

CHAPTER 3

FIELD DENTISTRY

Section I. INTRODUCTION

3-1. General

The practice of dentistry in the TO requires employment of the same fundamental skills and standards of practice as would be employed in a garrison clinic. The basic principles learned by dental officers in dental school and graduate education, and by enlisted personnel during the course of their military occupational specialty (MOS) training are applicable in the field environment. The limitations imposed by availability of equipment and the demands of the tactical situation require flexibility and expediency on the part of both the dentist and ancillary personnel. In no case, however, can the basic principles of dentistry be compromised. Dental commanders at all levels must establish a sound quality assurance (QA) plan as described in Appendix B.

3-2. Objective

The primary objective of field dentistry is to RTD the patient as quickly as possible based on the tactical situation, while at the same time attending to his dental needs. In the case of troops in contact, the situation may permit only temporary alleviation of pain and suffering. Under less-demanding circumstances, the situation may permit more definitive treatment. In all cases, the practitioner should endeavor to accomplish as much as possible in a single sitting, thus avoiding return visits and subsequent lost duty time. This requirement places a great emphasis on the professional judgment of the practitioner and a need to reconcile patient needs with the tactical situation. Likewise, field DTFs should be organized to accomplish the task at hand consistent with the mission of the supported organization(s).

3-3. Evacuation Versus Referral of Dental Patients

This FM frequently mentions the need to evacuate a dental casualty with the word “evacuate” being used in a very general sense. In reality, there are times when dental patients will require *evacuation* in the doctrinal sense of the word. At other times, there will be a need, depending on the tactical situation, for expeditious RTD after the accomplishment of emergency treatment and subsequent *referral* for a higher level of treatment (sustaining or maintaining) when the tactical situation permits. When to evacuate, when to RTD, and when to refer are matters of clinical judgment based on patient presentation and beyond the scope of this manual. It is left to the reader, therefore, to make the proper interpretation of the generic term “evacuate” based on the situation to which it might apply.

a. Evacuation — transfer of a patient from a lower echelon of care to a higher echelon at either an MTF or a DTF using medical evacuation assets and established evacuation procedures.

b. Referral — referral of a patient from a DTF for follow-up treatment when the tactical situation permits. Generally, transportation to a referral DTF is the responsibility of the patient’s unit. Use of medical evacuation assets may be feasible, however, when the situation permits transfer of routine or convenience category patients.

c. Return to Duty — assumes that a soldier is capable of performing his mission in an austere combat environment. Soldiers who cannot be placed in a fully capable condition, or who require pharmaceutical regimens which impair performance, should be evacuated to the next higher echelon of care rather than RTD.

Section II. FIELD DENTAL EQUIPMENT

3-4. General

Field dental equipment is organized into dental equipment sets (DES) and dental instrument and

supply sets (DISS). In the DEPMEDS-equipped hospitals, the dental staff is equipped with DEPMEDS dental materiel sets (DMS) and additional supporting items. Most modernized DES are organized to support

a specific category of dental care (emergency, sustaining, and/or maintaining). Consistent with the earlier definition of these categories, each set has the capability for subordinate categories of care. The DES are assigned to the TOE of medical/dental organizations consistent with their mission.

3-5. Design

Dental sets are designed according to the category of dental care they are expected to support; however, other important factors are also considered. Mobility factors such as weight, volume, and low power demand were important considerations for design of sets intended for use in forward organizations, and a lesser consideration in those units to be employed further to the rear. Standardization of the materiel within the sets is consistent with Army policy and eases Class VIII resupply. Each set provides dental equipment and materials necessary for accomplishment of those dental procedures normally associated with the category of dental care to be supported.

3-6. Description

The unit's TOE shows the type and quantity of dental sets authorized. Current authorized contents for each set are listed in the DA supply catalog for that particular set. Recommended changes to DES and DISS can be submitted through command channels on DA Form 2028 to the Commander, AMEDDC&S, ATTN: HSMC-FCO-S, Fort Sam Houston, Texas 78234-6100.

a. Emergency Care. Every dental officer in a TOE position, with the exception of those in staff positions, is assigned a DISS, emergency treatment, field. This small (13 lb, 1 cu ft), dental emergency kit is contained in a hand-carried medical aid bag. It contains the bare minimum of instruments and materials for simple extractions and expedient temporary restorations. Key in this kit is a battery-operated handpiece which allows the dental officer to open an infected tooth, prepare a cavity for temporary restoration, or section a tooth for extraction. The DISS, emergency treatment, field, is intended for use when the situation does not permit setup of the dental officer's standard equipment.

b. Sustaining Care. The DES, designed to provide sustaining care, is the backbone of the dental module described in Chapters 1 and 2. This equipment is light in weight, compact, rugged, has limited power demand, and is highly mobile. It represents the latest in dental technology. Authorized to units with a unit dental support mission and the forward treatment sections of the medical company (dental service) and medical detachment (dental service), it consists of—

- *Dental support, DES.* This set, found in both maintaining care sections and the dental modules providing sustaining care, provides necessary support items including: sterilizer, sink, laboratory table, oxygen, and an emergency medical resuscitation kit.

- *Lightweight operating and treatment unit.* This unit has a self-contained compressor and suction unit and is supported by a lightweight field dental chair and operating light. It replaces the heavier operating and treatment unit and separate compressor currently authorized in the dental modules.

- *Operatory, field, lightweight, DES.* This set contains instruments and materials to accomplish basic restorative dental procedures, extractions, cleanings, and stabilization of minor oral and maxillofacial injuries. It replaces the heavier DES, general dentistry, currently authorized in the dental modules.

- *Hand-held dental x-ray.* This high-technology device supported by self-developing dental film replaces the much heavier DES, x-ray, and x-ray apparatus currently authorized in the dental modules.

- *Emergency denture repair, DISS.* This small set provides basic materials for expedient denture repairs.

c. Maintaining Care. Maintaining care basically provides for the full range of dental service normally associated with general dentistry including operative dentistry, oral surgery, endodontics, periodontics, prosthodontics, and dental prophylaxis. Units with a maintaining care mission are equipped accordingly. The major equipment items of the maintaining care DES are much the same as were authorized in the old H-edition TOES; however, the

sets have been significantly upgraded and modernized. Capability consistent with maintaining care requirements, sometimes at the expense of mobility, was a major consideration in the design of the maintaining care sets. Maintaining care DES are assigned to the dentistry/prosthetics and general dentistry sections of the medical company (dental service) and to the general dentistry section of the medical detachment (dental service). The DMS found in the DEPMEDS-equipped hospitals are much the same as the maintaining care DES. Maintaining care DES include-

- *Dental support, DES.* This set, described in paragraph 3-6b above, provides necessary support items.

- *General dentistry, DES.* This set includes the basic instruments and materials to accomplish most restorative dental procedures. Associated with this set are a dental chair and stool unit, an ADEC operating and treatment unit, a separate compressor, and a conventional dental light.

- *Dental hygiene, field, DES.* This set includes those instruments and materials necessary for the provision of preventive dentistry services by the preventive dental specialist, 91EX2. It has the same associated items of equipment as described above for the general dentistry, DES.

- *Maintaining care, augmentation, DES.* This set contains instruments and materials necessary to augment the general dentistry, DES for the provision of endodontics, periodontics, and oral surgical treatment. It is authorized on the basis of one each for the dentistry/prosthetics and general dentistry sections of the medical company (dental service) and one each for the general dentistry section of the medical detachment (dental service).

- *Dental x-ray, field, DES.* This modernized set, along with its associated 70 kilovolt (kv), 7 milliampere (ma) x-ray apparatus provides standard dental x-ray capability to the dentistry/prosthetics and general dentistry sections of dental units.

- *Prostodontics, DES.* This set provides clinical and laboratory items necessary to support fixed and removable prosthodontic procedures in the dentistry/prosthetics section of the medical company (dental service) and the medical team (prosthodontics).

It will be described in detail in a later discussion of prosthodontics in the TO. The prosthodontics DES must be used in conjunction with the general dentistry, DES.

3-7. Deployable Medical Systems/Hospital Dentistry

The DEPMEDS initiative is a joint-service response to a congressional mandate to standardize Echelons III and IV hospital medical equipment throughout the theater. The DEPMEDS is managed by the Defense Medical Standardization Board under the direction of a joint-service committee made up of a general officer representing each service. Dental interests are represented at the joint-service colonel level.

a. *Patient-Condition Based.* The configuration of both DEPMEDS medical materiel sets (MMS) and DMS is based on a listing of patient conditions determined from sophisticated modeling. Medical materiel sets and DMS were designed based on treatment protocols (codes) developed by panels of consultants representing each service to treat the above patient conditions. Medical materiel sets and DMS are designed only to treat specific patient conditions based on these standardized treatment protocols.

b. *Dental Materiel Sets.* The DEPMEDS DMS, hospital dentistry and dental x-ray, along with other supporting DMS and equipment found in the hospital dental module, provide a maintaining care capability for the dental officers assigned to the module. With the exception of greater oral and maxillofacial capability, there is little difference in the DES, general dentistry, and the DEPMEDS hospital dentistry set. The same is true for the x-ray set. The major supporting items of equipment (compressors, chair, x-ray, and so forth) are exactly the same for each.

c. *Oral and Maxillofacial Surgery.* Current DEPMEDS configuration requires the hospital oral surgeon to access any or all of three MMS and the DMS, hospital dentistry, to treat maxillofacial patients. The three MMS are

- Operating Room.
- Ear, Nose, and Throat Augmentation.
- Central Materiel Service COMMZ Augmentation.

