INTRAVENOUS (IV) ADMIXTURES

PURPOSE:

To define policy and delineate responsibilities for both nursing and pharmacy staff regarding IV admixtures.

To provide guidelines for a Registered Nurse to utilize in the preparation of an IV admixture in an emergency/urgent situations.

DEFINITIONS:

Intravenous (IV) admixture: The preparation of pharmaceutical product that requires the measured additive of a medication to a 50 ml or larger bag or bottle of IV fluid (eg, IV, IM, IT, SC, etc). It does not include the drawing-up of medications into a syringe, adding medication to a buretrol, or the assembly and activation of an IV system that does not involve measuring the additive.

The Joint Commission Standard MM.4.20, EP 1 states: When an on-site, licensed pharmacy is available, only the pharmacy compounds or admixes all sterile medications, IV admixtures, or other drugs except in emergencies or when not feasible (for example, when the product stability is short.).

Example: If Rocephin in the syringe were added to 50 or 100 ml bag of IV fluid (minibag), then this would be preparing an IV admixture.

Compounding: The preparation of a pharmaceutical mixture of two or more drugs.

Reconstitution: The drawing up of medication (either powder or liquid form) into a syringe for direct administration to the patient or via Buretrol. Reconstitution is neither compounding nor admixing.
POLICY:

1. **Preparing IV Admixtures**
   The RN or RN Applicant may prepare IV admixtures of 50cc or greater only in urgent/emergent situations or when not feasible by pharmacy when the product stability is short. Exception: Renal and Intensive Care Units shall follow Unit Specific Policies.

2. **Physician’s Responsibility**
   A physician shall be responsible for ordering intravenous admixtures.

3. **Pick-ups and Deliveries**
   The Pharmacy shall make **PICK-UP** and **DELIVERIES** daily.

4. **Notifying Pharmacy**
   The nursing unit shall be responsible for notifying the Pharmacy when:
   a. a patient is transferred.
   b. an IV solution is discontinued.
   c. medication schedules and/or doses are changed.
   d. any problems pertaining to an IV, such as physical incompatibilities, are noted.

5. **Physician’s Orders Copies**
   The nursing unit shall be responsible for pulling a copy of all physician orders and scheduling of needed solutions. Orders for all IV admixtures and medications are sent directly to the pharmacy via the pneumatic tube system, fax or hand delivered. Fax is used only if the pneumatic system is absent.

6. **Patient Special Precautions or Requirements**
   Nursing personnel shall advise the Pharmacy of special precautions or requirements regarding patients (i.e., sodium restriction or fluid restriction).

7. **Labeled Directions and Precautions/ Pharmacy Notifications**
   Nursing personnel shall be responsible for abiding by the labeled directions and precautions as noted on admixture. Pharmacy shall notify the nurse of contraindications, inappropriate route of administration, or other medication problems (i.e., Dilantin and Lanoxin not given IVPB).

   Refer to *Nursing Policy: P-80, Procedures Not Permitted*, for specific admixtures that LPN's may not administer.
Nurses Preparing IV Admixtures Guidelines
In an emergency/urgent situation, an RN or RN Applicant may prepare IV admixtures.

1. **Documented Competency**
   All nurses who prepare sterile admixtures must have documented competency to do so. Competency assessment shall include training and assessment of the nurse’s competency to perform this skill.

2. **Hand Washing/ Foam and Gel**
   - The nurse shall wash hands with an antiseptic prior to admixing medications. For routine hand washing, a 10 second soap and water wash is done.
   - The hospital approved hand sanitizer may be used when hands are not visibly soiled. Hand sanitizer may also be used anytime contamination from the environment occurs in the process of performing medication admixture.

3. **Designated Area**
   Eating, drinking, and the storage of food are prohibited in the area designated for sterile product preparation.

4. **Inspection**
   All bottles are inspected for particulate matter, cracks, and the manufacturer’s expiration date. Viaflex bags are inspected for leaks and particulate matter before and after admixture is made. Any questionable product is discarded.

5. **Additive Ports and Vial Tops**
   Additive ports of vial tops and IV containers are wiped with sterile 70% alcohol sponges (swabs) prior to performing admixtures. Swabs must be wet and not overused. Minimally, a new swab is used on each set of additive containers (bags or vials).

6. **Touch Contamination**
   Touch contamination of syringe tips and needles is avoided.

