General Medication Administration  
and Specific Guidelines For High Risk Medications

POLICY: Medications will be administered to patients per Provider order by registered nurses (or by others as designated below) in such a manner to support the therapeutic plan.

PURPOSE: The medication policies and procedures have been developed to ensure patient safety and consistency in the delivery of medications.

PROCEDURES:

I. Guidelines:

A. The following personnel may write orders as allowed by State and Federal law: physicians, physician assistants or nurse practitioners, dentists and certified registered nurse anesthetists.

B. Medications will be dispensed by, or under the direction of, Children's pharmacists. Exceptions: Patient medications brought from home per written order of an MD or ARNP. (See Clinical P&P, Patient's Own Medications and Patients’ Self Administered Medications).

C. Medications shall be administered by a registered nurse, practical nurse or student nurse under the supervision of a clinical instructor; a respiratory therapist or physical therapist only upon order of a medical staff member; an authorized member of the house staff, or other individuals who have been granted these privileges (this shall include physician assistants and nurse practitioners under the direction of a sponsoring physician).

D. Medication administration will be consistent with the 5 Rights: patient, medication, dose, time and route. To confirm the 5 Rights, the medication is checked against the MAR prior to administration. In an emergency situation, a medication may be given prior to pharmacy review.

1. To confirm the right patient, two patient identifiers will be used at the point of care to verify that the medication prescribed is for the patient whom the medication will be administered. Two of the following identifiers will be used:
   a. Patient’s Name
   b. Patient’s Medical Record Number
   c. Patient’s Date of Birth

2. The RN will verify there are no contraindications for administering the medication.

3. The RN will verify that the medication is stable based upon visual examination for particulates or discoloration and that the medication is not expired.

4. Medication administration will be consistent with the 5 Rights: patient, medication, dose, time and route.

E. Prior to giving a new medication, the physician, ARNP, nurse or pharmacist will advise the patient or patient’s family about any potential clinically significant adverse reaction or other concerns about giving the medication. If the nurse, family...
or patient has any concerns about the medication, the RN or pharmacist will discuss these with the Provider.

F. The RN/LPN will monitor and document patient response to medication, observing for both anticipated and adverse effects. In the home care setting, the patient/caregiver does this.

G. Medication administration and patient/family teaching will be documented appropriately (See Section IV: Documentation).

H. Emergency medications (resuscitation-related drugs) are available in Code Carts.

I. See Pharmacy P&P, Omnicell Module (on units).

II. General Procedure:

A. At the beginning of each shift, the RN/LPN checks the medication administration record (MAR) for his/her patients, noting the times medications are due, as well as the most recent administration of as needed medications (PRNs).

B. The RN/LPN checks the ordered dose of the medications being administered with the MAR and determines accuracy in terms of the patient's weight and/or body surface area.

C. In the event that a dosage is obtained from a multi-dose vial, or is less than what is available in a pre-filled syringe, ampule or container; or necessitates the breaking of scored tablets, the RN/LPN double-checks his/her calculations. The RN/LPN may also request a second RN/LPN to check the calculations. Certain medications are always double-checked by a second RN/LPN: Insulin (drips and injections), chemotherapeutic agents, anticoagulants and patient controlled analgesics (PCAs). The second RN or LPN co-signs the MAR (See Section VIII: High Alert Medications).

Note: Nurse combinations are to be either RN/RN or RN/LPN, Never LPN/LPN.

D. Two patient identifiers will be used prior to the administration of a medication.

E. The administration of medications is documented on the MAR and/or other forms, as soon as the medication is given (See Section IV: Documentation).

F. Patient response to medication, anticipated and/or adverse, is documented on the nursing flow sheet/progress notes.

III. Dispensing of Medications:

A. Standard Medication Times (See Appendix I)

- AC — 0745-1130-1730
- Once Daily — 0800
- BID — 0800-2000
- TID — 0800-1400-2000
- QID — 0800-1200-1600-2000
- Q4H — 0400-0800-1200-1600-2000-2400
- Q6H — 0200-0800-1400-2000
- Q6HOA (oral antibiotics) — 0400-1000-1600-2200
- Q8HOA (oral antibiotics) — 0600-1400-2200
- Q8H — 0800-1600-2400
- HS — 2000

B. Routine Medications:
1. All medication orders are documented on the CIS except medications given in the home care setting.

2. Medications are either available in unit Pharmacy Omnicell or sent to the unit with a computer generated label on the bag or syringe. Information on this label is compared to the order.