Section III. DENTAL TREATMENT FACILITY ORGANIZATION

3-8. General

Dental treatment assets are organized into DTFs for the provision of dental service. The DTF may consist of a single dental treatment module, or a collection of dental assets collocated in a single facility. In most cases the organization of the DTF closely follows the TOE; however, DTFs may also be task-organized by the commander consistent with the mission. The dentistry/prosthetics and general dentistry sections, though originally designed to function as a collocated DTF, may be further split into self-sufficient DTFs using organic equipment.

3-9. Site Selection for the Dental Treatment Facility

Site selection is based on the geographic location, unit to be supported, and guidance from the base cluster commander and/or the base cluster operations center (BCOC). Other operational considerations for the DTF are the responsibility of the unit commander based on his mission and the tactical situation. These operational considerations are discussed in Chapter 4. Actual site selection is the responsibility of the officer in charge (OIC) of the DTF, determined in concert with the supporting unit. The best host unit for a DTF is a self-sustaining medical unit or MTF. Site selection considerations for the DTF are the same as those for MTF and include—

- Space required.
- Availability of power source if organic generators are not to be used.
- Terrain suitability.
- Accessibility to patients.
- Access to water supply, fuel, and food service facilities.
- Field sanitation and waste disposal.

- Security arrangements and camouflage requirements.
- Availability of medical support.

3-10. Shelter

The practice of dentistry and consideration for its associated materiel requires shelter from the elements and some degree of environmental control. The requirement for concealment of the dental shelter is a matter of unit standing operating procedure (SOP) and may be required by the supporting unit. It is an important consideration in both site selection and the type of shelter used. Selection of the appropriate shelter to fit the situation requires a great deal of flexibility and resourcefulness on the part of the DTF OIC. Dental units and Echelon II medical units with organic dental assets are equipped with tentage and associated environmental support items in accordance with (IAW) the common table of allowances (CTA) of the particular unit. Tentage, however, is not the best form of shelter for the DTF. Possibilities for shelter of the DTF are shown below in their order of desirability.

a. Established Dental Clinic. Some current TO plans call for the use of established dental clinics. Though the most desirable shelter option, it is the least likely.

b. Semipermanent Construction. Circumstances, particularly in long-term peacekeeping operations, may permit semipermanent DTF construction.

c. Deployable Medical Systems Hospital. The dental assets assigned to the DEPMEDS-equipped hospitals have allocated space; however, the tactical situation may permit occupation of unused space within the hospital by a supporting or collocated DTF. This option is also highly desirable, but not very likely, particularly during periods of high-tempo operations.

d. Buildings of Opportunity. Whenever possible, DTFs should be located in suitable buildings of opportunity. Though this may present a challenge in the DTF layout, buildings of opportunity offer obvious advantages as opposed to using tentage.

e. Tentage. Tentage, though desirable, is the most likely shelter option available for DTF location, particularly for forward deployed DTFs and during high-tempo operations. Tentage is the option most amenable to camouflage and concealment and offers the most flexibility in site selection.

f. Expedient Shelter. Expedient shelter is the most likely location for the provision of emergency care—

- While on the move between locations and dental equipment is not available.
- During humanitarian assistance and civic action operations.

It may be as simple as a shaded area or the tailgate of a truck.

3-11. Power Generation and Distribution

Layout of a DTF is largely determined by the availability of electrical power and power-distribution equipment. Dental resources assigned to Echelon II medical units and Echelons III and IV hospitals are incorporated into the power-distribution plan of their unit. Dental units are equipped with power generation and distribution equipment. Tents are easily arranged to satisfy the constraints placed on the DTF by length of power cables; however, an effective power-distribution scheme when using buildings of opportunity can often challenge the ingenuity of the DTF staff. The use of nonorganic power sources is a desirable economy; however, care must be taken when using other power sources, particularly with the maintaining care equipment which has high-amperage (amp) requirements. As always, safety is a paramount concern and alternative power sources should be carefully evaluated before using them. The power-generation equipment repairer (52D) assigned to the dental unit is the best source of advice on this matter.

a. Power-Generation Equipment. The dentistry/prosthetics and general dentistry sections of the medical company (dental service) and the general dentistry section of the medical detachment (dental service) are each equipped with two 15 kilowatt (kw), trailer-mounted, diesel generators. The forward treatment teams of the forward treatment sections each have an organic 5 kw, skid-mounted, diesel generator. These generators provide adequate electrical power for each section. Power requirements for the dental modules in the forward treatment sections will be reduced considerably upon completion of fielding of the lightweight treatment unit and hand-held x-ray, thus allowing assignment of a smaller, lighter generator in the future.

b. Power Distribution. Power distribution and lighting capability, which has long been a serious deficiency in dental units, will be greatly enhanced with the completed fielding of the Distribution Illumination System, Electrical (DISE). The DISE configuration for dental units consists of 60 amp distribution boxes and feeder cables along with an appropriate number of utility receptacles and lighting systems for each section.

c. Power Operations in the Dental Treatment Facilities. Dental units have no dedicated power-generation equipment operators; therefore, operator responsibilities must be assigned to selected personnel as an additional duty. Army regulations require licensure of power-generation equipment operators. In dental units, responsibility for licensure is delegated to the unit's power-generation equipment repairer who, along with the unit's medical equipment repairer, is also a source of technical advice. Technical manuals on the power generation and dental equipment used in the DTF provide mandatory guidelines for operation and operator care and maintenance, and must be readily available. Electrical power usage represents a significant safety hazard in the DTF and must be covered in both the DTF clinical standing operating procedure (CSOP) and the unit's tactical standing operating procedure (TSOP).

3-12. Dental Treatment Facilities Internal Design and Layout

Once a site and type of shelter have been selected for the DTF, actual layout of the facility and internal

design are largely determined by the number of shelters to be used, power-distribution capability and equipment, and staff assigned. Within these constraints, layout and internal design become a matter of preference and DTF staff ingenuity, consistent with operational considerations and unit TSOP. Shown below are suggested layouts and internal designs for DTFs. Illustrations use the organic resources and authorized CTA tentage of the dentistry/prosthetics section, the general dentistry sections, and a forward treatment team of the forward treatment section of the medical company (dental service) and medical detachment (dental service). A suggested power-distribution scheme is shown in each diagram. Refer to Technical Manual (TM) 5-6150-226-13&P for detailed guidance on electrical power-distribution systems, maintenance procedures, and parts.

a. Dentistry/Prosthetics Section, Medical Company (Dental Service). Figure 3-1 illustrates a proposed layout and internal design for the dentistry/prosthetics section of the medical company (dental service). Unique to this section is the prosthetics laboratory. Note in this illustration, as in others, the isolated location of the dental x-ray which is another significant safety hazard in the DTF. X-ray operation is covered later in this chapter and again in Appendix C.

b. General Dentistry Section, Medical Company (Dental Service). Figure 3-2 illustrates a proposed layout and internal design for the general dentistry section of the medical company (dental service).

c. General Dentistry Section, Medical Detachment (Dental Service). Figure 3-3 illustrates a proposed layout and internal design for the general dentistry section of the medical detachment (dental service). It is similar to the layout and design of the medical company (dental service), but smaller in terms of staffing size.

d. Forward Treatment Team, Forward Treatment Section. Figure 3-4 illustrates a proposed layout and internal design for a forward treatment team organic to both the medical company (dental service) and medical detachment (dental service). The illustration shows the soon to be fielded hand-held dental x-ray, not the DES x-ray currently authorized in these teams.

e. Echelon II and Echelons III and IV Hospital Dental Treatment Facilities. Layout and design of the DTFs in hospitals and medical companies are dependent upon the overall plan of the parent unit.

