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RULES

REGARDING

THE MEASURES TO BE ADOPTED

ON THE

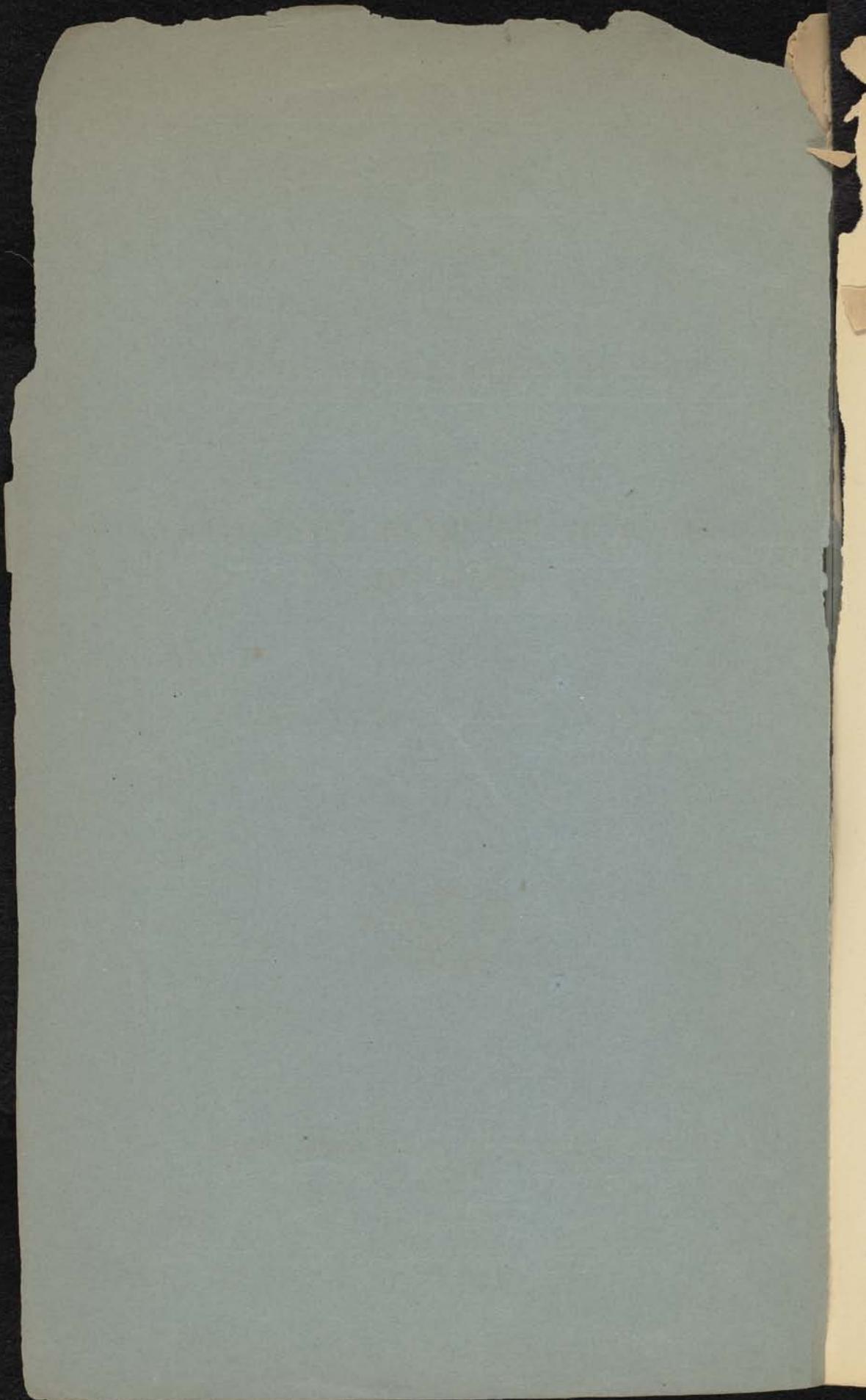
OUTBREAK OF CHOLERA OR APPEARANCE OF
SMALL-POX.

(G. O. C. C. No. 193, dated 3rd August 1870.)



CALCUTTA:

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1871

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

REPORT

ON THE

ANALYSIS

OF

THE

1871

The following revised rules regarding the measures to be adopted on the outbreak of cholera amongst British troops are published in supersession of all former orders on the subject.*

SECTION I.

PRECAUTIONS NECESSARY IN ANTICIPATION OF THE APPEARANCE OF CHOLERA.

Necessity for constant attention to the sanitary condition of the station.

The outbreak of cholera is often so sudden and virulent that all precautionary measures must be taken beforehand. Experience has shown that, like many other diseases, the extent of its diffusion is in no small degree dependent on local insanitary conditions, and it is therefore essential that every station should be preserved in a state of constant preparation to meet a danger which may come at any time. The personal cleanliness of the men is a matter of much consequence as a preventive measure.

Increased vigilance demanded if cholera threatens.

2. General and other officers in command should at all times give their utmost attention to the conservancy and general sanitary condition of a station. If an outbreak appears probable, every ordinary precaution should be attended to with increased vigilance, but if the disease has actually appeared in the cantonment or its vicinity, more harm than good is likely to arise from any attempts at improvement which may then be made. This is not the time to cleanse foul drains or to remove nuisances which may have hitherto

*. The same principles as are contained in these Rules should govern the measures to be taken when cholera appears among *Native troops*; but as the disease rarely attacks them with any great severity, it is left to the Military and Medical authorities on the spot to determine in their case how far the procedure herein prescribed ought to be adopted under the particular circumstances.

been neglected, and such possible sources of disease should, in these circumstances, be left undisturbed.

Duties of Staff Surgeon and Cantonment Magistrate as regards the Bazaars.

3. Whenever cholera is to be apprehended, the Staff Surgeon and Cantonment Magistrate should keep a special watch on the condition of the bazaars, and any case of cholera should be immediately reported to the Officer Commanding the Station. The register of deaths should be carefully scrutinized.

Precautionary measures in Barracks.

4. Especial care should be taken to prevent crowding in barracks and hospitals, and, when considered advisable during the hot season, a portion of the men should be permitted to sleep in the outer verandahs, or in tents pitched for the purpose in the vicinity of the barracks. If cholera threatens, even though the men may have the full regulated amount of space, they should be spread out as much as possible, advantage being taken of any spare buildings which can be conveniently employed.

