

HEALTH DISCIPLINE¹

BY

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FIELD-MARSHAL MONTGOMERY, in 1945, paid a remarkable tribute to the Royal Army Medical Corps when he wrote "to the Royal Army Medical Corps whose contribution to victory has been beyond all calculation." These are impressive words addressed by one of our greatest generals to the Army Medical Services which comprise the Royal Army Medical Corps, the Royal Army Dental Corps, and Queen Alexandra's Royal Army Nursing Corps. Never before have such glowing words been addressed by a British commander to army physicians, dentists, and nurses.

Field-Marshal Montgomery stressed five main points in the contribution that the Army Medical Services had made: (a) Forward surgery by the field surgical units; (b) blood transfusions and its availability in the forward units; (c) skilled nursing by Army nurses in forward areas; (d) penicillin and sulfonamides; and (e) air evacuation. These are all factors that have made the difference between life and death to the wounded man and they are all concerned with curative medicine. As a further contribution to victory, a sixth point can be added which is concerned with preventive medicine. It is called health discipline and defined as measures that concern the preservation of health and the prevention of disease which are enforced by disciplinary means. These six points contributed to victory because they conserved man-power, and the recovery of sick and wounded men in total war is of great importance to total man-power. Since man-power is ultimately a deciding factor in war, an efficient medical service has an important part to play.

The effective, and, at times, overwhelming part the medical services can play in war has been gradually recognized by military commanders in the field, and this has been especially emphasized where the campaigns have been fought in countries with low standards of health. None more so than in the recent campaigns in Burma and the Pacific. The campaign in Burma in 1942 showed the extent to which military operations could be dominated by malaria. In 1943 in Burma the morbidity rate caused by malaria was as high as 450 cases per 1,000 per month in certain forward units in contact with the enemy, where active service conditions seriously interfered with antimalarial measures. This may seem enormous at first, but remember that it is only 15 men out of a battalion of 1,000 strong, reporting each day with malaria. Although such high rates were exceptional, rates of 200 to 250 per 1,000 per month were

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common among forward troops. The commanders of formations saw their forces melting away and could do nothing to prevent it.

The accepted attitude was to lay the responsibility for health on the physicians' shoulders. The prevention of malaria was a physician's duty, almost a physician's fad to which the fighting soldier paid little attention. His job was to fight and defeat the enemy. It was not appreciated that unless the battle against disease was fought and won first, there would be no troops to defeat the enemy. The battalion or regimental medical officer did his best to persuade the troops to use mosquito nets when this was possible, and to smear on repellents when they were on patrol or sentry duty. The unit sanitary personnel used Paris green and oil on pools where mosquitoes bred, and drained away stagnant water. But essentially it was a medical matter and no concern of the fighting soldier whose mind was taken up with tactical plans to defeat the enemy. It is true that the unit commander was, by regulations, responsible for the health of his troops, but he relied on his medical officer to put any measures into effect, and these were limited to what the commander thought could be adopted under the existing conditions of active service.

The campaigns in Burma and New Guinea quickly showed that combat was impossible when medical recommendations were overruled. Then came the experiments of Fairley in Australia. He proved that when one tablet of atabrine was taken daily it was impossible to get malaria. He would never report sick with malaria, no matter how many times the man was bitten by infected mosquitoes, how much he suffered exposure and fatigue, or how cold or hungry he became. When Fairley reported the success of his experiments to the American and Australian commanders in the Pacific they were quick to grasp its importance.

One commander said: "You doctors think you can prevent malaria, but you can't. I can and I'm going to." By these words, "I am going to prevent malaria," the war in the Far East was revolutionized and victory was made possible. Prevention of malaria was taken out of the physician's hands and accepted by the staff. Commanders at once became responsible to assure that their soldiers did not acquire malaria, by seeing that the taking of atabrine was made a disciplinary matter. This was accomplished by requiring a daily message from commanders of regiments, brigades, and divisions to the effect that every man had taken his atabrine. It was as simple as that, but it took a little time before the significance of the change of policy was realized. The morbidity rates for malaria dropped spectacularly. In India, which was a non-operational area, in two years the malaria rate dropped from 248 to 34 per 1,000 per year. In West Africa the rate dropped from 900 in 1941 to 90 per 1,000 per year in 1945.

Commanding officers of units were responsible if the morbidity rate for malaria exceeded a maximum figure and one commander was relieved from duty for this reason. For the first time in history a unit commander was considered incompetent to command because he had allowed his men to become ineffective because of disease. Antimalarial precautions such as the

taking of atabrine, the use of DDT, and the provision of mosquito nets and veils, became measures as important or more important than the supply of ammunition; and it became common practice in assault landings to land antimalarial supplies at least as soon as the ammunition, because ammunition was useless unless soldiers were there to use it, and a few hours of relaxed precaution, such as the failure of the supply of atabrine for twenty-four hours, would prove more dangerous than the failure to receive shells for the guns. As a result of the hard lessons of war this new doctrine, the active responsibility for the control of certain diseases rested with the general staff and no longer with the medical service evolved. This is the doctrine of health discipline.

This doctrine, and its corollary the control of disease opens up new tactical aspects of warfare. For example, if in a campaign one army has complete immunity from a particular disease because of its strict measures of health discipline, it could aim at forcing an enemy whose health measures were ineffective to fight in the most highly infected areas so that disease as well as bullets would lead to the defeat of the enemy. This occurred in Burma in 1945 when British and Indian troops were protected and the health discipline was of a high standard, while the Japanese army was decimated by malaria. We can, therefore, foresee that medical science may exercise an influence over the tactical aspects of a campaign in a country where endemic disease exists and where medical knowledge of one of the combatant forces has evolved a technique which is either unknown to or imperfectly used by the other. It follows that medical intelligence is of importance and may prove to be of great value in war. Medical intelligence means obtaining information of the diseases existing in other countries and the degree of medical knowledge that such countries possess.

