



U.S. ARMY MEDICAL DEPARTMENT
OFFICE OF MEDICAL HISTORY

**UNITED STATES ARMY DENTAL SERVICE
IN WORLD WAR II**

By

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CHAPTER VI

Operation of the Dental Service- General Considerations

DENTAL STANDARDS FOR MILITARY SERVICE

In time of peace the Army tends to establish physical standards for military service which cannot be maintained in time of emergency. This policy is not inconsistent since it ensures that time and money will not be wasted in training poor physical specimens, but when these rigid standards are carried over into a general mobilization difficulties may result.

The dental standards for full military duty which were in effect at the end of the First World War were not significantly altered prior to World War II. The early Mobilization Regulations (MR 1-9, dated 31 August 1940) which established the physical criteria to be used by Selective Service in time of emergency, prescribed dental requirements which were substantially the same as those published in AR 40-105 for the Regular Army in time of peace. Section VII of these regulations reads as follows:

DENTAL REQUIREMENTS

31. Classes 1-A and 1-B.-a. Class 1-A. (1) Normal teeth and gums.

(2) A minimum of 3 serviceable natural masticating teeth above and three below opposing and three serviceable natural incisors above and three below opposing. (Therefore the minimum requirements consist of a total of 6 masticating teeth and 6 incisor teeth.) All of these teeth must be so opposed as to serve the purpose of incision and mastication.

(3) *Definitions.*

(a) The term "masticating teeth" includes molar and bicuspid teeth and the term "incisors" includes incisor and cuspid teeth.

(b) A natural tooth which is carious (one with a cavity), which can be restored by filling, is to be considered a serviceable natural tooth.

(c) Teeth which have been restored by crowns or dummies attached to bridge-work, if well placed will be considered as serviceable natural teeth when the history and appearance of these teeth are such as to clearly warrant such assumption.

b. Class 1-B. Insufficient teeth to qualify for class I-A, if corrected by suitable dentures.

32. Class 4.-a. Irremediable disease of the gums of such severity as to interfere seriously with useful vocation in civil life.

b. Serious disease of the jaw which is not easily remediable and which is likely to incapacitate the registrant for satisfactory performance of general or limited military service.

c. Extensive focal infection with multiple periapical abscess, the correction of which would require protracted hospitalization and incapacity.

d. Extensive irremediable caries.

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(Note: Class I-A was acceptable for full military duty, class I-B was eligible only for limited duty, and class IV was rejected for *any* military service. No registrants found acceptable for limited service were called for military service prior to July 1942.)¹

These regulations did not specify whether or not teeth replaced on removable bridges would be counted as serviceable natural teeth, and this point was not made clear until March 1941, when Selective Service Medical Circular No. 2 provided that either fixed or removable bridges were acceptable if supported at least in part by the remaining teeth.²

When the preceding regulation was published the United States was still more than a year from actual participation in the war. The partial mobilization then in progress was for training purposes only, and fairly strict physical standards were necessary to avoid waste of effort in the instruction of men who might later prove unfit for military service. However, the Dental Division did not expect the criteria of the prewar MR 1-9 to apply in case, of actual conflict, for as early as May 1941 Brig. Gen. Leigh C. Fairbank, Director of the Dental Division, stated:

*It is estimated that a large percentage of men, inducted into the Army in the operation of a compulsory draft law, would require extensive dental replacements. The men of military age today will certainly show the [effects of] lack of dental care during the depression years. This condition must not be permitted to constitute a disqualifying factor.... However great our desire to maintain high dental standards for military service, we must realize that the safety of our nation depends on trained manpower. If the situation at present indicates a lowered state of dental health among those of military age, we must provide the means for adequate dental service to correct the dental health of drafted men. The entire plan for dental service in time of mobilization has been revised to meet the conditions which we are certain will exist in every Army camp.*³

The number of men actually disqualified for dental reasons under MR 1-9 far exceeded all expectations. About 8.8 percent of the registrants examined during the period from November 1940 through September 1941 could not qualify for general service. About one-third of these disqualified registrants were classified as IV-F, namely, as totally unfit for military service, and the remainder as I-B, fit for limited service only.⁴ Since no registrants with limited service qualification were called for, military service during this period, the 8.8 percent was the actual disqualification rate for dental reasons. In addition to those registrants who were disqualified for strictly dental conditions (8.8 percent), about 0.4 percent of the examined registrants were rejected by the local boards for serious pathology of the mouth or gums, and while

¹Teeth, mouth, and gum defects of men physically examined through the Selective Service System, 1940-1944, 28 Dec 45, p. 11. Natl Hq, Selective Service System.

