 5mcg/kg/minute, 1mcg/kg/hr) or units/time when patient's weight and drug dosage indicate this dosing as appropriate (e.g., mg/hr).
 - iii. If a diluent other than the preferred diluent (see "Instructions for Mixing Standardized Concentrations for Medication Infusion") is desired, order shall also indicate the desired diluent. Exception: in the NICU, the diluent (e.g., D5W, D10W) must always be specified. Example of order using weight-matched standard concentration: Dopamine 2.5mcg/kg/min Standard Concentration (Pharmacy will prepare the weight-matched concentration using the preferred diluent from the document, "Instructions for Mixing Standardized Concentrations for Medication Infusion").
 - For drugs in which a standard concentration is used, but is not the weight-matched concentration:
 - i. Name of drug
 - ii. Dose to deliver in units/kg/time (e.g., 5mcg/kg/min, 1mcg/kg/hr) or units/time when patient's weight and drug dosage indicate this dosing as appropriate (e.g., mg/hr).
 - iii. Either desired or standard concentration
 - iv. If a diluent other than the preferred diluent (see "Instructions for Mixing Standardized



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Concentrations for Medication Infusion”) is desired, order shall also indicate the desired diluent. Exception: in the NICU, the diluent (e.g., D5W, D10W) must always be specified. Example of order using a standard concentration, but not the weight-matched concentration: Dopamine 2.5mcg/kg/min (3,200 mcg/mL): (Pharmacy will prepare the drip using the preferred diluent from the document, “Instructions for Mixing Standardized Concentrations for Medication Infusion”).

For drugs in which a customized concentration is used:

- i. Name of drug
- ii. Dose to deliver in units/kg/time (e.g., 5mcg/kg/min, 1mcg/kg/hr).
- iii. Amount (dose) of drug to mix into diluent
- iv. Name and amount of diluent
- v. Rate to infuse medication to deliver ordered dose

Example of initial continuous infusion medication order:

Dopamine 75mg/50 mL D5W; start at 5 mcg/kg/min = 1 mL/hr

m. The indication for use is required for the medications with multiple indications:

- i. Systemic antimicrobial agents
- ii. Chemotherapy
- iii. Antipsychotics (example: olanzapine for nausea/vomiting vs depression vs bipolar disorder)
- iv. Sedatives (example: lorazepam for anxiety vs sleep vs alcohol withdrawal)
- v. Anticonvulsants (example: valproic acid for seizure vs bipolar disorder)
- vi. PRN medications:

- PRN orders for analgesic medications must include the pain level or pain score when more than one pain medication is prescribed. The prescriber will indicate the pain level (or pain score) as mild (0-3), moderate (4-6), or severe (7-10). When an order other than 0-10 pain assessment tool is used (e.g., neonates), the prescribed prn pain score will be appropriate to that tool.
- Breakthrough pain is pain that comes on suddenly for short periods of time is not alleviated by the patients’ normal pain suppression management. It is common in cancer patients who commonly have a background level of pain controlled by medications, but the pain periodically “breaks through” the medication. Breakthrough pain may be a justified indication for PRN analgesic orders.

n. Prohibited abbreviations identified by the Medical Center are not to be used anywhere within medication orders or the medical record (see Pharmacy Department Intranet page—[Dangerous Abbreviations](#)).

[<http://myladhs.lacounty.gov/harbor/Pharmacy/References/Dangerous%20Abbreviations%202019-2020.pdf>]

- o. Orders for respiratory care treatments including oxygen delivery, aerosolized medication, chest physician therapy, incentive spirometry and monitors must be entered into ORCHID. When ORCHID is not available, the respiratory care orders can be written in the Physicians Orders section of the medical record or on a prescribed form.
- p. Medication orders or any holding parameters must NOT be entered using the “Communication orders” function in eHR.
- q. To modify medication orders, the orders must be discontinued and reentered. The medication orders must NOT be modified using the “Modify” function in eHR. Exception: rate of IV fluids and continuous drips.
- r. **Therapeutic Duplication & Inappropriate Orders:** Medication orders resulting in therapeutic duplication will be identified by the pharmacist prior to approval for use. Provider will be contacted for clarification on medication orders with therapeutic duplication.



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- s. Orders for diagnostic tests must specify when they are to be done if not routine (i.e., STAT, today, in AM, etc.).

6. Specialty Orders

- a. Titration Orders: Orders for titrating doses must include medication name, route, initial rate of infusion (dose/unit of time), incremental units to which the rate or dose can be increased or decreased, how often the rate or dose can be changed, and maximum dose or rate of infusion.
- b. Taper Orders: Orders for tapering doses must include the drug, dose amount, and start and stop dates.
- c. "Resume Orders": Will not be accepted by the pharmacist for processing.
- d. Compounded Drug Orders: Will not be accepted unless the physician specifies the ingredients and quantities of each component required for preparation. All compounded formulations must be presented to the medical staff for use approval and inclusion into the hospital formulary.
- e. Dose Scales: Orders for dose scales or "sliding scale" orders must include the drug name, dose for each scale and "scale" parameter. The order should also provide direction for management of the patient, if the parameter falls above or below the scale. An example of a complete order is Blood Glucose Monitoring QAC & QHS.
 - Sliding Scale Insulin with Regular Insulin (subcutaneous)
 - BG 151-200 give 4 units
 - BG 201-250 give 6 units
 - BG 251-300 give 8 units
 - BG 301-350 give 10 units
 - For BG less than 80 or greater than 350, call physician
- f. Look-Alike or Sound-Alike (LASA) Medications
Caution should be taken when prescribing look alike or sound alike medications (see Pharmacy Department Intranet page—Look-Alike Sound-Alike (LASA) Drugs).
 - Be particularly wary when giving a verbal order. Have the prescription name and dose "**repeated back**" including the proper spelling of the medication name. Telephone orders must be "**read back.**"
 - Whenever possible, include the indication of the medication. When confusion between medications that look or sound alike are present, the medication indication often provides the information needed to correctly interpret the medication order.
 - Be alert when prescribing medications that include a suffix (e.g., Procardia XL may be interpreted as Procardia SL).