3. Every effort is made to start medications on standard times or to work a medication up to a standard time if possible (See Appendix I).
   a. When an RN/LPN cannot put a medication on a standard time schedule, the nurse will:
      i. Use the reschedule function in CIS
      ii. Consider consulting with pharmacy before rescheduling MAR.
   b. Drugs not scheduled at a specific time (once or twice a week) will come up on the cart if they are ordered prior to the day they are scheduled to be given. Medication orders written the same day the drug is to be given are to have the time the drug is to be given indicated on the order.

C. PRN Medications:
   1. See Section B.1 & 2 above (Routine Medications).
   2. High volume PRNs may be stored in the Omnicell Pharmacy cabinet unless there are cost or safety concerns. Other medications are sent to the unit labeled with a computer label on the bag or syringe. Information on this label is compared to the physician order.
   3. Medications removed from the Omnicell cabinet will be checked against the patient’s MAR or chart before administration.
   4. The RN/LPN checks the last time the drug was administered and, if appropriate, the cumulative dose of the medication.

D. Oral and Injectable Medications:
   1. All oral liquids will be prepared in oral syringes (syringes not compatible with parenteral access devices) and labeled PO or indicated route.
   2. All injectables will be drawn up in Pharmacy with the following exceptions:
      a. PRNs.
      b. Insulin. Insulin is to be kept in the refrigerator when not in use. (While insulin is stable for up to one month without refrigeration, unit stock may be kept for longer than one month — thus the need to keep insulin refrigerated.)
      c. Routine medications that lose their stability within 12 hours or have other characteristics that prevent stability in a syringe, e.g., ampicillin.
      d. Controlled drugs.
      e. Specifically identified exact dose vials dispensed as unit-of-use medication.
   3. The volume of an injectable IM medication will not exceed 2.5 ml. Volumes exceeding 2.5 ml are divided into smaller doses.

E. STAT Medications:
The term STAT is reserved for extreme situations. As the first choice, nurses secure STAT medications from the Pharmacy Omnicell cabinet. If necessary, the
nurse obtains the medication from Pharmacy utilizing one of the following procedures:

1. **Order Procedure for STAT Medications:**
   a. STAT orders print in the pharmacy, or for paper orders, the unit coordinator sends order to Pharmacy (or calls the unit-based pharmacist with the order) and indicates in **Red Ink** on the yellow copy that the order is STAT.
   b. The Pharmacy processes the order with the highest priority and sends the medication to the unit within 15 minutes. In the situation where the 15-minute timeframe cannot be met, the Pharmacist will communicate the expected time for processing the order.
   c. The RN is responsible for double-checking the medication with the physician's order sheet.

2. **Verbal Order Procedure for STAT medications (see Clinical P&P, Telephone/Verbal Orders).**
   a. The RN is responsible for entering the Verbal/Telephone order in CIS.
   b. Pharmacy processes the order with highest priority and sends the medication within 15 minutes (**See III.E.1.b above**).

**F. Pre-Operative Medications:**

1. Pre-operative medications ordered **on call to OR** will be sent to the nursing unit; pre-operative medications ordered **to OR** will be delivered to the OR by pharmacy.

2. Pre-operative medications that are controlled drugs will be prepared from floor stock by the RN/LPN.

**G. Controlled Drugs:**

1. Only RNs, LPNs and School of Nursing Clinical Faculty may access this Omnicell cabinet drawer.

2. Multi-dosing of single patient use vials of controlled substances is not allowed except in specific instances as specified in Clinical P&P, **Omnicell Pharmacy System**.

3. **Record Keeping:**
   a. **Departments/Units with Omnicell Pharmacy Modules:** Records will be kept in accordance with Clinical P&Ps, **Omnicell Pharmacy System** and **Controlled Drugs: Record Keeping of Infusions and PCA Products**.
   b. **Departments without Omnicell Pharmacy Modules:** refer to Clinical P&P, **Controlled Drugs: Record Keeping on Patient Units without an Automated System**.

4. **Corrections to the Controlled Drug Record:**
   a. Any person making a change in a paper controlled drug record will initial the change.
   b. If there is a discrepancy in the number of dosage units that cannot be accounted for, Clinical P&Ps, **Omnicell Pharmacy System** and **Controlled Drugs: Record Keeping on Patient Units without an Automated System**.
   c. Pharmacy personnel review records daily for accuracy. Records that are incomplete or inaccurate will be sent to the specific Unit.
Director. The **Attention Requested** form may be informational or request that some action be taken. The forms are returned to the Pharmacy. The completed Controlled Drug Records (45160) are legal documents that are retained by the Pharmacy for five years.

H. **Floor Stock Medications, Additives and other Supplies:**
   1. A minimal amount of **floor stock** medications are kept in the Omnicell cabinet. These are used in case of emergency or for STAT orders.
   2. **Refrigerated Medications:**
      The following medications are refrigerated on all units:
      a. Regular insulin (to retain stability for more than one month)
      b. Succinylcholine (Anectine)
      c. Dornase alpha (Pulmozyme)
      d. Tobramycin for inhalation (TOBI)
   3. The ICUs and Emergency Department (ED) have additional medications as floor stock in their refrigerators. The ED resuscitation room has drugs stored in the Omnicell supply cabinet with Pharmacy-level security.