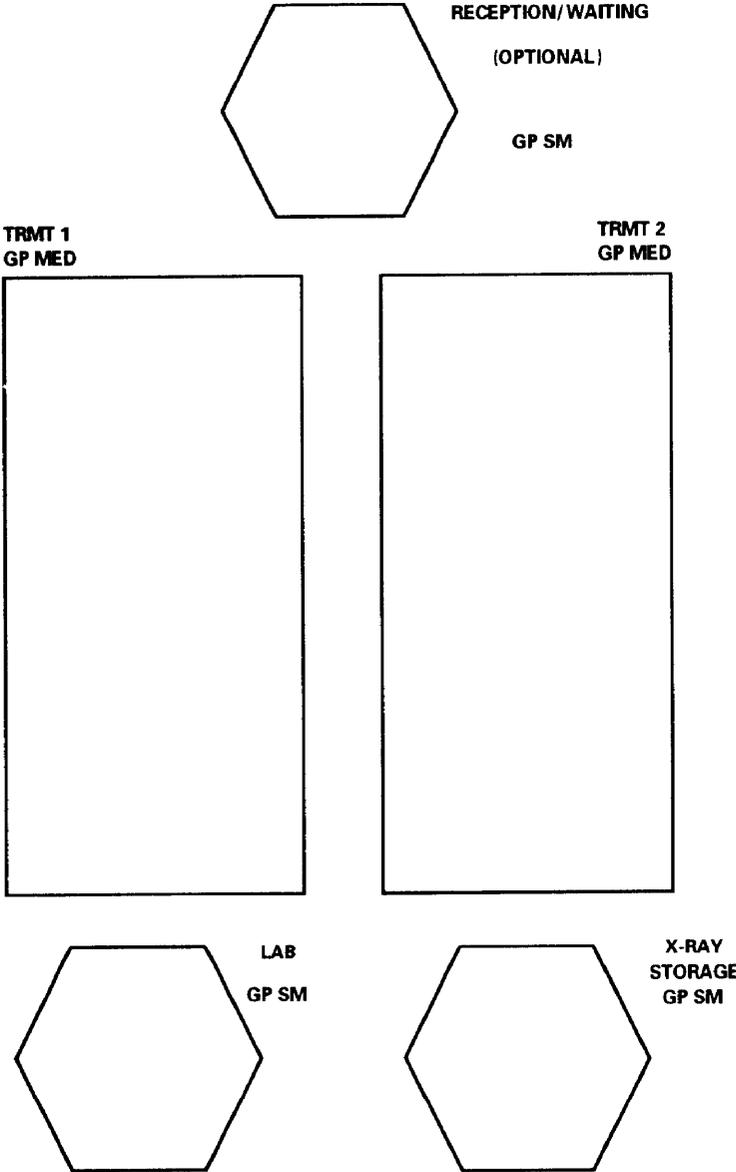


Figure 3-1. Suggested design for dentistry/prosthetics section of the medical company (dental service).

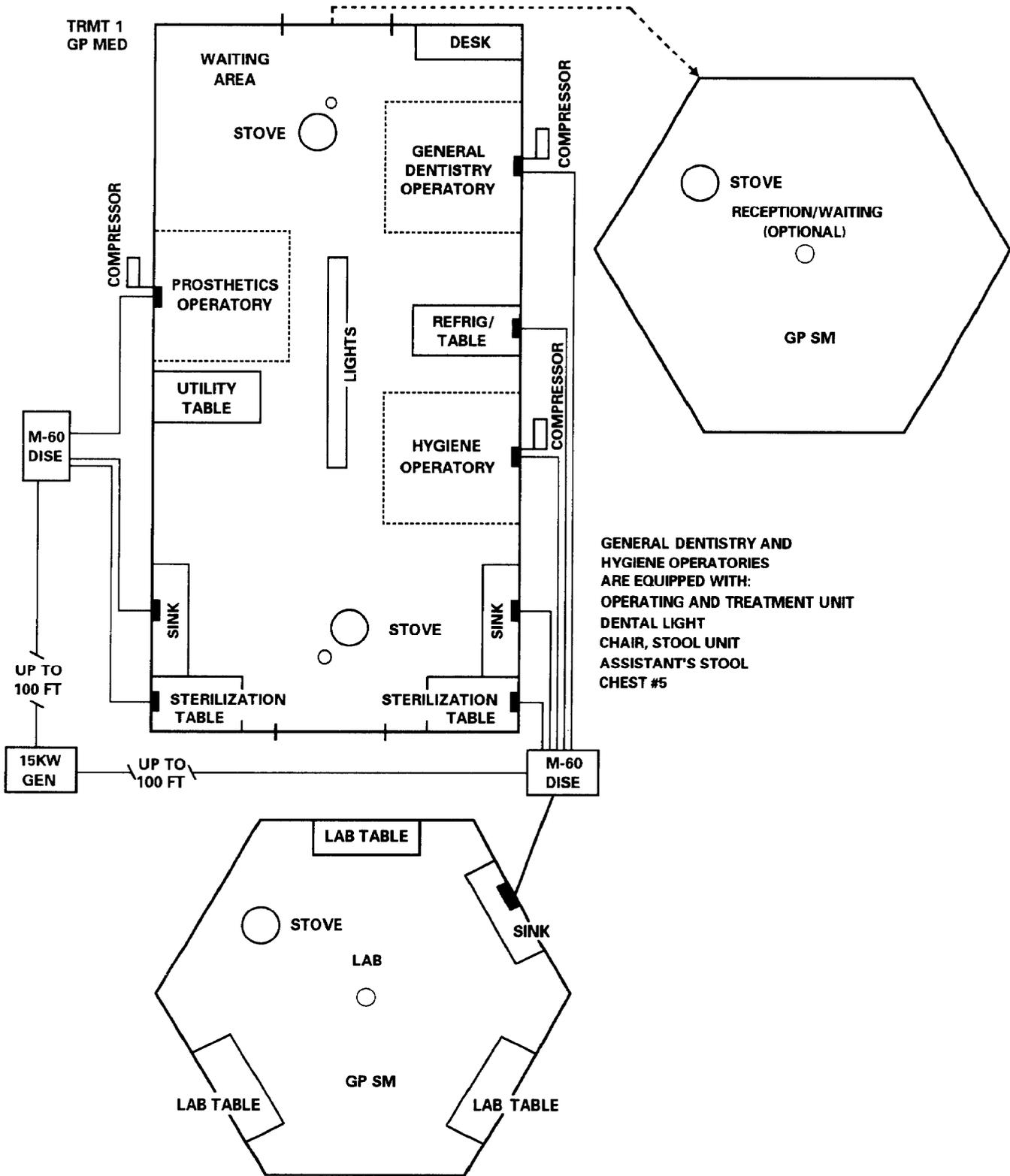


Figure 3-1. Suggested design for dentistry/prosthetics section of the medical company (dental service) (continued).

