المملكة العربية السعودية الحرس الوطني – الشؤون الصحية **Kingdom of Saudi Arabia, National Guard Health Affairs** **DEPARTMENTAL POLICY & PROCEDURE**	
Entity Name & Region: Clinical Nutrition Services-WR	
Subject: Specialized Enteral Nutrition Support for Adult and Pediatric Patients Excluding Neonates and Infants	
Dates: Original: Version 1 August 2012	**Effective: August 2012**
Reference: : 028010-15 Version 1	**Replaces Number: New**
Targeted Employees/ Departments: Clinical Nutrition Department, Nursing Department, Physicians and Pharmacy Staff	

1. Purpose:

1.1 To assure, monitor appropriateness and administration of tube feeding to adult and pediatric patients (excluding neonates and infants).

1.2 To monitor nutritional status of patients on tube feeding.

2. Definitions:

2.1 Specialized enteral nutrition support: Provision of nutrients orally or enterally with therapeutic intent. This includes, but is not limited to provision of enteral nutrition support to maintain and/or restore optimal nutrition status and health.

2.2 Enteral nutrition formula: A formulation used to provide patients with nutrition through the gastro-intestinal tract.

2.3 Feeding tube: Nasogastric (access to the GI tract through the nose), Orogastric (access to the GI tract through the mouth) or Gastrostomy (access through the skin into the stomach).

2.4 Continuous feeding: Continuous tube feedings are administered at a constant, steady rate, over a period of sixteen to twenty four (16-24) hours (hrs), usually with a feeding pump although gravity drip may be used for feeding into the stomach. Gravity drip is not recommended for feeding into the duodenum or jejunum. This is the preferred method for critically ill patients.

2.5 Cyclic feeding: Cyclic feedings are delivered by the continuous drip method at an increased rate over eight to sixteen (8-16) hours (hrs), often overnight, by pump. This method is used to supplement oral intake or when indicated to prevent drug-nutrient or drug–drug interactions.

2.6 Intermittent feeding: Tube feedings are infused at specific intervals throughout the day. The volume of desired feeding is divided into several feedings per day. The feedings are given by gravity drip or pump over a 30-60 minute period, at rate of 50-200 milliliters (mls) every two to four (2-4) hrs as per Clinical Dietitian order. This method is usually used for non-critically ill patients and feeds are administered during the day to mimic mealtimes.

2.7 Bolus feeding: Feedings are administered rapidly (usually in less that 15 minutes) into the GI tract by syringe. Bolus feeds are usually administered four to six (4-6) times per day, but

maximum eight (8) times per day. This method is only appropriate for feeding into the stomach and may not be tolerated by all patients.

2.8 Ready-to-hang formulas: Formulas that are connected directly to the giving set without decanting it into a reservoir.

2.9 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.

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

2.11 Nutrition Care Process (NCP): is a systematic problem solving method that dietetic professionals use to critically think and make decisions to address nutrition related problems and provide safe and effective quality nutrition care.

2.12 QCPR: QuadraMed Computerized Patient Record

2.13 Neonates: is relating to newborn children, especially in the first week of life and up to four weeks old.

2.14 Infant: A young baby, from birth to twelve (12) months of age.

2.15 Nutrition Monitoring: Monitoring refers to the review and measurement of a patient's status at pre-planned follow-up points with regard to the nutrition diagnosis, intervention goals and outcomes.

3. Policy Statements:

3.1 Patients of King Abdulaziz Medical City-Jeddah (KAMC-J) requiring specialized enteral nutrition support will receive Nutritional support according to the procedures described in this policy.

3.2 Ready-to-feed and ready-to-hang formulations will be used as far as possible. The Clinical Dietitian is responsible to prescribe enteral feeding for patients.

3.3 Enteral feeding will be completed following the physician's written order and following a nutritional assessment of the Clinical Dietitian.

3.4 Sentinel events should be reported as per the process for reporting such events; a sentinel event requires more attention than routine Occurrence Variance Report (OVA) process.

4. Procedures:

4.1. Clinical Dietitians:

4.1.1 The Clinical Dietitian calculates the nutritional requirements and recommends the appropriate formula for the patient's disease process as part of the NCP. This should be done in consultation with the patient's physician.

4.1.2 The Clinical Dietitian is responsible for evaluation of appropriateness of the feeding modality order, monitoring of nutritional replacement, and the patient's acceptance/tolerance of the feeding. This is accomplished by:

4.1.2.1 Monitoring of oral intake and calculation of calories, protein and any other pertinent nutrient provided by nutrition support.

4.1.2.2 Assess appropriateness of current enteral feeding & make recommendation for change as needed.

4.1.2.3 Completion of nutritional assessment and periodic reassessment as lined-out in nutrition assessment and reassessment policy.

4.1.3 When significant amounts of nutrients are provided through means other than the feeding formulation (e.g. parenteral infusions, drugs, continuous arteriovenous hemodialysis), the formulation will be adjusted accordingly.

4.1.4 The Clinical Dietitian will monitor (concentration, rate of tube feeding) and re-assess (tolerance to include –gastric residuals, diarrhea/constipation), fluid status, weight change, potential drug nutrients interactions with drug administrate via feeding tube to optimize nutrition support. This document information will be the patient's clinical record.

4.1.5 In stable patients, monitoring will occur weekly or as clinically indicated.

4.1.6 Patients who are critically ill, have debilitating diseases or infection, are at risk of Refeeding Syndrome complications, when transitioning between parenteral and enteral or enteral and oral diet, or have experienced complications associated with specialized enteral nutrition support, require daily or more frequent monitoring.

4.2. Physicians:

4.2.1 Orders for specialized enteral nutrition support must be documented in the patient's clinical record under "Doctor's Orders" before administration.