7. Use of Pre-Printed Order Forms

- a. Several pre-printed Harbor-specific order forms are required in addition to the order placed in the electronic health record (eHR) (Appendix A).
- b. During downtime, for written orders, pre-printed orders must be consistent with all hospital policies (see hospital policy #137).
- c. Prescriber must sign all the pages, including blank pages of order sets. On the blank pages, the prescriber must draw a line through the blank page and sign on the bottom. The strike through will indicate that the blank page is intentionally left blank.

8. Verbal Orders (see hospital policy #322A)

9. Telephone Orders (see hospital policy #322B)



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10. Hold Orders

Open-ended hold orders are considered discontinued orders and must be reentered or rewritten to be reinstated. For written orders, "Hold" orders with defined and limited and identified parameters will be accepted (e.g., hold AM insulin dose today).

11. Correcting Medication Orders

A. If the pharmacist, in the course of following his/her duties or responsibilities finds the use of a medication prescribed by a provider is inconsistent with the approved standard of practice, s/he is required to intervene.

THERAPY CONFLICTS

- i. The pharmacist shall contact the provider directly to discuss the therapeutic issue(s) and contact the primary care nurse regarding the possible delay in therapy.
- ii. The pharmacist will record and document such interventions.
- iii. For written orders, any change in the order must be noted on the Physician's order including the following:
 - Date, time of change or verification
 - Signature of pharmacist and printed name of the pharmacist receiving the change or verification
 - The name of the medication change, if any
- iv. For electronic orders, any modification in the order must be entered as a new order in the eHR and will require provider co-signature.
- v. If the situation cannot be resolved and is *deemed to pose a serious risk to the patient*, the pharmacist shall contact an administrative pharmacist who shall then contact the Chairman of the Pharmacy & Therapeutics Committee. The Chairman shall contact the physician. Once resolved, the Chairman will notify the pharmacist of the decision, who will proceed accordingly.
 - If the Chairman of the Pharmacy & Therapeutics Committee cannot resolve the problem, the Chairman shall then refer the matter to the Chairman of the clinical department. If the Chairman of the clinical department cannot resolve the problem, the Chairman shall refer the matter to the Chief of Staff.
 - The pharmacist and nurse shall maintain complete documentation. The pharmacist and nurse shall complete a submission using the electronic incident reporting system. A copy of all documentation will be submitted to the Medication Safety Committee for review.

INCOMPLETE MEDICATION ORDERS (For Written Orders)

- i. Missing Provider ID #:
 - Medication orders should not default to the attending physician. Orders cannot be reviewed or processed without the Provider ID # documented. All such orders will be returned to the nursing unit for clarification and completion PRIOR to pharmacist reviewing and processing.
- ii. Verbal Order Repeat-Back and Documentation Missing
 - Verbal orders will not be reviewed or processed without documentation of repeat back by the person receiving the order. In addition, it is expected that the person receiving the order places the Provider ID # of the prescriber on the order. All such orders will be returned to the nursing unit for clarification and completion PRIOR to pharmacist review and processing.
- iii. Indication for Use of any Medication Order, Including PRN Medication Orders, is Missing
 - Medication orders without intended indication for use will not be processed or reviewed. The nurse or pharmacist will contact the prescriber directly to obtain, corroborate and document the intended indication for use.



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iv. Prohibited Abbreviation Used in Medication Order

- If a verbal or telephone order, all such orders will be returned to the nursing unit for clarification and completion PRIOR to pharmacist review and processing.
- If directly written by the prescriber, the pharmacist may write a subsequent order for clarification and completion PRIOR to further review and processing.

v. Incomplete or Inexplicit Range Orders Used

- Orders, which specify a range of doses without explicit parameters for use, cannot be reviewed or processed. It is expected that all ordered doses express a specific indication or parameter for administration. For example, an order for morphine 5-10 mg will be interpreted by the pharmacist as two (2) orders: one for 5 mg and one for 10 mg. If the intent of the prescriber is for the nurse to administer 5, 6, 7, 8, 9 or 10 mg, the prescriber must specify an indication for use for each increment within the range. The maximum allowable range may not exceed a four-fold increment in dose (e.g., morphine 1 mg q 4 hours PRN moderate to severe pain). If a verbal or telephone order, all such orders will be returned to the nursing unit for clarification and completion PRIOR to pharmacist review and processing. If directly written by the prescriber, the pharmacist will contact the prescriber directly and write a subsequent order for clarification and completion PRIOR to further review and processing.

vi. Incomplete Orders Requiring Additional Information Regarding Monitoring Parameters

- Complex Orders: Orders for medication requiring patient monitoring for assessment, or orders which need additional information to ensure safe administration must provide additional information regarding monitoring parameters, assessment, additional information, etc.
- Sliding scale insulin orders must have a sliding scale to be considered a complete or safe order.
- Orders for pressors must have monitoring parameters, in order to ensure safe administration.
- Incomplete orders for such medications will not be reviewed or processed. The pharmacist will contact the prescriber directly, write a subsequent order for clarification and completion PRIOR to further review and processing.