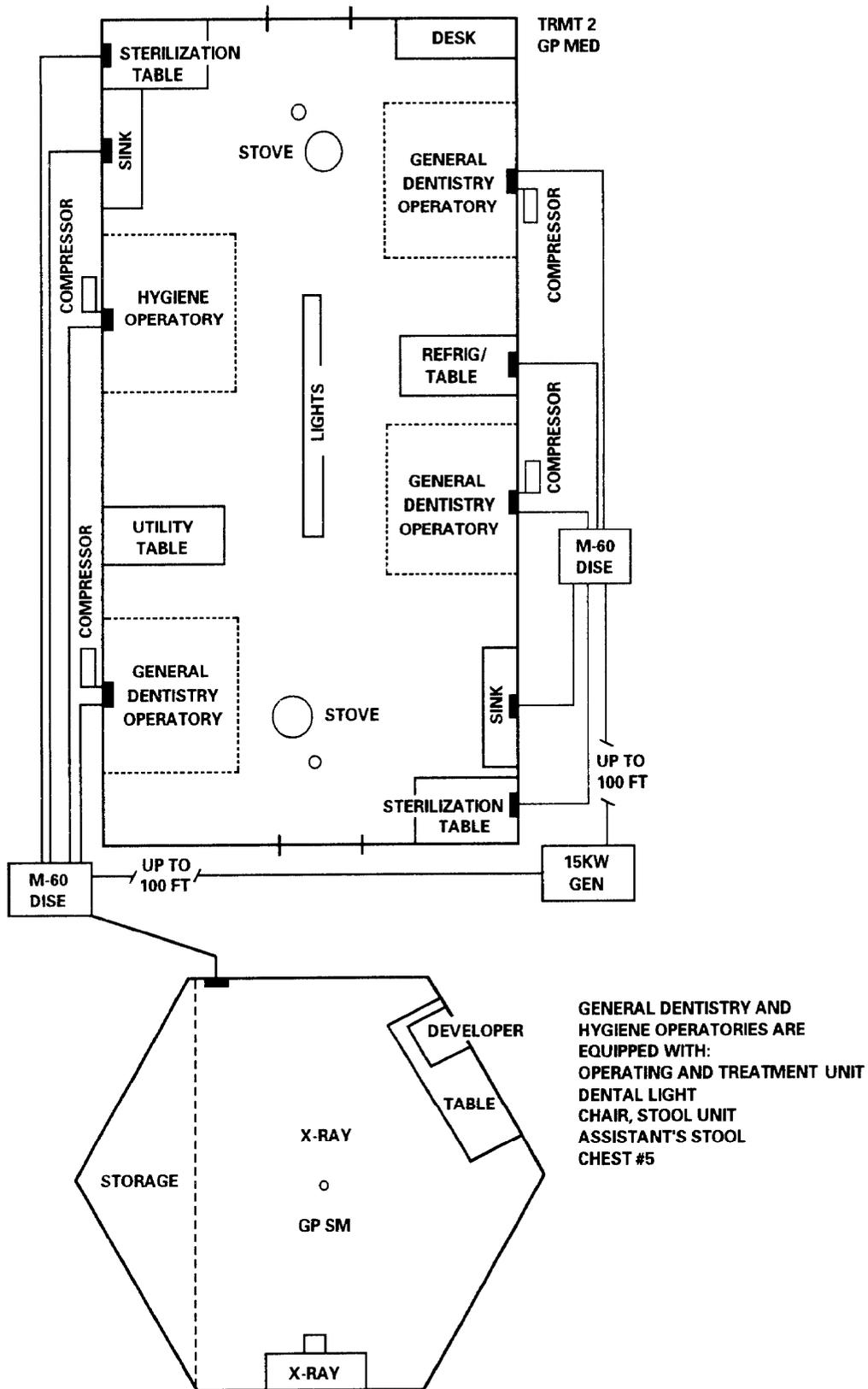


Figure 3-1. Suggested design for dentistry/prosthetics section of the medical company (dental service) (continued).

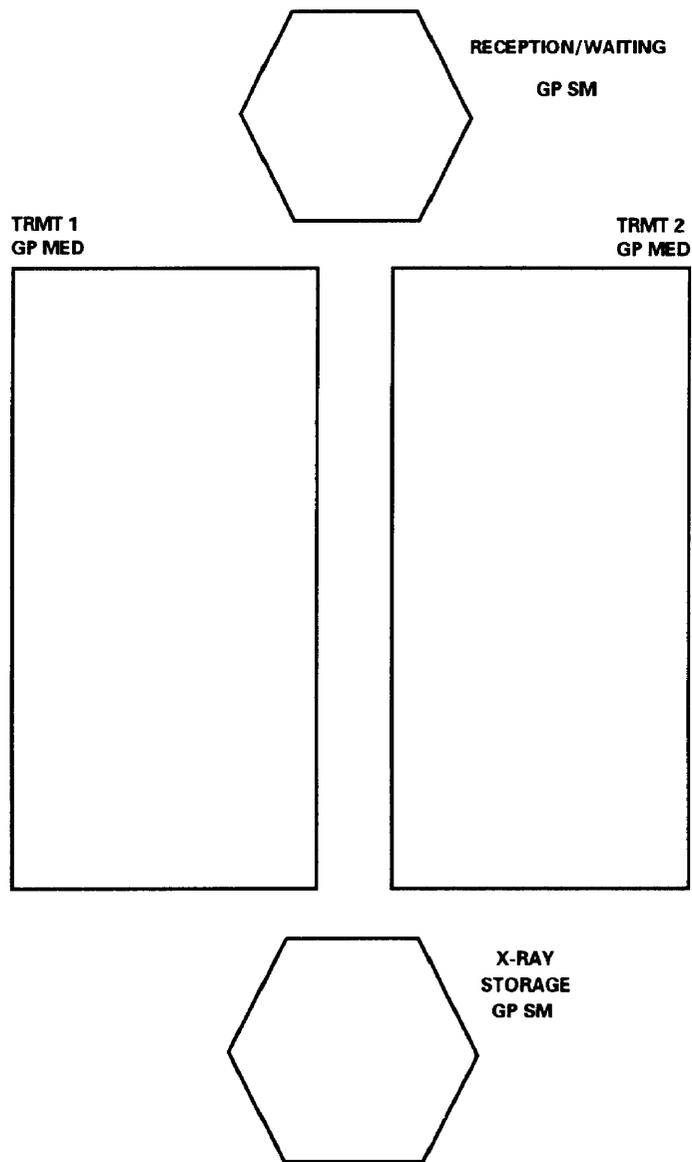


Figure 3-2. Suggested design for general dentistry section of the medical company (dental service).

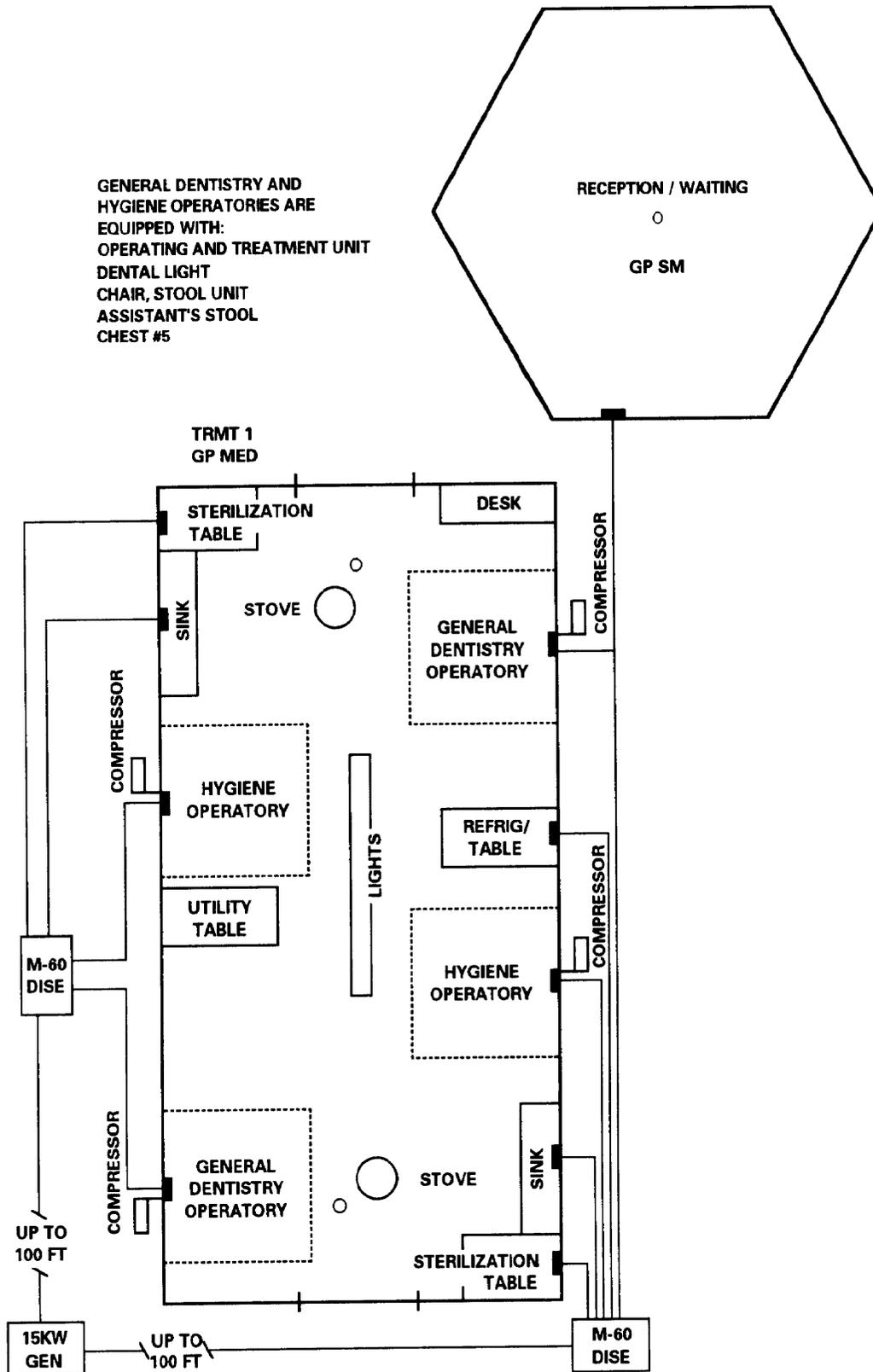


Figure 3-2. Suggested design for general dentistry section of the medical company (dental service) (continued).

