Entity Name & Region: Clinical Nutrition Services-WR	
Subject: Infant Feeding Preparation, Storage and Administration	
Original Date: Version 1 August 2012	**Effective:** August 2012
Reference: 028010-12 Version-1	**Replaces Number:** New
Targeted Employees/ Departments: Clinical Nutrition Department, Food Services Department, Nursing Department, Pediatricians, Pharmacists	

1. Purpose:

1.1 To ensure the proper procedure of preparation, storage, distribution, and handling of Infant Feeding

2. Definitions:

2.1 Infant formula: A formulation used to provide neonates and infants with nutrition through the gastro-intestinal tract.

2.2 Feeding tube:

2.2.1 Nasogastric (access to the GI tract through the nose).

2.2.2 Orogastric (access to the GI tract through the mouth).

2.2.3 Gastrostomy (access through the skin into the stomach).

2.3 Continuous feeding: Continuous tube feedings are administered via a pump at a constant, steady rate, over sixteen-twenty four (16-24) hours period.

2.4 Intermittent feeding: Tube feedings are infused at specific intervals throughout the day. The volume of desired feeding is divided into several feedings. The feedings are administered continuously by a gravity drip or pump over a period of one-two (1-2) hours.

2.5 Bolus feeding: Feedings are administered rapidly (usually in less that fifteen (15) minutes) into the GI tract by a syringe. Bolus feeds are usually administered four-six (4-6) times per day, but limited to eight (8) times per day. This method is only appropriate for feeding into the stomach and may not be tolerated by all patients.

2.6 Ready-to-feed formulas: Formulas that are prepared and sealed in a container by the manufacturer but have to be decanted into a giving set with a reservoir.

2.7 Reconstituted formulas: Formulas that is prepared on site, usually from a powder or by adding modules to a standard formula.

2.8 NCP: Nutrition Care Plan

2.9 QCPR: QuadraMed Computerized Patient Record

2.10 CPOE: Computerized Physician Order Entry

3. Policy Statements:

3.1 Commercially sterile ready-to-feed and liquid concentrate formulas must be used as far as possible if available and nutritionally appropriate. The powdered form infant formulas must only be used when alternative commercially sterile liquid products are not available.

3.2 A dedicated clean space with facilities for aseptic technique must be used in formula preparation.

3.3 Only chilled, commercially sterile ingredient water shall be used for the preparation of infant formulas.

3.4 A new or sanitized container must be used to prepare each formula type, and to prevent possible exposure of the patient to allergens.

3.5 Powdered formula must be measured by weight.

3.6 Opened cans of formula powder must be covered and labeled with the expiration date.

3.7 These cans shall be stored in a clean and secured location.

3.8 Breast Milk Fortifier, approved glucose polymers and MCT oil may be added to infant formulas.

3.9 Each unit of prepared formula must have a label that includes the following informatics:

3.9.1 Patient's Name

3.9.2 Patient's Medical Record Number (MRN)

3.9.3 Formula name and additives

3.9.4 Caloric density/volume.

3.9.5 Volume in container

3.9.6 Expiration date and time

3.9.7 "For enteral use only"

3.9.8 Refrigerate until use

3.10 Opened, ready-to-feed-formula and house-prepared formula be stored in a refrigerator at 4°C separate from any other food. Breast milk may be stored in the same refrigerator.

3.11 Infant feedings found to be flawed in any way e.g. defective, adulterated and contaminated or preparation error) must be reported immediately verbally to the Charge Nurse of the unit and an Occurrence Variance Report must be initiated to ensure that the event is properly documented and a corrective action plan can be instituted. This process will reduce the risk of the development of a serious outcome in future.

3.12 Formula products recalled by the manufacturer or any regulatory agency must be handled in accordance with their instructions.

3.13 All infant feedings shall be prepared and stored under conditions described according to the procedure of this policy.

3.14 All infant feedings must be administered as per hospital approved clinical practice guidelines.

4. Procedures:

4.1. Dietitians:

4.1.1 When consulted the clinical dietitian calculates the nutritional requirements and recommends the appropriate formula for the patient's disease process as part of the NCP. This must be done in consultation with the patient's pediatrician.

4.1.2 When significant amounts of nutrients are provided through means other than the feeding formulation (e.g. parenteral infusions and drugs), the formulation should be adjusted accordingly.

4.1.3 The Clinical Dietitian must monitor and re-assess the patient upon receiving the referral via QCPR to optimize nutrition support and document this in the patient's clinical record.

4.2 Pediatricians:

4.2.1 Orders for infant formulas must be documented in the QCPR under CPOE prior administration.

4.2.2 Verbal orders shall only be accepted by nursing staff designated as per hospital policy and must be signed by the prescribing/ordering practitioner. Nursed not allowed taking any verbal orders, only in case of emergency.