12. **Automatic Stop Orders** (Refer to Appendix B)

13. **Orders for Investigational Medications**

- Only those individuals authorized to prescribe per California Pharmacy Law Section 4036 are allowed to prescribe orders for study drugs.
- The prescriber's name must appear on the FDA 1572 or listed on an addendum to the FDA 1572. Check the consent form for the study to determine who is listed as authorized prescriber if the 1572 is not available.

14. **Orders for Herbal Products:** Herbal products shall not be administered by the Medical Center.

15. **Standing Orders:** Not accepted



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16. Turnaround Time for Medication Orders

Medication Turnaround Time (TT) is defined as the interval between the times an order is initially prescribed to the time that administration is started (or, for routine orders, when the medication is available for administration).

“STAT” Order:

The turnaround time for a STAT order is 15 minutes or less

- A STAT order involves the use of medication with an immediate onset of action, and that is needed in a potentially life threatening, emergency situation, or when there is severe patient discomfort.
- Nurses will come to the servicing pharmacy to obtain STAT medications.

“NOW” Order:

The turnaround time for a “NOW” order is 60 minutes. A “NOW” order involves a priority medication needed as soon as possible to treat an acute patient care condition.

“ROUTINE” Order:

The turnaround time for the first dose of a routine order is 120. A routine order is not considered an urgent patient care order.

17. Timely Administration of Scheduled Medications

Time-Critical Scheduled Medications

Definition: Medications where early or delayed administration of maintenance doses of greater than 30 minutes before or after the scheduled dose may cause harm or result in substantial sub-optimal therapy or pharmacological effect.

Time critical scheduled medications shall be administered within 30 minutes before or after the scheduled time and include the following:

- Meal-sensitive agents (rapid and short-acting insulins, sulfonylureas)
- Opioids (all scheduled, not PRN)
- Immunosuppressive agents (e.g., cyclosporine, mycophenolate, sirolimus, tacrolimus)
- Medications dosed every 4 hours or more frequently.

Non-time critical scheduled medications shall be administered within 60 minutes before or after the scheduled time.

18. Prescription Pad Security:

- All staff who are issued controlled substance prescription pads must secure prescriptions pads and paper at all times to ensure that they are not lost or stolen. Controlled substance prescription pads must be kept on their person or locked in a secure location.
- Harbor-UCLA Medical Center attending physicians and residents often provide care at remote locations. Physicians shall consult with the remote location’s pharmacy department regarding an appropriate process for issuing, maintaining and tracking their personal controlled substance prescription pads at those sites.

Lost or Stolen Controlled Substance Pads:

If a controlled substance prescription pad is lost or stolen, the physician should do the following:

- a. The loss or theft must be reported by the physician to local law enforcement. The physician should take note of the law enforcement agency report number.
- b. The loss or theft must be reported by the physician to the Department of Justice Controlled Substance Utilization Review and Evaluation System (CURES) program. A law enforcement agency report number is required when submitting a report of lost or stolen prescription forms to CURES.
- c. The provider should notify the Medical Board of California.



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Disposal:

Any controlled substance prescription pads personally ordered by a physician that will no longer be used, should be disposed or destroyed in accordance with the Department of Justice's Drug Enforcement Agency standards. Under no circumstances shall they be placed in a regular unlocked recycling bin or trash container.

19. Prescriber Behavior:

Under no circumstances should an order be signed by any individual other than the provider to whom the prescription pad was issued. Blank orders should never be pre-signed. All prescriptions for controlled substances shall be dated as of, and signed on, the day issued.

Harbor-UCLA Medical Center's Non-controlled Prescription Pads are managed by Pharmacy; Pharmacy orders, stores and distributes to outpatient clinics upon request.

Harbor-UCLA Medical Center **Provider-specific DEA** Controlled Substance Prescription Pads are ordered and maintained by the provider.

Clinical staff who resign, retire, or otherwise depart from clinical practice:

- a. All providers who have been issued Harbor-UCLA Medical Center controlled substance prescription pads shall have their blank prescription pad disposed of accordingly.
- b. Providers whose clinical or prescribing privileges are suspended shall return unused prescription pads to the clinical manager for storage. If and when a provider has his/her clinical and prescribing privileges reinstated, the clinical manager shall reissue the pads to the individual, as appropriate.

Reviewed and Approved by:
Medical Executive Committee – 9/2022

Beverly A. Petrie, M.D.
Professional Staff Association, President

9/2022 v2



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Appendix A: Medical Nutrition Therapy Protocol

Section: CLINICAL NUTRITION SERVICES	Policy # D004
Subject: NUTRITION INTERVENTIONS	Date Issued: 7/17 Date Revised: 11/17, 5/18, 3/19, 11/19, 12/22

PURPOSE: To establish guidelines for implementation of Medical Nutrition Therapy (MNT) patient interventions recommended by the Registered Dietitian Nutritionist (RDN) within their scope of practice.

Definitions:

“Provider” as used in this policy is inclusive of physicians, residents, interns, advanced practice registered nurses, and others who have prescription writing ability at Harbor-UCLA Medical Center.

POLICIES:

RDNs may use the order section of the medical record to communicate nutrition interventions for MNT within their scope of practice per the following protocol.

