

**FM 4-02.56 (FM 8-505)**

**ARMY MEDICAL  
FIELD FEEDING  
OPERATIONS**

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

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## **ARMY MEDICAL FIELD FEEDING OPERATIONS**

### **TABLE OF CONTENTS**

|  | <b>Page</b> |
|--|-------------|
| <b>PREFACE</b> .....   | iii         |
| <b>CHAPTER 1. NUTRITION CARE SECTION PREPARATION</b> .....       | 1-1         |
| 1-1. Mission .....   | 1-1         |
| 1-2. Deployment Actions.....                                     | 1-1         |
| 1-3. Administrative Procedures .....                             | 1-3         |
| <b>CHAPTER 2. NUTRITION CARE PERSONNEL</b> .....                 | 2-1         |
| 2-1. Introduction .....  | 2-1         |
| 2-2. Organic Personnel Requirements .....                        | 2-1         |
| 2-3. Personnel Task Organization .....                           | 2-2         |
| 2-4. Staff Responsibilities .....                                | 2-2         |
| 2-5. Additional Personnel Requirements .....                     | 2-3         |
| 2-6. Additional Duties .....                                     | 2-4         |
| <b>CHAPTER 3. EQUIPMENT</b> .....                                | 3-1         |
| 3-1. Introduction .....  | 3-1         |
| 3-2. Equipment Systems .....                                     | 3-1         |
| <b>CHAPTER 4. GUIDELINES FOR NUTRITION SUPPORT</b> .....         | 4-1         |
| 4-1. Normal Nutrition .....                                      | 4-1         |
| 4-2. Nutrition and Disease .....                                 | 4-1         |
| 4-3. Nutrition for Military Operations .....                     | 4-2         |
| 4-4. The Clinical Dietetics Process.....                         | 4-5         |
| <b>CHAPTER 5. HEALTH PROMOTION AND NUTRITION EDUCATION</b> ..... | 5-1         |
| 5-1. Introduction.....   | 5-1         |
| 5-2. Preparation Prior to Deployment.....                        | 5-1         |
| 5-3. Steps in a Health Promotion Program.....                    | 5-2         |
| <b>APPENDIX A. TRAINING</b> .....                                | A-1         |
| A-1. General .....   | A-1         |
| A-2. Training Exercises.....                                     | A-1         |
| A-3. Training Objectives.....                                    | A-1         |
| A-4. Training Coordination .....                                 | A-2         |

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|                 |   | <b>Page</b>         |
|-----------------|---|---------------------|
|                 | A-5. Training Evaluation.....   | A-2                 |
|                 | A-6. After Action Review .....  | A-3                 |
| <b>APPENDIX</b> | <b>B. SAMPLE NUTRITION CARE SECTION STANDING OPERATING<br/>PROCEDURE TOPICS .....</b> | <b>B-1</b>          |
| <b>APPENDIX</b> | <b>C. SAMPLE FORMAT FOR NUTRITION CARE SECTION AFTER<br/>ACTION REPORT .....</b>      | <b>C-1</b>          |
|                 | C-1. Mission .....  | C-1                 |
|                 | C-2. Itinerary .....  | C-1                 |
|                 | C-3. Situation Background .....   | C-1                 |
|                 | C-4. Personnel .....  | C-1                 |
|                 | C-5. Activities .....   | C-2                 |
|                 | C-6. Preparation and Coordination Completed Prior to Deployment .....                 | C-3                 |
|                 | C-7. Prior Training .....   | C-3                 |
|                 | C-8. Force Protection Assessment .....  | C-3                 |
|                 | C-9. Support .....  | C-3                 |
|                 | C-10. Staff Scheduling .....  | C-3                 |
|                 | C-11. Facility and Equipment .....  | C-3                 |
|                 | C-12. Living Situation .....  | C-4                 |
|                 | C-13. Observations and Recommendations .....  | C-4                 |
|                 | C-14. Attachments .....   | C-4                 |
| <b>APPENDIX</b> | <b>D. SUPPLEMENTAL INFORMATION ON NUTRITIONAL<br/>SUPPORT .....</b>                   | <b>D-1</b>          |
|                 | D-1. Nutrient Sources and Functions .....   | D-1                 |
|                 | D-2. Medical Diet Supplements .....   | D-4                 |
|                 | D-3. Therapeutic Diet Menus .....   | D-4                 |
|                 | D-4. Therapeutic Diet Preparation .....   | D-5                 |
|                 | D-5. Recipe Modifications .....   | D-6                 |
|                 | D-6. Supplemental Fluids .....  | D-7                 |
|                 | D-7. Nourishments and Snacks .....  | D-7                 |
|                 | <b>GLOSSARY.....</b>  | <b>Glossary-1</b>   |
|                 | <b>REFERENCES .....</b>   | <b>References-1</b> |
|                 | <b>INDEX.....</b>   | <b>Index-1</b>      |

## PREFACE

This field manual (FM) provides information and guidance to hospital nutrition care personnel and commanders on Army Medical Feeding Operations in a table of organization and equipment (TOE) hospital. It describes nutritional care section actions, personnel, equipment, guidelines for nutrition support, and health promotion and nutrition education.

Use of trade or brand names in this publication is for illustrative purposes only, and does not imply endorsement by the Department of Defense (DOD).

User comments are encouraged to improve the content of this publication. Send comments directly to Commander, US Army Medical Department Center and School, ATTN: MCCS-FCD, 1400 East Grayson Street, Fort Sam Houston, TX 78234-5052, or at e-mail address: [Medicaldoctrine@amedd.army.mil](mailto:Medicaldoctrine@amedd.army.mil).

Unless otherwise stated, whenever the masculine gender is used, both men and women are included.

This publication is in consonance with the following North Atlantic Treaty Organization (NATO) Standardization Agreements (STANAGs) and American, British, Canadian, and Australian (ABCA) Quadripartite Standardization Agreements (QSTAGs):

| <b>TITLE</b>   | <b>STANAG</b> | <b>QSTAG</b> |
|--|---------------|--------------|
| Minimum Requirements for Water Potability and Long Term Use                        |               | 245          |
| Minimum Standards of Water Potability in Emergency Situations                      | 2136          |              |
| Emergency Supply of Water in War   | 2885          |              |
| Survival, Emergency and Individual Combat Rations—Nutritional Values and Packaging | 2937          |              |
| Essential Field Sanitary Requirements  | 2982          | 889          |

## CHAPTER 1

**NUTRITION CARE SECTION PREPARATION****1-1. Mission**

*a.* The nutrition care section provides services as part of the Army deployable hospital systems. Hospital units organized in TOE structures under the Medical Force 2000 (MF2K) concept consist of the corps combat support hospital (CSH) and the communications zone field hospital and general hospital. A new single hospital system (CSH) has been designed under the Medical Reengineering Initiative (MRI) for hospital support in the corps and communications zone. The MRI hospital system will replace the MF2K hospital system. The configuration of the MRI CSH will vary depending on the number of troops supported and the type of deployment. A nutrition care section is organic to each hospital system configuration under MF2K and MRI. This section is responsible for providing hospital nutrition care services, (meal preparation and service to patients and staff, dietetic planning, patient education, advising the commander on health and nutrition, and the theater health promotion training program).

*b.* In stability operations and support operations—

- Contract food service support may be procured for the deployed force. When the contract includes feeding the hospital staff and patients, only one dietitian and one or two hospital food service specialists, may be deployed. However, if the mission requires support to a large population, the full nutrition care section may be deployed. Regardless of the number of personnel deployed, the nutrition care personnel are responsible for ensuring that hospital nutrition care services are provided (dietetic planning, patient education, advising the commander on health and nutrition, and the theater health promotion training program). They are also responsible for ensuring that the correct patient diets and nourishments are provided by the contractor at the right times. To ensure that patient needs are met, a process is developed (with the contractor, the nutrition care section, and nursing services working together) for ordering and delivering patient meals and nourishments.

- Nutrition care services may involve feeding a healthy population or working with a host nation (HN) malnourished population. Nutrition care services may be provided directly to the HN population through nutrition assessment, therapeutic feeding, and population-based feeding programs. Indirect nutrition care assistance includes serving as a consultant to the HN medical education system in the development of nutrition programs for the HN population.

**1-2. Deployment Actions**

*a.* The nutrition care section must maintain the readiness of all section equipment and supplies for deployments. The section must continually train in preparation for deployments. Training may be conducted in the section, in a classroom, or during field training exercises. The key is to have all personnel trained to proficiency in their specialties and in their common soldiering tasks. Professional officer filler system (PROFIS) personnel must be included in the section training activities. Even if the PROFIS personnel cannot actively participate in the section training at the installation, they must be provided copies of all section training schedules, lesson plans, outlines, references, and other pertinent training material to ensure that they are prepared to perform their duties in the section. See Appendix A for additional information on training.

**FM 4-02.56**

b. During the predeployment phase, the nutrition care section staff must ensure that they are prepared for the mission. Figure 1-1 provides a checklist to assist the section’s staff in planning and coordinating their predeployment actions.

| ACTIONS REQUIRED  | COMPLETED |
|---|-----------|
| Receive mission requirements from the hospital commander.   |           |
| Ensure staff members are qualified at the skill levels needed.  |           |
| Conduct patient play scenarios with nutrition screening and assessment, modified diet preparation, and patient food delivery and service. |           |
| Update the section SOPs.  |           |
| Ensure all equipment is operable and repair parts are on hand.  |           |
| Rehearse ARTEP task steps and performance measures.   |           |
| Train personnel using individual task list.   |           |
| Rehearse movement procedures for nutrition care section for deployment.   |           |
| Coordinate nutrition care operations/support with the following:  |           |
| PROFIS Dietitian.   |           |
| Company Commander and First Sergeant.   |           |
| Hospital Commander and hospital Layout Staking Team.  |           |
| Supply Officer/Supply Sergeant.   |           |
| Training NCO.   |           |
| Publications NCO.   |           |
| Movement Control Officer.   |           |
| Motor Pool Sergeant.  |           |
| Chief Nurse and Wardmaster.   |           |
| Supporting Class I activity.  |           |

*Figure 1-1. Nutrition care section preparation checklist.*

c. During the deployment, the nutrition care section provides staff and patient feeding activities or ensures that feeding is accomplished as required by the contractor. They ensure that food and medical diet supplements are requisitioned, received, stored, and prepared in a sanitary manner. They provide nutrition and health promotion education programs for supported organizations, as well as, for hospital staff and patients. They also serve as consultants to the command on nutrition issues.

d. Upon redeployment the section cleans, repairs, or requests replacement items and repair parts for unserviceable equipment, obtains new stocks of expendable supplies, and stores supplies and equipment for the next deployment. They continue to provide the required nutrition and health promotion education programs, as directed.

**1-3. Administrative Procedures**

*a.* Establish a reference library for the section of all essential publications and blank forms. The section is authorized a “Nutrition Care Book Set” that must be kept up to date. The set issued to the section may not have current editions of publications. Therefore, it is critical that new and revised publications be obtained and placed in the set, as they are available (see DA Pam 25-30 and references in this publication). Publications are available on the Reimer Digital Library at website <http://www.adtdl.army.mil/> or the US Army Publishing Agency at website: <http://www.usapa.army.mil/>.

*b.* The section develops and updates, as necessary, standing operating procedures (SOPs). Several SOPs may be needed to ensure that personnel have guidance on how the section will conduct operations. Nutrition care section SOPs describe how the section provides support. They should describe any special supply requirements, (such as procedures for securing subsistence, supplies, funds, and equipment). See Appendix B for SOP topics that should be included in the nutrition care section SOPs.

*c.* Establish and maintain records and logs that reflect unit activities such as, records of training; equipment and maintenance; ration accounting; and patient meals served.

*d.* Prepare and submit daily reports as directed or in accordance with the command SOP.

*e.* Prepare after action reports on the deployment/training exercise. See Appendix C for a sample after action report format.

## CHAPTER 2

**NUTRITION CARE PERSONNEL****2-1. Introduction**

This chapter lists nutrition care personnel requirements. Each unit has a TOE that provides the personnel requirements. It is important that the chief and noncommissioned officer in charge (NCOIC) work together to identify personnel shortages and request fills in anticipation of short notice deployments. Some personnel may be PROFIS to your unit. The chief and NCOIC must ensure that the PROFIS roster for their section is current. Any section positions, including PROFIS, not filled must be reported to the chief, administrative services for replacements.