4.2.2 Nurses should not accept verbal order for enteral nutrition. This is not in keeping with Verbal Orders/Telephone Order policy.

4.2.3 When a dietitian is not available physicians in the general wards should utilize the attached algorithm to assist them in the initiation of enteral nutrition support until such time as a dietitian has assessed the patient.

4.2.4 Arrange for the proper placement of an enteral access device (enteral tube) i.e. Naso-Gastric, Naso-Duodenal, Naso-Jejunal, Gastro-Stomy, Duodeno-Stomy, or Jejuno-Stomy tube by credentialed/certified competent health care professional such as nurse, physician or surgeon as required.

4.3 Pharmacists:

4.3.1 Assist the physician and dietitian in planning drug dosing and specialized enteral nutrition support schedules to prevent adverse drug-nutrient interactions.

4.3.2 All enteral feeds are supplied directed to and processed by the Food Services Department. The Food Services Department responsible for the storage, and to ensure that the formula is within the expiratory date. In addition to releasing of tube feeding;

4.3.2.1 Only commercially prepared tube feeding formula is used.

4.3.3 The formula room is responsible for preparing and mixing of the formulas (powder or liquid, MCT oil etc).

4.3.4 All preparation personnel are to perform hand hygiene, and wear disposable gloves prior to handling feeding sets and formula.

4.3.5 Sterile water to be used when diluting feed.

4.3.5.1 Clean measuring devices are used with each feeding preparation.

4.3.6 Feeding bags are labeled with the patient's name, expiry date, Medical Record Number (MRN), date and time.

4.4. Nurses:

4.4.1. Administer enteral nutrition support (tube feeding) as follows:

4.4.1.1 Verify and document tube placement according to hospital approved clinical practice guidelines and Departmental Policy & Procedure (DPP) for "Insertion and Maintenance of Nasogastric Tube (NGT) before initial feeding and daily whilst tube is in situ.

4.4.1.2 Complications related to an enteral access device and outcome of actions to manage the complications will be clearly documented electronically in the patient's medical record.

4.4.1.3 Initiate enteral feeding as per hospital approved clinical practice guidelines or doctor's orders. Check expiration dates on enteral nutrition containers before opening.

4.4.1.4 Fill open-system feeding containers per hospital approved clean technique.

4.4.1.5 Continuous feeds are viable for up to twenty-four (24) hours (hrs) at room temperature.

4.4.1.6 Open feeds are supplied in can form and should be opened only as required.

4.4.1.7 If an open feeding system is used prepare the volume as per Clinical dietitian order, and to run for no more than four (4) hours (hrs) at a time.

4.4.1.8 When bolus feed are given, a clean feeding set is to be used for each bolus feeding.

4.4.1.9 Discard single use syringes following use.

4.4.1.10 Ready-to-hang (close system) formulations are used as far as possible in high risk areas such as critical care units to diminish the risk of microbial contamination.

4.4.1.11 Administer enteral formulations at room temperature (no higher than 25°C).

4.4.1.12 Ready-to- hang formulations may hang for up to forty-eight (48) hours (hrs) unless otherwise indicated by the manufacturer. Ready-to-hang formulations must be changed every twenty-four (24) hours (hrs) together with feeding sets.

4.4.1.13 Ready-to-feed decanted formulations may hang to a maximum of twelve (12) hours (hrs).

4.4.1.13.1 A new supply should never be added to the old formula.

4.4.1.14 Any exposed (opened) formulation should be stored in a refrigerator in a covered, labeled container indicating the patient for whom it has been ordered, as well as date and time opened.

4.4.1.14.1 Any leftover formula should be discarded after twenty-four (24) hours (hrs).

4.4.1.15 Reconstituted decanted formulas (if used) may only hang for six (6) hours (hrs) only.

4.4.1.16 Enteral nutrition formulations being administered will be labeled with the expiration time and then discarded at the time of expiration.

4.4.1.17 Feeding sets should be changed at least once every 24 hours.

4.4.1.18 Feeding sets and tubes should be maintained according to the approved clinical practice guidelines.

4.4.1.19 Drug administration through enteral tubes should be done according to the hospital approved clinical practice guidelines.

4.4.1.20 The risk of aspiration will be minimized by positioning the patient upright at 30° during feeding and one (1) hour (hr) following feeding.

4.4.1.21 Record daily intake in QCPR.

4.4.1.22 Record gastrointestinal function in QCPR.

4.4.1.23 Monitor and record gastric residual volumes to assess tolerance according to hospital clinical practice guidelines when indicated.

4.4.2 The nursing staff is also responsible for notifying the clinical dietitian of all patients (excluding neonates & infants) on tube feeding or liquid nutritional supplements.

5. Equipments/Forms:

None

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 American Society for Parental and Enteral Nutrition Board of Directors and Task Force on Standards for Specialized Nutrition Support for Hospitalized Adult Patients: Standards for Specialized Nutrition Support: Adult Hospital Patients. Nutrition in Clinical Practice 20:281-285, April 2005.

6.4 DPP-Sentinel Event Reporting.

6.5 DPP-Patient Initial Assessment, Follow up & Reassessment by Clinical Dietitian-028010-11 Version-1.

6.6. DPP-Nasogastric Tube Insertion & Maintenance

6.7. Clinical Practice Guidelines:

6.7.1 Verification of tube placement.

6.7.2 Initiation of tube feeding.

6.7.3 Clean Handling Techniques.

6.7.4 Maintenance of Enteral Feeding Tubes.

6.7.5 Prevention of Aspiration.

6.7.6 Drug Administration through Enteral Feeding Tubes.

6.7.7 Monitoring of Gastric Residual Volumes.

6.8. Initiation of Enteral Feeding Algorithm.

7. Appendices:

None

8. Recommendations:

None