# SCOPE:

All Pediatric patients at Rocky Mountain Hospital for Children facilities/affiliations.

# PURPOSE:

To provide uniform guidelines for the safe administration of medications to pediatric patients.

# POLICY AND PROCEDURE:

## Section I – Authority to Administer Medications

### Policy

1. Hospital staff and temporary staff are not authorized to administer medications until successful completion medication exam with score of 100%
   1. **Registered Nurse (RN):** RNs may administer all medications except chemotherapy and biotherapy. Only RNs who have completed the APHON Pediatric Chemotherapy and Biotherapy Provider certification may administer chemotherapy or biotherapy.
      1. Required competency: Rocky Mountain Hospital for Children Pediatric Medication Administration Exam with score of 100%.
2. **Nursing Students:** A nursing student may administer medications as specified in the policies of the educational institution with which they are affiliated.  Refer to facility Nursing Student Guide for specific guidelines.
3. **Respiratory Therapist (RT):** A respiratory therapist may administer aerosolized medications for inhalation within the scope of their practice, including, but not limited to: bronchodilators, inhaled corticosteroids, and antimicrobial agents for inhalation.
4. **Paramedics:** Paramedics may administer medications in the hospital setting as outlined by their standards of practice with permission from their supervising medical director.
5. **Physicians/ Allied Health Professionals:** Physicians/allied health professionals may administer any medication except chemotherapy or biotherapy. Only physicians experienced in the use of chemotherapy and biotherapy may administer these drugs. Only physicians/ allied health professionals (AHP) credentialed to administer sedation/analgesia may administer these drugs.

## Section II – Acknowledgment of Medication Orders

### Policy

1. Every order requires ACKNOWLEDGMENT by a nurse, paramedic, or respiratory therapist (RT), prior to it becoming eligible for administration.
   1. All inpatient medication orders entered via Computerized Physician Order Entry (CPOE) will be verified by Pharmacy prior to being available in Bar Code Medication Administration (BCMA).
2. All new medication orders, including discontinued orders, shall be acknowledged during the shift in which they were ordered.
3. If a nurse, paramedic, or RT is unable to acknowledge an order for any reason, the oncoming nurse, paramedic, or RT will be notified. This includes orders that are being clarified by pharmacy or nursing.
4. Orders for patients who are being transferred from one level of care to another, will be ordered from the transferring physician, utilizing the transfer process in CPOE. Order will require new "ACKNOWLEDGMENT" of the order by nursing or RT.
5. All discontinued medication orders will be acknowledged by nurse, paramedic, or RT. Orders that are discontinued due to patient discharge do not require acknowledgment.

### Procedure

1. For neonates and pediatric patients (weighing less than 50 kg), medication orders (written or electronic) will include the dose expressed in milligrams/kg/dose for drugs that have published pediatric or neonatal weight-based dosing guidelines. For neonates and pediatric patients, include the total dose and the dose expressed in dosage units per body weight (e.g. Ampicillin 150 mg (10mg/kg) IV every 6 hours).
2. In the event of downtime/emergencies, written orders will be marked as "scanned" and the date and time of scanning will be documented on the order. The order will then be scanned to Pharmacy for data entry into the Electronic Medication Administration Record (eMAR)/BCMA system. This process should occur within one hour of the time the order was written, if possible.
3. Orders entered via CPOE will be reviewed and verified by the pharmacist in the electronic medical record, which will result in the order flowing to eMAR/BCMA.
4. The RN, paramedic, or RT reviews each new medication order entered by the provider/pharmacist for accuracy and completeness.
   1. correct patient,
   2. correct drug,
   3. correct dose,
   4. correct route,
   5. correct frequency,
   6. correct start time/ stop time,
   7. correct number of doses entered if applicable.
5. If the order is correct, the RN, paramedic, or RT will ACKNOWLEDGE the order in the Acknowledge Screen in Meditech**.**
6. If an order is inaccurate for any reason, (i.e. wrong start time, start date, dose, medication, frequency, instructions, stop time, stop date, or any other reason), the nurse, paramedic, or RT will place a HOLD on the order. The provider will be contacted for issues related to CPOE entries and the pharmacy will be notified of discrepancies between written orders and the content entered by the pharmacist.
7. Once corrections are made, the order will again be available for Acknowledgment by nurse, paramedic, or RT.