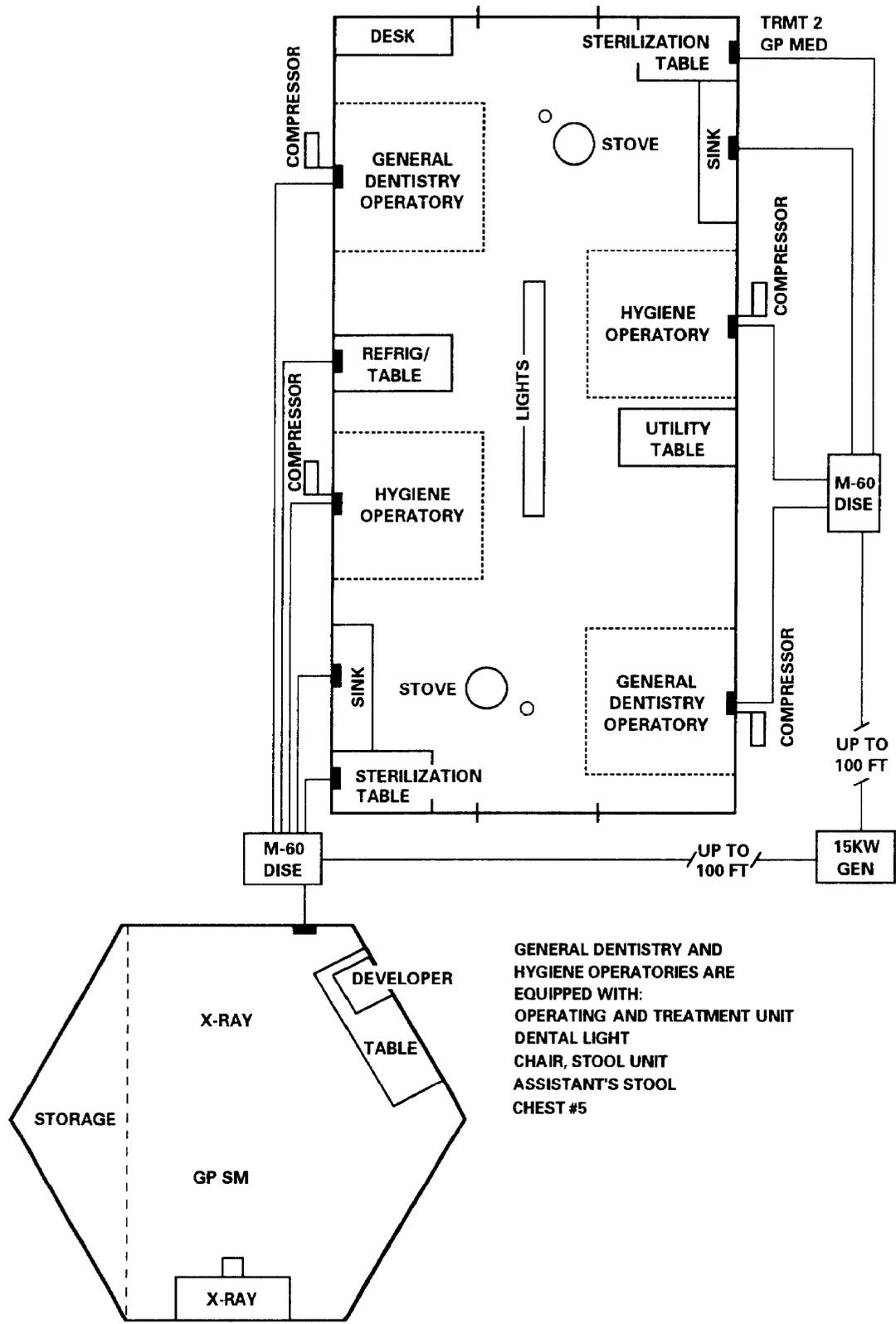


Figure 3-2. Suggested design for general dentistry section of the medical company (dental service) (continued).

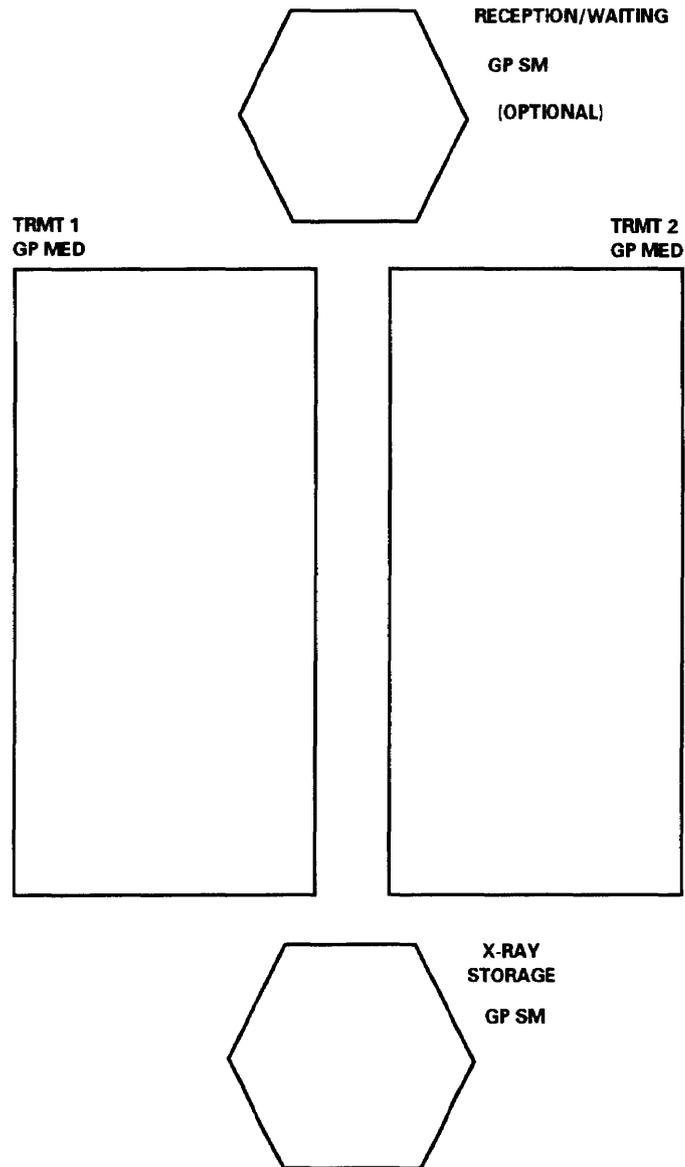


Figure 3-3. Suggested design for general dentistry section of the medical detachment (dental service).

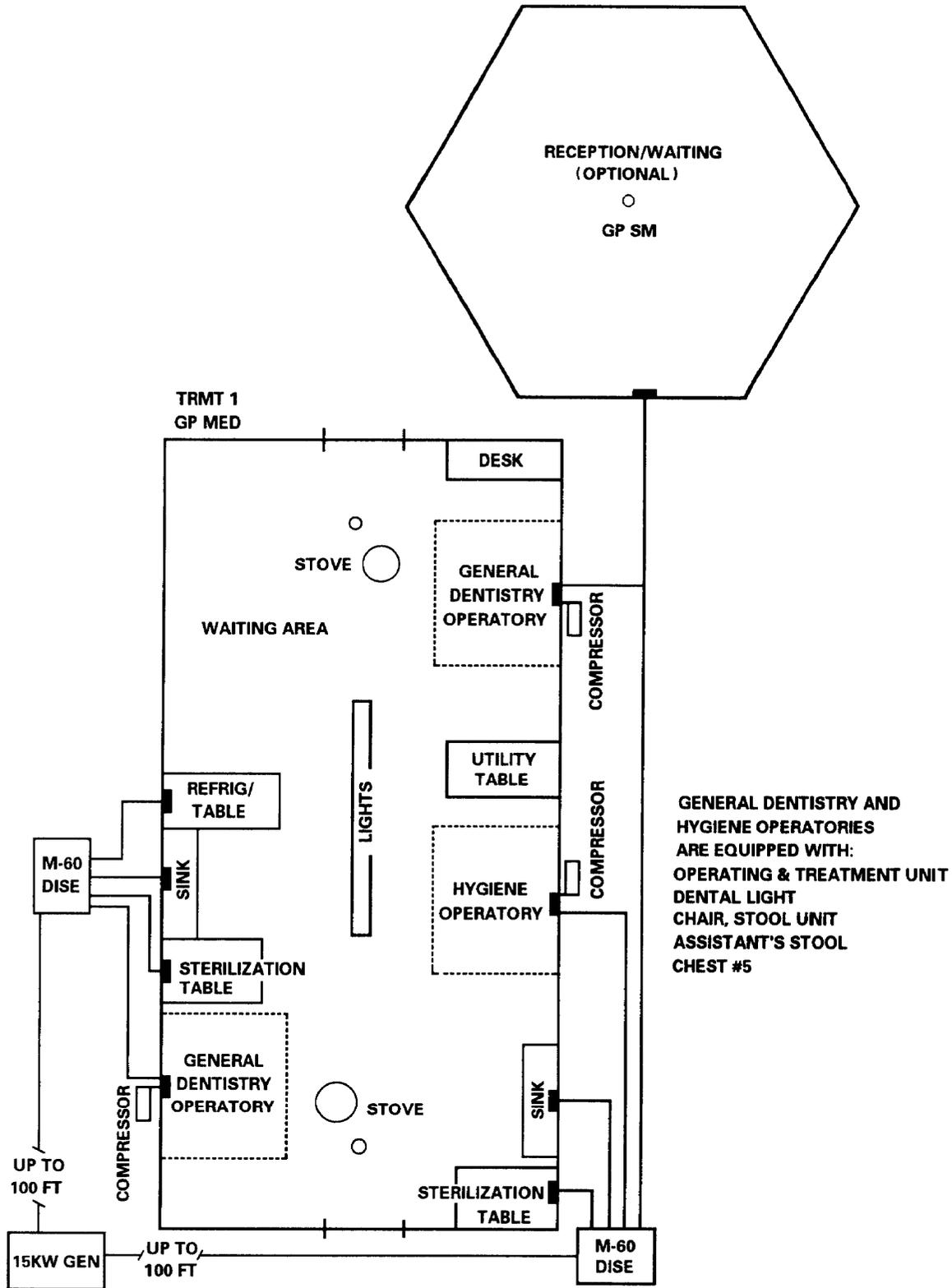


Figure 3-3. Suggested design for general dentistry section of the medical detachment (dental service) (continued).