PROCEDURE GUIDELINES:

1. These guidelines shall be reviewed at minimum annually and approved by the facility’s medical executive committee.
2. MNT guidelines to be initiated by the provider upon submittal of the diet order.
3. The provider may opt out of the MNT guidelines at his/her discretion at any time by selecting no to the MNT guidelines option in the diet order.
4. To utilize these guidelines the dietitian must be currently registered by the Commission of Dietetics Registration.
5. Initiation and/or modification of MNT interventions should be supported with documentation in the medical record under nutrition services or provider progress notes.
6. A provider may discontinue RDN interventions at his/her discretion or may limit changes made by the RDN by initiating an order to that effect in the chart.
7. Monitoring of the RDN will be done via quarterly chart audits, annual competencies and an annual evaluation. Appropriateness of MNT interventions are evaluated.
8. The RDN will assess the patient’s nutritional needs and assess whether the current intake is meeting those needs. If not, substitutes of equal nutritional value will be offered, including snacks and oral nutrition supplements as authorized in the facility specific diet manual, approved by Nutrition Committee. If the care required is different than these guidelines, the RDN will notify the provider, discuss recommendations, propose alternate interventions, or request him/her to place those orders.
9. RDN’s may initiate an oral supplement when estimated nutritional needs are not met due to condition or intake as evidenced by objective nursing documentation, calorie count, subjective information, clinical judgment or patient preference.
10. RDN’s may change the current oral supplement interventions under the following conditions:
 - a. Clarify the oral supplement order to be consistent with the facility’s approved supplement orders
 - b. Current supplement is inappropriate to meet nutritional needs
 - c. Changes if clinical condition warrants (i.e., hyperglycemia, renal insufficiency, and wound status)
 - d. Upon clinical judgment, the RDN will honor patient or family requests for changes in supplementation to optimize intake.



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11. RDN's may implement calorie counts when deemed appropriate through nutritional evaluation. If the patient is NPO for part or all of the 3 day period, the dietitian may extend or suspend the intake analysis. The dietitian may also discontinue the analysis if the patient is discharged prior to the third day, or if the calorie count is not in line with the overall goals of care as discussed with the provider. Changes will be documented in electronic medical record.
12. RDN's may implement weight and/or height monitoring when needed to provide an accurate nutritional assessment and monitoring.
13. Additional MNT interventions (not outlined in this policy) may be proposed to the provider for approval, when not able to be implemented independently by the RDN.

Oral Nutrition Supplements/Modular by Diet

Crosswalk outlining oral nutrition supplements and modulators that may be selected by the Registered Dietitian to be offered to patients based on assessed need.

<u>Diet Order</u>	<u>Approved Dietary Supplement</u>
Regular diet, Consistent Carbohydrate diet, No Concentrated Sweets diet, Gestational Consistent Carbohydrate, Cardiac diet, Renal diet, Dialysis diet, Low Protein diet, Gluten Free diet, Low Sodium diet, Low Fiber diet, GI Soft diet, Low Potassium diet, High Protein/High Calorie diet, Regular diet with Double Portions, Wire Jaw diet, Full Liquid diet, Diet for age, Regular diet for age, Low Fat/Low Cholesterol diet, Puree diet, Mechanical Soft diet, Ground diet, Vegetarian diet, Clear Liquid Diet	Ensure Enlive, Ensure High Protein, Ensure Clear, Nepro, Suplena, Pediasure, Pediasure 1.5, Pediasure Peptide, Promod, Beneprotein, Juven, Magic Cup Snacks (as appropriate/consistent with diet order)
Vegan diet	No approved dietary supplements Snacks (as appropriate/consistent with diet order)
Bariatric Clear Liquid diet	Promod, Beneprotein
Bariatric Full Liquid diet, Bariatric Puree diet, Bariatric Solid diet	Ensure High Protein, Promod, Beneprotein, Juven unflavored



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Appendix B: HARBOR-SPECIFIC ORDER FORMS

1. Pre-printed order forms NOT built in Power Chart and will remain on paper.
2. Forms are posted on Intranet website:
<http://myladhs.lacounty.gov/harbor/pharmacy/SitePages/Home.aspx>
3. Forms must be printed/completed/affixed with patient Cerner label/scanned to pharmacy.
 - A. TPN/PPN (Adult and Peds/Neonates)
 - B. Heparin (Pediatric standard & low dose): paper forms are used for screening, indication selection, and aPTT titration ONLY. Lab must be ordered via Power Chart.
 - C. Argatroban: paper form is used for screening and indication selection ONLY
 - D. Adult Chemotherapy/Biotherapy (if not ordered through Intellidose)
 - E. Pediatric Chemotherapy
 - F. Chemoembolism
 - G. U-500 Insulin
4. In addition to completing and scanning the above order forms to the pharmacy, the providers must enter the following orders into Power Chart:
 - Argatroban (Adult and Pediatric)
 - Fentanyl Patch
 - MS Contin/Methadone

Appendix C: AUTOMATIC MEDICATION STOP ORDERS

Automatic medication stop orders may protect patients against unnecessary and prolonged drug therapy. The following table summarizes the number of days prior to automatic discontinuation implemented in the ORCHID electronic health record. The automatic stop date for medications will be defaulted unless the provider changes the duration of therapy upon order entry.