²Medical Circular No. 2, Dental, 28 Mar 41. Natl Hq, Selective Service System.

³Fairbank, L. C. : Prosthetic dental service for the Army in peace and war. J. Am. Dent. A, 28: 798-802, May 1941.

⁴Causes of rejections and incidence of defects, Medical Statistics Bulletin No. 2, 1 Aug 43, pp. 6 and 9. Natl Hq, Selective Service System.

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the proportion disqualified by the induction stations for such pathology is not known it is apparent that about 1 of each 11 registrants examined was disqualified at that time for military service because of dental or oral diseases. These disqualification rates refer to rejections where the dental defects were the principal disqualifying cause. It should be noted, however, that in establishing the disqualification rates, only one disqualifying reason was given as the cause of rejection. Obviously, whenever there was more than one disqualifying defect, an order of precedence was followed in determining the principal disqualifying cause. In this respect, dental defects had a low priority. Therefore, if it were assumed that the frequency of disqualifying dental defects was the same among the registrants who were disqualified for reasons other than dental, it seems that about 1 out of 8 examined registrants would have failed to meet the early dental standards for general service.

During 1940 and 1941, when 89 percent of all dental rejections were made by local boards, dental and oral disqualifications by these boards were based on the following specific conditions:⁵

Defects of the teeth:

	<i>Percentage of all dental rejections</i>		
	<i>Total</i>	<i>White</i>	<i>Negro</i>
Missing teeth, replaced by dentures	23.1	23.8	6.3
Missing teeth, no dentures	64.0	63.6	73.6
Excessive caries	10.0	9.7	16.1
Other defects of the teeth	2.9	2.9	4.0

Defects of the mouth and gums:

	<i>Percentage of all oral rejections</i>		
	<i>Total</i>	<i>White</i>	<i>Negro</i>
Periodontoclasia	71.7	71.4	73.8
Gingivitis	5.1	4.7	8.2
Congenital defects, lips and palate	8.6	9.6	1.6
Other defects of the mouth and gums	14.6	14.3	16.4

For a year and a half after the early MR 1-9 (1 August 1940) was published, changes in dental standards were relatively unimportant. In October 1940 the War Department directed that the provisions of MR 1-9 which had previously applied only to inductees would thereafter also constitute the physical standard for voluntary enlistment in the Regular Army and the National Guard.⁶ In March 1941 both Selective Service and the Office of The Surgeon General published circulars of interpretation directing that (1) the specified minimum number of teeth were required to be in occlusion only during movements of the mandible, as long as there was no impingement on soft tissues while the jaw was at rest, (2) missing teeth replaced by either a fixed or removable bridge could be counted as serviceable teeth if at least part of the stress of mastication was carried by the remaining natural teeth, (3) teeth with pyorrhea

⁵See footnote 1, p. 200.

⁶WD Cir 110, 4 Oct 40.

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pockets would be considered unserviceable if the pockets involved the bifurcation of multirooted teeth or the apical third of single-rooted teeth, and (4) teeth with caries involving the pulp would be considered unserviceable.^{7 8} In May 1941 dental requirements for officers of the Medical Department Reserve and the Chaplains' Reserve were relaxed to authorize commissioning of men with less than the minimum 12 teeth if the missing teeth were replaced by full or partial dentures.⁹

After Pearl Harbor it was apparent that the manpower needed to fight a global war could be obtained only if dental standards for induction were drastically relaxed. The War Department and Selective Service therefore directed, in February 1942, that pending revision of MR 1-9 the following would be acceptable for general military service:^{10 11}

Registrants who lack the required number of teeth as set forth in paragraph 31a, Mobilization Regulations 1-9, 31 August 1940, when, in the opinion of the examining

physician, they are well nourished, of good musculature, are free of gross dental infections, and have sufficient teeth (natural or artificial) to subsist on the Army ration.

This modification, interpreted literally, temporarily authorized the induction of edentulous individuals provided they had procured the necessary dental replacements. The revised MR 1-9¹² which was published 15 March 1942 provided for acceptance for general military duty:

Individuals who are well nourished, of good musculature, are free from gross dental infections, and have the following minimum requirements:

1. In the upper jaw-Edentulous, if corrected or correctable by a full denture.
2. In the lower jaw-A minimum of a sufficient number of natural teeth in proper position and condition to stabilize or support a partial denture which can be removed and replaced by the individual and which is retained by means of clasps, with or without rests, to stabilize or support the denture.