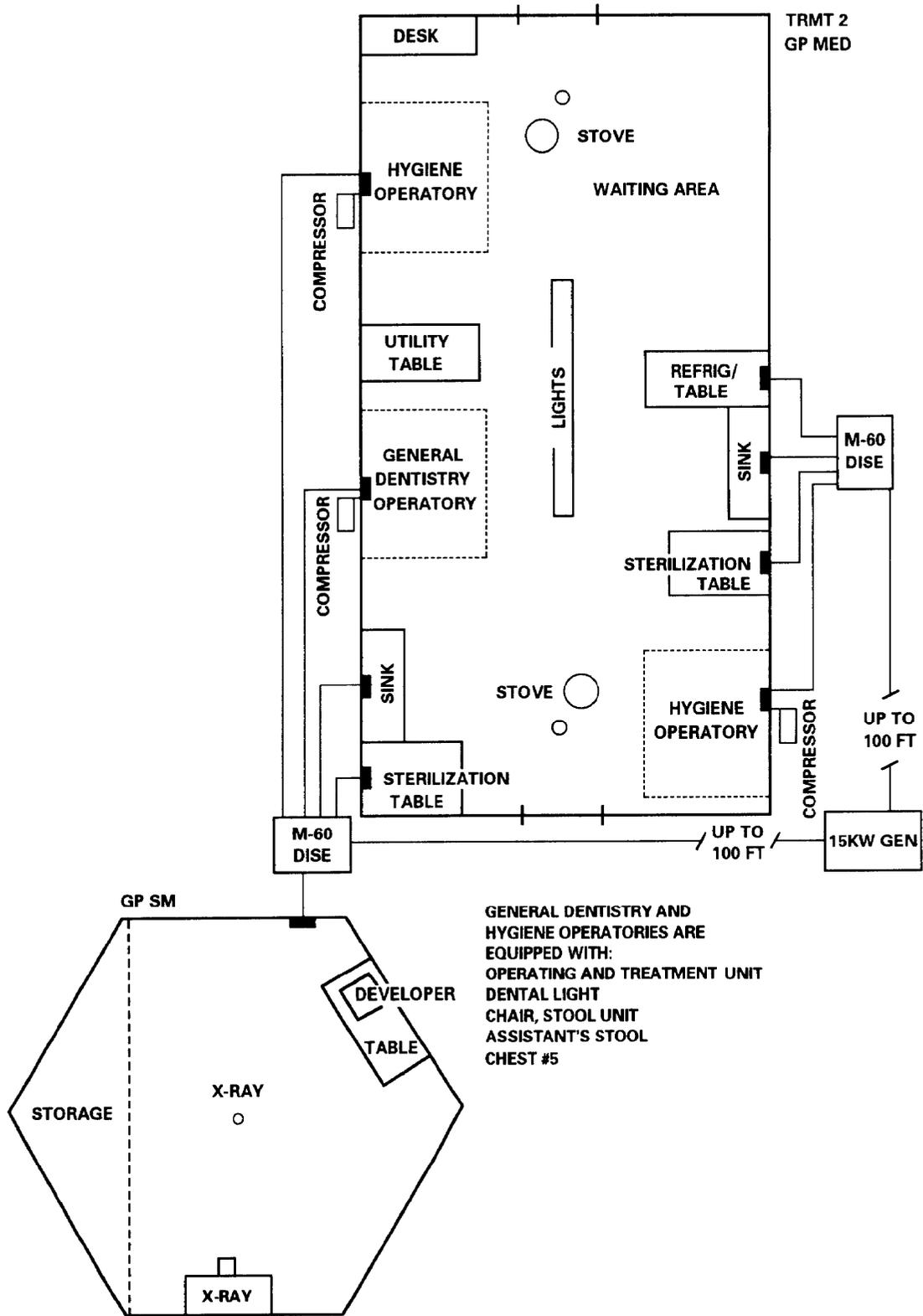


Figure 3-3. Suggested design for general dentistry section of the medical detachment (dental service) (continued).

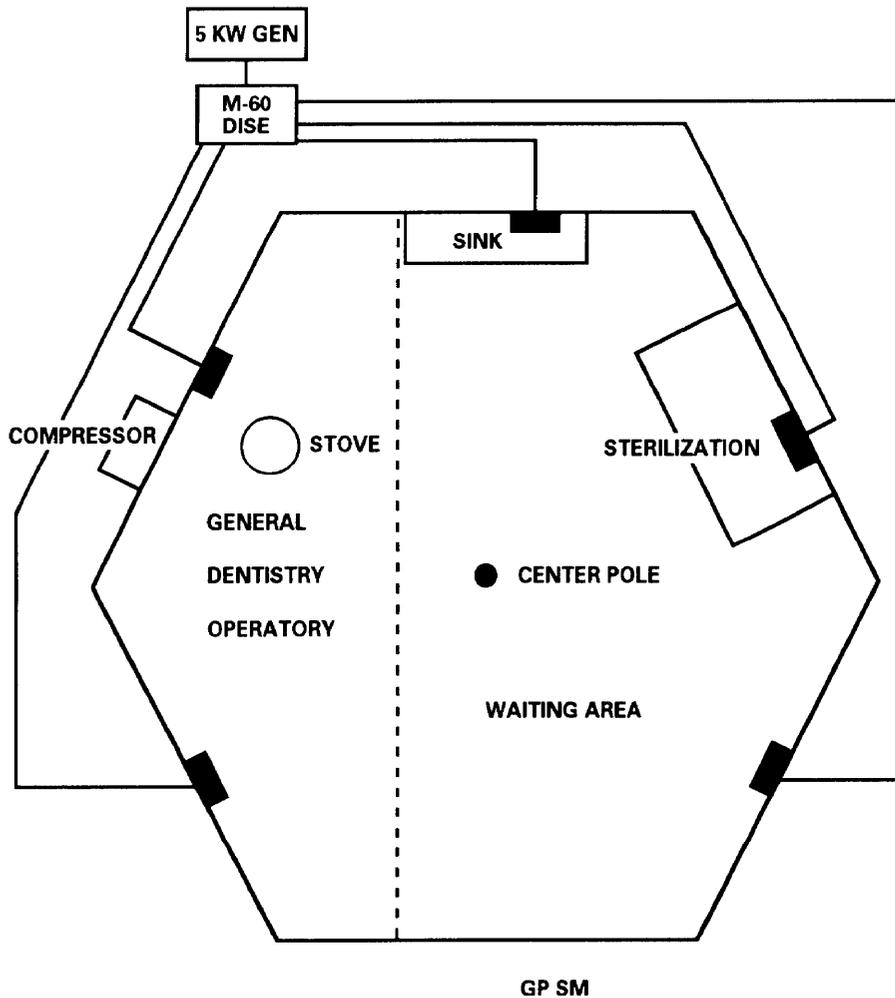


Figure 3-4. Suggested design for forward treatment team for the medical company and medical detachment (dental service).

Section IV. PATIENT CARE OPERATIONS

3-13. General

Once the DTF has been established, patient care operations are accomplished in much the same fashion as they would be in a garrison dental clinic. However, special considerations must be taken into account, based on the environment and tactical situation. The overall objective, as stated earlier in the chapter, is to RTD the soldier as expeditiously as possible while at the same time attending to his dental needs. Efficient

patient flow through the DTF will help achieve this objective.

3-14. Clinical Standing Operating Procedure

Each established DTF should develop a CSOP, separate from the unit's TSOP, which establishes policy on such matters as patient flow, responsibilities, equipment operation and maintenance, safety directives, and other pertinent matters. The unit's TSOP

will provide specific guidance on operational matters. Suggested outlines for a CSOP and a TSOP are shown in Appendixes D and E.