Medication	Stop (in days)	Comments
Propofol	1	
PCA	3	
Ketorolac	5	
Controlled substances	7	
Intravenous and oral anti-infective agents	14	
All other medications	60	Includes drugs used to treat HIV and Tuberculosis



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Appendix D: INPATIENT MEDICATION ADMINISTRATION TIMES

- All inpatient areas **EXCEPT pediatrics and psychiatric units** will use the medication administration time schedule.
- There are no set standard administration times for Pediatrics. However, dosing frequency must be expressed in hours (e.g., Q8h, Q6h, etc.)

Frequency	Standard Schedule for inpatient areas (except pediatrics)	Standard Schedule for psychiatric units
Daily = QAM = Q24H = QDAY	1000	0900
BID	1000, 1800	0900, 1700
QAMPM	1000, 1800	0900, 1700
Q12H	1000, 2200	0900, 2100
TID	1000, 1400, 1800	0900, 1300, 1700
Q8H	0600, 1400, 2200	Same as inpatient standard schedule
QID	1000, 1400, 1800, 2200	0900, 1300, 1700, 2100
Q6H	0600, 1200, 1800, 2400	Same as inpatient standard schedule
Evening = QPM	1800	1700
Nightly	2200	Same as inpatient standard schedule
QAMHS	1000, 2200	0900, 2200

Medication orders with the above listed frequencies will be followed by nursing personnel unless otherwise specified. Nursing personnel will administer the first dose of a medication order at the next scheduled administration time. If a dose must be given as soon as possible and not delayed until the next scheduled administration time the order must specify when the dose should be given.

Example: For a daily order for digoxin and the regularly scheduled administration time has passed (i.e., 10am) the order may be placed to “Give first dose now.”

Exceptions to the standard times:

- AC = insulin, sulfonylurea hypoglycemics, sucralfate, metoclopramide, proton pump inhibitors, biphosphonates.
- W/meals or PC = iron, vitamins, NSAIDs, pancrease, steroids
- Warfarin = give at 1800
- Statins = give at 2200
- The following agents will be given every 24 hours if prescribed as “daily”: aminoglycosides, amphotericin B, and anti-neoplastic agents: start ASAP and must stay on that schedule
- Anti-infectives (antibiotics, antifungals, and antivirals): initial dose given as a “now” order, then at prescribed intervals. May gradually shift to standard times.
- Subcutaneous heparin: should always be ordered every 8 hours
- Nitrates: must have a wash-out period of at least 14 hours in order to avoid tachyphylaxis.
 1. BID orders will be given at 1000 and 1800
 2. TID orders will be given at 1000, 1400, and 1800
 3. BID sustained release products will be given q12h at 1000 and 2000



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Appendix E: RECOMMENDATIONS FOR MEDICATIONS BEING TITRATED IN ADULTS

1. Clinical judgment supersedes Titration Guidelines.
2. Sodium Chloride 0.9% (NS) will be the default diluent when compatible.
3. For drips listed in table 1, provider must order starting dose, titration increment, frequency, and maximum rate.
4. Guidelines in table 2 are for titratable drip orders placed without specified titration increment and/or frequency, or maximum dose. This table 2 ONLY applies to the ED or ICU areas. Other areas using the drips in table 2 must obtain provider orders for each rate change.
5. If maximum dose is reached without adequate response, nurses are to contact the prescriber for further orders.

Table 1: The starting dose, titration increment, titration frequency and maximum rate for the **following drips must be ordered by provider.** Provider order is needed for each rate change.

Drugs	Standard concentration	Starting dose	Titration increment (up or down)	Titration frequency	Maximum dose
*Cisatracurium	200mg/100 mL	1 mcg/kg/min	0.5 mcg/kg/min	Q1hour	10 mcg/kg/min
*Furosemide	250 mg/50 mL	10 mg/hr	10 mg/hr	Q4hours	100 mg/hr
*Rocuronium	600 mg/150 mL	8 mcg/kg/min	0.2 mcg/kg/min	Q1hour	12 mcg/kg/min
*Vecuronium	100 mg/100 mL	0.8 mcg/kg/min	0.33 mcg/kg/min	Q1hour	1.2 mcg/kg/min

* Provider to specify starting dose/rate and order for rate changes according to response.



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Table 2: Guidelines for titratable drip orders placed without specified titration increment and/or frequency, or maximum dose. This table ONLY applies to the ED or ICU areas. Other areas using the following drips must obtain provider orders for each rate change.

1. Once desired response is achieved and maintained for 1 hour or at least 6 consecutive readings (whichever comes first), nurses will monitor every hour and titrate as needed.
2. Notify provider if patient is not responding to medication and maximum dose has been reached.
3. Hospital Policy 325Q block charting and pausing instructions.

Note:

- Nurse may initiate emergency measures (such as altering titration schedule or stopping medication) in the event that patient becomes hemodynamically unstable.
- Upon any emergency measure or alteration of the schedule, nurse shall contact physician as soon as possible. Notification shall be noted in patient's chart.
- Anytime the need for emergency change in titration schedule occurs, a note should be entered in the chart. If patient is not able to remain on the initial titration schedule, a new physician order should be received.

