

**LECTURES ON MILITARY  
SANITATION AND  
MANAGEMENT OF THE  
SANITARY SERVICE**

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Lectures on military sanitation and management of the sanitary service by Various

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MILITARY SANITATION  
AND MANAGEMENT  
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SANITARY SERVICE

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# Lecture I

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## MILITARY HYGIENE

**H**YGIENE is the science which deals with the preservation of the health. Its existence depends on past scientific discoveries. Sanitation is the method which is adopted to carry out the principles of hygiene. Sanitary methods may differ, but yet be effective, in the same way that many problems in geometry may be solved by different methods. Sanitation, therefore, is the application of scientific discoveries to prevent disease. "Military sanitation" should be used instead of the words "military hygiene" as hygiene covers all principles to insure health and application of these principles in the military service is the method of dealing with men living under conditions somewhat foreign to those that civilization has caused to exist.

A medical officer has many duties to perform. There is hardly anything pertaining to a soldier that he is not in some way required to make recommendations or act on his own initiative, but his principal duty in time of war is to initiate the proper sanitary measures, and without your intelligent help as officers he will not be entirely successful. The greatest achievements towards military efficiency in our army, so far, have been accomplished by the medical corps by scientific discoveries and their application, and the officer who is now in command of men, and who does not give this subject the proper attention must necessarily be a failure.

In all the wars that history records (possibly with the exceptions of the Russo-Japanese war, and

the present disturbance abroad) much more disability and many more deaths have resulted from disease than from wounds. The failures of armies on account of preventable diseases are not few. Arnold in 1775 was unsuccessful because small-pox and dysentery incapacitated the command. In 1802, 15,000 of Napoleon's army perished in Santo Domingo of yellow fever and other preventable tropical diseases. The British in the Crimea lost twenty-five times more men from disease than from wounds. In the Spanish-American war there were seven times more deaths from sickness than was caused by the enemy. During the Balkan wars cholera in the Bulgarian army, and typhus fever in Servia during the present war greatly influenced the results of the attack in the former, and the defense of the latter.

### **The Selection of Recruits**

It is quite evident to you, as common sense teaches, that it is desirable to have men accepted in the Army who are the best physical specimens, and also men somewhat intelligent and mentally alert. In a small army when men desire to enlist in great numbers this selection can be made; but there are so many men who have slight imperfections that this degree of perfection will never be reached when a great number of men are called out for active service.

At the present time War Department Orders prescribe certain requirements regarding height, weight, chest measurements, age, hearing and vision for recruits, and no departure can be made from these requirements without special authority from The Adjutant General of the Army. Past experience has shown that it is not desirable to accept men who are outside of the limits set forth in the rules

for the examination of recruits. Besides good physique, the soldier should be of good character and habits, mentally alert, with fair education and of normal temperament.

In time of peace, heretofore, the number of men rejected for enlistment were three or four to one accepted.

During the recent mustering into the United States service of the National Guard (militia) great pressure was brought to bear on the War Department to accept officers, especially, who had been rejected physically. An attempt was made to maintain the standard of the regular army in regard to the National Guard, but it was found to be impossible, yet most of the physically unfit were eliminated. During war, and the longer that war continues, the physical standard must necessarily be lowered, in order to obtain men.

**System of Examination.**—Up to 1907 the physical examinations were made largely by civilian physicians, employed under contract, at recruiting station in cities. Under this system great losses of men occurred as a result of disabilities discovered after the recruit had been sworn in. At the same time the government spent much money for the transportation and clothing of these defectives, while company commanders became dissatisfied on account of the poor quality of the material sent them. As a result of these undesirable features a system has been developed whereby line officers make a careful preliminary examination at their recruiting stations, and forward likely candidates to depots. At the latter points army medical officers examine these candidates, weed out the defective ones, and enlist those qualified. The Surgeon General reports that "the present recruiting system operates in a



highly satisfactory manner and furnishes to the army recruits of far better quality than when they were examined under the former system."

