THE SANITARY RECORD OF THE MANEUVER
DIVISION *

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Since July 10 the most of the organizations composing the Maneuver Division of regular troops at San Antonio, Texas, have been returned to their stations.¹ It is, therefore, an appropriate time to review the health conditions and sanitary administration of this camp, which has established a record that is unique in our Army for the smallness of its sick-list, the excellence of its sanitary arrangements and the completeness in organization of its medical department. The division consisted of eight regiments of infantry, two of cavalry, two of artillery, and the usual quotas of engineers, signal corps, and hospital corps. The latter had in addition to the regiment, four ambulance companies and four field hospitals. These were complete in equipment so far as the Medical Department could supply them, but one ambulance company and one field hospital were never supplied by the Quartermaster's Department with their mounts and draft animals. As regards personnel, although every garrison in the United States was stripped to an irreducible minimum to supply medical officers and hospital corps men for these organizations, there was a deficiency of twenty-one medical officers and 129 men below the authorized strength. This did not seriously impair the efficiency of the medical service of the division for field work, as it was itself much below its tactical strength, having only about 12,000 men instead of nearly 20,000, which it should have at war strength. These facts demonstrated clearly, however, the numerical inadequacy of the medical establishment of our Army, and if a second division had been called out, as at one time seemed probable, the situation in this respect would have been acute. The complete medical equipment and supplies for the division, including a base hospital of 500 beds and two evacuation hospitals of 324 beds each were shipped from the Field Medical Depots at Washington and St. Louis, accompanied by a detachment of the Hospital Corps to prevent loss or side-tracking, and arrived at San Antonio before the last troops were detained.

SANITARY ARRANGEMENTS

A portable field laboratory was for the first time added to the medical equipment of this division for diagnostic and sanitary purposes. The base hospital was established at the neighboring post, Fort Sam Houston, for the reception of serious cases, but the evacuation hospitals which were intended for use on the line of communications, not being needed, were not manned or opened. The chief surgeon of the Division was Col. H. P. Birmingham, and the sanitary inspector Major Paul F. Straub, both of the Medical Corps, U. S. Army, and the latter a member of the General Staff.

The disposal of wastes is a matter of elementary importance in camp life and new and interesting developments were reached in this camp. In the vexed question of disposal of excreta, the old latrine pit, which had been thoroughly discredited by the better experience of the Spanish war was succeeded by the trough filled with milk of lime and emptied by an odorless excavator wagon and pump which was devised by the distinguished board which investigated the camp epidemics of typhoid fever

in 1898 and of which Reed, Vaughan and Shakespeare were the members. This system broke down in rainy or freezing weather and in sandy soils and was gradually displaced by the theoretically perfect, but practically cumbersome incinerators, which did good service in fixed camps and with skilled handling, but were not mobile and were very costly. The mobilization of March 6 was so unexpected and so rapid that no time was given for the purchase and erection of these elaborate constructions and so a system was adopted which has been previously tried on a small scale. A narrow, deep trench, 18 to 24 inches wide, is dug and over it is placed a box seat, entirely fly-proof, with self-closing covers and a urinal at one end. This sink-box, as Harvard terms it in his excellent "Military Hygiene," can be knocked down for transportation, is movable, and is removed once a day, and the pit burned out with hay sprinkled with crude petroleum. The box was at the same time cleaned and then replaced. The contents of the pit were in this way sterilized so as to give no putrefactive odor after even three months of use. Besides the greater simplicity, mobility and quickness of installation of the sink-box as compared with incinerators, the Quartermaster's Department estimated that the cost of the sink-box system was \$900 a month for the whole camp, whereas incinerators of an approved type would cost for material and labor \$30,000 a month. The kitchen wastes, both solid and liquid, were also consumed by fire, in a kitchen crematory which consisted of a shallow pit a foot deep, 4½ feet long, and 2½ feet wide, filled to the level of the earth with broken stone and surrounded by a wall of clay or stones a foot high. A fire was kept burning on this and consumed all garbage thrown on it while the heated stones quickly evaporated the slops.