4.2.3 Arrange for the proper placement of an enteral access device [(enteral tube) i.e. Nasogastric, Naso-Duodenal, Naso-Jejunal, Gastrostomy, Duodeno-Stomy, or Jejuno-Stomy tube], when indicated, by the appropriate competent health care professional which may be a nurse, pediatrician or surgeon as required.

4.3 Pharmacists:

4.3.1 Assist the pediatrician and dietitian in planning drug dosing and feeding schedules to prevent adverse drug-nutrient interactions when indicated.

4.4 Nurses:

4.4.1 Prepare and administer infant formulas as follows:

4.4.1.1 Single use containers are recommended for preparation of powdered infant formulas. Any measuring devices, mixing equipment or other utensils used must be sterilized before coming into contact with formula or additives.

4.4.1.2 In the event when feedings are not dispensed or available in unit of use containers, individual feedings poured from a bulk container should be handled on a clean, dry, disinfected surface.

4.4.1.2.1 The container must be removed from the refrigerator immediately before pouring and returned promptly.

4.4.1.2.2 Patient information on the container should be verified for current formula order.

4.4.1.3 If an enteral access device (feeding tube) is used, verify and document tube placement according to hospital policy.

4.4.1.4 Complications related to an enteral access device and outcome of actions to manage the complications must be clearly documented in QCPR and reported immediately.

4.4.1.5 When the Powdered Formula preparation must be done by using on aseptic technique according to hospital approved guidelines. It is that the formula is prepared in a single-use bottles/containers. If prepared in bulk it must be stored under the conditions set out in this policy.

4.4.1.6 Modular formula additives must be added using aseptic technique whenever possible.

4.4.1.7 Any item taken into an individual patient room must not be returned to the storage area or used for other patients.

4.4.1.8 Warming is not recommended for continuous or cyclic feedings. Warming time for oral or bolus feedings must be limited to fifteen (15) minutes.

4.4.1.9 Microwaves should **never** be used to warm infant feedings.

4.4.1.10 A designated person must verify the formula label before feeding an individual patient and identify the patient by using two unique identifiers, i.e. patient name and MRN. Also check expiration dates.

4.4.1.11 Tube-feeding administration systems must be assembled on a clean, dry, disinfected surface, avoiding touch contamination of any portion of the feeding system that will come in contact with the feeding.

4.4.1.12 An aseptic technique must be used when filling, refilling or changing feeding containers. It is recommended that the feeding containers are not reused.

4.4.1.13 Tubing must be flushed with sterile water or air after intermittent feeds or in between medication administration.

4.4.1.14 All feedings in NICU, including human milk, may only hang for four (4) hours. In other units commercially sterile ready-to-feed formulas, not manipulated (no water, modules or medications added), may hang for up to eight (8) hours.

4.4.1.15 Feeding pumps that meet the needs of neonates and infants must be used.

4.4.1.16 The feeding-pump housing should be disinfected before initial use and on a regular basis during use.

4.4.1.17 Initiate infant feeding as per hospital policy or physician orders.

4.4.1.18 Feeding sets should be changed every twenty-four (24) hours.

4.4.1.19 Any exposed (opened) formula should be stored in a refrigerator in a covered, labeled container indicating patient name and MRN as well as date and time when opened. Any leftover formula must be discarded after twenty-four (24) hours.

4.4.1.20 The risk of aspiration should be minimized as per hospital policy.

4.4.1.21 Record daily intake and output

4.4.1.22 Record gastrointestinal function

4.4.1.23 Monitor gastric residual volumes to assess tolerance according to policy when indicated.

5. Equipments/Forms:

5.1 Electronic Weighing Scale (in grams)

5.2 Measuring Spoon/Cup

6. Related References:

6.1 American Dietetic Association: Manual of Clinical Dietetics 6th Edition (2000).

6.2 Sandra T Robbins and Leila T Beker: Infant Feedings: Guidelines for Preparation of Formula and Breast Milk in Health Care Facilities (2004).

6.3 Clinical Practice Guidelines:

6.3.1 Policy for Nasogastric/Orogastric Feeding or Prevention of Aspiration

6.3.2 Verification of tube placement.

6.3.3 Aseptic handling techniques.

6.3.4 Prevention of aspiration.

6.3.5 Drug administration through enteral feeding tubes.

6.3.6 Monitoring of gastric residual volumes.

6.4 Infection Control Manual, NGHA.

6.5 APP No. 1429-11: “Food Service Ordering, Monitoring and Billing”

6.6 APP No. 1430-45: “OVA Reporting”

6.7 APP No. 1430-16: “Patient Identification”

6.8 DPP No. 7800-01-128: “Nasogastric/Orogastric Tube Management”

6.9 DPP No. 7800-01-029: "Aspiration Precaution"

6.10 DPP No. 7800-01-10: "Patient Identification"

6.11 IPSG No. 2: International Patient Safety Goals No. 2: "Improve Effective Communication"

7. Appendices:

None

8. Recommendations:

None