## Section III- Administration of Medications

### Policy

1. The right medication will be administered in the right dosage, at the right time, by the right route to the right patient.
2. All unit dose medications will remain in the manufacturer's (or the pharmacy's) packaging until the point of actual medication administration in order to perform the final bedside check of the medication against the eMAR/BCMA, using barcode scanning of the intact label with barcode. (Refer to your facilities Bar Code Medication Administration Policy (BCMA))
3. Documentation of medication administration will occur simultaneously with the actual administration or full documentation in eMAR/BCMA. (Refer to section IV)
4. Any bulk product, multiple-dose medications such as ointments, lotions, multi-dose inhalers, eye drops, or insulin flexpens will not be used for more than one patient. They will be scanned or documented at each administration. They will be transferred with the patient upon transfer to another unit and discarded upon the patient's discharge.
5. Under certain circumstances, a patient may take their own medications (Refer to your facilities Medication Use policy). The medication(s) will be verified by Pharmacy and shall be labeled with a bar-code which will enable nursing/RT staff to scan the medication during documentation of administration in eMAR/BCMA.
6. Refer to your facilities Medication use policy for more information on medication administration.

### Procedure

1. The medication will be brought to the patient's bedside in the manufacturer or pharmacy packaging.
2. The identity of the patient will be confirmed using at least two (2) unique identifiers immediately prior to the administration of medication at the bedside. The patient's name and date of birth will be used unless the date of birth is not known, in which case the Medical Record Number may be used.
3. Patient allergies, other known adverse reactions, and actual or potential contraindications to medications will be assessed before medications are administered
4. Verification of the medication rights will occur at the bedside using the eMAR/BCMA process. The physician's order will also be verified with the order on the drug label and the expiration date will be checked.
5. Education will be provided to the patient and/or caregiver regarding the name, purpose, and most common and potentially serious side effects of the medication.
   1. The patient and/or caregiver will be educated prior to administration of the first dose of any new medication.
   2. Written instructions and information will be provided when possible.
   3. This education will be documented in the patient's medical record by the same person who provided the education.
6. Perform documentation appropriate to area of practice (Refer to Section IV.1) and administer medication via the route ordered. iTRACE methodology will be utilized prior to administration of medications via routes that require lines or tubing. (Refer to Section VI for Administration Guidelines based upon route and iTRACE Process for Tubing and Line Safety policy for iTRACE process).
7. Monitor the patient for the discernible effects of the medication, including any side or adverse effects. Document side/adverse effects identified. Preventable, unexpected, or serious adverse reactions will be reported per facility policy.

## Section IV- Documentation of Medication Administration

1. **Procedure for Bar-Code Medication Administration (BCMA)**
   1. Refer to your facilities Bar Code Medication Administration Policy.
   2. In the patient's room, log on to the electronic medication administration record system and bring up correct patient's medication profile.
   3. Confirm the identity of the patient using at least two (2) unique identifiers.
   4. Whenever possible, ask the patient and/or parent/guardian if they have any medication allergies prior to administering the first dose of new medications. Allergy information will be documented in the allergy screen in the electronic medical record for all patients.
   5. After providing patient/family education on the medications, scan the patient's armband to verify a match with the open BCMA profile. This should be done after the patient or family member has verbally confirmed identity as previously described.
   6. Scan the medication and document any relevant information related to the specific medication to be given as prompted (site, vital signs, double check, etc).
   7. Administer the medication. (Refer to Section VI for route-specific guidelines).
   8. If, for any reason, a medication is not administered, after documentation of administration is complete, it is the responsibility of the nurse/paramedic/RT who originally documented the administration to edit the documentation.
   9. In the outpatient areas and for observation patients, the stop time of any infusion longer than 15 minutes **must** be captured and documented in eMAR.
2. **Procedure for Downtime Documentation or Documentation in Non-BCMA Areas** 
   1. Refer to facility's policies regarding downtime procedures.
   2. Bring both the Medication Administration Record (MAR) form and the medications to the bedside.
   3. Confirm the identity of the patient using at least two (2) unique identifiers.
   4. Whenever possible, ask the patient and/or parent/guardian if they have any medication allergies prior to administering the first dose of new medications.
   5. When possible, provide patient/family education on the medications as previously outlined (refer to Section III)
   6. If additional nurse verification is required, ask another nurse to double check the medication. Record the signature and initials of the nurse who conducted the double check next to the administration time on the MAR/ department specific form.
   7. Open unit-dose medications just prior to administration while at the bedside with the patient.
   8. Administer the medication. (Refer to Section VI for route-specific guidelines and facility Medication Use policy for general facility guidelines).
   9. Document the administration of the medication(s) on the MAR or department specific form.
   10. When the system becomes available, all documentation will resume via full-documentation in eMAR/BCMA.