Horses in camp were tied side by side to a heavy rope called a picket-line and so their droppings were easily collected and with the straw bedding hauled away and burned. The picket-line areas were also sterilized once a week by burning them over with straw and crude petroleum, thus effectually disposing of the fly larvae and of all odors. Ten gallons of oil were used for each burning of a picket line. These several precautions effectually kept down the number of flies and afforded no opportunity for their access to infectious material.

The sanitary police of the camp in other respects also was rigidly supervised by the medical officers, so that this crowded camp site, which had been used continuously for four months, when vacated presented nothing offensive to sight or smell.

The water-supply was from the water system of Fort Sam Houston and was artesian in origin and entirely above suspicion.

HEALTH OF THE TROOPS

The health of military commands is usually measured by the constantly non-effective rate which represents the average number constantly sick in each thousand men. This was for the Maneuver Division 22 per thousand up to the first of July, and its smallness can be appreciated when it is stated that this rate was 34 for all troops in the United States for the year 1910. In other words, the health of these soldiers in camp, sometimes living in deep mud and at other times in clouds of dust and under a semitropical sun, was better than in barracks surrounded by the comforts and sanitary appliances of post life.

The largest cause of morbidity was venereal diseases (4 per thousand), and next came measles and mumps (3 per thousand), the latter affecting almost exclusively the

* Published by authority of the Surgeon-General.

1. The maneuver division went out of existence on August 7 and the troops remaining comprise a brigade under the command of Brigadier-General Ralph W. Hoyt

newly arrived recruits. The actual number of admissions for the more important camp diseases were: typhoid fever, two; malaria, nine, all benign tertians; simple diarrhea, 119; dysentery, twenty-nine.

TYPHOID PROPHYLAXIS

Perhaps one-fourth of the troops arrived at San Antonio already immunized by voluntary antityphoid inoculations given them at their posts. It was concurrently determined by the Division Commander and the War Department that the time had arrived to make this procedure compulsory for troops taking the field, and it was so ordered and carried out as rapidly as the prophylactic culture could be supplied from the laboratory of the Army Medical School. The technic was simple. The site of puncture, usually the outer side of the left arm, was sponged off with alcohol and a small area sterilized with tincture of iodine, the injection made with a sterile syringe and the puncture sealed with collodion. The first dose is 0.5 c.c., the second and third being 1 c.c. each. An interval of ten days is allowed between doses, the entire procedure thus taking twenty

1898

TABLE SHOWING FOR THE REGIMENTS OF THE SECOND DIVISION OF THE SEVENTH ARMY CORPS, ASSEMBLED AT JACKSONVILLE, FLA., THE MORTALITY AND MORBIDITY FROM TYPHOID FEVER

Regiments	Mean Strength	Cases of Typhoid Fever Certain and Probable	Deaths from Typhoid Fever	Deaths from All Diseases
Second Illinois	1,095	253	341	18
First North Carolina	1,104	147	227	16
Second New Jersey	1,153	185	318	29
First Wisconsin	1,232	209	311	46
Fiftieth Iowa	1,097	164	253	33
Ninth Illinois	1,288	153	248	18
Second Virginia	1,220	105	152	17
Fourth Virginia	1,274	135	231	21
Forty-Ninth Iowa	1,236	378	612	50
Total	10,759	1,729	2,693	248

1911

TABLE SHOWING FOR THE ORGANIZATIONS COMPOSING THE MANEUVER DIVISION AT SAN ANTONIO, TEXAS, THE MORBIDITY AND MORTALITY FROM TYPHOID FEVER, MARCH 10 TO JULY 10, 1911*