7. **Medication Vials and Containers**
   Multidose reconstituted medication vials are labeled with the date and time of reconstitution, final concentration, initials of preparing nurse and are stored as directed in the manufacturer’s literature. The containers are then discarded as specified by the manufacturer.
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<tr>
<th>RESPONSIBLE PARTY</th>
<th>ACTION</th>
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<td><strong>IV Admixtures Prepared by Pharmacy</strong></td>
<td>1. Pulls copies of physician's orders from patient's chart.</td>
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<td>2. Writes the standard administration times on the copies of the physician’s order form, and if alternating solutions, which dose is needed.</td>
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<td>3. Sends IV orders via the pneumatic tube system or faxes order to the Central Pharmacy. Standard dosage times are utilized unless specified by physician.</td>
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<td><strong>NOTE:</strong> When the tube system is not operational, available Nursing personnel shall carry the order to the Pharmacy and pick up STAT orders.</td>
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<tr>
<td>Pharmacy Staff</td>
<td>4. Delivers admixture to unit or sends per pneumatic tube system.</td>
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<tr>
<td>RN, RN Applicant, Student Nurse, LPN</td>
<td>5. Assumes responsibility for refrigeration and other special precautions regarding prepared IV's (i.e., Protect From Light).</td>
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<td>6. Contacts the Pharmacy if the administration schedule of an IV admixture must be revised due to blood transfusing, IV infiltration, etc. and notes on the label of the bag of IV solution returned to Pharmacy, the reason for the return (ex. blood infusing, patient in OR, etc.).</td>
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<tr>
<td>RN, RN Applicant, Student Nurse, LPN, Administrative Coordinator</td>
<td>7. Returns unused admixtures to Pharmacy per pneumatic tube or stores in refrigerator those admixtures requiring refrigeration, for pick up by Pharmacy Support personnel. Any pharmaceutical preparation contaminated with bodily fluids shall not be returned to the pharmacy, but disposed of properly on the unit per Infection Control policy.</td>
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**Admixture Preparation Procedure:**
*Applies to a preparation of pharmaceutical products that requires the measured additive of a medication to a 50 ml or larger bag or bottle of IV fluid.*

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| RN or RN Applicant | 1. Check the physician’s orders.  
2. Assemble all equipment and supplies needed in a designated work area, free of traffic, preferably and isolated area.  
3. Assure the designated work area is clean.  
4. **Complete the appropriate IVPB label to include:**  
  a. Patient’s name, location and medical record number  
  b. Name of drug, amount of drug, name of basic parenteral solution and solution volume  
  c. Date and time of the addition  
  d. Name of RN preparing admixture.  
5. If there are any questions about compatibility of medications, check resources available, and/or call Pharmacy at 55175.  
6. Procedures for Reconstitution, Ampules, and Vials |

**Admixture Reconstitution Procedure**

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| a. Read the medication dilution instructions carefully.  
 b. Select the correct diluent.  
 c. Remove the protective cap from the diluent container.  
 d. Swab the diaphragm or stopper of the vial with alcohol and allow to dry.  
 e. Draw up the recommended amount of diluent.  
 f. Inject the diluent into the drug vial.  
 g. Mix the drug and diluent as directed. Use when particles can no longer be seen in the solution.  
 h. Swab the stopper and port of entry on the IV bag with alcohol and allow to dry.  
 i. Pull up the required amount of medication and inject into the bag.  |

**Procedure for Ampules:**

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| a. Swab the neck of the ampule with alcohol and allow drying.  
 b. Using a sterile 3” or by 3”, break the ampule carefully, and draw up the required dose.  
 c. Swab the port of entry on the IV bag with alcohol and allow drying.  
 d. Inject the required dose into the IV bag.  |
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| RN or RN Applicant | **Procedure for Vials:**  
  a. Swab the diaphragm or stopper on the vial and the IV bag port of entry with alcohol and allow drying.  
  b. Pull up correct amount of liquid and inject into the IV bag. |
| RN or RN Applicant | 7. Complete and affix the Medication Additive label to the mixture. (Refer to labeling section)  
  8. Double check against physician’s orders before hanging. |

**References:**
Nursing Policy: P-80: Procedures Not Permitted

Joint Commission on Accreditation of Healthcare Organizations: Critical Access Hospital 2006 Medication Management. [www.jcaho.org](http://www.jcaho.org)

FAQs for the Joint Commission’s 2007 National Patient Safety Goals (Updated 1/07) [www.jcaho.org](http://www.jcaho.org)
Jamie Jett, MBA, RN  
Director, Patient Care Support/Medicine Services  

Date

Pamela B. Simmons, PhD, RN  
Assistant Hospital Administrator and CNO  
Patient Care Services  

Date