5. The early treatment of premonitory symptoms is of very great importance, and of these looseness of the bowels is the chief. At seasons, therefore, when cholera threatens, and still more so when it is more than usually prevalent, Commanding Officers should give the most precise orders on this subject, and see that measures are taken for paying the most vigilant attention to the health of the men in barracks, and for treating there, or in observation wards entirely separate from the hospital, all slight cases of diarrhoea or other disease, which, if neglected, might pass into cholera. As the men during cholera time have a natural dread of going into hospital, and are apt on this account to conceal the early symptoms in order to escape being sent there, it is of importance that every facility for the immediate treatment of diarrhoea should be afforded them in barracks. Non-Commissioned Officers in each room should accordingly be provided with suitable medicines, care being taken that the proportion of opium or any other dangerous drug should be small.

Sanitary measures necessary when new buildings are being carried on.

6. Whenever new buildings are being carried on, it is most important, with regard to the health of their future

occupants, that the ground and water in the neighbourhood should be protected from pollution. Special care must be taken that proper conservancy arrangements are organized for workmen, coolies, &c., and that the orders are strictly enforced. The workmen should not be allowed to sleep in or about barracks and other public buildings under construction. They can generally find shelter in the neighbouring city or bazaars; but, in exceptional cases, where no such facilities exist, temporary huts should be erected for them outside the boundary pillars.

Communication with infected localities to be prevented.

7. If cholera appears among the Native population in the neighbourhood, communication with the infected locality should, as far as possible, be prevented. The same principle should be acted upon on all occasions during the continuance of the disease, for frequent communication with places where the disease is prevalent will always be likely to cause alarm and to produce bad results. As one valuable means of attaining this object, the provision of stores attached to the regimental canteen should be encouraged, so that soldiers and their families may be able to supply their wants without going to the city or bazaars.

Management of Native Soldiers returning from leave.

8. With the same object Native soldiers rejoining from leave, or otherwise returning from a part of the country in which cholera was prevailing at the time of their residing in it, or passing through it, should not be allowed to rejoin their regiments until it has been shown that they are free from the disease. This can easily be done by pitching a tent for their temporary accommodation outside cantonments when required.

Military and Sanitary Authorities to make themselves acquainted with the country in the neighbourhood of their stations.

9. Officers Commanding Divisions, Districts, or Stations, as well as all Sanitary Officers, will make themselves thoroughly acquainted with the ground in the neighbourhood of their stations to the extent of 20 miles, with a view to the selection of sites for encampments in the event of cholera appearing, as well as to such measures being taken as they

may deem advisable to remove or counteract any probable source of disease.

Officer of the Quarter Master General's Department attached to the Command to prepare plan of the neighbouring country.

10. The Officer of the Quarter Master General's Department attached to each Command will prepare a plan of the required extent of country, on a scale of one inch to the mile, with the different encamping grounds marked on it, so that the troops may be placed under canvas without delay, whenever such a measure is considered advisable.

Points to be attended to in choosing encamping grounds.

11. In selecting these encampments, enquiry should be made into the previous character of the neighbourhood with regard to liability to cholera or exemption from it. The ground should, when possible, be high, with natural facilities for drainage, with a plentiful supply of good water, and, if possible, easy of access. Although rank vegetation is objectionable, the presence of large trees should be considered advantageous, because they add to the salubrity of the air, and because their shade will be valuable.

Number and situation of such grounds.

12. The circumstances of different cantonments vary so much that no definite rule can be laid down either as regards the number of such encamping grounds or their situations, but it is very desirable that several such places should be selected, and that their distance from cantonments should vary, some being close at hand and others further off.

Selection can best be made in the rainy season.

13. The greatest care is necessary in selecting good sites, and this can only be properly done during those days in the rainy season when sudden and heavy falls of rain afford ready and reliable proof as to the real suitability of any spot for a camp. The selection should be made in communication with the local Civil authorities, whose knowledge of the locality will enable them readily to point out the most eligible sites.

The use of selected camps obligatory, except when suitable buildings are available.

14. When sites for camps have been selected and approved by competent authority, care must be taken that they are always kept in a fit state for occupation, and it must be understood that, in the event of the troops going under canvas, these are the places which, as a general rule, are to be used. If, however, during the hot and rainy seasons, any buildings entirely separate and away from cantonments are available, they should be used in preference to placing men in camp, especially when the ground is either covered with water, or when it is drying up in the months of August and September.

Encamping grounds on great lines of communication are objectionable.

15. The existing encamping grounds, which are ordinarily used by troops on the march, are very commonly situated upon great lines of communication, and are therefore objectionable, for bodies of men supposed to be infected with disease ought always to be isolated as much as possible. For the same reason, if the supply of good water and other circumstances admit of a choice, the vicinity of a village, and especially of any large village, should be avoided.

And should only be resorted to when no others are available.

16. It may sometimes happen that these encamping grounds must be resorted to, either because no other places suitable in themselves can be found, or because during the rainy season they are the only ones easily accessible; but, when it possible, ground not in the vicinity of great thoroughfares should be preferred.

Expense of preparing the encamping grounds need be very little.

17. In some instances a slight expenditure may occasionally be requisite in clearing the ground, in improving its drainage, in increasing or improving the water-supply, or in making it easy of access, and these, especially the two first, are matters of very great importance, which should receive frequent and careful attention. If ground be judiciously chosen, the expense need be very little.

Construction of earthen platforms not considered generally necessary.

18. As the sites will be selected almost with the certainty of their being required during the rainy season, they must be in themselves tolerably high and well-drained; the construction, therefore, of raised earthen platforms at these camps is not, as a rule, considered necessary, but where the nature of the ground is such that a dry site cannot otherwise be obtained for pitching the tents, the circumstances should be specially reported to the Quarter Master General, and sanction solicited for any such works of this nature as may be deemed advisable.

Selection of encamping grounds on the line of railway.

19. In all divisions or districts on the line of railway, encamping grounds, in addition to those already referred to, will be selected in suitable localities within 50 or 70 miles of military cantonments on these lines, in order that, should it be considered expedient, regiments or detachments may proceed thence by rail in the hope of getting clear of the radius within which the epidemic may have pronounced itself. In selecting these grounds, the general principles already laid down should be adhered to, but as carriage from the line to the encampment may frequently be a matter of difficulty, the spots chosen should not be further than one or two miles from the railway, and, if possible, in its immediate vicinity.