**2-2. Organic Personnel Requirements**

The specific personnel requirements for the nutrition care sections of the MF2K and MRI hospitals are based on the type of parent unit. The MF2K hospitals are being converted to MRI configured CSHs. The MRI CSH will consist of two types: The CSH Echelons Above Corps (EAC) and the CSH (Corps). Each CSH can provide hospitalization for up to 248 patients and is organized under two companies, a 164-bed hospital company and an 84-bed hospital company (see FM 4-02.10 for details on the CSH). The nutrition care personnel requirements for each type of CSH are as follows:

*a.* The 248-bed CSH (EAC) cannot operate as two separate hospital companies (an 84-bed company and a 184-bed company). Because the CSH (EAC) cannot operate as two companies, the entire nutrition care section is assigned to the 84-bed hospital company with 2 officers and 18 enlisted (see Figure 2-1).

| <b>Rank</b> | <b>Title</b>              | <b>Number</b> |
|-------------|---------------------------|---------------|
| LTC         | Chief                     | 1             |
| 1LT         | Dietitian                 | 1             |
| SFC         | NCOIC                     | 1             |
| SSG         | Nutrition Care Sergeant   | 1             |
| SGT         | Nutrition Care Sergeant   | 3             |
| SPC         | Nutrition Care Specialist | 6             |
| PFC         | Nutrition Care Specialist | 7             |

*Figure 2-1. Echelon above corps combat support hospital nutrition care section staff.*

*b.* The 248-bed CSH (Corps) can operate as two separate hospital companies. Each company has a nutrition care section (one in the 164-bed hospital company and one in the 84-bed hospital company). The 84-bed hospital company can operate as the 84-bed or forward deploy a functional 44-bed hospital. When the hospital forward deploys a 44-bed hospital, the entire nutrition care section (personnel and equipment)



deploys with it. There are no nutrition care personnel or equipment that would be left with the stay behind 40-bed slice. Personnel in the stay behind 40-bed slice must obtain food service support from the 164-bed company or from another unit in the area. The nutrition care section of the 84-bed company has one officer and seven enlisted personnel (see Figure 2-2). The CSH (Corps) 164-bed company has one officer and fifteen enlisted personnel (see Figure 2-3).

| Rank | Title                         | Number |
|------|-------------------------------|--------|
| CPT  | Chief, Nutrition Care Section | 1      |
| SFC  | NCOIC, NCS                    | 1      |
| SSG  | Nutrition Care Sergeant       | 1      |
| SGT  | Nutrition Care Sergeant       | 1      |
| SPC  | Nutrition Care Specialist     | 2      |
| PFC  | Nutrition Care Specialist     | 2      |

Figure 2-2. 84-bed company nutrition care section.

| Rank | Title                         | Number |
|------|-------------------------------|--------|
| MAJ  | Chief, Nutrition Care Section | 1      |
| SFC  | NCOIC                         | 1      |
| SSG  | Nutrition Care Sergeant       | 1      |
| SGT  | Nutrition Care Sergeant       | 2      |
| SPC  | Nutrition Care Specialist     | 6      |
| PFC  | Nutrition Care Specialist     | 5      |

Figure 2-3. 164-bed company nutrition care section.

**2-3. Personnel Task Organization**

- a. The CSH (EAC) nutrition care section is not staffed to operate split-based.
- b. The CSH (Corps) 248-bed has two nutrition care sections with corresponding chiefs and NCOICs. When operating split-based the two sections are organized on the TOE appropriately. When operating together the sections will combine and task organize according to the number of personnel and rank to perform the mission.

**2-4. Staff Responsibilities**

- a. The dietitian—

- Formulates policies, develops procedures, and directs and supervises the operation of nutrition care services and the provision of comprehensive nutrition care programs in the deployable hospital.

- Manages medical food preparation and service systems.

- Coordinates and ensures the procurement and receipt of safe, wholesome food items/rations for patients and staff.

- Provides nutrition health promotion programs for the military community and develops and directs nutrition education or dietary intervention programs for the military.

- Assists the physician with patient nutritional assessment and therapeutic dietary intervention.

- Serves as a consultant at all levels of nutrition related health and performance issues, and medical food service operation.

- Develops, implements, and directs nutrition and medical food service education programs for nutrition care specialists and other medical personnel.

*b.* The nutrition care specialist—

- Performs clinical dietetic functions in the dietary management and treatment of patients and staff.

- Assists in the nutritional assessment and screening of individual patients.

- Assists in the health promotion program activities.

- Prepares and serves modified and regular food items in the management of the nutritional needs of individuals (across the life span and a diversity of people, cultures, and religions in support of the mission), under the supervision of a dietitian or senior NCO.

*c.* For detailed information on the qualifications and responsibilities of the dietitian and nutrition care specialist see DA Pam 611-21.

## **2-5. Additional Personnel Requirements**

The hospital commander is responsible for providing military personnel for support duties in the nutrition care section. Based on the mission, additional personnel support will be required for sanitation duties and patient food delivery. It is essential that representatives from the nutrition care sections be involved in the initial planning stage of all deployments to ensure nutrition care section requirements are included. The number of personnel needed for support duties will be based on the mission. The soldiers assigned for

## **FM 4-02.56**

support duties may be unfamiliar with food service sanitation principles and patient food delivery support; therefore, extensive supervision is required. In operations where civilian contracted dining facility attendants are available, the chief and NCOIC will provide the contracting representative with the number of attendants required, a clear statement of work, and shift schedules. Interpreter support and translation of work instructions may be required for the contracted attendants.

### **2-6. Additional Duties**

Based on the unit's mission, nutrition care section personnel may have additional duties that interfere with or disrupt patient feeding requirements. The chief and NCOIC must accurately communicate the section's nutrition care workload to the hospital commander to ensure that the nutrition care section can accomplish its primary mission of feeding the staff and patients. When additional duties interfere with or disrupt patient feeding it must be communicated to the hospital commander.

## CHAPTER 3

# EQUIPMENT

### 3-1. Introduction

The hospital TOE lists the authorized nutrition care section equipment. The hospital TOE lists the nomenclatures and quantities of the nutrition care section's equipment. This chapter only discusses the major line items. Common items that are also found in other sections of the CSH such as tentage, communication equipment, and vehicles are not described in this chapter. Regardless of the type of equipment, every piece should have a corresponding technical manual (TM) or manufacturer's instructions that describe its operation, user maintenance, and support maintenance. The TM also lists repair parts and special tools for each item of equipment. The nutrition care section should maintain and deploy with all equipment TMs. All nutrition care section personnel must be familiar with the TMs to ensure that all equipment is maintained and operated properly. The TMs are critical references for training personnel on use and maintenance of the equipment.

### 3-2. Equipment Systems

The nutrition care section normally conducts operations in a tent extendable, modular, personnel (TEMPER) using standard Army field feeding equipment. The major items of equipment include—

- *Modular field kitchen.*
  - The number of modular field kitchen (MFK) sets authorized by TOE is determined by the number of staff and patients that the specific hospital is required to support. For example the 84-bed CSH (Corps) is authorized 1 MFK; the 164-bed CSH (Corps) is authorized two MFKs; whereas, the 84-bed CSH (EAC) is authorized four MFKs. The reason for the greater numbers authorized in the CSH (EAC) is that they must provide food service for the combined staff and patient load of the 84-bed and the 164-bed CSH (EAC) and the attached medical detachment, minimal care staff and patients. The 164-bed CSH (EAC) is not authorized any MFKs.
  - The MFK is comprised of a two-section TEMPER, a storage rack assembly, an oven assembly, a griddle assembly, a steam table assembly, a heater tank assembly, six modern burner units (MBU), worktables, food containers, and storage cabinets.
  - One MFK with assigned personnel can serve three hot meals per day to 250 staff and patients combined.

#### NOTE

A containerized kitchen (CK) is under development and will eventually replace the MFK in all units. The CK is a self-contained kitchen on a trailer with multiration preparation and serving capabilities. One each CK will be fielded to hospital company (84-bed and 164-bed) in the CSH (Corps) and two CKs will be fielded to the 84-bed hospital company in the CSH (EAC).

## FM 4-02.56

- *Food sanitation center.*
  - The food sanitation center (FSC) provides the nutrition care section with the capability to clean and sanitize food preparation and serving equipment. The number of centers authorized is dependent upon the staff and patient support requirements. Example, the CSH (Corps) 84-bed is authorized one; where as the CSH (EAC) 84-bed is authorized two.
  - Each FSC is comprised of a two-section TEMPER, storage rack assembly, sink assembly, three MBUs, a drain table, and a worktable.
  - Each FSC can provide the capability to clean and sanitize equipment required to serve 400 personnel.
- *Modern burner unit.* The MBU features modular construction that allows for easy replacement of malfunctioning components. The MBU external dimensions are similar to the M2A Burner, which it replaces. It can be installed into and used with the kitchen and sanitation equipment. The MBU features automated ignition (electrical power required) and uses JP-8 or alternate approved diesel fuel.

### CAUTION

When fueling a burner, all burners that are connected and/or within 10 feet of the burner being fueled should be shut down. The MBU can be fueled in the tent but the fuel storage area must be at least 50 feet from all tents, sheltered areas, and vehicles.

- *Food preparation set.* The food preparation set contains additional equipment not found in the MFK necessary to prepare and deliver the therapeutic diets. This set includes blenders, food and beverage containers, and wheeled litters. There are two sets for the CSH (EAC) and one per nutrition care section in the CSH (Corps).
- *Refrigeration.* Each nutrition care section is assigned one 150 cubic foot refrigerator. Depending on the ration delivery schedule, the 150 cubic foot refrigerator may not have enough storage space for all perishable rations. To ensure sufficient refrigeration space is available, the nutrition care chief or NCOIC should request the issue of an 8 x 8 x 20 foot refrigerated container. When a standard 8 x 8 x 20 refrigerated container is not available, a request for contract should be submitted to obtain one, if funds are available.

## CHAPTER 4

**GUIDELINES FOR NUTRITION SUPPORT****4-1. Normal Nutrition**

*a.* Normal nutrition and assessment are addressed in the American Dietetic Association's (ADA) *Manual of Clinical Dietetics*, hereafter referred to as the ADA Manual. It is not the intent of this chapter to repeat any of the information from the ADA Manual. This chapter provides other sources of information that enhances the application of the ADA Manual procedures for use in a field setting with limited types of food items available to prepare patient meals.

*b.* For military dietary reference intakes (MDRI) see AR 40-25. The MDRI is intended for healthy and fit soldiers performing their mission. The MDRI is provided in the currently fielded operational rations. Consuming the daily ration provides soldiers with essential calories, vitamins, and minerals. Appendix D provides an overview of the nutrient functions and sources in operational rations.

**4-2. Nutrition and Disease**

The medical nutrition therapy for specific conditions and diagnoses are defined in the ADA Manual. This publication provides dietetic modifications, related physiology, examples of food selection, and adequacy of each therapy.

*a. Diet Orders.* The most common diet orders on a deployment are Regular, High Calorie-High Protein, Clear Liquid, and Full/Blenderized Liquid. Use available rations and medical diet supplements to prepare other therapeutic diets listed in the ADA Manual. Humanitarian assistance deployments will be in support of civilians (ages from infants to the very old) for whom a wide variety of dietetic needs will be required. Thus, health care personnel must be prepared to respond to these complex patient needs. Even in war, nutrition care personnel may be required to respond to situations where the very young and very old require support.

*b. Disease and Health Risk.* Considering worldwide deployments, it is important to understand the diseases and health risks inherent to each country. The dietary habits of the culture impact on humanitarian support missions. When contracting agents hire local civilians to work in the food service facility, there may be additional health risk to the supported population. Preventive medicine personnel should have detailed reports on endemic/epidemic diseases and possibly dietary habits of local civilians in the deployment area. Invaluable information on diseases, injuries, and nutritional requirements in areas of deployment can be obtained from—

- United States Armed Forces Medical Intelligence Center (AFMIC). Web site: <http://mic.afmic.detrack.army.mil/>.
- United States Army Research Institute of Environmental Medicine (USARIEM). Web site: <http://www.usariem.army.mil/>.
- United States Army Medical Research Institute of Infectious Diseases (USAMRIID). Web site: <http://www.usamriid.army.mil/>.

## FM 4-02.56

- United States Army Center for Health Promotion and Preventive Medicine (CHPPM). Web site: <http://chppm-www.apgea.army.mil/>.
- World Health Organization (WHO). Web site: <http://www.who.int/en/>.
- The Centers for Disease Control and Prevention (CDC). Web site: <http://www.cdc.gov/>.
- Center for Army Lessons Learned (CALL). Web site: <http://call.army.mil/>.