Malocclusion was a cause for rejection only when it interfered with the individual's health or resulted in damage to the soft tissues. Registrants with less than the required number of natural teeth were to be placed in Class I-B, for limited military Service, if the condition was correctable by the construction of dentures. In April 1942¹³ these revised standards were made applicable to graduates of officer candidate schools and, after October 1942,¹⁴ applied to Reserve and National Guard officers.

⁷See footnote 2, p. 200.

⁸SG Ltr 26, 28 Mar 41.

⁹SG Ltr 39, 5 May 41.

¹⁰Memo, Dir, Selective Service System, for all State Directors, No. I-372, 13 Feb 42, sub: Revised physical standards. Natl Hq, Selective Service System.

¹¹WD Cir 43, 12 Feb 42.

¹²MR 1-9, 15 Mar 42.

¹³WD Cir 126, 28 Apr 42.

¹⁴AR 40-105, 14 Oct 42.

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In a further revision of MR 1-9 in October 1942, dental requirements for induction were practically eliminated.¹⁵ Thereafter, the prospective inductee needed only "at least an edentulous upper jaw and/or an edentulous lower jaw, corrected or correctable by a full denture or dentures." No dental conditions were thereafter to warrant classification for limited service, and the only disqualifying dental defects were "diseases of the jaws and associated structures which are irremediable or not easily remedied, or which are likely to incapacitate the individual for the satisfactory performance of military duty" or "extensive loss of oral tissue in an amount that would prevent replacement of missing teeth by a satisfactory denture." The effects of the relaxed dental standards soon became evident. The available statistics for 1942 (beginning with April) indicate that the disqualification rate for dental reason during that year was around 1 percent. It decreased from 2.9 percent in April 1942 to about 0.1 percent in December 1942.¹⁶ In 1953, the, disqualification rate for dental defects fluctuated around 0.1 percent, and it remained practically at that level for the remainder of World War II.¹⁷ Selective Service Headquarters estimated that out of 4,828,000 registrants aged 18-37 who were still classified as IV-F on 1 August 1945, 36,000 registrants were so classified because of dental defects. An additional 12,500 registrants were disqualified by mouth and gum defects. In other words, according to this estimate defects of the teeth accounted for 0.7 percent of the IV-F category, and mouth and gum defects accounted for another 0.3 percent, together amounting to 1.0 percent of the entire IV-F class. These data refer to the entire period since the enactment of the 1940 Selective Service Act.¹⁸

At the end of hostilities higher dental standards were still maintained for commission in the Regular Army, for divers, for cadets, and for airborne duty; other components, including flying personnel, were subject only to the relaxed provisions of MR 1-9.

Selective Service Regulations of World War II did not at first provide for dentists to serve on induction boards, but the mounting importance of dental defects as a cause for rejection, plus the fact that many men accepted by the local boards were subsequently disqualified at induction stations, led to the decision in March 1941 to include dentists in the local and advisory boards whenever feasible.¹⁹ By 7 December 1941, 8,040 dentists had been officially appointed to this voluntary duty²⁰ and a Selective Service memorandum of 1 August 1941 noted that dentists were then available on all local boards.²¹ After Febru-

¹⁵MR 1-9, 15 Oct 42.

¹⁶Unpublished data from the Medical Statistics Division, SGO.

¹⁷Induction Data, Results of Examination of Selectees at Induction Station, during 1943, Army Service Forces, Office of The Surgeon General, Medical Statistics Division.

¹⁸Medical Statistics Bulletin No. 4, Natl Hq, Selective Service System, Table 4.

¹⁹Selective Service Regulations, vol. I, sec V, amendment 12 to par 134. *In* Selective Service Regulations, 23 Sep 40 to 1 Feb 42. Washington, Government Printing Office, 1944.

²⁰Camalier, C. W.: Preparedness and war activities of the American Dental Association. *J. Am. Dent. A.* 33: 84, 1 Jan 46.

²¹Memo, Dir, Selective Service System, for all State Directors, 1 Aug 41, sub: Dental examination. Natl Hq, Selective Service System.