## Section V- Time Frames for Administration of Medications

1. Standard medication administration times will be used whenever possible. Pharmacy will adhere to your facilities standardized times.
2. STAT medication orders are for medications needed in life-threatening or urgent situations where administration will begin immediately.
   1. The physician should call a STAT medication order to the attention of the nurse/paramedic and/or pharmacist in order that it may be dispensed and administered immediately.
   2. The receipt of a STAT order is not required prior to dispensing and administration, but a provider order must follow.
3. A STAT medication will be available for administration as quickly as possible.
4. Any patient admitted with fever and neutropenia will have antibiotic therapy started within 60 minutes of identification of fever or arrival to facility.

## Section VI- Medication Administration Guidelines

1. **Oral Medications**
   1. All oral medications should remain in the manufacturer's packaging until administration at the bedside.
   2. Oral liquid medications should be unit dosed whenever possible.
   3. Only oral syringes clearly labeled "FOR ORAL USE ONLY" and not having a luer lock tip should be used for oral medications.
   4. If necessary crushed pills may be mixed with water or other appropriate liquid. Pharmacy should be consulted to determine if crushing is appropriate.
   5. After RN preparation, a parent may administer any oral medication with an RN in attendance.
   6. Age and developmental appropriate guidelines will be used when administering oral medications.
   7. Nurses will consult with physicians regarding oral medications when patient is NPO (nothing by mouth).
   8. If an entire dose of medication is spit out or vomited immediately, it will be repeated immediately.
   9. Oral medications should not be mixed into full feedings or bottles.
   10. Refer to EBSCOHealth [*Oral Medication in Infants and Children*](https://www.dynahealth.com/skills/t914309-oral-medication-in-infants-and-children)
2. **Enteral Medications**
   1. All liquid medications will be unit dosed whenever possible.
   2. Only oral syringes clearly labeled "FOR ORAL USE ONLY" should be used for enteral medications. Oral syringes do not have a luer lock tip.
   3. If using a nasogastric or transpyloric tube to administer medications, follow facility policy to check proper placement of the tube.
   4. Verify correct port using iTRACE methodology. (Refer to your facilities iTrace Process for Tuning and Line Safety policy.
   5. Refer to EBSCOHealth procedure [*Enteral Feeding Tubes for Medication Administration*](https://www.dynahealth.com/skills/t915721-enteral-feeding-tubes-for-medication-administration)
3. **Injectable Medications**
   1. See Pediatric [Peripheral Intravenous Management](https://hca-pslmc.policystat.com/?lt=jnfh1FEVGCI18THASrbQjZ&next=/policy/4253764/latest/) policy.
   2. Refer to your facilities IV Medication Administration Policy.
   3. IV infusions should be placed on a smart pump with neonatal/pediatric drug dictionary used whenever possible.
      1. If there is no smart pump available, tubing with a buretrol should be utilized for patients weighing 40 kg or less. buretrol must be labeled with medication name while infusing.
   4. Check compatibility prior to infusing medications through the same line.
   5. A filter needle will be used when drawing up any medication from an ampule.
   6. Preserved multi-dose vials shall be discarded when they are empty or when visible contamination occurs. In addition, the beyond use date for opened or entered (e.g. needle-punctured) multiple-dose containers is 28 days, unless otherwise specified by the manufacturer. It is necessary to date vials when entered. The anticipated date of expiration is to be written on the vial (not the date the vial is opened). Individuals may discard multiple dose vials sooner if they, for any reason, are not comfortable using the opened vial or if any of the following apply:
      1. The vial has not been stored in accordance with accepted guidelines.
      2. The integrity of the vial is suspected to be compromised.
      3. There is evidence of contamination, known or suspected breakdown in sterile technique has occurred during the process of withdrawing a dose.
   7. No other medications will be added to parenteral drug products that have been dispensed by the pharmacy.
4. **Intramuscular Medications**:
   1. Refer to EBSCOHealth: [*Intramuscular Injection in Pediatric Patients*](https://www.dynahealth.com/skills/t914315-intramuscular-injection-in-pediatric-patients)
5. **Subcutaneous Medication**:
   1. Refer to EBSCOHealth:  [*Subcutaneous Injection in Children*](https://www.dynahealth.com/skills/t915553-subcutaneous-injection-in-children)
6. **Rectal Medications**
   1. Immune compromised patients should not be given medications via the rectal route.
   2. Refer to EBSCOHealth: [*Rectal Suppository Insertion*](https://www.dynahealth.com/skills/t914445-rectal-suppository-insertion)
7. Intranasal Medications:
   1. Refer to EBSCOHealth:  [*Nasal Instillation of Medication in Pediatric Patients*](https://www.dynahealth.com/skills/t1542730724577-nasal-instillation-of-medication-in-pediatric-patients)
8. **Eye Drops/Ointment**
   1. Refer to EBSCOHealth:
      1. [*Eye Drop Administration*](https://www.dynahealth.com/skills/t915442-ear-drop-administration)
      2. [*Pediatric Ointment Application in Pediatric Patients*](https://www.dynahealth.com/skills/t1542815181345-eye-ointment-application-in-pediatric-patients)
9. **Ear Medications**
   1. Refer to EBSCOHealth: [*Ear Drop Instillation*](https://www.dynahealth.com/skills/t915442-ear-drop-administration )