### 4-3. Nutrition for Military Operations

*a. Nutrition Guidance.* The USARIEM publishes technical notes that are valued references for nutrition in military operations. The technical notes are periodically updated with new information on nutritional information. Example: Technical notes on “Nutritional Guidance for Military Operations in Temperate and Extreme Environments” may be obtained from USARIEM (see web site address above).

*b. Military Rations.* The rations most often used by deployable hospitals are described below. Other available military rations are listed in Natick Pam 30-25.

- *Unitized group ration.* Unitized group rations (UGR) are designed to simplify and streamline the process of providing the highest quality meals in the field. They integrate modules of Heat and Serve (H&S) (formerly T-Rations) and A-Rations with quick-prepared, user friendly brand name commercial products. The UGR is used by unit food service facilities to sustain groups of personnel during worldwide operations. Refrigeration is required with UGR-A-Rations, but not with the UGR-H&S. Menus and recipes are included with each module. Each module provides 50 complete meals. The UGR contains supplements of milk, bread, and cold cereal, and provides an average of 1450 kilocalories (commonly referred to as calories). For additional information on preparing regular diets, refer to FM 10-23.

- *Medical diet supplement to the unitized group ration.* The medical diet supplement list is used in combination with the UGR to prepare modified patient diets. See Appendix D for a list of medical diet supplements to support 50 patients for five days. The medical diet supplements can be combined with the UGR to meet the requirements for High-Calorie-High-Protein, Blenderized Liquid, Full Liquid, and Clear Liquid diets. The purchase and resupply of these items must be coordinated for during the hospital’s predeployment phase.

- *Meal, ready-to-eat, individual.* The meal, ready-to-eat, individual (MRE) is a packaged meal designed for issue, either in individual meals or in multiples of three meals for a complete ration. The components are packaged in flexible envelopes with Flameless Ration Heaters. Each meal provides an average of 1250 kilocalories. There are 24 MRE menus of which four are vegetarian menus. Each box of 12 MRE meals has two vegetarian menu meals. See Appendix D for a list of medical diet supplements to support 50 patients for five days. As with the URGs, the medical diet supplements can be combined with the MREs to meet the requirements for High-Calorie-High-Protein, Blenderized Liquid, Full Liquid, and Clear Liquid diets.

c. *Nutrition Advice for Field Feeding.* The key issues in field feeding are: dehydration; inadequate energy and carbohydrate intake; and gastrointestinal complaints. Even an individual that is mildly dehydrated (body water losses amounting to as little as two percent of body weight) will have impaired performance, reduced appetite, and sluggishness. To prevent diarrhea and constipation advise soldiers to hydrate, choose high fiber foods, eat wholesome foods maintained in sanitary conditions, and avoid eating or drinking locally produced foods unless approved by veterinary personnel. Stress the value of consuming military rations; they are designed to provide essential food elements. See Figure 4-1 for medical field feeding positives and negatives.

| POSITIVES   | NEGATIVES   |
|---|---|
| <b>DO</b> accentuate the positive aspects of the ration; food is a tactical weapon. It maintains mental and physical performance. Stress the need to consume the full ration. | <b>DON'T</b> assume that a ration issued is a ration fully consumed.  |
| <b>DO</b> emphasize water discipline.   | <b>DON'T</b> allow soldiers to use field exercises or deployments as weight loss programs.                                      |
| <b>DO</b> provide group/hot meals whenever possible; soldiers tend to eat more when eating "socially."  | <b>DON'T</b> allow consumption of foods locally procured unless approved by food inspection officer.                            |
| <b>DO</b> schedule meal times when possible, even when individual operational rations are the planned meal.   | <b>DON'T</b> encourage less nutritious food (pogey bait) to become a replacement for more nutritious rations.                   |
| <b>DO</b> watch to see what the soldiers are eating.  | <b>DON'T</b> take nutritional supplements instead of eating meals.  |
| <b>DO</b> encourage consumption of the fortified ration components.   | <b>DON'T</b> add sugar-sweetened drink mixes or flavorings directly to a canteen, camel back, or bulk water storage containers. |

*Figure 4-1. Medical field feeding positives and negatives.*

d. *Nutrition Advice Concerning Supplements.* The military rations (with the exception of special purpose rations) are designed to meet soldier's nutritional needs. However, many soldiers are looking for that edge to improve their performance; for guidance on nutrition supplements see Appendix D and the ADA Manual.

**NOTE**

The use of over-the-counter dietary supplements without counseling may cause undesired side effects. In instances where individuals are on medications for hypertension, the addition of a dietary supplement purported to enhance physical stamina can cause an elevation in blood pressure, thus increasing the potential for a stroke.

e. *Nutrition Advice for Military Operations in a Hot Environment.* The nutritional concerns in hot environments include: dehydration; inadequate food intake; and, water-borne and food-borne illnesses.



## FM 4-02.56

Most individuals' appetite may be suppressed during their first eight days of exposure to a hot environment. To maintain adequate sodium or salt intake, individuals should eat at least 2 meals a day. To prevent dehydration individuals should follow the water consumption rates as described in FM 21-10. See Figure 4-2 for hot weather hydration and nutrition positives and negatives.

| POSITIVES   | NEGATIVES   |
|---|---|
| <b>DO</b> coordinate drinking and work/rest cycles.   | <b>DON'T</b> allow soldiers to become dehydrated.   |
| <b>DO</b> maintain and enforce routine water and food discipline.   | <b>DON'T</b> eat foods that are salty or high in protein if water is not available.   |
| <b>DO</b> provide adequate quantities of potable, palatable water.  | <b>DON'T</b> use the deployment to a hot environment as an opportunity to start a diet.   |
| <b>DO</b> instruct soldiers to monitor the color and relative volume of their urine to check for dehydration.                 | <b>DON'T</b> skip meals.  |
| <b>DO</b> monitor weight loss if possible.  | <b>DON'T</b> consume unsanitary (untreated) ice.  |
| <b>DO</b> eat slightly more food than usually eaten in garrison.  | <b>DON'T</b> eat uncooked or unpeeled fresh fruits and vegetables that have not been sanitized during operations in developing countries. |
| <b>DO</b> encourage consumption of at least two meals per day to replace the salt lost in sweat.                              |   |
| <b>DO</b> encourage consumption of complex carbohydrate foods and beverages.  |   |
| <b>DO</b> establish specific meal times and have soldiers continue to consume snack foods throughout the day as time permits. |   |

*Figure 4-2. Positives and negatives on hot weather hydration and nutrition.*

*f. Nutrition Advice for Military Operations in a Cold Environment.* Key nutritional concerns in a cold environment include: hypothermia; dehydration; and high-energy food requirements. Individual caloric needs may increase by as much as 25 to 50 percent during cold-weather operations; calories produce heat and fuel muscular activity. See Figure 4-3 for cold weather nutrition positives and negatives.

| POSITIVES   | NEGATIVES  |
|---|--|
| <b>DO</b> eat 10 percent - 40 percent more calories than usually eaten in garrison. | <b>DON'T</b> eat snow or ice for moisture.   |
| <b>DO</b> heat food and beverages at every opportunity prior to eating.             | <b>DON'T</b> adopt bizarre dietary habits (such as eating only meat and butter) just because of being in the cold. |
| <b>DO</b> drink more than thirst dictates.  | <b>DON'T</b> take multivitamin tablets to "ward off cold stress."  |

*Figure 4-3. Cold weather positives and negatives.*

| POSITIVES   | NEGATIVES   |
|---|---|
| <b>DO</b> eat snacks between meals and before going to sleep. | <b>DON'T</b> eat food cold because of being too busy to eat it when it's hot or too busy to stop and heat MRE food items. |
|   | <b>DON'T</b> use field training exercises in cold weather as an opportunity to lose weight.                               |
|   | <b>DON'T</b> consume alcohol to "ward off" cold.  |

*Figure 4-3. Cold weather positives and negatives (Continued).*

*g. Nutrition Advice for Military Operations in a High-Altitude Environment.* Nutritional concerns in high-altitude operations include weight loss, low carbohydrate intake, dehydration, and gastrointestinal complaints. The cold temperatures combined with the physical demands of activities over rugged terrain increase energy expenditures to as much as 6000 kilocalories per day. Acute Mountain Sickness (AMS) decreases the appetite; a high-carbohydrate diet may be better tolerated by individuals with AMS. High altitudes increase dehydration. See Figure 4-4 for high altitude nutrition positives and negatives.

| POSITIVES  | NEGATIVES  |
|--|--|
| <b>DO</b> monitor weight loss if possible.   | <b>DON'T</b> allow soldiers to use a mountain exercise as an opportunity to lose weight.       |
| <b>DO</b> emphasize a high-carbohydrate diet, preferably complex carbohydrates.                                  | <b>DON'T</b> skip meals.   |
| <b>DO</b> serve at least one hot meal per day.   | <b>DON'T</b> fill up on high-fat foods.  |
| <b>DO</b> discourage high-fat, pogy bait snack items.  | <b>DON'T</b> force food when nauseous or vomiting.   |
| <b>DO</b> encourage consumption of portions of all ration components.  | <b>DON'T</b> drink unpurified water or melted snow.  |
| <b>DO</b> schedule and enforce drinking, making sure soldiers drink at least 4 to 6 quarts of beverages per day. | <b>DON'T</b> restrict water intake in order to "save it for later" or avoid having to urinate. |
| <b>DO</b> provide a variety of noncaffeinated beverages.   |  |
| <b>DO</b> monitor the color and volume of urine to check for dehydration.  |  |
| <b>DO</b> discourage alcohol consumption.  |  |

*Figure 4-4. High altitude nutrition positives and negatives.*

#### **4-4. The Clinical Dietetics Process**

The clinical dietetics process is the systematic process of providing nutritional care to patients. The process begins with the patient being admitted to the hospital and ends when the patient is discharged as outlined below—

**FM 4-02.56**

- The patient is admitted to hospital, a diet order is written, and the Ward Diet Roster is updated.
- Nutrition care personnel complete the patient nutrition screening within 24 hours; document in medical record.
- Initiate medical nutrition therapy protocol based on nutrition screening.
- Interview patient for food preferences and tolerances.
- Create menu and give to patient tray service personnel.
- Document nourishments and forced fluids requirements.
- Deliver meals and nourishments to patients.
- Monitor changes to diet order.
- Conduct daily follow-ups on high/medium risk patients and on all patients every 5-7 days of hospitalization, patient load permitting.

a. *Clinical Dietetics Documentation.* The form needed for the clinical dietetics process is the Ward Diet Roster, DA Form 1829 (see DA Pam 25-30). See Figure 4-5 for a sample nutrition risk factor criteria. See Figure 4-6 for a sample nutrition screening chart. See Figure 4-7 for a sample patient food preference and tolerance checklist. During humanitarian assistance situations, refer to the references in this manual for appropriate references on screening and nutrition therapy.

| HIGH RISK   | MODERATE RISK   |
|---|---|
| <p>Systems/Disease States:</p> <p>BATTLEFIELD INJURIES/DISEASES—<br/>                     Gunshot wounds to the abdomen; Fracture of Head, Neck, or Jaw; Closed Head Injury; Multiple Trauma; Respiratory Failure (on Ventilator); Small Bowel Obstruction (SBO); Sepsis; Malaria; Anthrax; Dengue.</p> <p>STABILITY OPERATIONS AND SUPPORT OPERATIONS—<br/>                     AIDS/HIV; Anorexia/Bulimia; Cancer; Colitis; Chronic Obstructive Pulmonary Disease (COPD); Crohn’s Disease; Decubitus Ulcer; Diabetes (New or Uncontrolled); Diverticulitis; Dysphagia; Esophageal Stricture; Gastric Bypass; GI Bleed; Inflammatory Bowel Disease (IBD); Leforte (Wired Jaw); Malignant HTN (HTN Crisis or Uncontrolled HTN); Nonhealing Wound; Pancreatitis; Pericarditis; Pulmonary Edema; Renal Failure.</p> | <p>Systems/Disease States:</p> <p>Anemia; Ascites; Congestive Heart Failure (CHF); Dehydration; Peptic Ulcer Disease; Sigmoidectomy</p> |
| <p>Weight History:</p> <p>5 percent weight loss in one month<br/>                     10 percent weight loss in six months</p>  | <p>Weight History:</p> <p>5 percent weight loss in 6 months<br/>                     10 percent weight loss in 12 months</p>            |