Drugs & Standard concentration	Starting dose	Titration increment (up or down)	Titration frequency (active titration)	Maximum dose	Desired patient's response & hold parameters
Angiotensin II ¹ 2.5mg/500mL	20 ng/kg/min	10ng/kg/min)	Q5minutes	80 ng/kg/min (first 3 hours) or 40 ng/kg/min (maintenance dose)	Minimum MAP of 65 mmHg
Dexmedetomidine ¹ 400 mcg/100 mL NS	0.2 mcg/kg/hr	0.1 mcg/kg/hr	Q30minutes	1.4 mcg/kg/hr	Goal RASS score of -1 to -2 Hold if SBP is less than 90 mmHg or HR less than 60 beats per minute Upon initiation of dexmedetomidine drip, taper current sedative infusions to off by decreasing rate by 50% Q30min until off. Once patient is extubated, decrease dexmedetomidine rate by 0.1 mcg/kg/hr Q30min until 0.2 mcg/kg/hr is reached, then continue at this rate until bag is empty. Notify provider to re-evaluate patient prior to starting new bag.



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Drugs & Standard concentration	Starting dose	Titration increment (up or down)	Titration frequency (active titration)	Maximum dose	Desired patient's response & hold parameters
Diltiazem 125 mg/125 mL	5 mg/hr	2.5 mg/hr	Q15minutes	15 mg/hr	Goal HR 60-100 beats per minute Hold if SBP less than 90 mmHg
Dobutamine ¹ 1000 mg/250 mL	0.5 mcg/kg/min	2 mcg/kg/min	Q15minutes	40 mcg/kg/min	Minimum MAP of 65 mmHg
Dopamine 800 mg/250 mL	5 mcg/kg/min	2 mcg/kg/min	Q10minutes	20 mcg/kg/min	Minimum MAP of 65 mmHg Hold if sustained ventricular tachycardia and notify provider
Epinephrine 8 mg/250 mL	1 mcg/min	1 mcg/min	Q15minutes	10 mcg/min	Minimum MAP of 65 mmHg Hold if sustained ventricular tachycardia and notify provider
Esmolol 2500 mg/250 mL	50 mcg/kg/min	50 mcg/kg/min ³	Q5minutes	300 mcg/kg/min	Goal HR 60-100 beats per minute Hold if SBP less than 90 mmHg
Fentanyl 1000 mcg/100 mL	50 mcg/hr	25 mcg/hr	Q15minutes	300 mcg/hr	Goal CPOT less than 2
Isoproterenol 1 mg/100 mL	2 mcg/min	1 mcg/min	Q15minutes	10 mcg/min	Goal HR 60-100 beats per minute
Ketamine (for sedation) 500mg/500mL	5mcg/kg/min	5mcg/kg/min	Q10minutes	50mcg/kg/min	Goal RASS score -1 to -2
Labetalol ² 500 mg/250 mL D5W	2 mg/min	0.5 mg/min	Q15minutes	5 mg/min (maximum daily dose 300 mg/day)	Goal SBP of 140-160 mmHg Hold if HR less than 60 beats per minute
Lorazepam 50 mg/50 mL	1 mg/hr	0.5 mg/hr	Q15minutes	15 mg/hr	Goal RASS -1 to -2 Hold if SBP less than 90 mmHg
Midazolam 100 mg/100 mL	2mg/hr	2 mg/hr	Q15minutes	20 mg/hr	Goal RASS score of -1 to -2 Hold if SBP less than 90 mmHg
Milrinone ¹ 40 mg/200 mL	0.375 mcg/kg/min	0.125 mcg/kg/min	Q15minutes	1.5 mcg/kg/min	Minimum MAP of 65 mmHg
Morphine 100 mg/100 mL	2 mg/hr	2 mg/hr	Q1hour	10 mg/hr	Goal CPOT less than 2 Hold if SBP less than 90 mmHg



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Drugs & Standard concentration	Starting dose	Titration increment (up or down)	Titration frequency (active titration)	Maximum dose	Desired patient's response & hold parameters
Nicardipine 50 mg/250 mL	5 mg/hr	2.5 mg/hr	Q15minutes	15 mg/hr	Goal SBP 140-160 mmHg Hold if SBP less than 90 mmHg or MAP less than 60mmHg
Nitroglycerin 100 mg/250 mL	5 mcg/min	5 mcg/min ⁴	Q5minutes	400 mcg/min	*ACUTE ANGINA* Goal of chest pain free If no response seen at 20 mcg/min, increments of 10 mcg/min every 5 minutes may be used Hold if SBP less than 90 mmHg or MAP below 60mmHg Use nonabsorptive infusion tubing
Nitroglycerin 100 mg/250 mL	5 mcg/min	5 mcg/min ⁴	Q5minutes	200 mcg/min	*HYPERTENSIVE EMERGENCY* Goal SBP of 140-160mmHg. If no response seen at 20 mcg/min, increments of 10 mcg/min every 5 minutes may be used. Hold if SBP less than 90 mmHg or MAP below 60mmHg Use nonabsorptive infusion tubing
Nitroprusside ² 100 mg/250 mL D5W	0.5mcg/kg/min	0.5 mcg/kg/min	Q10minutes	10 mcg/kg/min	Goal SBP of greater than 140-160 mmHg Hold if SBP less than 90 mmHg or MAP less than 60mmHg For hypertensive emergency: avoid dropping MAP by more than 25% in the first 24 hours
Norepinephrine 8 mg/250 mL	5 mcg/min	2 mcg/min	Q5minutes	50 mcg/min	Minimum MAP of 65 mmHg Hold if sustained arrhythmias and call provider Notify provider if patient is not responding to medication and a dose of 30 mcg/min has been reached
Phenylephrine 40 mg/250 mL	100 mcg/min	10 mcg/min	Q10minutes	200 mcg/min	Minimum MAP of 65 mmHg Hold if sustained arrhythmias and call provider
Propofol (sedation)	5 mcg/kg/min	5 mcg/kg/min	Q5minutes	50 mcg/kg/min	Goal RASS score of -1 to -2 Hold if SBP less than 90 mmHg