## Section VII- Administration of High Risk Medications

High Risk/High Alert Medications are medications that have a heightened risk of significant patient harm when used incorrectly. Although mistakes are not necessarily more common with these drugs, the consequences of an error have the potential to be more devastating to the patient.

1. Refer to your facilities High Risk/High Alert policy for administration specific guidelines.
2. The Pharmacy & Therapeutics committee identifies high risk medications based on criteria above.
3. Strategies to reduce errors with these medications include (but are not limited to):
   1. limiting staff access to these medications
   2. required dilutions
   3. standardized ordering and concentrations
   4. computer alerts
   5. double-checks performed by nurses and pharmacists (in addition to bedside eMAR scanning)
   6. Utilizing smart pump libraries for administration of medications whenever applicable

## Section VIII- Administration of Emergency Medications

### Policy

1. An emergency supply of medications is available in all Code Blue carts throughout the hospital. Some medications are available only in the Pharmacy automated dispensing machine (ADM) on each unit.
2. The Pharmacy is responsible for ensuring the supply of medications is current and complete.
3. The medications on the Neonatal and Pediatric Code Blue Cart will be standard in all Rocky Mountain Hospital for Children Facilities.

### Procedure

1. Administration/ documentation of emergency medications can occur in more than one manner depending upon the urgency of the situation.
   1. If the situation permits, the medication should be scanned
      1. If the medication is already available on the patient's profile, it will be processed in the normal manner.
      2. If the medication order is not available on the patient's profile, the nurse/paramedic will be asked if he/she wishes to add this medication to the patient's MAR. By answering Yes, the nurse or paramedic will generate an order that will require dose, instructions (SIG field), site (if IV, IM, or SUBQ) and the ordering physician's name. This order will be routed to pharmacy as an unverified order for review.
   2. If the situation is not a Code Blue, but requires immediate administration of medications without scanning, document these medications after administration as directed by facility policy.
   3. In a Code Blue, all medications will be documented on the Code Blue Record. (Refer to [*Code Blue - Pediatric Patients*](https://hca-pslmc.policystat.com/?lt=jnfh1FEVGCI18THASrbQjZ&next=/policy/3518695/latest/))

## Section IX- Adverse Reactions

1. Refer to your facilities Adverse Drug Events policy.

# REFERENCES:

1. Colorado Board of Nursing (2019) Colorado Nurse Practice Act. Retrieved on September 15, 2020 at https://dpo.colorado.gov/Nursing/Laws
2. Bowden, V.R., & Greenberg, C.S.(2016) *Pediatric Nursing Procedures (4th* ed.). Philadelphia: Lippincott Williams & Wilkins.
3. The Joint Commission (2019). *2020 Comprehensive Accreditation Manual for Hospitals.* Oakbrook Terrace, Illinois: The Joint Commission.

# LEVEL OF EVIDENCE:

**M** **(based on data from Level A and B sources)**