*Figure 4-5. Sample nutrition risk factor criteria.*

| HIGH RISK  | MODERATE RISK   |
|--|---|
| Laboratory Values:<br>Albumin 3.0 grams (g)/deciliter (dl) or less   | Laboratory Values:<br>Albumin 3.1–3.5 g/dl  |
| Age:<br>75+ years<br><12 years   | Age:<br>65+ years   |
| Feeding Modalities:<br>Parenteral Nutrition<br>Tube Feeding<br>Nothing by mouth (NPO) and/or Clear Liquids > 3 days<br>By mouth (PO) Intake Inadequate | Feeding Modalities:<br>Transitional Feedings (stable)<br>NPO for 3 days<br>PO Intake Inadequate |
| Procedures:<br>Major Surgeries<br>Long-Term Chemotherapy   | Procedures:<br>Short-Stay Chemotherapy<br>Rehabilitation  |

Figure 4-5. Sample nutrition risk factor criteria (Continued).

| <b>SUBJECTIVE:</b>   |                        |          |                           |  |                       |                                  |
|--|------------------------|----------|---------------------------|--|-----------------------|----------------------------------|
| Weight Change<br>__ Yes __ No<br>If Yes, how much? _____<br>If Yes, in what time period? _____ | Nausea                 | Vomiting | Diarrhea                  | Appetite Change<br>__ Yes __ No  |                       |                                  |
| Chewing Difficulty?  | Swallowing Difficulty? |          |                           |  |                       |                                  |
| Vitamin/Mineral Supplement<br>__ Yes __ No Specify:  | Food Allergies         |          |                           |  |                       |                                  |
| Herbals/Other Dietary Supplements<br>__ Yes __ No Specify:                                     |                        |          |                           |  |                       |                                  |
| Following a special diet?  |                        |          |                           |  |                       |                                  |
| Typical eating pattern?  |                        |          |                           |  |                       |                                  |
| <b>OBJECTIVE:</b>  |                        |          |                           |  |                       |                                  |
| Age  | Height                 | Weight   | Desired body weight (DBW) | Percent DBW  | Percent Weight Change | Albumin<br>_____ grams/deciliter |
| Diagnosis  |                        |          |                           |  |                       |                                  |
| Diet Order   |                        |          |                           |  |                       |                                  |
| <b>ASSESSMENT:</b>   |                        |          |                           |  |                       |                                  |
| Nutritional Status<br>__ High Risk __ Moderate Risk __ Not Compromised                         |                        |          |                           | Further Registered Dietitian (RD) Intervention Needed<br>__ Yes __ No __ N/A |                       |                                  |
| Nutrition Risk Factors:  |                        |          |                           |  |                       |                                  |

Figure 4-6. Sample nutrition screening chart.

**FM 4-02.56**

**PLAN:**

- Nutrition status not Compromised. Provide basic nutrition services. Re-evaluate in \_\_\_\_\_ days.
- Nutritional assessment by RD required:
  - RD will assess within 24 hours (High Risk)
  - RD will assess within 48 hours (Moderate Risk)
- Nutritional counseling/diet instruction provided

Other: \_\_\_\_\_

Name: \_\_\_\_\_  
 Ward: \_\_\_\_\_  
 Bed: \_\_\_\_\_  
 Date: \_\_\_\_\_

*Figure 4-6. Sample nutrition screening chart (Continued).*

DIET ORDER \_\_\_\_\_ PATIENT'S NAME \_\_\_\_\_ DATE \_\_\_\_\_  
 HEIGHT \_\_\_\_\_ WEIGHT \_\_\_\_\_ AGE \_\_\_\_\_ ALLERGIES \_\_\_\_\_

| TOLERANCES                  | LIKES  | DISLIKES |
|-----------------------------|--|----------|
| BEVERAGES                   | COFFEE            B   L   D<br>DECAF COFFEE    B   L   D<br>ICED TEA            B   L   D<br>HOT TEA             B   L   D |          |
| MILK                        |  |          |
| FRUIT & JUICE               |  |          |
| CEREAL                      |  |          |
| BREAD                       |  |          |
| MEAT OR MEAT EQUIVALENT     |  |          |
| BREAKFAST ENTREE            |  |          |
| VEGETABLES                  |  |          |
| POTATO OR STARCH EQUIVALENT |  |          |
| OTHER COMMENTS              |  |          |

*Figure 4-7. Sample patient food preference and tolerance checklist.*

*b. Patient Feeding Policy.* The Army Patient Feeding Policy mandates 3 hot meals a day. In emergencies patients may be served MREs (see AR 30-21).

*c. Common Diet Orders and Preparation.* For a brief description of the most common diet orders and preparation tips using the UGR-A and UGR-H&S see Appendix D.

*d. Menu Patterns.* See Appendix D for menu pattern to provide special diets using UGR-A and the UGR-H&S with the addition of medical diet supplement.

*e. Procedures for Adjusting MREs for Use in Patient Feeding.* Occasionally an operation will happen so quickly that logistics only allows for shipment of MRE rations at the start. Also, the hospital may have to initiate operation using the NBC collective protection shelter system and the nutrition care section will have to discontinue operations in the MFK until normal operations resume (see FM 4-02.7). One technique to ensure that a temporary supply of medical diet supplements are available is to include at least a footlocker or Number 3 medical chest full of medical diet supplements with the unit personnel's baggage. While these are intended to supplement the UGR-A or UGR-H&S, the medical diet supplements will also help adjust MREs to patient needs. See Appendix D for examples on adjusting the MRE to therapeutic diets.

*f. Procedures for Feeding Patients Using a Contract Food Service.* When a contracted dining facility provides the hospital staff and patients with food and food service supplies, a dietitian and the appropriate number of hospital food service specialists must be deployed to ensure that the required patient nutritional services are met. Research the provisions of the contract prior to deploying. If the contract provides only some of the foods listed in the medical diet supplement, then arrange with the deploying food advisor or supply officer (US Army) (S4) to order in the remaining items. The team should—

- Set up an area(s) on or near the wards to assemble patient meals and nourishments. The minimal equipment required for this set up is a table, serving supplies, refrigerator, a blender, rodent-proof containers for nourishments, and shelves. The minimal equipment required for this set up is a table work surface; patient trays; a refrigerator; a microwave; a blender; rodent-proof containers for nourishments; and shelves.

- At a minimum, they should use the contractor's daily menu and make modifications for patient diets; see Figure 4-8 for sample patient meal tickets that can be used to simplify this process. Turn in meal tickets to the contract staff to fill the order. Also, establish a system to order and pick up food from the contract dining facility. Carry the covered food from the contract facility to the hospital in boxes or insulated containers. Assemble the patient trays in the pantry and deliver to the patient.

- Establish a method for disposing of patient trays and other waste (see FM 4-02.10 and FM 21-10).



## CHAPTER 5

**HEALTH PROMOTION AND NUTRITION EDUCATION****5-1. Introduction**

*a. Desired Outcome.* A strong and fit soldier is less likely to be injured accidentally; can more readily withstand exposure to disease and stress; and will require less recovery time for wounds, injuries, or illnesses. Maintaining a healthy and fit body enables the individual to support the unit in accomplishing its mission.

*b. Team Membership.* Health concerns mind, body, and spirit; therefore, a multidisciplinary team must work together to develop a complete program. Depending on the health promotion program planned and available providers, team members may include nutrition care, physical therapy, combat operational stress control, chaplain, preventive medicine and nursing personnel, and physicians.

**5-2. Preparation Prior to Deployment**

Based on time, knowledge of the deployment situation, and resources available steps can be taken prior to the deployment to increase success in developing health promotion programs. Steps in preparing for the deployment may include—

- Determining—
  - Who is deploying that would be part of the health promotion team? Is it possible to start initial planning with them?
  - What type of teaching tools and audio-visual equipment will be available during the deployment.
  - If the internet is available.
  - If you are replacing someone. Familiarize yourself with that individual's duties and responsibilities before they leave the unit.
- Packing—
  - Prepared classes on potential or known “hot topics,” such as sports nutrition, weight control, and dietary supplements. Put the classes on a variety of media. You should be prepared to teach using a variety of support systems from a computer presentation to a flip chart.
  - Nutrition education posters.
  - Prepared handouts on the “hot topics.”
  - Other nutrition handouts.
  - Teaching tools (food models, fat models, and videos).



- Reference materials.

### 5-3. Steps in a Health Promotion Program

*a. Assess Supported Population.* Through a variety of methods determine what the troops want and need. Some considerations when determining what the troops want and need to promote health are—

- What type of food service and other foods are available to the troops?
- What type of fitness facilities are available to the troops?
- Does the deployment situation promote a decrease or increase in activity?
- Are dietary supplements available and what are the troops taking?
- Are there complaints of appetite changes?
- What health promotion topics are the troops or the commands requesting information on?

*b. Establish Goals and Objectives.*

(1) Goals are statements, usually abstract, of a desired state toward which a program is directed. Goals generally answer who, what, and on what level.

(2) Objectives are specific statements detailing the desired accomplishments of a program.

*c. Plan the Program.*

(1) *Determine the type of program possible.* Based on the deployment environment, determine what type of program is possible to meet the established goals and objectives. Some things to consider are—

- Type of multidisciplinary team available.
- Resources available.
- Any logistical or situational restrictions.
- The operational area. Consider those who are hard to reach.
- What type of program will the command leadership support.

(2) *Plan the method to evaluate the program.* Include the type and method that will be used to evaluate the program's effectiveness in meeting the established goals and objectives.

(3) *Plan the program.* Using creativity and the above information, plan the program. Some examples of programs include—

- Traveling wellness programs.
- Unit seminars.
- Contests in dining facilities, fitness facilities, or other gathering places.
- Interactive health fairs.
- Health tidbits by e-mail or other methods of communication available.

(4) *Promote participation.* Include some methods to ensure that participation is maximized when planning the program. Actions that will maximize participation include, but are not limited to—

- Assess the mission and training schedules of each unit.
- Create methods to improve commitment, such as having the personnel sign up for the program.
- Offer incentives or rewards for participation.
- Make the program fun for the participants.
- Get commanders support.
- Establish contact with someone at the targeted location (unit) to assist in coordinating program marketing.

(5) *Market the program.* Promote the program through all media possible, such as—

- Having the program announced at all key meetings.
- Advertising/announcing on posters and brochures, and in e-mail, newspapers, or bulletins.
- Having all involved in the program network with the troops and the commanders.

(6) *Document the program.* Record your program through monthly reports, after action reports (AAR), professional articles and posters. Health promotion colleagues, follow-on personnel, and those in training or preparing for future deployments will find your experience helpful in their preparation.

## APPENDIX A

**TRAINING****A-1. General**

Training for nutrition care personnel is a continuing process. Although, not formally called training, each time someone provides guidance on how to perform a task the individual(s) are being trained. To achieve section goals, supervisors must continually train their personnel in the performance of their duties as well as in their basic soldier skills. In garrison, training may be conducted in the nutritional care area, in a classroom away from the operational area, or in a field training area; the field training area is best for training personnel on the operation of TOE equipment. The important fact is that training keeps personnel ready to perform their duties.

**A-2. Training Exercises**

Training exercises provide the best opportunities to prepare the nutrition care section for real-life missions. They should be planned as carefully as a deployment to achieve the skills and coordination needed in the future. Army Training and Evaluation Plan (ARTEP) 8-555 MTP, Mission Training Plan for the Combat Support Hospital provides detailed planning guidance. When planning and conducting training exercises several factors must be considered. The specific details of the unit's training program will depend on the—

- Unit's mission essential task list (METL).
- Chain of command training directives and guidance.
- Training priorities of the unit.
- Availability of training resources and areas.

**A-3. Training Objectives**

The objectives in training exercises for the nutrition care section include, but are not limited to—

- Rehearsing patient feeding scenarios to practice nutrition screening and assessment as well as modified diet preparation.
- Rehearsing procedures prescribed in SOPs and making adjustments where needed to fine-tune them for a deployment.
- Meeting the ARTEP task steps and performance measures.
- Reinforcing the 91M training qualifications.
- Practicing movement of the nutrition care section to ensure smooth operations with set up, take down, and operation for all hospital configurations.

## **FM 4-02.56**

- Operating the TOE nutrition care section equipment.