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1000 mg/100 mL					
Propofol (ICP control in adult ICU & PACU) 1000 mg/100 mL	5 mcg/kg/min	5 mcg/kg/min	Q5minutes	80 mcg/kg/min	Goal ICP less than 20 mmHg Hold if SBP less than 90 mmHg
Propofol (intractable intracranial hypertension) 1000 mg/100 mL	5 mcg/kg/min	5 mcg/kg/min	Q5minutes	150 mcg/kg/min	Goal ICP less than 20 mmHg Hold if SBP less than 90 mmHg
Propranolol 15 mg/ 250 mL	1 mg/hr	1 mg/hr	Q15minutes	3 mg/hr	Goal HR of 60-100 beats/min Hold if SBP less than 90 mmHg
Vasopressin (GI Bleed) 40 unit/40 mL	0.2 unit/min	0.1 unit/min	Q15minutes	0.9 vs 0.8 unit/min	
Vasopressin ⁴ (Organ Procurement) 40 units/40 mL	0.5 unit/hr	0.5 units/hr	Every 2 hrs	4 units/hr	
Vasopressin (Diabetes Insipidus) 1 unit/ 50 mL	0.0005 units/kg/hr	Doubling rate	Q30minutes	0.01 units/kg/hr	Goal urine output of ____ mL/kg/hr

¹Only compatible with NS

²Only compatible with D5W

³Repeat bolus (500 mcg/kg) before each step-up infusion rate increase is recommended

⁴For Chest Pain, if no response seen at 20 mcg/min, increments of 10 mcg/min every 5 minutes may be used

NOTE: If given vasopressin for sepsis/septic shock, infuse at ordered rate 0.03 units/min or 0.04 units/min, do NOT titrate.



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Appendix F: Albuterol Mixing Instructions (will be prepared by pharmacy)

Table F1: For Aerogen vibrating mesh nebulizer, using albuterol 5mg/mL

Albuterol mixing instructions for Aerogen vibrating mesh nebulizer							
Dose (mg/hr)	Duration (hr)	Albuterol (5 mg/mL) to dispense		normal saline to add	final volume	Infusion rate	Final albuterol concentration
		(mg)	(mL)	(mL)	(mL)	(mL/hr)	(mg/mL)
5	4	20	4	44	48	12	0.42
7.5	4	30	6	42	48	12	0.63
10	4	40	8	40	48	12	0.83
12.5	4	50	10	38	48	12	1.04
15	4	60	12	36	48	12	1.25
17.5	4	70	14	34	48	12	1.46
20	4	80	16	32	48	12	1.67
30	4	120	24	24	48	12	2.50
40	4	160	32	16	48	12	3.33

* in ORCHID, route of administration is "NEB-Vibrating Mesh"

* typical dose is 0.5 mg/kg/hr

Table F2: For HEART large volume nebulizer (non-weight based), using albuterol 5mg/mL

Albuterol mixing instructions for HEART large volume nebulizer							
Dose (mg/hr)	Duration (hr)	Albuterol (5 mg/mL) to dispense		normal saline to add	final volume	Flow rate	Final albuterol concentration
		(mg)	(mL)	(mL)	(mL)	(LPM)	(mg/mL)
5	4	20	4	116	120	10	0.17
7.5	4	30	6	114	120	10	0.25
10	4	40	8	112	120	10	0.33
15	4	60	12	108	120	10	0.50
20	4	80	16	104	120	10	0.67
30	4	120	24	96	120	10	1.00
50	4	200	40	80	120	10	1.67
70	4	280	56	64	120	10	2.33
100	4	400	80	40	120	10	3.33
150	4	600	120	0	120	10	5.00

* in ORCHID, route of administration is "NEB-CONT"

* ordered dose may range from 0.5 mg/kg/hr to 5 mg/kg/hr depending on provider judgment

* nebulizer output = 30 mL/hr



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Table F3: For HEART large volume nebulizer (weight based 5mg/kg/hr), using albuterol 5mg/mL

Albuterol dose: 5 mg/kg/hr						
Weight	Albuterol (5 mg/mL) to dispense	Albuterol (5 mg/mL) to dispense	Normal saline to add	Final volume	Duration	Flow rate
(kg)	(mg)	(mL)	(mL)	(mL)	(hr)	(LPM)
5	100	20	100	120	4	10
6	120	24	96	120	4	10
7	140	28	92	120	4	10
8	160	32	88	120	4	10
9	180	36	84	120	4	10
10	200	40	80	120	4	10
11	220	44	76	120	4	10
12	240	48	72	120	4	10
13	260	52	68	120	4	10
14	280	56	64	120	4	10
15	300	60	60	120	4	10
16	320	64	56	120	4	10
17	340	68	52	120	4	10
18	360	72	48	120	4	10
19	380	76	44	120	4	10
20	400	80	40	120	4	10
21	420	84	36	120	4	10
22	440	88	32	120	4	10
23	460	92	28	120	4	10
24	480	96	24	120	4	10
25	500	100	20	120	4	10
26	520	104	16	120	4	10
27	540	108	12	120	4	10
28	560	112	8	120	4	10
29	580	116	4	120	4	10
≥30	600	120	0	120	4	10