Organization	Mean Strength June	Cases of Typhoid Cer. and Prob.	Deaths from Typhoid Fever	Deaths from All Diseases
Eleventh infantry	924	..	..	2
Fifteenth infantry	969	..	..	..
Eighteenth infantry	1,022	..	..	..
Thirteenth infantry	929	..	..	..
Twenty-second infantry	1,033	..	..	1
Tenth infantry	1,016	..	..	..
Seventeenth infantry	954	..	..	..
Twenty-eighth infantry	951	..	..	2
Third field artillery	847	..	..	1
Fourth field artillery	741	..	..	1
Engineer battalion	536	..	..	..
Signal corps	197	..	..	..
Ninth cavalry	744	..	..	3
Eleventh cavalry	1,143	..	..	1
Sanitary troops	795	1†	0	11
Total	12,801	1	0	11

* In addition to the above a civilian teamster, not immunized, was admitted for typhoid fever in April.

† This patient, a private of the hospital corps, had not completed his immunization, having taken only two doses. The case was very mild and would perhaps have been overlooked but for the rule that blood cultures were made in all cases of fever of over forty-eight hours' duration. The Widal reaction has no diagnostic value in immunized persons, as all respond to it. Forty-nine cases of typhoid fever with nineteen deaths were reported as occurring in the City of San Antonio during this period.

days. The injection is made into the subcutaneous connective tissue and not into the muscles. There was practically no puncture infection, and the reaction was mild or absent in 90 per cent. of the cases treated. In no case was it followed by serious results. There were up to July 1, 8,097 men immunized.

The immense advance in camp sanitation and particularly the value of this protective measure can be

estimated by comparing the typhoid incidence of this camp with that of the Second Division, Seventh Army Corps, which was organized at Jacksonville, Fla., about June 1, 1898, and remained there in camp until October; some of the regiments leaving in September. This division was not conspicuously unfortunate in its typhoid record for that time, and is selected because of the close similarity of its conditions of service to those of the Maneuver Division. The two divisions were encamped in nearly the same latitude and for about the same length of time, and each had a good camp site and an artesian water-supply of unimpeachable purity. While the period in camp of the Second Division, Seventh Army Corps was later in the year, the number of men involved is larger for the Maneuver Division. The accompanying table referring to the former is taken from the celebrated "Report on Typhoid Fever in U. S. Military Camps in the Spanish War," by Reed, Vaughan and Shakespeare, Vol. 1, page 609.

REPORT ON 140 RECENT CASES OF PSORIASIS IN PRIVATE PRACTICE UNDER A STRICTLY VEGETARIAN DIET*

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In spite of repeated communications¹ on the subject the medical profession still does not seem to realize the value of a strictly vegetarian diet in psoriasis; and yet I could refer to many intelligent patients in private practice who have said, "You may quote me as a striking instance of the unquestionable value of this element in treatment."

It occurred to me, therefore, to keep a list of patients in private practice whom I had observed and treated during the past two years, and who have been under a vegetarian diet, and, after studying their records, to present the results obtained; the total number of the cases is 140. Some of the patients have been under observation and more or less treatment for many years; the larger proportion of them were first seen during the past two years; but, as will be mentioned later, the older and the newer cases alike confirmed the value of a strictly vegetarian diet, often in a very striking manner. It should be stated that careful notes were recorded of all these cases, and full entries made at each and every visit; I may add that most of the cases to be analyzed were also watched by my office associate, Dr. Paul E. Bechet, who is equally impressed with myself in regard to the beneficial effect of the plan advocated.

Psoriasis is such an inveterate disease that many patients applying for treatment are often convinced by what they have heard from physicians and others that the disease is incurable, and it is often very difficult to get the patient to submit to the proper dietary treatment for a long enough period to secure perfect results. Moreover, it not infrequently happens that even while maintaining a strictly vegetarian diet, there will be an outbreak of the eruption, more or less severe, and the patient is naturally discouraged, and may drop the diet, not recognizing that there are other causes which may

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Tr. First Internat. Congress of Dermatol., Paris, 1889, p. 802; Tr. Med. Soc. New York, 1895, p. 151; Tr. Third Internat. Congress of Dermatol., London, 1896, p. 734; THE JOURNAL A. M. A., Nov. 17, 1906, p. 1630.