3-15. Dental Records and Reports

Maintaining complete and accurate patient treatment records and producing dental program reports are as necessary for quality dental care and resource management in the TO as they are in garrison. Technical Bulletin Medical (TB MED) 250 provides specific guidance on completing dental records. Dental personnel will follow procedures for dental records and reports prescribed by higher headquarters policy. In the absence of established policy unique to the operation, the procedures outlined in this manual will serve as guidance.

a. Dental Treatment Facility Dental Log.

A logbook will be maintained for each treatment facility. It will include the name, rank, and unit of the patient and the date and approximate time of the visit. It will also include a brief description of the reason for the visit—whether it was an emergency, sustaining, or maintaining type of care, and whether the condition was for disease and nonbattle injury (DNBI) or battle injury (BI). This log is retained for the clinic record.

b. Dental Treatment Facility Daily Dental Treatment Log. A daily dental treatment log will be maintained by the dental officer to record procedures performed and other pertinent information regarding the patient. This log provides a valuable source of data for statistical reporting.

c. Patient Record. The Treatment Record, Health-Dental (maintained in DA Form 3444-series) will not be deployed with the unit. It will be retained and maintained at the home station IAW AR 40-66 and TB MED 250. For medicolegal reasons, complete patient records in the TO remain essential. Each patient's diagnosis/treatment, regardless of service or country, will be accurately and completely recorded on a Standard Form (SF) 603-A as a temporary record.

(1) To ensure that these temporary records are eventually combined with the permanent dental record, take special care to provide full name,

social security number, service, home station, and organization unit. Organization unit should include company, battalion, and major unit—for example, "Company D/2 Battalion, 64th Infantry Division."

(2) A complete description of the diagnosis/treatment will include an indication of the category of care—emergency, sustaining, or maintaining—as described in Chapter 1. As noted in paragraph 3-15a above, this description will also reflect the nature of the condition and whether DNBI or BI.

(3) If, for logistics reasons, SF603-A is temporarily not available, ensure that all information usually provided on the SF 603-A is included on the alternative paper or form used. There should be a separate SF 603-A, or alternative, for each patient.

(4) All SF 603-A's or alternate forms will be submitted monthly and at the completion of the operation or exercise. If a record must be retained beyond the end of the month for continuity of care, it will be forwarded with the following month's submission.

(5) The SF603-A's (or other temporary patient records) are not to be returned directly to the home installation. They will be transferred to the theater, area, exercise, or task force dental surgeon. The dental surgeon will arrange for transfer to permanent dental records at the home station after data are collected from them.

d. Daily Dental Unit Status Report. A brief summary of the current dental situation will be submitted daily through command and dental technical channels. The report will serve to keep command and control channels up to date on the status of dental operations and problems concerning personnel, equipment, supply, facilities, and other activities. See also Section IV of Chapter 5.

e. Quarterly Dental Activities Report. A summary of dental facility or dental unit activities will be submitted by the 15th of the month following each fiscal quarter of the year. For example, by 15 October each hospital DTF, unit-support (divisional, and so forth) DTF, and each area-support dental unit will submit a report covering the period 1 July through 30 September. If participation in the operation or

exercise ends before the end of a quarter, the final Dental Activities Report will be due 15 days after return to the home installation. The Dental Activities Report will include—

- (1) Dates of report period.
- (2) Name and location of unit or facility.
 - Description of facilities.
 - Dental unit/facility movement during report period.
- (3) Personnel: Name, rank, and area of concentration (or MOS) of all personnel.
 - Identify OIC and noncommissioned officer in charge (NCOIC).
 - Date of arrival and departure of all personnel.
 - Awards, honors, and achievements.
- (4) Dental and organizational equipment. Deficiencies/excesses/problems/recommendations.
- (5) Supply and maintenance. Deficiencies/excesses/problems/recommendations.
- (6) Name of units supported. Date of beginning and termination of units supported.
- (7) Activities and programs. For example—civic action, preventive programs, professional and unit training, and distinguished visitors.
- (8) Suggestions for improvement.

The Dental Activities Report is intended to keep higher levels informed of the status of dental resources and activities. It is also an opportunity for dental providers to let problems and solutions be known. After a complete initial report is submitted, subsequent reports need not repeat information that has not changed. Unless changes are indicated on subsequent reports, it will be assumed that data in the previous

reports are still valid and serve as a cumulative record of dental service for that unit.

f. Health Record-Dental, Daily Dental Unit Status Report, and Quarterly Dental Activities Report. These reports are submitted through the command and through the next higher dental surgeon to the Army area or theater dental surgeon. The DTF Dental Log is retained at the dental facility and is available for audit if needed. Each command and dental surgeon will extract data and information needed for their immediate resource management and professional policy needs before forwarding to the next higher level. Summarizing statistics for the Daily Dental Activities Report is the only numerical manipulation required at the DTF level. Dental surgeons and dental commanders will extract further information they require from the Health Record-Dental and the Quarterly Dental Activities Report.

g. Patient Administration Specialist. The patient administration specialist (MOS 71G) assigned to the headquarters section of the medical company (dental service) and medical detachment (dental service) is responsible for dental records and report management including statistical summaries required by the commander.

3-16. Preventive Dentistry

Military preventive dentistry incorporates primary, secondary, and tertiary preventive measures taken to reduce or eliminate oral conditions that decrease a soldier's fitness to perform his mission and cause absence from duty. A combination of measures are described under the umbrella of the Dental Combat Effectiveness Program (DCEP). Before operational deployment, these measures include the Basic Combat Training (BCT)/Advanced Individual Training (AIT) Dental Program (a program to treat Class 3 patients during AIT), the Soldier Readiness Program (described in AR 600-8-101), and preventive dentistry programs described in AR 40-35. During dental service support to military operations, the DCEP measures include—

- Field management of the category of dental care (see paragraph 1-5).
- Commander information on the Dental Fitness Profile of his unit (see AR 40-35 and Appendix A of this manual).

- The Field Oral Hygiene Information Program (see paragraph 3-16a below).
- The Dental Combat Effectiveness Monitoring Program (see paragraph 3-16d below).

a. *Field Oral Hygiene Information Program.* All processing locations for deployment of troops to a TO will provide oral health information specific to the geographic area and conditions of operations. It is vitally important to provide oral health information in the TO at every opportunity. When appropriate, both group and individual counseling should be used. Concepts to be covered include—the importance of oral hygiene to combat fitness; the use of fluoridated toothpaste; alternative methods of hygiene in the absence of garrison-type facilities; and procedures to seek dental services in the TO. Soldiers should also be informed that dental floss, toothbrush, and fluoridated toothpaste are available in the Ration Supplement, Sundries Pack, Type I. These and other oral hygiene aids are also available in the post exchange.

b. *Role of the Preventive Dental Specialist.* Though trained in expanded dental assistant duties, the primary role of the preventive dental specialist is to support the unit's preventive dentistry mission. The dental hygiene DES contains a limited supply of education aids, toothbrushes, and personal care kits, in addition to materials and supplies to accomplish standard prophylaxis treatment.

c. *Prophylaxis Treatment.* Instruments and materials for dental prophylaxis treatment are stocked at both the maintaining and sustaining care levels. A sonic prophylaxis handpiece which connects to the dental treatment unit is found in the sustaining-level dental set and the maintaining-level dental hygiene set, in addition to an assortment of scalers and polishing materials.

d. *Dental Combat Effectiveness Monitoring Program.* The effectiveness of the DCEP depends on all elements described above (paragraph 3-16). The desired outcome is to reduce the degradation of combat effectiveness from dental discomfort and absence from duty station. The outcome measurement of DCEP is the unit or area dental emergency rate. For it to be meaningful, there are three elements to consider in calculating the emergency rate—number of emergencies, number of troops supported, and

length of time supported. The emergency rate is normally expressed as—

Dental Emergencies/1000 Troops/Year

If the period covered by the calculation is a month, the emergencies can be multiplied by 12 to get the yearly rate. If the period is “per day,” the emergencies can be multiplied by 365 to get the yearly rate. The preferred measure of troop strength is the “average daily troop strength,” but if not available, the “end-strength” for the period can be used. The “end-strength” is particularly undesirable when the troop strength is changing dramatically during the report period. When the number of troops being supported is available, the dental emergency rate should be calculated and reported to supported unit commanders, as well as forwarded along with records and reports to the next higher level of dental technical supervision. For the purposes of managing the operational fitness of their troops, unit commanders have a need to know the dental emergency rate and a need for dental surgeon advice on corrective actions indicated. Based on studies of previous military operations by ground forces, the following can be used for reference purposes in discussing emergency rates:

- Units with optimal oral health—
75/1000/year.
- Units with adequate oral health—
150/1000/year.
- Units with oral health that may
degrade operational effectiveness-300/1000/year.