*nebulizer output = 30mL/hr



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Table F4: For HEART large volume nebulizer (weight based 2.5mg/kg/hr), using albuterol 5mg/mL

Albuterol dose: 2.5 mg/kg/hr						
Weight	Albuterol (5 mg/ mL) to dispense	Albuterol (5 mg/ mL) to dispense	Normal saline to add	Final volume	Duration	Flow rate
(kg)	(mg)	(mL)	(mL)	(mL)	(hr)	(LPM)
5	50	10	110	120	4	10
6	60	12	108	120	4	10
7	70	14	106	120	4	10
8	80	16	104	120	4	10
9	90	18	102	120	4	10
10	100	20	100	120	4	10
11	110	22	98	120	4	10
12	120	24	96	120	4	10
13	130	26	94	120	4	10
14	140	28	92	120	4	10
15	150	30	90	120	4	10
16	160	32	88	120	4	10
17	170	34	86	120	4	10
18	180	36	84	120	4	10
19	190	38	82	120	4	10
20	200	40	80	120	4	10
21	210	42	78	120	4	10
22	220	44	76	120	4	10
23	230	46	74	120	4	10
24	240	48	72	120	4	10
25	250	50	70	120	4	10
26	260	52	68	120	4	10
27	270	54	66	120	4	10
28	280	56	64	120	4	10
29	290	58	62	120	4	10
≥30	300	60	60	120	4	10

*nebulizer output = 30mL/hr



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Table F5: For Aerogen vibrating mesh nebulizer, using albuterol 2.5mg/mL

Albuterol mixing instructions for Aerogen vibrating mesh nebulizer							
Dose	Duration	Albuterol (2.5 mg/mL) to dispense		Normal saline to add	final volume	Infusion rate	Final albuterol concentration
		(mg)	(mL)				
5	4	20	8	40	48	12	0.42
7.5	4	30	12	36	48	12	0.63
10	4	40	16	32	48	12	0.83
12.5	4	50	20	38	48	12	1.04
15	4	60	24	24	48	12	1.25
17.5	4	70	28	20	48	12	1.46
20	4	80	32	16	48	12	1.67
30	4	120	48	0	48	12	2.50

* in ORCHID, route of administration is "NEB-Vibrating Mesh"

* typical dose is 0.5 mg/kg/hr

Table F6: For HEART large volume nebulizer (non-weight based), using albuterol 2.5mg/mL

Albuterol mixing instructions for HEART large volume nebulizer							
Dose	Duration	Albuterol (2.5 mg/mL) to dispense		Normal saline to add	final volume	Flow rate	Final albuterol concentration
		(mg)	(mL)				
5	4	20	8	112	120	10	0.17
7.5	4	30	12	108	120	10	0.25
10	4	40	16	104	120	10	0.33
15	4	60	24	96	120	10	0.50
20	4	80	32	88	120	10	0.67
30	4	120	48	72	120	10	1.00
50	4	200	80	40	120	10	1.67
70	4	280	112	8	120	10	2.33

* in ORCHID, route of administration is "NEB-CONT"

*ordered dose may range from 0.5 mg/kg/hr to 5 mg/kg/hr depending on provider judgment.

* nebulizer output = 30 mL/hr



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Table F7: For HEART large volume nebulizer (weight based 5mg/kg/hr), using albuterol 2.5mg/mL

Albuterol dose: 5 mg/kg/hr						
Weight	Albuterol (2.5 mg/mL) to dispense	Albuterol (2.5 mg/mL) to dispense	Normal saline to add	Final volume	Duration	Flow rate
(kg)	(mg)	(mL)	(mL)	(mL)	(hr)	(LPM)
5	100	40	80	120	4	10
6	120	48	72	120	4	10
7	140	56	64	120	4	10
8	160	64	56	120	4	10
9	180	72	48	120	4	10
10	200	80	40	120	4	10
11	220	88	32	120	4	10
12	240	96	24	120	4	10
13	260	104	16	120	4	10
14	280	112	8	120	4	10
≥15	300	120	0	120	4	10

*nebulizer output = 30 mL/hr



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Table F8: For HEART large volume nebulizer (weight based 2.5mg/kg/hr), using albuterol 2.5mg/mL

Albuterol dose: 2.5 mg/kg/hr						
Weight	Albuterol (2.5 mg/mL) to dispense	Albuterol (2.5 mg/mL) to dispense	Normal saline to add	Final volume	Duration	Flow rate
(kg)	(mg)	(mL)	(mL)	(mL)	(hr)	(LPM)
5	50	20	100	120	4	10
6	60	24	96	120	4	10
7	70	28	92	120	4	10
8	80	32	88	120	4	10
9	90	36	84	120	4	10
10	100	40	80	120	4	10
11	110	44	76	120	4	10
12	120	48	72	120	4	10
13	130	52	68	120	4	10
14	140	56	64	120	4	10
15	150	60	60	120	4	10
16	160	64	56	120	4	10
17	170	68	52	120	4	10
18	180	72	48	120	4	10
19	190	76	44	120	4	10
20	200	80	40	120	4	10
21	210	84	36	120	4	10
22	220	88	32	120	4	10
23	230	92	28	120	4	10
24	240	96	24	120	4	10
25	250	100	20	120	4	10
26	260	104	16	120	4	10
27	270	108	12	120	4	10
28	280	112	8	120	4	10
29	290	116	4	120	4	10
≥30	300	120	0	120	4	10