**Principal Defects.**—The physical deficiencies which cause the greatest number of rejections for our army are: venereal diseases, heart abnormalities, defective vision or hearing, foot deformities, and poor physique. While it is not to be expected that line officers on recruiting duty shall be able to detect obscure affections of the internal organs, there are many grosser defects which are readily apparent to them. Such are: deformities, skin eruptions, pallor, emaciation, inebriety, venereal disease, defective development of parts, lice, dirty person, rupture, piles, stiff joints, varicose veins, flat feet, indecent tattooing, etc. Furthermore, internal disease may be suspected from shortness of breath, a thumping heart, dimness of vision, or irregular pulse following moderate exertion.

**Character.**—The character of the applicant should be determined as accurately as possible. He may satisfy all the physical requirements, but when the recruiting officer asks himself the question: "Would I be willing to have this man in my company?" there is often a decided negative. And this test is a useful one to apply with respect to the intelligence of the applicant, his knowledge of English, and his general appearance. The moral qualifications may be guessed from his features and gaze (open, frank or averted), his manner (direct or furtive and hang-dog), his person and clothing (clean or dirty). He may present the well-known appearance of a drunkard or tramp. Drug habits may be indicated by numerous marks of the hypodermic needle or very contracted pupils. A marked disproportion of features or limbs may be indications

of degeneracy, or his body may be much tattooed, some of the subjects being of an obscene or otherwise offensive nature.

**Mental and Nervous Condition.**—The mental and nervous condition is important. A nervous shifty, or excitable manner; wandering attention; defective memory; inability to give prompt or direct replies to questions; sudden, jerky movements, will frequently indicate an unstable nervous system or defective mentality.

**Age.**—Youth is a serious physical defect. We sometimes read the erroneous statement that the Civil War was fought by boys, but in that war, as in all those of history, undeveloped, immature youths succumbed to the fatigues and privations of campaign in vastly greater proportion than grown men. Prior to the age of twenty-one the bones are not fully formed, the muscles lack endurance, and the heart is unduly susceptible to overstrain. On the other hand, men over thirty, unless they have led an active, alert life, are apt to be muscle-bound and mentally slow. The limits of age for our service are, in time of peace, eighteen to thirty-five. It is therefore, to be seen that minors may be legally accepted in spite of the knowledge that great commanders have, for centuries past, protested against the recruitment of boys for their armies. From a physiologic standpoint the truly desirable minimum is not less than twenty years.

**Height, Weight, Chest.**—In the absence of actual diseased conditions, the physical attributes which chiefly determine the acceptance or rejection of an applicant for enlistment are the height, the weight, and the chest measurements. In normal individuals these bear a fairly definite relation to each other, which relation is set down in official tables.

Men whose chest circumference, at rest, is below 32 inches, should not be accepted, for such a chest has not sufficient air capacity. The present minimum of height is 5 feet 1 inch. The question of height is not quite so important now as in the days of shock action. Other things being relatively equal, the smaller man is generally quicker in his movements and has more endurance. In these days of specialism we might well accept vigorous men who are a little shorter than the present requirement for special service, thus releasing others of standard height for the fighting line. With respect to weight, men of the "wiry" type may be accepted when they are but a few pounds under the standard, but the mistake must not be made of confusing these with cases of defective or arrested development. In these latter, deficiency in weight, pallor, flabby muscles, a flat chest, sloping shoulders, and generally poor physique denote a feeble constitution.

**Records.**—It is essential, for the protection of the government, that careful records be made: (a) of all departures from the normal, including minor ones which are not considered disqualifying, and (b) of means of identification. The first is needed as a defense against unjust claims for pension. The second leads to the detection of criminals, deserters, bounty jumpers, and dishonorably discharged men who enlist fraudulently.

**Depots.**—Owing to the widespread derivation of recruits, depots for their collection and training are frequently afflicted with one or more kinds of contagious diseases, brought by some who have contracted them elsewhere. It has sometimes happened that measles, mumps, or some other communicable disease has developed in parties of men sent from depots, during the trip or shortly after arrival at