SECTION II.

MEASURES TO BE ADOPTED ON APPEARANCE OF CHOLERA.

General preparations.

20. On cholera appearing, either in the neighbouring villages or in the cantonments, the authorities must be prepared for immediate action; every ordinary sanitary precaution must continue to receive increased attention and every necessary measure prepared for placing the troops under canvas, should this be required. Everything must, as far as possible, be considered beforehand, so that, when the necessity occurs, there may be no doubt regarding the course to be pursued, and no reason for delay. The most suitable encamping grounds must be decided on, the vicinity of places in which cholera is prevalent being, of course, scrupulously avoided. General and other Officers in Command should act

in anticipation of sanction on their own responsibility, and on the advice of the senior Medical Officer, reporting fully at the same time to the Quarter Master General, for the information of His Excellency the Commander-in-Chief, the measures they may have adopted to arrest the progress of the disease.

Preparatory Camp.

21. If cholera has been prevalent in the neighbourhood, and there is therefore reason to fear that it may attack the troops, a preparatory camp should at once be formed. This need not ordinarily be done until the disease has actually appeared in the cantonment; but if more than one case occur among the European soldiers or their families under such circumstances as have been above stated, the formation of the preparatory camp should be considered imperative. Tents should be pitched at the nearest selected ground, which, if possible, should not be further distant than two or three miles from the cantonments, so that all may be in readiness for a move in case it may be necessary. The size of this camp will, of course, depend on the strength of the garrison and other circumstances. In some cases it will be advisable to provide for a proportion of the whole garrison, in others only for part of a particular regiment or battery. The exact size of the camp must be decided by the local authorities after a full consideration of all the facts and of the amount of danger to be anticipated. The previous history of the station as regards cholera will afford valuable data on this point.

All unnecessary alarm should be prevented.

22. All unnecessary alarm among the troops or the community should be prevented, yet every arrangement should, under the authority of the Officer Commanding, be made by the Commissariat Department in connection with the Civil authorities for providing the carriage required to convey tents and baggage to and from the encamping grounds or railway stations, so that it may be at once available in case of its being required.

Military authorities to send to other stations intelligence regarding outbreak and progress of cholera.

23. It is of the utmost importance that every station should receive notice of the possible approach of danger,

and whenever cholera shows itself at a station or in a district, the fact must be at once reported by telegraph, when practicable, to the neighbouring stations. Information must also be sent from time to time of the progress or cessation of the disease, any circumstances being noticed the knowledge of which may appear likely to be useful at other stations. These reports may be always made in a few words, and need give but little trouble.

Military and Civil authorities to communicate freely with each other regarding outbreak and progress of cholera.

24. All information received by the Military authorities should be at once communicated by them to the Chief Civil authorities of the district, who in their turn must be held responsible for obtaining immediate notice of the outbreak of cholera in their jurisdiction, and of communicating the fact to the Military authorities without delay.

Transmission of information need cause no alarm.

25. The transmission of information regarding cholera need cause no alarm. If it be thought necessary, the reports may be considered confidential, but it is believed that this will seldom or never be desirable. The knowledge that the attack of the disease is considered possible will be far more likely to produce beneficial than mischievous results, and the belief that the authorities are alive to the danger and prepared to meet it, will tend to allay rather than to increase unnecessary alarm.

Utmost unanimity in all Departments and hearty co-operation with the Civil authorities essential.

26. The utmost unanimity is essential in all Departments to give effect to the above recommendations; all should work cordially for the public good and in constant communication with the Civil authorities, whose hearty co-operation is especially needed with regard to the supply of carriage. They should use every lawful means to prevent delay in obtaining carriage for the troops, as the loss even of a few hours in moving troops away from a station may lead to most serious consequences. On all occasions every use should be made of the moveable column carriage. All movements of troops and changes of camping ground should be at once reported to the Civil authority of the district.

Telegraphic communication to be made daily to the Quarter Master General during the continuance of cholera.

27. On the appearance of cholera at any station, and during its continuance, the Officer in Command of that station is to report daily, by telegraph, when possible, to the Quarter Master General for the Commander-in-Chief's information, giving the number of admissions into hospital, the class of persons attacked, and the number of deaths in each corps at the station. Directions to be observed in despatching telegraphic messages are given in Appendix A.

Every effort to be made to provide means of healthy amusement and occupation for the soldiers.

28. Special attention should be paid to everything which can tend to the improvement of the general health of the men. Every effort should be made to relieve them from duties which cause needless exposure and fatigue, and especially to avoid night duty, so far as this may be possible with due regard to military considerations; to ensure that their food is wholesome and their clothing appropriate; and to promote every means of healthy amusement and occupation.

Use of spirituous liquors to be guarded against.

29. It often occurs that soldiers, on a visitation of cholera, indulge in the use of spirituous liquors, under the impression that they are a preventive against the disease. Medical authorities unanimously condemn this baneful practice as a certain promoter of the disease, and Commanding Officers should therefore exert their influence in every way to prevent it.

Abandonment of buildings in which one or more cases of cholera have appeared, and arrangements for accommodation of the inmates.

30. On a case of cholera occurring in any building occupied by European troops, the room, or portion of the building in which it occurred should be IMMEDIATELY vacated, and, except for the purpose of purifying it, no one should be allowed to enter it; if the whole building can be left, it will be still better. This is laid down as an absolute rule; for, although individual cases of cholera sometimes occur when there is no reason for anticipating an outbreak, instant removal from an infected spot is the best safeguard; and besides it is necessary that the room or building in which the disease has

shown itself should be vacated for the purpose of being purified. When men, under the above circumstances, are removed from a building supposed to be infected, they must be kept separate, so far as may be possible, from the men among whom the disease has not shown itself, and, in arranging for their accommodation, care must be taken that there shall be no overcrowding either of them or of others. Should no separate buildings be available, it is desirable that they be placed under canvas.

31. In carrying out this rule, it is not, however, necessary that the tents should be pitched in one of the encamping grounds. They may be placed in some convenient spot in the cantonment; and where only an individual case has occurred among the body of men so removed, this arrangement will, as a rule, be the best which can be adopted.

Purification of vacated buildings.