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ary 1942, local boards limited their dental examinations to a gross screening for obviously disqualifying pathology.²² The more detailed examination necessary to chart all defects and finally determine eligibility for military service was thereafter carried out at Army induction stations.²³

MISSION AND CAPABILITIES OF THE DENTAL SERVICE

At the start of World War II, available information on the dental condition of young adults of military age was at best fragmentary and often contradictory. Though studies on the dental needs of the civilian population had been conducted by various agencies,^{24 25 26 27 28} these had been restricted to small segments of the population which were not representative because of age, economic status, or geographical distribution. No governmental or private agency had attempted the nationwide examination of hundreds of thousands of persons from all income, age, and racial groups, both urban and rural, which alone could have given a complete picture of the dental needs of the American public. However, the one conclusion accepted by all researchers was that the dental attention received by the average citizen during the preceding decade had been anything but adequate. The reasons for this inadequacy were not primarily the concern of the Armed Forces, but since the dental care of the average inductee had not been sufficient to prevent the steady accumulation of serious, preventable dental defects, this accumulation materially complicated the problems of the Army Dental Service during the emergency. Thus in formulating a policy for the dental care of military personnel, the Dental Service had a choice of one of three principal alternatives.

First, it might have continued to furnish only such treatment as the average inductee had received in civilian life. Sporadic attention of this type, limited very often to the relief of intolerable conditions, was being provided the American public with a ratio of only 1 dentist for each 1,850 persons, including infants and the aged.²⁹ The Dental Corps could have supplied such symptomatic treatment without serious difficulty.

²²See footnote 10, p. 202.

²³Though induction stations operated under Army supervision they were often staffed with contract civilian medical and dental personnel.

²⁴Beck, D. F. : Costs of dental care for adults under specific clinical conditions. Under the auspices of the Socio-economics Committee of the American College of Dentists. Lancaster, Lancaster Press Inc., 1943.

²⁵Walls, R. M.; Lewis, S. R., and Dollar, M. L.: A study of the dental needs of adults in the United States. Chicago, American Dental Association, Economics Committee, 1941.

²⁶Collins, S. D. : Frequency of dental service among 9,000 families, based on nationwide periodic canvasses, 1928-31. Pub. Health Rep. 54: 629, Apr 1939.

²⁷Dollar, M. L.: Dental needs and the cost of dental care in the United States. Ill. Dent. J. 14: 185-199, May 1945.

²⁸Klein, H., and Palmer, C. E.: The dental problem of elementary school children. Milbank Mem. Fund Quart. 16: 281, Jul 1938.

²⁹O'Rourke, J. T.: An analysis of the personnel resources of the dental profession. J. Am. Dent. A. 30: 1002, 1 Jul 45.

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Unfortunately, such a low standard of dental health was not acceptable for military personnel. The civilian whose health was being undermined by oral sepsis might conceivably follow his normal sedentary pursuits without noticeable inconvenience, but in the Army he had to function at top efficiency under the most adverse conditions, and disease which would reduce his physical endurance or cause him to be lost to his unit at a critical time, had to be eliminated. Moreover, the soldier had to be able to masticate any rough food which might be available in the field. Disregarding all humanitarian considerations, the Army could expect the most effective service from inductees only if their oral health was maintained at a much higher level than was common in civilian life.

As a second alternative, the Dental Service might have provided only such regular annual care as was essential to prevent further deterioration of the soldier's dental health, ignoring old defects except when treatment became urgently necessary for the relief of pain. It had been estimated, on the basis of the ADA study of 1940, that 267,000 dentists, or a ratio of 1 dentist for each 493 persons, would be able to furnish such attention for the civilian population.³⁰ This figure was of course not directly applicable to the military population, but it is certain that all regular maintenance care could have been provided Army personnel with the authorized ratio of 1 officer for each 500 men. However, this policy was undesirable because the average inductee as he was received in the Armed Forces was dentally unfit for military service even if the development of new defects could be checked. In addition, it was open to all the objections discussed in the preceding paragraph.

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TABLE 105.-Estimated number of registrants found to be unqualified for general military service because of physical and mental defects

Defect or disease	Registrants unqualified for general military service	
	Number	Percent
Dental defects	188,000	20.9
Defective eyes	123,000	13.7
Cardiovascular diseases	96,000	10.6
Musculoskeletal defects	61,000	6.8
Venereal diseases	57,000	6.3
Mental and nervous defects	57,000	6.3
Hernia	56,000	6.2
Defective ears	41,000	4.6
Defective feet	36,000	4.0
Defective lungs (including tuberculosis)	26,000	2.9
Miscellaneous	159,000	17.7
Total	900,000	100.0