IV. **Documentation:**

A. **Routine, PRN/STAT Medications:**
   Chart medication dose, time, route, site (if appropriate) given as soon as possible on the MAR or other designated form. All medications given are to be charted in a timely manner (as soon as possible after the medication is given).

B. **Reject Function.**
   Orders requiring clarification will be indicated by a mortar and pestle with exclamation mark (!) noted on the MAR and order. This communicates that further information is needed prior to being verified by a pharmacist.

C. **Medications Not Administered:**
   1. Patient out-on-pass: document on the MAR as **Patient Out-on-Pass**.
   2. Medication not given: document in a timely manner as **not given** and reason documented on MAR.

D. **Late Medications:**
   1. Medications given within **one hour** from the scheduled dose (**before or after**) are **Not** considered late.
   2. Chart medications at time given. Do not change the dosing schedule.
   3. **Exceptions:** the following medications will require rescheduling for subsequent doses
      a. Chemotherapy.
      b. Antibiotics with ordered drug levels (i.e. aminoglycosides).
      c. Digitalizing doses of digoxin.
   4. Consider consulting with Pharmacy before re-scheduling MAR.

E. **Allergies:**
   All allergies (drug, food, etc.) are documented on the CIS

F. **IV Medication Drips:**
   (See Clinical P&P, **Intravenous Lines**)
   1. IV fluids and drips are documented on the CIS except chemotherapy.
2. The RN will calculate the ordered dose and verify that the dose is consistent with standard medication drips (see Clinical P&P, Medication Drips) at the beginning of each shift.

3. If the drip is turned off, but not DC’d, the RN will chart a rate of 0.01 mL/hour in the CIS MAR, since the CIS does Not accept 0 mL/hour as a rate. In addition, the RN will make a note in the comment field of that MAR entry.

G. Colloid Infusions:
Blood products, albumin, fresh frozen plasma, etc. are documented on the nursing flowsheets.

H. Discontinuation of a Medication:
1. A discontinued medication will be displayed on the MAR as gray.
2. Pre-planned discontinued orders are indicated by a stop date on the MAR.

V. Administration of Medications:

The patient’s developmental needs and capabilities are considered when medications are administered.

A. Oral medications
1. Unpleasant tasting medications may be mixed with a small amount of juice, syrup or fruit puree (baby fruit). Thick liquid medications may be diluted with a small amount of water.
2. Raising the patient's head and/or turning the patient's head to the side prevents aspiration of medications, unless contraindicated by the patient's condition.
3. The RN/LPN determines that the patient has actually swallowed the medication by staying at the bedside until the medication is ingested.
4. In the event that a patient who is NPO has oral medications ordered, the RN verifies with the physician whether or not the medication is to be administered.
5. Sugar-free medications may be indicated for patients who are on special diets (e.g., ketogenic).
6. If the parent has demonstrated safe medication administration, the RN/LPN may use discretion in the situation where the medication is more appropriately administered by the parent. See Clinical P&P, Patient's Own Medications and Patients’ Self Administered Medications.

B. Gastrostomy Medications:
1. Prior to administration of medications via a gastrostomy tube (GT), the tube is flushed with 5 ml of water.
2. Tablets are crushed and mixed with a small amount of water.
3. Medications are followed by a minimum flush of 5 ml of water.
4. If medications are not given concurrently with feedings, the GT is clamped or suspended for 30 min. following the medication, unless contraindicated by the patient's condition.

C. Rectal Medications:
1. Rectal suppositories are lubricated and inserted with a gloved finger.
2. Liquid medications are inserted using a lubricated rectal tube or red rubber catheter.
3. The buttocks of a child who is unable to retain the medication are gently held together.

D. Intramuscular/Subcutaneous Medications:
1. The child's size and the type of medication determine the injection site.
   a. Intramuscular injections are given with a 25, 23, or 21 gauge, 1-1½" needle, depending on the size of the child. The thigh is the site of choice for children who are under the age of 3 years, or who have underdeveloped muscle mass.
   b. Subcutaneous injections are given with a 27 or 25 gauge, 1/2" or 5/8" needle inserted at a 60-90° angle.
2. Volumes greater than 2.5 ml are divided unless ordered otherwise.
3. The injection site is cleaned with an alcohol sponge and dried with a 2x2 sponge.
4. The plunger is pulled back slightly after insertion of the needle to check for blood return. In the event of blood return, the needle is removed, and a new needle and dose of medication is injected. (This step is not indicated when a subcutaneous medication is given.)
5. The medication is injected slowly and completely; upon removal of the needle, pressure is placed on the site to stop bleeding.
6. The site of the injection is documented on the MAR.