### **A-4. Training Coordination**

The NCOIC conducts training of nutrition care section coordination with the—

- Professional filler system dietitian (if one is assigned to the section) to plan and discuss the training objectives far in advance of the exercise. Provide the PROFIS dietitian with the exercise dates and times. Inform dietitian of coordination's made with command structure. Review SOPs.
- Company commander and first sergeant for support personnel (sanitation duties and patient serving), additional duty personnel, and dining facility set up.
- Hospital commander and hospital staking team on the location of all nutrition care section assets (FSC, MFK, handwashing stations, water supply location [water trailer or water supply lines from hospital water supply system], fuel point, burner lighting point, Class I storage, refrigeration, dirty water pit, and staff sleep tent).
- Supply officer to arrange ration orders, delivery, and resupply. Also, with the supply sergeant to order expendable supplies.
- Training NCO to establish special training and licensing requirements. EXAMPLES: Generator, forklift, and refrigerator training for section personnel. Arrange training dates and times, if required.
- Publications NCO to obtain hard copies of references required for the training. Especially, those references that require extended lead-time to obtain, such as the ADA Manual. Determine the availability of a computer to access other publications (policy, doctrine, training, and technical publications) and electronic form support software on-line or through a compact disk.
- Movement control officer to obtain movement serial for the nutrition care section and prepare load plan.
- Motor pool sergeant to prepare section vehicles and licensing personnel on vehicles.
- Chief ward master and chief nurse to prepare the patient feeding SOP.

### **A-5. Training Evaluation**

Once training has been accomplished, conduct a training evaluation. The evaluation does not require a formal process. The evaluation may be as simple as observing personnel performing the tasks that have been trained during the workday. Evaluation provides leadership with indicators of training strengths and weaknesses. Future training can be conducted to improve the weaknesses and to reinforce strengths in the unit's readiness posture.

## **A-2**

**A-6. After Action Review**

Upon completion of field training, the chief and NCOIC prepare and conduct an AAR with the nutrition care section to discuss how well the section performed assigned tasks, what areas require additional training, which equipment needs repair or replacement, and what corrective actions will be made to prepare the section for future missions. See Appendix C for the elements in preparing an AAR.

## APPENDIX B

**SAMPLE NUTRITION CARE SECTION STANDING  
OPERATING PROCEDURE TOPICS**

The following are topics that the nutrition care section should use to prepare section SOP:

- Headcount/Accounting Procedures. *(Provide instructions on how headcount is conducted and reported.)*
- Ration Ordering/Accounting Procedures. *(Provide instructions on how rations are ordered, received, stored, and accounted for.)*
- Security Procedures for Tents, Storage Areas, Equipment, and Vehicles. *(Provide security procedures to include physical and mechanical security techniques for nutritional care supplies and equipment.)*
- Production Schedule Preparation. *(Prescribe procedures for preparing, posting, and managing the production schedule.)*
- Meal Procedures. *(Prescribe meal planning, preparation, serving, and disposal procedures.)*
- Safety. *(Describe safety requirements for conducting nutritional care section operations, especially operation of nutritional care section equipment and vehicles.)*
- Sanitation Procedures. *(Provide sanitation procedures for nutritional care personnel; food storage, preparation, and serving; food service equipment cleansing and storage; and waste disposal operations.)*
- Job Responsibilities and Personnel Schedules. *(Describe job responsibilities for each member of the staff. Describe personnel work schedules.)*
- Procedures for Receiving, Storing, Issuing Subsistence, and Subsistence Inventory. *(Provide procedures on actions required at time of receipt of food items. Describe procedures for issuing food items to shift personnel and how to conduct inventories of food items on hand. Describe accounting and reporting procedures for food items inventoried.)*
- Equipment Maintenance and Operation. *(Prescribe individual responsibilities on care, maintenance, and use of nutritional care section equipment. Include safety precaution on handling and operating the equipment.)*
- Operations in a Nuclear, Biological, and Chemical (NBC) Threat Environment During Blackouts and During Increased Threat Conditions. *(Provide procedures for protection of subsistence, section equipment, and personnel during NBC operations. Describe section operations during blackouts and increased threat conditions.)*

**FM 4-02.56**

- Vehicle Load Plans and Movement Plans. *(Provide load plans for vehicles transporting the nutritional care section [personnel and equipment].) (Describe section personnel responsibilities during unit movements.)*
- Setting Up and Striking the Operational Area. *(Provide individual responsibilities during setting up and striking the nutritional care facility.)*
- Patient Food Delivery Procedures. *(Describe responsibilities, techniques, and procedures on patient food delivery and serving.)*
- Clinical Dietetics Procedures. *(Prescribe roles and responsibilities for personnel in conducting clinical dietetics procedures.)*
- Log Book Entries. *(Prescribe what, when, and how entries are made in the section log book.)*

APPENDIX C

**SAMPLE FORMAT FOR NUTRITION CARE SECTION AFTER ACTION REPORT**

Title/Name of Mission  
Name, Rank  
Medical Unit  
Inclusive Dates

**C-1. Mission**

- a. *Unit Mission.* State unit mission during the deployment.
- b. *Section Mission.* State section mission (provide food service or coordinate patient feeding with contractor).
- c. *Higher Headquarters.* List higher headquarters, to include overall mission of the deployment.

**C-2. Itinerary**

Location(s) during deployment include dates of movement, if applicable.

**C-3. Situation Background**

Briefly describe the past and/or current situation that resulted in this deployment.

**C-4. Personnel**

a. *Military.* Include the full name, rank, and home unit on **ALL** officer and enlisted personnel assigned to the nutrition care section that participated in this deployment or training exercise. Figure C-1 provides a template for this information.

| FULL NAME | RANK | HOME UNIT |
|-----------|------|-----------|
|           |      |           |
|           |      |           |
|           |      |           |
|           |      |           |
|           |      |           |

*Figure C-1. Nutrition care section military personnel roster template.*



**FM 4-02.56**

*b. Civilian.* Include how this workforce was obtained. Provide names, responsibilities, and wages for all civilian personnel employed in the nutrition care section during the deployment/training exercise. Figure C-2 provides a template for this information.

| NAME | RESPONSIBILITIES | WAGES |
|------|------------------|-------|
|      |                  |       |
|      |                  |       |
|      |                  |       |
|      |                  |       |
|      |                  |       |
|      |                  |       |

*Figure C-2. Civilian nutrition care section personnel roster template.*

**C-5. Activities**

*a. Patients.* Provide number of patient visits during deployment.

- Number of military patients visited.
- Number of civilian patients visited by group.
- Number of adult patients visited.
- Number of pediatric patient visited.

*b. Classes.* Provide number of nutrition classes presented, audience composition and geographic location if different from assigned location.

*c. Meals served.* Number of patients and staff meals served by type.

- Number of staff meals served.
- Number of patient regular diet meals served.
- Number of patient therapeutic meals served and types.

*d. Programs.* List programs such as health promotion initiatives and multidisciplinary health care endeavors. Briefly describe each program.

*e. Duties.* List duties you or other personnel in your area of responsibility performed that were not area of concentration/military occupational specialty-specific.

*f. Other.* Such as communications with the Chief, Specialist (SP) Corps on nutrition care section activities.

**C-6. Preparation and Coordination Completed Prior to Deployment**

Indicate all requests for information reviews of after action reports and so forth.

**C-7. Prior Training**

List prior training or experience that was most beneficial to you during this deployment.

**C-8. Force Protection Assessment**

- a.* Were predeployment briefings conducted including threat level for host nation?
- b.* Were threat assessment (to include criminal activity) briefings conducted?
- c.* Were active force protection measures instituted?

**C-9. Support**

*a. Supply.* Describe who provided your supplies (such as rations, medical supplies, or education materials) and how obtained. When were they received?

*b. Interpreter Support Needed.* Is interpreter support needed Yes\_\_\_ or No\_\_\_? If yes, indicate number of interpreters, language, and who coordinated.

*c. Transportation.* Briefly describe transportation required to complete your mission and how it was obtained.

**C-10. Staff Scheduling**

Briefly describe duty schedule of personnel in your section to include hours on versus off and on call status.

**C-11. Facility and Equipment**

Briefly describe type of facility and equipment available for use. Include who was responsible for facility maintenance and cleaning.

**C-12. Living Situation**

Briefly describe your living situation. (Such as tents, buildings, sanitation facilities, water supply.)

**C-13. Observations and Recommendations** (Complete this section for each observation.)

*a. Observation #1:*

- Discussion.
- Lessons Learned.
- Comments.
- Recommended Action.

*b. Observation #2:*

- Discussion.
- Lessons Learned.
- Comments.
- Recommended Action.

*c. Additional Comments.* Provide any additional comments that you feel will be beneficial to other nutrition care personnel in future deploys.

**C-14. Attachments**

Such as photographs of the deployment area and section setup, or other photographs that will provide a better reflection of the deployment area.

Signature Block of Reporting Individual

**NOTE**

Provide a copy of the report to: Office of the Chief, SP Corps, 2250 Stanley Rd, Suite 276A, Fort Sam Houston, TX 78234-6000.

## APPENDIX D

**SUPPLEMENTAL INFORMATION ON NUTRITIONAL SUPPORT****D-1. Nutrient Sources and Functions**

Nutritional care is a critical part of patient care; providing the correct nutritional care enhances the patient's recovery. To meet this need, nutritional care personnel must ensure that foods served to the patients meet their nutritional requirements. Knowing the nutrient functions of various food items enables nutritional care personnel to meet these needs. See Table D-1 for an overview of the nutrient sources and functions of food items in A-rations, MREs, and UGRs.

*Table D-1. Nutrient Sources and Functions*

| NUTRIENT      | FUNCTION   | SOURCES   |   |  |
|---------------|--|---|---|--|
|               |  | GARRISON/UGR-A  | MRE   | UGR-H&S  |
| PROTEIN       | BUILD AND MAINTAIN TISSUE; REGULATE WATER BALANCE; FORMATION OF HORMONES, ENZYMES, AND ANTIBODIES; EXCESS INTAKE USED AS ENERGY      | MEAT, FISH, CHEESE, MILK, POULTRY, EGGS, WHOLE GRAINS, NUTS, BEANS                            | ENTREES, CHEESE, PEANUT BUTTER  | MEATS, ENTREES, MILK, CHEESE, PEANUT BUTTER    |
| CARBOHYDRATES | PRIMARY ENERGY SOURCE; DIETARY FIBER (NONDIGESTIBLE CARBOHYDRATE) ASSISTS THE DIGESTION SYSTEM                                       | WHOLE GRAINS, SUGARS, FRUITS, VEGETABLES  | DESSERTS, FRUITS, COCOA, CANDY, BEVERAGE BASE (SUGAR-SWEETENED)                   | PUDDING, CAKES, RICE, POTATOES, LASAGNA, BREAD |
| FAT           | PROVIDE ENERGY; SUPPLY FATTY ACIDS FOR CELL MEMBRANES; ABSORPTION OF FAT-SOLUBLE VITAMINS  | OILS, BUTTER, CHEESE, NUTS, MARGARINE, SALAD DRESSINGS  | PEANUT BUTTER, ENTREES, CHEESE  | BREAKFAST ENTREES                              |
| WATER         | TRANSPORT OF VITAL SUBSTANCES THROUGH BODY; ELIMINATE WASTES FROM BODY; REGULATION OF NORMAL BODY TEMPERATURE                        | BEVERAGES OF ANY KIND, FOODS WITH HIGH WATER CONTENT (ESPECIALLY FRESH FRUITS AND VEGETABLES) | BEVERAGES, ENTREES, WET-PACKED FRUITS   | BEVERAGES, ENTREES, FRUITS                     |
| CALCIUM       | BUILD AND MAINTAIN TEETH & BONES; NORMAL BLOOD CLOTTING; MUSCLE CONTRACTION; HEALTHY CELL MEMBRANES                                  | MILK, GREEN LEAFY VEGETABLES, SHELL-FISH, DRIED BEANS   | CRACKERS, CHEESE, COCOA   | LASAGNA, MILK, CHEESE, MACARONI & CHEESE       |
| PHOSPHOROUS   | BUILD BONES AND TEETH; RELEASE ENERGY FROM CARBOHYDRATES, FATS AND PROTEIN; FORM GENETIC MATERIALS, CELL MEMBRANES, AND MANY ENZYMES | FISH, MEAT, POULTRY, EGGS, LEGUMES, MILK, NUTS, WHOLE GRAINS                                  | BEEF ENTREES, CHEESE SPREAD   | LASAGNA, POTATO DISHES, CHICKEN                |
| MAGNESIUM     | BUILD BONE & PROTEIN; RELEASE ENERGY FROM MUSCLE GLYCOGEN; REGULATE BODY TEMPERATURE   | LEAFY GREEN VEGETABLES, MILK, NUTS, CORN, SOYBEANS, SEEDS, WHOLE GRAINS                       | PEANUT BUTTER, ENTREES, CHOCOLATE MINT POUND CAKES, NUT-RAISIN MIX, COCOA, COFFEE | MEATS/ ENTREES, BREAD, COCOA                   |