32. When any case of cholera occurs, even though it may be but a solitary case, the room in which the disease has shown itself must be thoroughly purified without the least delay. The walls, floors, and punkahs should be scraped and white-washed; the wood-work should be subjected to the action of hot caustic lime-wash, furniture and ropes washed, punkah-fringes boiled, and generally everything possible done for the purification of the building; the latrine, urinary, and wash-house used by the man who was attacked should be instantly closed, and their use must not be permitted until they have been completely purified. Chloride of lime, Condy's fluid, or some other chemical disinfectant should be freely used. All filth and rubbish from the latrine must be buried at a distance, and all vessels used for their removal must be carefully cleaned and disinfected at the place where the refuse is deposited. Until the purification of the buildings is complete, the troops must under no circumstances be allowed to re-occupy them.

Buildings vacated on account of cholera when to be re-occupied.

33. Ten days after removal, and when the room or building which was vacated has been purified in the manner above described, it may be re-occupied, provided no other circumstances have occurred meantime which may render such re-occupation undesirable. On this point the opinion of the principal Medical Officer on the spot must be taken.

Procedure to be adopted on the occurrence of further cases.

34. If a second case of cholera appears among the particular body so removed, they should be again moved, and the infected building or tent which they occupied should be at once vacated and purified. If a third case occur among this particular body within one week from the occurrence of the first case, then the men composing it should be immediately removed from the station to the preparatory camp.

35. The procedure here laid down, if carried out with promptitude in successive instances, will often be found sufficient to arrest the further spread of the disease; but when cases occur in several buildings, either simultaneously or at short intervals, and especially if there be at the same time any unusual prevalence of diarrhoea, an outbreak of cholera is seriously to be apprehended, and it will, under such circumstances, be advisable at once to remove the inmates of infected buildings to the encampment outside cantonments.

36. It is to be remembered that, when an outbreak threatens, removal from the infected locality is the only remedy in which any confidence can be placed, and that the earlier the movements are carried out, the greater will be the chance of success.

As a rule, only such buildings to be vacated as have actually presented cases.

37. Cholera evidently attaches itself to particular localities. The principle to be borne in mind, therefore, is that the particular locality in which cholera shows itself must be looked upon as dangerous, that it must be immediately abandoned and all communication with it stopped, and that the body of men who have been exposed to danger by their occupation of the place in which the cause of the disease is presumed to be present, must be separated from the rest of the troops. If, for example, this body consists only of the inmates of some one building, the measure need only be applied to them; if some particular battery, troop, or company be attacked, it will be similarly dealt with. A whole regiment or the whole of the troops at the station need only be sent into camp when it is found that the measures already adopted

have not stopped the progress of the disease, or there is reason to fear they will be insufficient. As a rule, it is necessary only to vacate such buildings as have actually presented cases.

Detachments to be kept separate.

38. When separate detachments are moved into camp in the manner indicated, it is advisable that they should be kept distinct as far as possible. Officers Commanding Stations are authorized to call freely for medical aid from other stations, districts, or divisions free from cholera; and, where a separate hospital establishment cannot be assigned to each party, it may be convenient to place an hospital in some central position not far removed from two or more camps, the sick from which may be treated together. Such arrangements must be left to the decision of the local authorities. A central cholera hospital should on no account be established in cantonments for the reception of cases from camp and other quarters.

Special preparations necessary on appearance of cholera at stations on the line of Railway.

39. On the first appearance of cholera at any of the stations on the line of Railway, intimation should be given to the Railway officials of the probabilities of a movement being required, in order that the necessary trains may be in readiness, so that if any move be decided upon, it may be carried out without delay. Tents should also be forwarded by rail and pitched at the selected camp.

No move by rail to be made without sanction from Army Head Quarters.

40. As, however, all stations on the line of Railway are in telegraphic communication with Army Head Quarters, no move by rail should be made without the sanction of His Excellency the Commander-in-Chief, obtained through the Quarter Master General, every preparation being meanwhile made in anticipation, and the troops, if necessary, being moved temporarily into a convenient camp.

All movements by rail to be made during the day.

41. In travelling by rail it will be better to select the day than the night. On no account are cases of cholera

or diarrhoea to be placed in a Railway carriage, and any persons who have come in contact with such cases should have their clothes fumigated with sulphur, and their hands and other uncovered portions of the body washed with a solution of McDougal's disinfecting powder before starting.

Camps at station of departure and arrival.

42. In some cases to avoid fatigue it may be advisable to encamp the men close to the station of departure, so that they may start by rail in the early morning, and they may encamp again for a night close to the station of arrival before going on to the selected ground next morning.

Trenches should be dug at convenient intervals on the line.

43. Previous to detachments proceeding by rail, the Military authorities must arrange for trenches being dug in the vicinity of one or two of the stations at convenient intervals on the journey, so that all discharges may be received in them. The troops on no account should be allowed to use the Railway Station latrines.

Purification of carriages occupied by troops.

44. After occupation by the troops, and in the presence of the Railway authorities, all the carriages, which must be only those of the 2nd and 3rd class, are to be washed under regimental arrangements with boiling water, containing in each gallon a wine-glassful of carbolic acid, after which sulphur should be burnt in each, and the doors and windows kept closed on the sulphur fumes for two hours. These disinfectants must always accompany the troops, and their supply be ensured by the Medical authorities.

Conservancy of camps.

45. As the movement will be made in the hope that the troops may be in this manner carried out of the infected area, the camp will probably be occupied for some time, and the strictest possible attention should be paid to the conservancy, trenches should be dug to leeward, tents pitched over them, and all filth instantly covered with earth. A similar system should be adopted for the camp-followers and other natives. The strictest regulations must

be laid down and enforced by the Commanding Officer to ensure attention to this all-important point.

Arrangement of the camp.

46. In arranging the camp the tents should be spread over a large area, and any military considerations or regulations in regard to distances between tents should give place to the desirability of allowing free ventilation so far as this can be done with convenience. Tents should not be pitched immediately under trees, as they prevent the free access of air at night, and during the rains prevent their drying.

Number of men in a tent.

47. As a rule, not more than eight men should be placed in each tent.*

Immediate benefit from change not always to be expected.

48. Immediate benefit is not always to be expected from the movement into camp, and the occurrence of a few cases of cholera ought not to be looked upon as proof that the change has proved a failure. It is clear that men often take with them the seeds of cholera, and although the immediate cessation of the disease is by no means uncommon, it is unreasonable to suppose that this will be always the case. Even if the first apparent result be an aggravation of the disease, this need cause no discouragement.

Removal of camps—marches to be short.