The conception of the mingling of military tactics and medical science leads me to say a word about bacteriologic warfare. The bacteriologist is intimately concerned here with the actual means of destruction. We see him in the laboratory growing cultures with a view to spreading disease and death. Is this one of the prospects of advancing civilization? We as physicians have previously known no medical secrets between nations; medicine was international. There was no iron curtain until the future menace of bacteriologic warfare cast its shadow over us. Let us pray that as physicians we will never be asked to cause disease in or destroy our fellow beings. Our mission in life is to stamp out disease not to cause it, to prolong life not to shorten it.

The army medical services in war rise to a peak of importance that is sustained by the constant prospect of violent death in all its forms. The army physician becomes a saviour of life and a healer of pain, while the efficiency of the medical services may be the personal concern of every soldier in the field. In the last war, as the tribute from Field-Marshal Montgomery shows, our reputation has never stood so high. Our advice was accepted and enforced by commanders who wielded vast authority. It has always been the invariable experience that the lessons learned in the violence and tumult of war tend to become forgotten in the days of peace. The voice of the physician becomes a

still, small voice and a generation soon grows up which lacks the personal experience of the imminence of sudden mutilation or death.

It must be one of our great tasks in peace to keep alive this flame of health discipline, which was first kindled in the embers of war. We must not allow that great contribution to victory in the field to be cast aside and forgotten. Human nature, being forgetful of the past, will have to be constantly reminded of the part we have to play. Our soldiers in peace do not die of malaria, or scrub typhus, or dysentery—diseases which may decimate armies in the field. We can only accomplish this task by constantly emphasizing the lessons of the past to the present and future generations. We must keep our officers aware of the problems of health discipline and we must do this by lectures and by health education, which should be part of the syllabus of all combatant officers' training. I hope this policy will bring home to our staff officers who are responsible for future planning, that the medical services must be called in at an early stage and not forgotten, which has happened in the past. Our medical intelligence must be fully developed and the importance of this branch of military medicine should be re-emphasized. We must employ it with caution to avoid divulging secret information. For example, when, in 1942, the invasion of a certain country was being planned in great secrecy, the director of medical services of the force was engaged in a survey of the malarial problems that might be encountered. Wishing to know the habits of all the endemic varieties of anopheline mosquitoes so that effective control measures could be planned, he asked the entomologist what he knew of the habits of *Anopheles* "X." The entomologist replied, "What on earth do you want to know that for? It only exists in a limited area in . . ." (mentioning the country where the invasion was to occur). The director of medical services had to draw in his horns pretty quickly to avoid a serious leak in the invasion plan.

Health discipline must cover all those diseases that can be controlled by regulations enforced by authority. So far malaria has been dealt with exclusively, but there are other diseases that the advance of medical science can add to this category. It would be rash to make predictions, but it is suggested that scrub typhus, which was met in Burma, with its 20 per cent mortality, may shortly be controlled in the same way. Chloromycetin used prophylactically has been found to give favourable results. The active search for new antibiotics will no doubt produce new drugs which will unlock those doors which are still shut. If a drug effective as a prophylactic against bacillary dysentery could be produced then a standard of health discipline could be enforced that would do away with one of the scourges of armies in the past.

As for venereal disease, is it too much to hope that a drug may be discovered which when given prophylactically will prevent at least one of the venereal diseases? Will the time come when the disease controlled by a drug in this way would be made a matter of health discipline and would pass from medical to disciplinary control? This is dangerous ground, because moral principles are involved.

One of the medical consultants in Burma, from his personal experience in

the last war, laid the strongest emphasis on the necessity to shift our natural bias from curative to preventive medicine. He maintained that by multiplying the sanitary personnel in the forward areas and by intensive propaganda and health education we could attain a degree of health discipline that would materially reduce our hospital beds and hospital staffs. This is a point of view that merits serious thought and it is believed that greater efforts to inculcate health education followed by effective measures of health discipline would be sound. Recently the title of the Director of Hygiene at the War Office has been changed to Director of Army Health. It is believed that this alteration in title represents the change that is taking place in the conception of the duties of the Director, for emphasis is now laid on the study of positive health or what has sometimes been called functional medicine in distinction to curative and preventive medicine.

Finally, let us consider the measures of preventive medicine and health discipline that the soldier of future wars will be expected to undergo. He will be immunized against smallpox, the enteric group of fevers, tetanus, diphtheria, yellow fever, louse-borne typhus, and, if necessary, cholera and plague. Tuberculosis may soon be added to this list. From the point of view of health discipline he will be protected against malaria and probably scrub typhus, and possibly at least one of the venereal diseases. Let us not forget the chemotherapeutic agents that each man may swallow if wounded.

We need not feel dissatisfied with the prospects of protection against disease afforded to our soldiers, but how much more satisfactory if a prophylactic drug effective against the dysenteries could be added to this list. Surely with the advances we can expect in antibiotics we cannot discard this as impossible. In conclusion, there is a story of an eminent American thinker who was once asked how he would have made the world different if he had been God. He replied, "To begin with I should have made health infectious instead of disease."

In the absence of perfection such as this, one of the great tasks of military medicine must be to send the soldier to war protected from those diseases that can be prevented, and by the powers of health discipline effectively wielded by the supreme commander in the field. The importance of health discipline has been stressed because we cannot allow the lessons of the last war to be forgotten. When for the first time in history a combatant officer was considered unfit to command a unit on the grounds that he had allowed his men to become ineffective through disease, a new day in military medicine dawned. The clouds of forgetfulness must not be allowed to overshadow the brightness of that day.