E. Intravenous Medications (see Clinical P&P, Intravenous Lines)

F. Eye Drops or Ointment
1. The head is tilted back and any secretions removed.
2. The lower lid is drawn down and out; the solution/ointment is placed in the center of the lower lid.

G. Nose Drops
1. The patient is positioned with the head back and to the side. The medication is placed in the lower nostril with position maintained for 2 minutes. The process is repeated with the opposite nostril.
2. The patient is positioned prone or with the head down to allow for drainage of secretions.

H. Ear Drops
The head is turned so that the affected ear is upward. The auricle is pulled down and out if the patient is 0 - 3 years, and up and back if the patient is >3 years. The position is maintained for 2 minutes.

VI. Medication Adverse Event:

A. For Adverse Drug Reactions, see Clinical P&P, Adverse Drug Reactions.
B. Medication Errors
1. In the event of a medication error, the physician is contacted. The RN will document information through eFeedbackNOW. See Administrative P&P, Incident Report for Patient and Visitor.
2. Appropriate and relevant clinical information is documented in the nursing flow sheet.
3. For Serious and Very Serious errors, immediately notify the charge nurse, unit director or supervisor, and the administrator on call. See Administrative P&P, Sentinel and Serious Event.

VII. High Alert Medications:

A. Digoxin (Lanoxin):
   1. Medication is order in micrograms (mcg)
   2. Apical heart rate is counted for 60 seconds and compared to established safe parameters; heart rate is noted in MAR.
   3. Safe heart rate parameters are established by the prescribing physician and noted in the Caredex/MAR.
   4. Digitalizing Doses:
      a. Patient is placed on C/R monitor throughout digitalization.
      b. PR interval is typically checked prior to each digitalization dose; prolonged PR interval is a sign of possible toxicity.
      c. The rhythm strip is dated and timed and attached to the nursing flow sheet.
      d. The prescriber is notified prior to a dose in the event of a dysrhythmia (including prolonged PR interval), low heart rate, and/or low potassium.

B. Insulin:
   1. Continuous Infusion (Drip)
      a. Insulin drip solution is double checked with physician's order and with second RN/LPN.
      b. Volutrol and tubing are connected to IV solution.
      c. Volutrol and tubing are flushed with 50 ml solution; flush is discarded.
      d. If administered via a syringe pump, the 50 mL rinse is not required.
      e. Insulin drip is administered via infusion pump.
      f. Blood glucose is checked at least every 2 hours.
   2. Injection
      a. Double check with second RN/LPN
      b. If medication administration is part of patient/family teaching, the nurse verifies the dose, documents dose given on the eMAR and adds in the Comments section that this medication was given as part of patient/family teaching and the dose was checked with parent/patient.

C. Chemotherapeutic Agents - see Clinical P&P, Chemotherapy Administration.
D. Potassium or Phosphate, Intravenous - see Clinical P&P, Intravenous Potassium or Phosphate Repletion.
E. Patient Controlled Analgesia (PCAs) - see Clinical P&P, Patient Controlled Analgesia.
F. Epidural Analgesia - see Clinical P&P, Epidural Catheter.
G. Vasopressors and Continuous Infusions - see Clinical P&P, Medication Drips.
H. Opiate Pain Medications - see Clinical P&P, Opiate Administration.
Appendix I: Medication Administration Scheduling Guide (Pharmacy)

See also related Clinical P&Ps:

Patient Identification
Prescription Refill Management
Orders Online: Scheduled and Unscheduled Downtime
Medication Storage

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ORIGINATED: 3/93
REVIEWED: 4/97, 10/99, 1/01
REVISED: 3/94, 11/94, 1/96, 3/96, 2/97, 8/98, 11/99, 12/00, 2/02, 9/02, 4/03, 12/03, 12/04, 7/05, 4/06

BARRIER TECHNIQUES:
CLASS I GLOVES A EYE A MASK A GOWN A
Additional Key Words: ADR, Controlled Drugs, Digoxin, Documentation, Ear Drops, Eye Drops, Floor Stock, High Alert Medications, IM, Insulin, IV, MAR, Nose Drops, Oral, Patient Safety, PRN, Rectal, Standard Administration, Standard Medication Times, Stat,
### APPENDIX I: 4/06

#### MEDICATION ADMINISTRATION SCHEDULING GUIDE

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**EXCEPTIONS:** DIGITALIZING DOSES OF DIGOXIN: MULTIPLE IV MEDS ON SAME DOSING INTERVAL: TIMED ANTIBIOTIC LEVELS