Table D-1. Nutrient Sources and Functions (Continued)

| NUTRIENT                            | FUNCTION  | SOURCES   |   |  |
|-------------------------------------|---|---|---|--|
|                                     |   | GARRISON/UGR-A  | MRE   | UGR-H&S  |
| IRON                                | HELP BLOOD SUPPLY OXYGEN TO CELLS; PART OF SOME PROTEINS & ENZYMES  | RED MEAT, LIVER, KIDNEYS, EGG YOLKS, LEAFY GREEN VEGETABLES, DRIED BEANS & PEAS, DRIED FRUITS, POTATOES, WHOLE GRAINS | ENTREES, CAKES, FUDGE BROWNIES, MRE CRACKERS, NUTRIGRAIN BAR, SPORT BAR, TOASTER PASTRY | ENTREES, FORTIFIED BREAKFAST CEREAL  |
| ZINC                                | ESSENTIAL ROLE IN FORMATION OF PROTEIN (WOUND HEALING, TISSUE GROWTH); COMPONENT OF NUMEROUS ENZYMES  | OYSTERS, MEAT, LIVER, EGGS, POULTRY, SEAFOOD, SEEDS, DRIED BEANS, WHOLE GRAINS, MILK                                  | ENTREES, NUTRIGRAIN BAR   | BEEF ENTREES   |
| SODIUM                              | REGULATE BODY FLUID VOLUME AND BLOOD ACIDITY; TRANSMISSION OF NERVE IMPULSES  | SALT, SALTED SNACKS, SOY SAUCE, TOMATO JUICE, CANNED AND PROCESSED FOODS  | SALT, ENTREES, CRACKERS WITH PEANUT BUTTER, PRETZELS, RICE DISHES                       | SALT, SPAGHETTI, OMELETS, RICE   |
| POTASSIUM                           | MUSCLE CONTRACTION; MAINTAIN FLUID & ELECTROLYTE BALANCE; TRANSMISSION OF NERVE IMPULSES; RELEASE OF ENERGY FROM CARBOHYDRATE, FAT, AND PROTEIN | ORANGE JUICE, BANANAS, DRIED FRUITS, SEEDS, POTATOES, MEATS, BRAN, PEANUT BUTTER, DRIED PEAS & BEANS, COFFEE, TEA     | ENTREES, COCOA, PEANUT BUTTER, FRUITS, NUT-RAISIN MIX                                   | BEEF & PORK ENTREES, MILK, ORANGE JUICE, PEANUT BUTTER, POTATOES                                     |
| VITAMIN C                           | FORMATION OF COLLAGEN (STRUCTURE OF BONES, CARTILAGE, MUSCLE); MAINTAIN SMALL BLOOD VESSELS, BONES, AND TEETH; AID IRON ABSORPTION              | CITRUS FRUITS, TOMATOES, STRAWBERRIES, GREEN PEPPERS, POTATOES, DARK GREEN LEAFY VEGETABLES                           | FRUITS, COCOA, PEANUT BUTTER, CHEESE, BEVERAGE BASE (SUGAR-SWEETENED)                   | BEVERAGE BASE, COCOA, CHEESE, PEANUT BUTTER  |
| VITAMIN B <sub>1</sub> (THIAMIN)    | RELEASE ENERGY FROM CARBOHYDRATE; NORMAL FUNCTION OF NERVOUS SYSTEM   | PORK, LIVER, OYSTERS, ENRICHED CEREALS, OATMEAL, PASTA, BREAD, MILK, LEAFY GREEN VEGETABLES, WHOLE GRAINS             | COCOA, CRACKERS, CHEESE, PEANUT BUTTER, NUTRIGRAIN BAR                                  | CHEESE, COCOA, PEANUT BUTTER, HAMBURGER ROLLS  |
| VITAMIN B <sub>2</sub> (RIBOFLAVIN) | RELEASE ENERGY FROM CARBOHYDRATE, PROTEIN, AND FAT  | WHOLE GRAINS, ENRICHED BREADS & CEREALS, LIVER, MEAT, DARK GREEN LEAFY VEGETABLES, FISH, POULTRY, EGG YOLK            | CRACKERS, ENTREES, NUTRIGRAIN BAR   | LASAGNA, CHICKEN DISHES, FORTIFIED BREAKFAST CEREALS, MILK, HAM/EGGS, PORK WITH BARBEQUE (BBQ) SAUCE |

Table D-1. Nutrient Sources and Functions (Continued)

| NUTRIENT                               | FUNCTION   | SOURCES  |   |  |
|--|--|--|---|--|
|  |  | GARRISON/UGR-A   | MRE   | UGR-H&S  |
| NIACIN                                 | WORK WITH THIAMIN AND RIBO-FLAVIN FOR ENERGY PRODUCTION  | LIVER, TUNA, POULTRY, ENRICHED BREAD & CEREALS, MEAT, NUTS, DRIED PEAS & BEANS, PASTA      | ENTREES, CRACKERS, NUT-RAISIN MIX, PEANUT BUTTER  | ENTREES, BREAD   |
| VITAMIN B <sub>6</sub><br>(PYRIDOXINE) | FORMATION OF CERTAIN PROTEINS; AID IN USE OF FATS  | WHOLE GRAINS, MEAT, EGGS, FRUITS & VEGETABLES, LIVER, FISH, POULTRY, CEREALS & BREAD, NUTS | CHEESE, COCOA, ENTREES, CRACKERS  | CHEESE, BEEF HASH, COCOA, CHICKEN BREAST & GRAVY   |
| FOLACIN                                | FORMATION OF HEMOGLOBIN IN RED BLOOD CELLS; FORMATION OF GENETIC MATERIAL                        | WHOLE GRAINS, ENRICHED CEREALS, DRIED BEANS, LEAFY GREEN VEGETABLES, LIVER                 | BURRITO, ENTREES WITH PASTA OR RICE, NUT-RAISIN MIX, RICE                                       | LASAGNA, PORK WITH BBQ SAUCE, WESTERN OMELET, ORANGE JUICE, FORTIFIED BREAKFAST CEREALS, PASTA AND RICE DISHES |
| VITAMIN B <sub>12</sub>                | RED BLOOD CELL FORMATION; NORMAL FUNCTION OF NERVOUS SYSTEM; ASSIST IN BUILDING GENETIC MATERIAL | MILK, CHEESE, EGGS, MEAT, FISH, OYSTERS  | ENTREES WITH MEAT OR CHEESE   | PORK WITH BBQ SAUCE, CHILI, ENTREES WITH BEEF, PORK, POULTRY, OR CHEESE  |
| VITAMIN A                              | HEALTH SKIN, HAIR, MUCOUS MEMBRANES, TEETH, AND BONES; AID NIGHT VISION                          | LIVER, EGGS, CHEESE, BUTTER, MILK, FRUITS AND VEGETABLES                                   | ENTREES WITH CHEESE OR VEGETABLES, COCOA, PEANUT BUTTER, NUTRIGRAIN BAR, TOASTER PASTRY         | CARROTS, PEAS/CARROTS, COCOA, CHEESE, BEEF STEW, ENTREES WITH CHEESE OR VEGETABLES                             |
| VITAMIN E                              | PROTECT VITAMIN A AND FATTY ACIDS FROM OXIDATION; PREVENT CELL MEMBRANE DAMAGE                   | VEGETABLE OILS, MARGARINE, GREEN VEGETABLES, WHOLE GRAIN CEREALS AND BREADS, LIVER         | MEAT BALLS WITH RICE, BEEF STEW, FUDGE BROWNIE, NUT-RAISIN MIX, PEANUTS, PEANUT BUTTER, PEACHES | OMELETS, POUND CAKE, LASAGNA, BEEF STEW, PEACHES, PEANUT BUTTER  |

**NOTE**

For information on recommended intakes of nutrients, see AR 40-25.

## FM 4-02.56

### D-2. Medical Diet Supplements

a. The Medical Diet Supplement, used in combination with the MRE and UGR provides commercial semiperishable food components required to prepare therapeutic diets. Each Medical Diet Supplement (see Figure D-1) supports 50 patients for a 15-day period based on the following diet mix: 28 Regular; 5 High-Calorie-High-Protein; 5 Blenderized Liquid; 6 Full Liquid; and 6 Clear Liquid. The Medical Diet Supplement is shipped in a tri-wall container with the following unit load dimensions: 33” wide by 41” length by 49” height; the cube is 38.37’; and the weight is 443 lbs. The Medical Diet Supplement is ordered from Defense Supply Center Philadelphia with the National Stock Number (NSN): 8970-01-470-5077. If necessary, individual components may be ordered separately.

| COMPONENT  | UNITS/CASE | CASE QUANTITY | TOTAL UNITS | NSN              |
|--|------------|---------------|-------------|------------------|
| Instant Breakfast, Assorted Flavors              | 60         | 9             | 540         | 8940-01-503-6663 |
| Beef Broth, Dehydrated (8 oz)                    | 96         | 2             | 192         | 8935-01-503-6672 |
| Chicken Broth, Dehydrated (8 oz)                 | 96         | 2             | 192         | 8935-01-503-6689 |
| Cream of Chicken Soup, Condensed, 2 servings/can | 48         | 1             | 48          | 8935-01-503-6695 |
| Cream of Tomato Soup Condensed, 2 servings/can   | 48         | 1             | 48          | 8935-01-503-6699 |
| Gelatins, Individual Cups                        |            |               |             |                  |
| Strawberry 4/pack                                | 48         | 3             | 144         | 8940-01-503-6702 |
| Strawberry/Orange 4/pack                         | 48         | 3             | 144         | 8940-01-503-6706 |
| Tang, Orange Flavored Fortified Mix              | 96         | 3             | 288         | 8960-01-503-6706 |
| Ensure (Ross Labs), 8 oz Liquid Cans             |            |               |             |                  |
| Chocolate Plus                                   | 24         | 1             | 24          | 8940-01-503-6758 |
| Vanilla Plus                                     | 24         | 1             | 24          | 8940-01-503-6769 |
| Tea Bags   | 1200       | 1             | 1200        | 8955-01-503-6773 |
| Sugar Substitute                                 | 1200       | 1             | 1200        | 8940-01-503-6777 |
| Sandwich Bags                                    | 600        | 1             | 600         |                  |
| Straws, Flexible, Individual Wrapped             | 1000       | 2             | 2000        |                  |
| Plastic Spoons                                   | 1200       | 1             | 1200        |                  |
| Cups, Styrofoam (8 oz)                           | 1000       | 3             | 3000        |                  |
| Lids, Cup (with straw-hole)                      | 1000       | 2             | 3000        |                  |

Figure D-1. Medical supplements for MRE and UGR rations.

b. Enteral feeding products can be ordered through the medical supply section of the hospital. Coordination for ordering components of the medical diet supplement and enteral feeding products should be done prior to any exercise or deployment. Due to potential delays in receiving products, the above list of components from the medical diet supplement and a supply of enteral feeding products should be packed prior to deployment for immediate availability.

### D-3. Therapeutic Diet Menus

The medical diet supplements are used to provide therapeutic diet menus for patients with components of the MRE and UGR to promote acceptability and nutritional adequacy of the hospital diet. The diet distribution

### D-4

is estimated for the population. Exact distribution may vary with the scenario and type of military operation. Other less popular diets such as diabetic or cardiac may be necessary under special conditions.

#### **D-4. Therapeutic Diet Preparation**

Therapeutic diets are prepared to accommodate each patient's diet order as stated in the patient's medical record and recorded on the patient ward roster. These diets may be modified to meet the patient's particular medical conditions and personal requests. The ADA Manual is the primary reference for therapeutic diet instructions. The menu components for these diets come from the MRE, UGR, and the medical diet supplement list.

*a. Regular Diet.* This diet will use the standard MRE or UGR menu with bread, milk, and cereal. Enhancements should be incorporated into the diet plan as soon as they are available, such as fresh fruits and salads. In between meal snacks may be incorporated into the diet upon request. Patient preferences should be incorporated into the meal plan to the maximum extent possible.

*b. Clear Liquid Diet.* This diet is intended to supply fluid and energy in a form that requires minimal digestion. It consists primarily of broth, gelatin, and juice. The orange juice is strained before it is served to the patient. If refrigeration is unavailable, the gelatin can be served in a liquid form. Carbonated beverages can be added to the diet, when available. Between meals feeding are encouraged.