49. If the disease continue to be virulent for more than three or four days, a fresh encamping ground may be tried, either on the line of rail, or by a short movement, at right angles, if possible, to the prevailing wind, or track of the disease. The marches should always be short, if

* This Rule is to be read in connection with No. 66. It is by no means intended that every regiment should be provided with a double supply of tents. The necessity for vacating *all* the buildings in a station which are occupied by the troops will rarely occur. Experience has shown that many stations have not suffered from cholera with any severity for years, and to provide extra tents for them would therefore be unnecessary. Again, there are other stations which are on the line of rail, and which can thus be supplied with extra camp equipage if required on very short notice. In such stations, whenever cholera appears, notice should be given to the nearest magazine that tents may perhaps be needed; and when it seems that those on the spot are likely to prove inadequate they can be telegraphed for. In a third class of stations there is an arsenal on the spot.

possible not more than two or three miles; movements should generally be made in the morning, in time to admit of the new ground being reached soon after sunrise, but if the march is very short, it may be made in the evening, whenever the delay of a night is regarded as an unadvisable risk. The men will be supplied with hot tea or coffee before starting; they will invariably wear flannel belts, and every precaution must be taken to prevent their remaining in damp or wet clothes, especially when the movements are made by rail. It is of the utmost importance that fatigue and exposure should be avoided, and everything possible should be done to keep the men cheerful and in good spirits.

Isolation of camp hospitals.

50. If any case of cholera or diarrhoea occurs in camp, isolation and disinfection should be had recourse to, and all communication between the camp and any neighbouring station or village should be interdicted. The hospitals in particular should be isolated to as great an extent as may be practicable.

Separate hospitals in camp.

51. When all the troops in a station are sent into camp on account of an outbreak of cholera, all ordinary sick capable of being removed without evident danger should go into camp also; the few patients who cannot possibly be moved should be transferred to one small general hospital, which will usually be found sufficient for all those who must remain in cantonments. Separate hospitals should always be organized in the camps, and under no circumstances should patients be brought for treatment from the camps to an hospital in cantonments.

Cots to be taken into camp.

52. When considered desirable by the principal Medical Officer on the spot, cots are to be taken into camp for all the men, so that there may be no necessity for their sleeping on damp ground. In the event of carriage being insufficient for the regular cots, the Commissariat Department will usually be able to arrange for the supply of light native charpoys, which answer admirably. Should the season of the year not necessitate cots being taken, straw

will be supplied, on requisition, by the Commissariat Department. If the troops travel by rail, the straw can either be taken in the train, or be furnished by the Commissariat at the selected camp.

Water-supply.

53. The utmost attention must be paid to the drinking water. At encamping grounds which have been frequently used, and which are situated upon great thoroughfares, caution will be especially necessary, and, if considered desirable, temporary wells must be sunk, so that there may be no danger of water contaminated by organic matter being supplied to the troops. As a precautionary measure, the water used for drinking should be boiled: and as the taste of water subjected to this process is insipid, the reason for this proceeding should be carefully explained to the men. It is left to the local Military and Medical authorities to decide whether the filters belonging to British regiments are to be taken with them when the troops are moved into camp on account of cholera or not.

Wood-fires to be maintained when necessary.

54. Wood-fires may be maintained to the windward of camp when considered necessary by the Medical authorities.

Return of troops to cantonments.

55. It not unfrequently happens that troops are allowed to return far too soon to cantonments or to buildings which have been infected with cholera, and the consequence is the re-appearance or aggravation of the disease. The return to cantonments must only be allowed with the greatest caution. No part of the cantonment from which the disease has not altogether disappeared should be re-occupied. Under no circumstances can the re-occupation of any building which has been attacked by cholera be allowed, unless at least ten days have elapsed since the last case of cholera in the building, nor until every measure for the purification of the building, as laid down in paragraph 32, has been carried out. The prevalence of fever or other diseases in camp is no reason for returning to cantonments while danger from cholera remains. It must be accepted as the lesser evil of the two.

All movements to be communicated by post to the Quarter Master General on the day of occurrence.

56. Officers in Command of Stations are required to communicate by post to the Quarter Master General on the same day the occurrence takes place all movements of troops, including changes of camping grounds consequent on cholera or other sickness, stating the number and class of persons attacked, the number of deaths, and any other matter appertaining to the Quarter Master General's Department.

Weekly communications to be made to the Quarter Master General during the continuance of cholera.

57. During the continuance of cholera at any station, the Officer in Command is to report by post weekly to the Quarter Master General, for the information of His Excellency the Commander-in-Chief (with respect to the steps to be taken for the mitigation of the evil), on the general sanitary condition of the station, including bazaars, and on the health of the population around on a considerable radius. The report should state in detail the number of cases, the class of persons attacked, the number who may have died, and the general character of the disease, whether virulent or not.

Returns required from Batteries of Royal Artillery and Regiments of British Cavalry and Infantry.

58. When cholera appears at a station, the following returns are to be kept by Regiments of British Cavalry and Infantry and Batteries of Royal Artillery:—No. 1 is to be furnished daily by Medical Officers to the Officer Commanding the Regiment or Battery, as the case may be, for the information of the Officer Commanding the Station, and a duplicate to the Deputy Inspector General of Hospitals, Her Majesty's British Forces. At the termination of the epidemic the Nominal Register (Form No. 2) is to be submitted to the Deputy Inspector General of Hospitals, and by him forwarded for the information of the Inspector General.

No. 1.

Morning State of Cholera in the _____
 STATION _____, Date _____

DISTRIBUTION OF CORPS.			CASES OF CHOLERA.							REMARKS.
			Strength.	Remained.	Admitted during the last *24 hours.	TOTAL.	Discharged.	Died.	Remaining.	
IN CANTONMENT BARRACKS.	Officers	...								
	Men	...								
	Women	...								
	Children	...								
	TOTAL	...								
IN CAMP IN CANTONMENTS.	Officers	...								
	Men	...								
	Women	...								
	Children	...								
	TOTAL	...								
IN CANTONMENT HOSPITAL.	Men	...								
	Women	...								
	Children	...								
	TOTAL	...								
IN CAMP AT	Officers	...								
	Men	...								
	Women	...								
	Children	...								
	TOTAL	...								
IN CAMP AT	Officers	...								
	Men	...								
	Women	...								
	Children	...								
	TOTAL	...								
GRAND TOTAL			...							