3-17. Infection Control

Infection control is a critical requirement in a field environment; however, basic principles are often compromised in the interest of expediency. The demands for infection control in the field are even greater than in garrison due to undesirable environmental conditions. Expediency and compromise do not justify potential iatrogenic inoculation with a disease such as hepatitis, which can make a soldier combat ineffective for a long period of time. Field sanitation in the DTF area is an important adjunct to infection control and is covered in Chapter 4. Technical Bulletin in MED 266 provides specific guidance on infection control.

3-18. Patient and Care Provider Protection

Capability for barrier protection for prevention of cross-contamination is included to varying degrees in each treatment DES. In the DISS, emergency treatment, barrier protection is limited to gloves and masks with no capability for patient protection. The larger sets have much greater capability, to include gloves, masks, eye protection, clinical gowns, and plastic aprons for the care providers. Rubber dam armamentarium eye protection, and towels/napkins are provided for the patient. A variety of disinfection and cold sterilization capability is also included in the larger sets to supplement the steam sterilizer in the DES, support.

3-19. Infectious Waste Management

The accumulation and disposal of waste of all types is a major problem on the battlefield. Proper handling and disposal of waste is required to protect the force and the environment and to fulfill agreements with the host nation (HN). In general terms, the unit generating the waste is responsible for its collection and disposal. Assistance is normally available, however, through the supporting engineer unit, the preventive medicine team, or the local MTF. The types of waste generated by dental treatment teams are general, hazardous, and medical waste.

a. General Waste. General waste may be buried or burned. In either event, the disposal of large amounts of waste should be coordinated through supporting engineer units.

b. Hazardous Waste. An insignificant amount of hazardous waste is generated by dental units in the field environment. Organic solvents and chemicals used in the fabrication of dental appliances fall into this category. Small quantities of hazardous waste should be disposed of in a manner which minimizes the environmental impact. Preventive medicine and engineer personnel can advise the unit on disposal of large quantities of waste.

c. Medical Waste. Medical waste such as blood and blood products and surgical waste will be produced during dental procedures. The medical waste produced in dental modules may be sterilized and disposed of along with general waste. This

method may be used by units, regardless of size, until the volume of medical waste becomes unmanageable. Fluid wastes collected through oral evacuation apparatus should be disposed of along with human wastes (such as feces and urine). Contaminated needles and other sharp items require special handling and should be stored in a clearly marked, puncture-proof container with a tight-fitting lid until disposal can be arranged. Larger quantities of medical waste should be gathered in impervious containers, if available. Otherwise, double plastic bags are used. Containers must be clearly marked with the universal biological hazard symbol, or otherwise labeled consistent with the unit TSOP.

d. Methods of Disposal. Disposal of hazardous or infectious waste by burying is the last resort if the tactical situation or HN regulations prevent the incineration of waste. Engineer support is required for design and construction of the disposal site. In all cases involving the handling and disposal of waste, command guidance, TSOPs, and HN regulations must be thoroughly researched.

3-20. X-ray Operations

X-ray operations are an integral part of dental treatment. Capability for dental radiography is found in both the sustaining and maintaining care sets discussed earlier. X-ray operations pose a significant safety hazard and are rigidly regulated. Safety is the greatest consideration in both the operation and location of the x-ray within the DTF. Specific safety guidelines and regulations are covered in Appendix C.

a. Capabilities. Radiographs are an important tool in diagnosis. The standard dental x-ray machine is currently found in both sustaining and maintaining care sets. It has a tube voltage of 70 kv and a tube current of 7 ma. Used with the developer found in the parent DES, x-ray, the unit is capable of producing a full range of intraoral radiographs. In addition, the dental x-ray can also be used to expose medical films, provided developing capability is available.

b. Clinical Operation. Tables of organization and equipment provide a dedicated dental specialist, 91E, for x-ray operation in the dentistry/prosthetics and general dentistry sections of the

medical company (dental service) and the general dentistry section of the medical detachment (dental service). In the dental modules, x-ray is an additional responsibility of the assigned dental specialist. Dental specialists receive training in x-ray techniques during their MOS training; however, instructions which come with the x-ray machine should be readily available and followed accordingly. Within the larger

DTFs, the x-ray unit is located in an isolated area of at least a 50-foot radius from the rest of the facility, with the beam aimed away from the DTF and other adjacent populated areas. Use of a patient apron and lead shield is mandatory. Manufacturers' guidelines for care and handling of x-ray developing chemicals and radiographs should be carefully followed and made a matter of the SOP.

Section V. PROSTHODONTICS CARE OPERATIONS

3-21. General

There will be patients in the TO who require prosthodontic treatment. An edentulous patient who has either lost or broken his denture, or a patient who has an unserviceable fixed prosthesis causing pain and discomfort is as much a dental casualty as a patient with a classic toothache. For this reason, varying degrees of capability for both fixed and removable prosthodontic treatment are incorporated into the sustaining and maintaining categories of dental care.

3-22. Location of Prosthodontic Capability

With the exception of the dental officer providing emergency care using only the emergency dental instrument kit, all dental treatment facilities within the TO have some capability for prosthodontic care.

a. Sustaining Care. The dental modules in the following organizations are equipped to provide limited prosthodontic services:

- Division and separate brigade medical companies.
- Special forces groups.
- Area support medical companies.
- Forward treatment teams of the medical detachment (dental service) and the medical company (dental service).

The lightweight dental equipment set organic to the dental module has material for temporary fixed prosthodontic coverage and cementation. Additionally, each module is equipped with an emergency denture repair kit for prosthodontic repairs.

b. Maintaining Care. Capability for maintaining care is found in the medical company (dental service), the medical detachment (dental service) and Echelons III and IV hospital dental services. Prosthodontic capability in these organizations is similar to that in the sustaining care dental module, with the exception of the dentistry/prosthetics section of the medical company (dental service).

3-23. Medical Team (Prosthodontics)

a. The medical team (prosthodontics) is designed to provide additional prosthodontic dental support within the TO by augmenting a medical company (dental service), a medical detachment (dental service), or a hospital dental service. It consists of a prosthodontist, a laboratory NCO, a dental specialist, two laboratory specialists, and a prosthodontic equipment set with the capability to provide a wide range of basic prosthodontic services.

b. The prosthodontic capability of the medical team (prosthodontics) is nearly the same as that of the dentistry/prosthetics section of the medical company (dental service). The medical team (prosthodontics) can be assigned as required to either the medical brigade (CZ), or the medical brigade (COMMZ). However, it must be further attached to

a subordinate dental unit or hospital for almost all of its support. The unit is not capable of operating independently.

3-24. Clinical and Laboratory Operations

Dental treatment facilities which have an organic prosthodontics section or attached medical team (prosthodontics) are capable of providing a wide range of basic prosthodontic services. Prosthodontic capability in other dental units, the dental modules, and the hospital dental service is limited to emergency repairs and temporary coverage.

a. Clinical Operations. Clinical operations in units with an organic prosthodontics section or attached medical team (prosthodontics) cover a wide range of basic fixed and removable prosthodontic services. The prosthodontist, in addition to his assigned general dentistry set which includes a dental chair and stool unit, has access to a supporting prosthodontic set, DES prosthodontics.

(1) Primary procedures which can be accomplished with the material available to the prosthodontist include—

- Metal and porcelain-fused metal crowns.
- Fixed partial dentures.
- Prefabricated and cast post and cores.
- Provisional restorations.
- Fixed prosthodontic repairs.

(2) Primary removable prosthodontic procedures include—

- Conventional and immediate complete dentures.
- Resin and resin/metal removable partial dentures.

- Relining and rebasing.
- A wide range of removable prosthodontic repairs.

b. Laboratory Operations. The prosthetics section of the medical company (dental service) and medical team (prosthodontics) both have organic dental laboratory specialists in direct support of the prosthodontist. Material for accomplishment of supporting laboratory procedures is found in the organic prosthodontic set previously mentioned. The key to the TO dental laboratory concept is the use of the Army Post Office (APO) system for mailing cases back to CONUS area dental laboratories (ADLs) for fabrication. Theater laboratory capability is limited to those procedures which must be performed locally for expediency, or those which are not suitable for mailing.

(1) These procedures involve—

- Wax records and bases.
- Impression procedures and cast fabrication.
- Stain and glazing.
- Immediate transitional resin dentures.
- Die fabrication and trimming.
- Relining/rebasing.
- Repairs.

(2) Use of the CONUS ADLs for resource-intensive laboratory procedures provides a great savings in field equipment/weight and contributes to the overall mobility of the unit. Procedures such as crown and fixed partial denture fabrication and fabrication of metal frameworks for removable partial dentures are not suited to field units and are best accomplished in CONUS ADLs.