*c. Full Liquid Diet.* This diet is intended as a progressive diet from the clear liquid diet until solid foods can be tolerated. It progresses from the clear liquid diet by introducing milk-based products such as cream soups and milk shakes. Between meals feeding are encouraged.

*d. Blenderized Liquid Diet.* This diet is designed to provide adequate calories, protein, and fluids for patients who are unable to chew, swallow, or digest solid foods. This diet consists of fluids and foods blenderized to a liquid form. The viscosity of blended items ranges from the thickness of fruit juice to that of cream soup. Frequent small feedings may be necessary to facilitate ingestion of adequate calories and protein.

*e. Mechanically Altered Diet.* This diet is designed to minimize the amount of chewing necessary to ingest food. This diet includes food modified only in texture, such as blended, chopped, ground, and pureed foods to promote ease of chewing. All vegetables included should be well cooked to minimize the need for chewing. Most raw fruits and vegetables are excluded. Spices are encouraged to increase palatability of the diet. Between meal snacks may be arranged upon request.

*f. Low Sodium Diet.* This diet is used to promote management of hypertension. Due to the high number of canned and instant food items found in the UGR and the contents of MREs, a highly restrictive sodium diet is not possible without severely compromising caloric and other nutrient needs. When available, use fresh vegetables in the place of canned vegetables. If canned vegetables must be used, rinse and drain them to reduce the sodium content. Between meals snack may be arranged upon request.

*g. Cardiac Diet.* This diet is designed to reduce elevated serum cholesterol and promote healthy eating. It consists of modifications in total fat, saturated fat, cholesterol, sodium, caffeine, and fiber. All



## FM 4-02.56

meat entrees should be as lean as possible (trimming fat, removing skin from chicken, using minimal fat in preparation, and draining fat off of products). Lower fat entrees from the MRE may be an acceptable substitute for some of the highest fat entrees in the UGR; for example, the bean and rice burrito could be substituted for chili con carne. Low sodium cooking methods are used. Avoid soups and broths; they are high in sodium content. Use fresh fruits and vegetables to replace canned fruits and vegetables, whenever available. Increase fiber with whole grain products when available. Dessert items may be added to the menu plan depending on the item content and diet restrictions. Between meals snack may be arranged upon request.

*h. High Calorie/High Protein Diet.* This diet is designed to provide additional calories and protein to the regular diet. The additional calories are primarily in the form of added fruit and extra bread. The additional protein is provided by increasing entree portion sizes and including a medical diet supplement high protein beverage or a milk shake as a between meal snack. Milk shakes may be made using milk, instant breakfast, flavored syrups, and fruits.

*i. Diabetic Diet.* This diet is used to improve blood glucose levels and control diabetes. It is set up as three meals and 1 to 3 snack regimes consisting of approximately 2200 calories. Most of the cardiac modifications including low fat, low sodium, and high fiber should be followed. Meals should be set-up around 60 to 75 grams of carbohydrates and snacks should contain 15 to 30 grams of carbohydrate until modified by a dietitian. One starch, fruit, or milk exchange contains 15 grams of carbohydrate.

*j. Tube Feeding.* Tube feeding is a highly specialized diet tailored to meet the needs of a small population of patients that must be close coordinated with the medical staff. Commercial tube feeding formulas are the preferred menu item. However, commercially prepared formulas may not always be available when needed. To prepare tube feeding menu items a powdered commercial nutrition drink is the optional ingredient is available. Nutrition care specialists will reconstitute the powdered commercial product. For preparation, all equipment must be properly sanitized and the product refrigerated immediately after preparation. Limit the contents of each tube feeding package to a 500 cc intravenous bag. Due to limited refrigeration on the wards, progressive preparation and delivery of tube feedings to the wards may be necessary. Additional powdered commercial tube feedings are available as a standard subsistence (NSN 8940-01-304-3620) or medical supply item ordered through the pharmacy. Nutritional analysis of the tube feedings is available on the nutrition label of the powdered commercial nutrition product.

### D-5. Recipe Modifications

Providing food items for patients needs include making modifications not normally needed for standard menus. Modifying recipes for consistency are a part of this process. Principles for modifying a recipe for consistency includes, but is not limited to—

- Modifying UGR and MRE items for consistency.
- Checking the ADA Manual and the menu patterns shown in Tables D-2 and D-3 for foods allowed on each diet type.
- Cutting meat items into bite-sized pieces, grinding or pureeing meats for consistency.

### D-6

- Blenderizing foods with additional liquids until the required consistency is reached.
- Using liquids that add calories (such as gravy, soup, sauce, milk or juice) for thinning.
- Using heated liquids for thinning if the blended item is a hot food item.
- Pouring the blended and thinned food item through a strainer to remove lumps.
- Proper consistency of the final product requires that:
  - The item is thick enough to coat a spoon like a sauce or gravy; but thin enough to flow through a straw freely.
  - The food item is at the correct serving temperature after blending, thinning, and straining.
  - The seasoning is blended in the items so that they are not bland (such as adding garlic powder to pureed meats).

#### **D-6. Supplemental Fluids**

An estimated 40 to 50 percent of all patients will need supplemental fluids. Have milk and juice available at most meals. The UGRs also contain a fruit flavored beverage that can be used to meet fluid requirements. These beverages, along with water, can also be made available for between meal nourishment.

#### **D-7. Nourishments and Snacks**

Nourishments and snacks are important elements of many of the therapeutic diets. They should be served three times per day, midway between meals and in the evening. Many of the snack items listed on the therapeutic menus are prepared from the UGRs of the previous meal, for example, the peanut butter and jelly from the lunch UGR for the mechanically altered diet is saved and used as the afternoon snack.

Table D-2. Medical Field Feeding Meal Pattern Guideline Using UGR

| <b>BREAKFAST</b>                                |   |  |                          |  |   |
|---|---|--|--------------------------|--|---|
| <b>*DIET FOOD</b>                               | <b>HIGH-CALORIE/HIGH-PROTEIN (PROVIDE INSTANT BREAKFAST AT 1000 AND 1400 HOURS)</b> | <b>BLENDERIZED LIQUID (CONSISTENCY—ABLE TO PASS THROUGH A STRAW)</b> | <b>CLEAR LIQUID</b>      | <b>FULL LIQUID</b>                                       | <b>**DIABETIC</b>   |
| EGGS  | ½ CUP   | BLENDERIZED SCRAMBLED EGGS   | NONE                     | NONE   | ½ CUP SERVING   |
| BREAKFAST MEAT                                  | 2 SAUSAGE PATTIES OR 3 BACON SLICES   | BLENDERIZED INTO EGGS  | BROTH                    | BROTH  | 1 SAUSAGE PATTY OR 1 BACON SLICE  |
| STARCH (POTATO, HOT CEREAL, WAFFLE, OR PANCAKE) | ½ CUP SERVING OR MORE   | BLENDERIZED STARCH OF THE DAY  | ½ CUP GELATIN            | BLENDERIZED  | ½ CUP (1 CARBOHYDRATE CHOICE)   |
| GRAVY OR SAUCE (IF AVAILABLE)                   | 2 OUNCES OR MORE  | USE TO THIN ENTREE   | NONE                     | NONE   | NONE  |
| FRUIT OR JUICE                                  | ½ CUP SERVING OR 6 OUNCES JUICE   | BLENDERIZED FRUIT OF THE DAY   | 2 EACH OF 6 OUNCE JUICE  | 2 EACH OF 6 OUNCES JUICE                                 | ½ CUP CANNED FRUIT OR 1 PIECE FRESH OR 6 OZ JUICE (STRAINED) FRUIT OR ½ CUP JUICE (1 CARBOHYDRATE CHOICE) |
| PASTRY, ROLL, OR BISCUIT AND MARGARINE          | 1 WITH MARGARINE  | NO BREADS<br>2 MARGARINE   | NONE                     | NONE   | 1 SLICE PLAIN BREAD OR 1 BISCUIT (1 CARBOHYDRATE CHOICE) 1 MARGARINE                                      |
| BEVERAGES ALLOWED                               | MILK, INSTANT BREAKFAST, COCOA, TEA, COFFEE, SODA, WATER                            | MILK, INSTANT BREAKFAST, COCOA, TEA, COFFEE, SODA, WATER             | TEA, COFFEE, SODA, WATER | TEA, COFFEE, SODA, WATER, MILK, INSTANT BREAKFAST, COCOA | UNSWEETENED OR ARTIFICIALLY SWEETENED BEVERAGE LOW-FAT MILK (8 OUNCES = 1 CARBOHYDRATE CHOICE)            |
| ACCESSORIES                                     | SALT, PEPPER, SUGAR   | 6 STRAWS, SALT, PEPPER, SUGAR  | 2 STRAWS                 | 2 STRAWS   | 1 STRAW ARTIFICIAL SWEETENER, SALT, PEPPER  |

\* REGULAR DIET FOLLOWS UGR MENU FOR ITEMS AND SERVING SIZES.

\*\* DIABETIC MEALS SHOULD HAVE FOUR CARBOHYDRATE CHOICES PER MEAL. ADJUST OFFERINGS TO PATIENT PREFERENCES.

Table D-2. Medical Field Feeding Meal Pattern Guideline Using UGR (Continued)

## LUNCH/DINNER

| *DIET FOOD                                   | HIGH-CALORIE/<br>HIGH-PROTEIN                            | BLENDERIZED<br>LIQUID                                    | CLEAR LIQUID                       | FULL LIQUID                           | **DIABETIC  |
|--|--|--|------------------------------------|---------------------------------------|---|
| ENTREE (MEAT, POULTRY, FISH)                 | AT LEAST 4 OUNCE SERVING                                 | BLENDERIZED ENTREE OF THE DAY                            | BROTH                              | CREAMED SOUP                          | 3 TO 4 OUNCE SERVING  |
| STARCH (POTATO, PASTA, RICE, BEANS, LEGUMES) | ½ CUP SERVING  | BLENDERIZED STARCH OF THE DAY                            | NONE                               | NONE                                  | ½ CUP (1 CARBOHYDRATE CHOICE)   |
| GRAVY OR SAUCE                               | 2 OUNCE OR MORE  | USE TO THIN ENTREE                                       | NONE                               | NONE                                  | NONE  |
| VEGETABLE                                    | ½ CUP SERVING  | BLENDERIZED VEGETABLE OF THE DAY                         | NONE                               | NONE                                  | ½ CUP NON-STARCHY VEGETABLE TOSSED SALAD IF AVAILABLE   |
| FRUIT  | ½ CUP SERVING  | BLENDERIZED FRUIT OF THE DAY                             | 2 EACH OF 6 OUNCE JUICE (STRAINED) | 2 EACH OF 6 OUNCE JUICE               | ½ CUP CANNED FRUIT OR 1 PIECE FRESH FRUIT (1 CARBOHYDRATE CHOICE)                               |
| DESSERT                                      | ½ CUP SERVING  | BLENDERIZED CAKE OR THINNED PUDDING                      | ½ CUP GELATIN                      | THINNED                               | NONE  |
| BREAD AND MARGARINE                          | 1 OR 2 SERVINGS WITH MARGARINE                           | NO BREAD<br>2 MARGARINE                                  | NONE                               | NONE                                  | 1 SLICE OR ½ BUN (1 CARBOHYDRATE CHOICE)<br>1 MARGARINE   |
| BEVERAGES ALLOWED                            | MILK, INSTANT BREAKFAST, COCOA, TEA, COFFEE, SODA, WATER | MILK, INSTANT BREAKFAST, COCOA, TEA, COFFEE, SODA, WATER | TEA, COFFEE, SODA, WATER           | TEA, COFFEE, SODA, WATER, MILK, COCOA | UNSWEETENED OR ARTIFICIALLY SWEETENED BEVERAGES. LOW-FAT MILK (8 OUNCE = 1 CARBOHYDRATE CHOICE) |
| ACCESSORIES                                  | SALT, PEPPER, SUGAR                                      | AT LEAST 6 STRAWS, SALT, PEPPER, SUGAR                   | 2 STRAWS                           | 2 STRAWS                              | 1 STRAW<br>ARTIFICIAL SWEETENER, SALT, PEPPER   |