* This should include the 24 hours from 8 A. M. to 8 A. M., so as to give the latest information. It should be made up after the Surgeon's morning visit to hospital.

Summary.

	Strength.	No. of cases previously reported.	No. since admitted.	TOTAL.	No. of deaths previously reported.	No. since last report.	Total deaths.	Number remaining.
Officers	...							
Men	...							
Women	...							
Children	...							
TOTAL	...							

Surgeon in Medical Charge.

Return required from Regiments of Native Cavalry and Infantry.

59. From regiments of Native Cavalry and Infantry Return No. 1 only will be required.

Special report required on disappearance of disease.

60. On the disappearance of the disease, Officers Commanding Divisions and Districts in which cholera has recently occurred among the troops are required to submit a special report (in duplicate) to the Quarter Master General for the information of His Excellency the Commander-in-Chief, showing in detail the number of cases, the class of persons attacked, and the number of each who have died, the general character of the disease, and whether any and what extra expense was caused to Government by movement into camp, &c.

Return required showing the further progress of the disease among the inmates of any particular building that has been vacated.

61. In all cases where buildings have been evacuated on account of the appearance of cholera, a very careful record of the further progress of the epidemic among the individual body of men, women, and children who occupied each building so vacated should accompany the above report, prepared according to the following form:—

*Progress Report of Cholera at _____ in Her Majesty's _____
Regiment, submitted in accordance with No. 61 of the Revised Rules
regarding measures to be adopted on outbreak of cholera.*

STATION.	Corps.	Number or name of building.	Number and detail of occupants.	Date of first case.	Date of evacuation of building.	Number of cases before evacuation.	Number of cases among those occupants after evacuation.	Date of re-occupation.

Surgeon in charge. }

Commanding Regiment.

Information required as to size and relative position of huts occupied by Native troops attacked by cholera.

62. When cholera has appeared among Native troops, full particulars are required as to the size and relative position of the huts of each Native regiment which suffered from the disease; the exact accommodation allotted to the several ranks should be shown, and the nature and description of the several buildings should be specified.

Report of any expense incurred for hiring bungalows, &c., to be made at once.

63. When it has been found necessary to incur any expense, such as the hiring of bungalows, &c., for the benefit of the troops during the prevalence of cholera, a special report, giving every particular, should be at once made to the Quarter Master General for the information of His Excellency the Commander-in-Chief and of the Government.

Tents are to be retained for regimental purposes only.

64. Tents belonging to a regiment are to be retained in all cases for regimental purposes, and are not to be lent to the Civil authorities for the use of prisoners in the event of epidemics breaking out in jails, or on other occasions.

Oldest and least serviceable tents to be used for cholera cases.

65. When tents are required for cholera cases among the troops, the oldest and least serviceable must be selected, provided they are fit for the purpose.

Supply of camp equipage.

66. In most cases the established proportion of camp equipage will be sufficient to accommodate that portion of the garrison which it may be necessary to move into camp. Extra camp equipage should, therefore, not be indented for unless the epidemic should prove severe, and render it probable that a larger proportion than half the garrison may have to be removed from cantonments. When the necessity for this has been admitted, Commanding Officers are to indent on the nearest magazine for such additional camp equipage as they may require; the indents to be countersigned by the Deputy Inspector General of the Circle, or the

senior Medical Officer on the spot, and by the Officer Commanding the Station.

Hospital management.

67. The question of hospital management during the prevalence of cholera is one of urgent importance. No sanitary precaution must for a moment be neglected; no approach to anything like crowding must be permitted; all unimportant cases, the treatment of which in hospital is not essential, should be discharged; every case in hospital must be carefully watched; and it must be borne in mind that in very numerous instances it is in the hospital, among patients under treatment for other diseases, that cholera first appears. Precautionary measures in the hospitals must be commenced, whenever it may be possible, before the actual appearance of the disease; and, as laid down in paragraph 5, all slight symptoms of disease must be treated in the barracks, or in observation wards entirely separate from the hospital.

Separate temporary hospital to be prepared for cholera cases.

68. If no separate building can be set apart as a temporary hospital, tents should be pitched for the purpose in some convenient place at a little distance. Every arrangement must be made, so that if a case of cholera should occur, it may be immediately removed there, and not be treated in the regular hospital. For the treatment of patients suffering from cholera, tents are unobjectionable at all seasons of the year. The air in a tent is less likely to become contaminated, and the ground can be changed as often as may be desirable. Medicines, and everything considered requisite for the treatment of the disease, should be prepared in the temporary hospital, and a portion of the establishment should be kept in readiness to be transferred there, so that if a case of cholera occurs, the means will exist for separate treatment, and subsequent communication with the regular hospital will be unnecessary.

Prevention of fresh cases more important than medical treatment.

69. If, in spite of every effort, the sub-division of hospital establishment should lead to difficulty in the medical treatment of the disease, this must be accepted as the lesser of two evils; for it must be always remembered that the

main object during an epidemic of cholera is the prevention of fresh cases, much more than the treatment of those who have already been attacked; that prevention is often possible, but that treatment is almost useless after virulent symptoms have appeared.

Separation of cholera patients and abandonment of hospital buildings if cholera occur in them.

70. No patient attacked by cholera should ever, under any circumstances, be placed in the same ward with patients suffering from other diseases. If a patient in hospital suffering from another disease be attacked with cholera, or if a case occur among the hospital attendants or others, the same system must be adopted as has been ordered in the event of cholera appearing in other buildings occupied by troops. The ward in which the case has shown itself must be IMMEDIATELY abandoned, and every precaution laid down with respect to other buildings must be taken.

Funeral parties.

71. During the prevalence of cholera funeral parties should be discontinued, and the band should not play at the burial either of officers or men.

Removal of cholera excreta.

72. Every effort should be made, during the actual treatment of the disease, to get rid, as completely as possible, of all the discharges from the sick or to render them innocuous. The vessels in which they are received should contain some powerful disinfectant; they should never be emptied into the usual receptacle, or carried to the common latrine, but taken away separately, and the contents thrown into a trench dug for the purpose and reserved for this use. A man should be constantly employed in the duty of throwing fresh earth over all filth the moment it is deposited, and all vessels should be thoroughly cleaned at the trench into which the filth is thrown.

Supply of extra articles of diet during prevalence of epidemics.

73. During the prevalence of cholera at a station, such changes in the diet and such other medical comforts are to be allowed to the troops as the Deputy Inspector General of

the Circle or other principal Medical Officer may deem expedient. In directing these comforts to be freely supplied, particularly to the women and children, the senior Medical Officer on the spot will be required to exercise a wise discretion to avoid unnecessary expenditure, and to see that the indulgence is not abused.

Employment of Native servants in attendance on cholera patients.

74. On the occasion of an outbreak of cholera at a station, the entertainment of Natives to attend European soldiers in hospital suffering from that disease is authorized to such an extent as the local medical authorities may consider necessary—the men being provided on requisition by the Commissariat Department.

European Soldiers to be employed on Hospital duty as seldom as possible.

75. When the employment of European soldiers as orderlies in hospitals during the prevalence of cholera is considered unavoidable, men will be selected, as far as possible, by volunteering in such number as the medical authorities may deem necessary. The complete tour of duty shall in no case exceed 24 hours, and no man who is not in good health shall be thus employed. No orderly is to be kept in actual attendance in the hospital for a longer period than four hours at one time, nor is he to have a less interval of rest than six hours between successive tours of duty, whatever be the period of attendance in the ward. A room entirely separate from the hospital buildings must be provided for the accommodation of men relieved from attendance on the sick, in which they can remain until their tour of duty again comes round. Men not upon actual duty are not to be allowed to remain in the hospital. The strictest precautions must be taken to prevent men employed in the hospital from making use of the latrines, urinaries, or wash-houses used by the sick in hospital. The utmost care must be taken that the hands of all attendants on cholera patients be scrupulously cleaned by means of sand and water containing some disinfectant, or other thoroughly efficacious means; and that if the clothes of any of the men should become soiled by cholera discharges, they be at once taken off and thoroughly purified. Every man employed as an hospital orderly in attendance upon cholera patients is to be provided with tea or coffee before and after each tour of duty.

Female nurses for attendance on women and children.

76. For attendance on women and children suffering from cholera, Native female nurses should, if possible, be procured.

Removal of the sick and of the dead.

77. Careful arrangements must be made for the removal of the sick from the barracks to the hospital, and on no account should the doolie employed for this purpose be made use of for the removal of the dead.

Purification of bedding and clothing.

78. All bedding and clothing used by cholera patients which can be subjected to this process must be immediately purified by being boiled for quarter of an hour in water. There is no difficulty in boiling such articles as bed-tape (newar), blankets, and linen. The bug-boilers offer facilities for boiling the cots. Rezaïs and other such articles which can never be thoroughly cleansed should be burnt.

Purification of cots and punkah-fringes.

79. Cots and punkah-fringes which have been used by cholera patients, or in wards set apart for them, should be subjected, in a similar way, to the action of boiling water when they are no longer required for such cases.

Purification of tents.

80. Tents used by cholera patients before being struck, should be disinfected by one or other of the following gaseous disinfectants,—chlorine, nitrous acid, or sulphurous acid, and then left exposed to the weather for ten days. Tents which have been used for cholera purposes in camps within cantonments should first be removed to an out-of-the-way, but airy spot outside, and then subjected to the process of fumigation.

Burning only to be resorted to when thorough purification cannot be at once carried out.

81. It will only be necessary to burn such articles as bedding, body linen, cots, and punkah-fringes when their thorough purification cannot be at once carried out in the manner above laid down, but with proper arrangements this destruction will rarely be required.

Rules applicable to women and children.

82. It is to be distinctly understood that the above Rules are equally applicable to the women and children if cholera should appear in their quarters, and that they are to be as strictly carried out; but endeavours should always be made to assign available buildings to them, so that the necessity of moving them into camp may, if possible, be avoided.

Measures to be adopted on the appearance of cholera in the sudder or regimental bazaar.

83. On the appearance of cholera or any other epidemic in the sudder or regimental bazaar of a station, arrangements should be made for the isolation and treatment of the cases. One or more grass huts should be placed on the outskirts of cantonments in a convenient and selected position, a fresh site being selected weekly, as the ground becomes contaminated and proves a source of danger. Stringent orders should be issued to ensure all cases of the disease being sent to this isolated hospital for treatment.

Station Staff Surgeon to have charge of the Hospitals for Natives.

84. The hospital will be under the medical charge of the Station Staff Surgeon, or other Medical Officer selected by the Deputy Inspector General of Hospitals, and the establishment, as per margin, to be increased if necessary, will be attached to it—the servants to be discharged on the subsidence of the epidemic.

- 1 Native Doctor.
- 1 Compounder.
- 1 Cook.
- 1 Bheesty.
- 2 Sweepers.
- 1 Doolie with 4 bearers.

Expenses to be defrayed from Cantonment Funds.

85. When cantonment funds can be made available, without withdrawing them from such measures of conservancy as may be considered of even more importance, all expenses incurred by the establishment of these temporary hospitals, including the dieting of the patients, if that be also involved, should be defrayed by them, the primary object of such funds being to secure the proper sanitary condition of a station in every possible way.

Record of buildings and camps in which cholera occurs.

86. As experience in such matters is of great value, a careful record should be preserved in the Brigade or

Station Staff Office showing the number of cases occurring in each building, and the number of attacks in the different camps.

SECTION III.

OTHER POINTS REQUIRING THE SPECIAL ATTENTION OF MEDICAL OFFICERS.

Investigation into the circumstances of the first case.

87. In any epidemic, it is of the greatest importance to ascertain all the circumstances connected with the appearance of the first case, and a very careful investigation should be made at once in order to discover, if possible, whether it was due to importation. Such enquiries if delayed are usually unsatisfactory.

Condition of camp-followers.

88. The condition of the camp-followers, of the punkah coolies, and others who come about the barracks should receive attention, and orders should be issued that any suspicious cases occurring among them be reported, so that they may be at once investigated. With the assistance of the Non-Commissioned Officers, such cases of sickness should not escape detection. Arrangements should be made for the early treatment of those attacked either in camp or cantonments, and where the general cholera hospital for natives is distant, measures should be adopted for attending to their wants on the spot. A careful note of all such seizures and of the circumstances under which they occur should be preserved.

Abolition of the term "choleraic diarrhoea."

89. In the forms now adopted the term "choleraic diarrhoea" has been abolished. All such cases distinguished by rice-water evacuations should be returned as cholera.

Disuse of the words "sporadic" and "epidemic."