Table D-3. Adjusting MREs for Therapeutic Diets

|                           | REGULAR  | CLEAR LIQUID   | FULL LIQUID  | #DIABETIC  | ##CARDIAC PRUDENT   |
|---------------------------|--|--|--|--|---|
| <b>ENTREE</b>             | HEAT ENTREE                                      | DO NOT SERVE ENTREE. USE BROTH FROM MEDICAL DIET SUPPLEMENT. | DO NOT SERVE ENTREE. USE BROTH FROM MEDICAL DIET SUPPLEMENT. MAKE CREAM SOUPS, IF AVAILABLE. | SERVE 3 OUNCE PORTION SIZE FOR ENTREES.  | SERVE 2 TO 3 OUNCE PORTIONS OF ENTREES. THE SODIUM CONTENT IS HIGH FOR MOST ENTREES.  |
| <b>SIDE DISHES</b>        | PASTA, RICE, POTATOES ALL ACCEPTABLE.            | DO NOT SERVE ANY SOLID FOODS.                                | PREPARE THINNED STRAINED HOT CEREALS IF AVAILABLE.   | SERVE ½ CUP PORTION SIZES FOR STARCHES.  | PASTA, RICE, AND POTATOES ALL ACCEPTABLE WITH EXCEPTION OF SODIUM CONTENT OF MANY. ADD FRESH VEGETABLES WHEN AVAILABLE.           |
| <b>DESSERT</b>            | MRE DESSERT OK. ADD FRUIT AS AVAILABLE.          | MAKE GELATIN FROM MEDICAL DIET SUPPLEMENT.                   | PREPARE INSTANT BREAKFAST MILK SHAKES AND GELATIN FROM MEDICAL DIET SUPPLEMENT.              | CAKES, COOKIES, BROWNIES AND CANDIES WILL GENERALLY PUSH THE PATIENT ABOVE THE 60 TO 70 GRAMS OF CARBOHYDRATE PER MEAL. RINSE THE THERMOSTABILIZED FRUITS TO REMOVE SYRUP. | ADD FRESH FRUITS WHEN AVAILABLE. USE MRE FRUITS. FIG BARS. NUTRIGRAIN BARS. OTHER DESSERTS ARE HIGH IN FAT AND SHOULD BE LIMITED. |
| <b>BREAD &amp; SPREAD</b> | ADD BREAD AS AVAILABLE. CRACKERS ARE ACCEPTABLE. | DO NOT SERVE SOLID FOODS.                                    | DO NOT SERVE SOLID FOODS.  | APPROXIMATELY 1 CRACKER OR ½ A POUCH BREAD EQUALS 15 GRAMS CARBOHYDRATE. WORK IN DIET AS ABLE. PEANUT BUTTER AND CHEESE SPREADS ARE ALLOWED. DO NOT SERVE JELLY.           | BREAD AND CRACKERS ACCEPTABLE. PEANUT BUTTER AND CHEESE SPREADS ARE HIGH IN FAT.  |

# FOR DIABETIC DIETS SERVE 3 MEALS AND 3 SNACKS A DAY. SAVE COMPONENTS OF MRE FOR SNACKS. GOAL IS 60 TO 70 GRAMS OF CARBOHYDRATE PER MEAL AND 15 TO 30 GRAM PER SNACK.

## FOR CARDIAC DIETS REDUCE TOTAL FAT, SATURATED FAT, CHOLESTEROL, SODIUM AND CAFFEINE. INCREASE FIBER.

Table D-3. Adjusting MREs for Therapeutic Diets (Continued)

|                         | REGULAR  | CLEAR LIQUID  | FULL LIQUID  | #DIABETIC   | ##CARDIAC PRUDENT   |
|-------------------------|--|---|--|---|---|
| <b>BEVERAGE</b>         | ADD MILK AS AVAILABLE. PREPARE BEVERAGE BASE FOR PATIENT.    | SERVE CLEAR JUICES AS AVAILABLE. PREPARE BEVERAGE BASE FOR PATIENT. | SERVE JUICES AS AVAILABLE. PREPARE BEVERAGE BASE FOR PATIENT. ADD MILK TO DIET. COCOA IS ACCEPTABLE. | 1 CUP UHT MILK, ½ CUP PORTIONS OF JUICE AND UNLIMITED WATER CAN BE SERVED. ELIMINATE ALL SUGAR-BASED BEVERAGES. | SERVE THE LOWEST FAT UHT MILK AVAILABLE. PREPARE BEVERAGE BASE FOR PATIENT. COCOA IS ACCEPTABLE.                            |
| <b>ACCESSORY PACKET</b> | NO RESTRICTIONS ON ACCESSORIES, UNLESS LOW CAFFEINE ORDERED. | COFFEE, TEA, APPLE CIDER ALL USABLE.                                | COFFEE, TEA, APPLE CIDER ALL USABLE.   | COFFEE IS USABLE. REMOVE SUGAR PACKET AND TEA WITH SUGAR ADDED.   | CLARIFY CAFFEINE RESTRICTION WITH PHYSICIAN. GENERALLY NO OR VERY LIMITED COFFEE AND TEA SERVED. APPLE CIDER IS ACCEPTABLE. |

**NOTE:** ONE STARCH, ONE FRUIT, OR ONE MILK EXCHANGE CONTAINS 15 GRAMS OF CARBOHYDRATE. SEE THE ADA MANUAL FOR SERVING SIZE AND LISTS.

GLOSSARY

**ABBREVIATIONS, ACRONYMS, AND DEFINITIONS**

**AAR** after action report/review

**ABCA** American, British, Canadian and Australian

**ADA** American Dietetic Association

**AFMIC** Armed Forces Medical Intelligence Center

**AMS** acute mountain sickness

**AR** Army Regulation

**ARTEP** Army Training and Evaluation Plan

**attn** attention

**B** breakfast

**BBQ** barbeque

**CALL** Center for Army Lessons Learned

**cc** cubic centimeter

**CDC** Centers for Disease Control and Prevention

**CHF** congestive heart failure

**CHPPM** Center for Health Promotion and Preventive Medicine

**CK** containerized kitchen

**COPD** chronic obstructive pulmonary disease

**CPT** captain

**CSH** combat support hospital

**D** dinner

**DA** Department of the Army

## **FM 4-02.56**

**DBW** desired body weight

**decaf** decaffeinated

**dl** deciliter

**DOD** Department of the Defense

**EAC** echelons above corps

**enteral feeding** The delivery of nutrients directly into the stomach, duodenum, or jejunum.

**1LT** first lieutenant

**FM** field manual

**FSC** food sanitation center

**g** gram

**GI** gastrointestinal

**Hg** mercury

**HN** host nation

**H & S** heat and serve

**HTN** hypertension

**IBD** inflammatory bowel disease

**L** lunch

**LTC** lieutenant colonel

**MAJ** major

**MALIGNANT HTN** Uncontrolled hypertension (Diastolic pressure uncontrollably high. Can be as much as 133 mm Hg.)

## **Glossary-2**



**MBU** modern burner unit

**MDRI** military dietary reference intakes

**METL** mission essential task list

**med** medical

**MF2K** Medical Force 2000

**MFK** modular field kitchen

**mm** millimeter

**MRE** meal, ready-to-eat

**MRI** medical reengineering initiative

**MTP** mission training plan

  

**NATO** North Atlantic Treaty Organization

**NBC** nuclear, biological, and chemical

**NCO** noncommissioned officer

**NCOIC** noncommissioned officer in charge

**NCS** nutrition care section

**NPO** nothing by mouth

**NSN** national stock number

  

**oz** ounce

  

**pam** pamphlet

**PFC** private first class

**PO** by mouth/orally

**PROFIS** professional officer filler system

**FM 4-02.56**

**QSTAG** Quadripartite Standardization Agreement

**RD** registered dietitian

**S4** supply officer (US Army)

**SBO** severe bowel obstruction

**SFC** sergeant first class

**SGT** sergeant

**SOP** standing operating procedures

**SP** Army Medical Specialist Corps

**SPC** specialist

**SSG** staff sergeant

**STANAG** Standardization Agreement

**TB** technical bulletin

**TEMPER** tent expandable, personnel

**TM** technical manual

**TOE** table(s) of organization and equipment

**UGR** unitized group ration

**UGR-A** unitized group ration–fresh fruits, vegetables, and meats (requires refrigeration)

**UGR-H&S** unitized group ration–heat and serve

**USAMRIID** United States Army Research Institute for Infectious Diseases

**USARIEM** United States Army Research Institute of Environmental Medicine

**UHT** ultrahigh temperature

**WHO** World Health Organization

**Glossary-4**

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## FM 4-02.56

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## INDEX

- ADA Manual, 4-1*a*, 4-2, 4-3*d*, A-4, D-5  
 advice, nutritional, 4-3*c—d*
- clinical dietetics, 2-4*b*, 4-4, 4-4*a*,  
 cold environment, 4-3*f*  
 consultants, 1-1*b*, 1-2*c*, 2-4*a*  
 contract food service, 1-1*b*, 4-4*f*  
 coordination, A-2
- diet  
   blenderized, 4-2*a*, 4-3*b*, D-4*d*  
   cardiac, D-4*g*  
   clear liquid, 4-3*b*, D-4*b*  
   diabetic, D-4*i*  
   full liquid, 4-2*a*, 4-3*b*, D-4*c*  
   high calorie/high protein, 4-2*a*, D-4*h*  
   low sodium, D-4*f*  
   nourishments, D-7  
   orders, 4-2*a*, 4-4*c*  
   preparation, D-4  
   recipe modifications, D-5  
   regular, 4-2*a*, D-4*a*  
   snacks, D-7  
   supplemental fluids, D-6  
   therapeutic menus, D-3  
   tube feeding, D-4*j*
- dietitian, 1-1*b*, 2-2*a*, 2-4*a*, 4-4*f*  
 disease and health risk, 4-2*b*
- guidance, 4-3*a*
- health promotion program, 1-1*a*, 1-1*b*, 1-2*d*, 2-4*b*, 5-1*b*, 5-2  
   assess supported population, 5-3*a*  
   desired outcome, 5-1*a*  
   document program, 5-3*c*(6)  
   goals and objectives, 5-3*b*  
   predeployment preparation, 5-2  
   steps, 5-3  
   team membership, 5-1*b*
- high altitude, 4-3*g*
- hospital  
   equipment, Chapter 3  
   MF2K, 1-1*a*, 2-2  
   MRI, 1-1*a*, 2-2  
   hospital food service specialist, 1-1*b*  
   hospital food service  
     NCO, 2-4*b*  
     NCOIC, 2-1—2, 2-3*b*, 2-5—6

## FM 4-02.56

- host nation, 1-1*b*
- hot environment, 4-3*e*
- humanitarian assistance, 4-2*a*
  
- meal tickets, 4-4*f*
- medical diet supplements, 1-2*c*, 4-2*a*, 4-3*b*
- menu patterns, 4-4*d*, D-5
- minimum dietary reference intake, 4-1*b*
- modified diets, D-4
- motor pool, 1-2*b*, A-4
  
- nuclear, biological, and chemical environment, 4-4*e*
- nutrients
  - functions, D-1
  - sources, D-1
- nutrition care section, 1-1*a*
  - additional duties, 2-6
  - administrative procedures, 1-3
    - after action report, 1-3*e*, A-6
    - publications, 1-3*a*, A-4
    - records, 1-3*c*
    - reports, 1-3*d*
    - standing operating procedures, 1-3*b*, Appendix B
  - deployment 1-2
  - personnel 1-1*b*, 1-2*a*, 2-1, 4-2*a*, 4-4,
  - predeployment, 1-2*b*
  - redeployment, 1-2*d*
  
- patient
  - meals, 1-1*b*
  - nourishments, 1-1*b*
  - nutrition, 4-2—3
  - screening, 4-4
- personnel
  - additional, 2-5
  - professional officer filler system, 1-2*a*, 2-1, A-4
  - requirements, 2-1, 2-2, 2-5
  - responsibilities, 2-4, 5-2, Appendix B, C-4*b*
  - task organization, 2-3
  
- rations
  - A-rations, D-1
  - daily, 4-1*b*
  - meal, ready-to-eat, 4-3*b*, 4-4*b* and *e*, D-1—5
  - medical diet supplements, 1-2*c*, 4-2*a*, 4-3*b*, D-2
  - unitized group rations, 4-3*b*, Appendix D

## Index-2

Reimer Digital Library, 1-3*a*

stability operations and support operations, 1-1*b*  
supply, 1-2*a*, 1-2*b*, 1-2*d*

training, 1-2*a*, Appendix A  
    coordination, A-4  
    evaluation, A-5  
    exercise, A-2  
    objectives, A-3

United States Army Publications Agency, 1-3*a*

ward  
    diet roster, 4-4  
    food waste, 4-4*f*  
    trays, 4-4*f*



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