90. It is very desirable that the terms "sporadic" and "epidemic" should not be used in connection with reports of cases of cholera. There are no means of distinguishing between the two, and the exact significance of individual attacks can be known only when all the facts regarding the

prevalence of the disease throughout the year have been ascertained and considered as a whole.

Cholera cases not to be returned as "discharged" until all symptoms of the disease have disappeared.

91. In some instances, cases of cholera in which reaction has taken place have been discharged, and the fatal event which afterwards occurred recorded under the head of fever. This system produces great error in the statistics, and it ought on no account to be followed. No cases of cholera should be "discharged" until every symptom either directly or indirectly due to the disease has disappeared.*

A lull in the number of cases not to lead to any relaxation of precautionary measures.

92. When no cases of cholera have occurred for several days, an opinion is apt to prevail that the disease has disappeared, but it must be remembered that at certain seasons a lull is to be expected. This generally occurs in the early part of the monsoon. With regard to it no decided rule can yet be laid down, but it is important that the fact of there having been no cases for some time should not lead to any relaxation of the necessary precautions and preparations in anticipation of a further and generally more severe outbreak.

Effect of upper stories on proportion of attacks.

93. As it is important to ascertain the effect of upper stories in warding off attacks, a daily register in the annexed form should be kept:—

DATE.	Number occupying upper stories on that day.	Number of attacks in upper stories on that day.	Number occupying lower stories on that day.	Number of attacks in lower stories on that day.	REMARKS.*

* In the remarks, the case of any man lately on guard, or particulars regarding other influences which may have caused the attack, should be noted.

SECTION IV.

RESPONSIBILITY OF COMMANDING OFFICERS.

The Rules to be carried out by the Officer Commanding the Station.

94. On the Officer Commanding the Station will devolve the responsibility of having all the directions contained in these Rules, as regards the evacuation and purification of buildings, the movements into camp, and all other details, carefully carried out.

Discretionary powers of Officers in Command.

95. These Rules, founded on the general experience of the past, must be considered as the guide on all ordinary occasions. As in outbreaks of cholera, however, so much depends on the judgment and action of general and other Officers, they must exercise their own discretion whenever extraordinary emergencies or unforeseen circumstances occur, and, in consultation with the senior Medical Officer, must take upon themselves the responsibility of action incumbent on their position.

Whenever it may be considered advisable to deviate from the procedure prescribed in these Rules, a special report, explaining fully the reasons for so doing must be forwarded to the Quarter Master General for the information of the Commander-in-Chief.

SECTION V.

Rules regarding the measures to be adopted on the appearance of Small-pox among British or Native troops.

I.—Whenever a case of small-pox appears among either British or Native troops, it should be immediately isolated, and all communication between the sick person and others, whether direct or indirect, should, as far as possible, be prevented.

II.—In some cantonments a building, no longer required for other purposes, and occupying an unfrequented site, has been set apart for the reception of small-pox cases, and whenever such a building is available, the case should be at once removed to it.

III.—In those cantonments where no such building exists, the case must be removed either to a tent or to a grass hut.

IV.—As cases are most apt to occur in the hot months, a grass hut is in every way better suited for the purpose than a tent. If lined on the sides with a coating of mud, it affords very good protection.

V.—If, owing to the small number of sick in hospital, or to other circumstances, a ward or other room, well separated from the other patients or other persons, can be made available for the temporary reception of the case, there is no objection to its being treated there during the first day or two of the disease when eruption is still advancing, and its power of spreading to a distance is comparatively limited. Time will thus be allowed for the preparation of a grass hut.

VI.—If this course should have been followed, the room temporarily occupied by the case should be immediately purified in the manner described in Rule 32 regarding cholera.

VII.—Whether a tent or grass hut is employed, it should be pitched in some secluded spot, and the shelter of trees, if possible, secured.

VIII.—If a tent is used, the oldest and least serviceable should be selected.

IX.—Good tents should never be employed for the purpose, except in very exceptional cases, which should in each instance be explained.

X.—Unless there is an immediate prospect of their being further required, tents or huts used by small-pox patients should be destroyed by fire, in presence of a responsible person, as soon as vacated.

XI.—If there is an immediate prospect of the tent or hut being again required, it should be purified in the manner described as suitable for buildings in Rule 32 for cholera. It should then be left standing with the sides and doors kept closely shut down.

XII.—Bedding and clothing, cots and punkah-fringes, should be thoroughly disinfected as described in Nos. 78, 79, and 81 for cholera.

APPENDIX A.

Directions to be observed in despatching Telegraphic Messages regarding Cholera.

I.—The message should usually be despatched soon after 8 A. M. so as to agree with the morning state—Form No. 1, required by Rule No. 58.

II.—The number of cases and deaths among men, women and children in each regiment of Europeans at the station during the preceding 24 hours should be stated separately.

III.—The number of cases and deaths in each Native regiment should also be stated.

IV.—Particulars regarding camp-followers or the city and bazaars should be given only when they are important, as indicating the advance or decline of the disease.

V.—All particulars regarding movement of troops should be included in the message, and the condition of each detachment in camp.

* As in such stations Telegraph Stamps are not generally procurable, Officers are required to adopt the procedure set forth in Notification dated, Calcutta, 22nd December 1868, paragraph 3, General Order dated 18th January 1869, namely :—

“*Para. 3.* Telegrams can be sent from out-stations by Post, but they must be enclosed in registered covers; at stations where Telegraph Stamps are not procurable they may be paid for by Postage Stamps at the rate of 17 annas to the Rupee. In such cases the Post Office registration receipt will take the place of the ordinary Telegraph receipt. If any telegram be received insufficiently stamped, it will be returned bearing to the sender.”

VI.—When there is no Telegraph Station in or near the cantonment attacked, the message should be sent by Post to the nearest Telegraph Station.*

VII.—The following specimens of telegrams are appended for guidance :—

From—Allahabad		To—Army Head Quarters
From—Officer Commanding.		To—Quarter Master General.

22nd March, one case, 58th Regiment, a soldier. Building vacated and disinfected.

25th March, twelve admissions from British and five from Native troops since yesterday's report. All soldiers.

Artillery, three in cantonment.

Artillery, one in fort.

No deaths.

58th Regiment, eight in new barracks, six deaths. Two companies moved to Camp Jhosee. Affected building vacated. Reports from city and district more favorable.

By order of the Right Honorable the Commander-in-Chief.

FRED. THESIGER, Colonel,
Adjutant General.

