FIGHTING SMALL-POX.

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The last time that small-pox assumed large epidemic proportions in this country was at the beginning of the twentieth century, but thanks to the efforts of sanitary authorities and their staffs it was, in large measure, controlled. After several years quiescence there has been a recrudescence of the disease, which in many cases has appeared in a considerably modified form known as alastrim. At times, however, it reappears in its earlier virulent form; while in addition there is the possibility of cases of the severe type, or infection from them, being imported from abroad.

In the light of past experience, the procedure adopted in combating the disease has been regularized to a large degree, and, despite all criticisms and arguments to the contrary, confidence in the protective value of vaccination remains unshaken among doctors, nurses, sanitary inspectors, disinfectors and all public health officials whose duties bring them into contact with the sufferers.

There are many authorities concerned in combating the disease or in preventing its importation, i.e., Ministry of Health (the General Staff of the Public Health Service); port sanitary authorities with their port medical and other officers; the medical officers of health and other public health officials of counties, county and other boroughs and urban districts.

The scheme of defence and attack includes the following:

1. Speedy removal of patients to isolation hospitals.
2. Prompt disinfection of infected rooms, etc., and disinfection or destruction of articles associated with the patients.
3. Vaccination or revaccination of "contacts."
4. Communication of full information of the occurrences of cases, together with lists of "contacts" to medical officers of other districts concerned.
5. Information of the occurrence of cases to medical practitioners in the district affected.
6. Notices to the general public of the existence of small-pox in the district, emphasizing the protective value of vaccination.
7. Co-operation with the Poor Law Guardians (who still are the vaccination authority) in the matter of the provision, in times of epidemic, of temporary additional vaccination stations, or in smaller outbreaks an extension of the hours when the public vaccinators are available.

The first and most important matter is accurate diagnosis, since failure to recognize small-pox may have very far-reaching effects. After a period of years without the occurrence of cases, which may result in many doctors never having seen a case of this disease, it is possible that they may be in doubt, especially as there are certain other diseases where the symptoms
may be confused with small-pox, such as chicken-pox, scarlet fever or measles. In order to assist medical practitioners in this matter, it is usual for arrangements to be made by the authorities so that the services of the medical officer of health and specialists of consultant status may be available. A medical practitioner is thus enabled to secure a second opinion in any case presenting difficulty of diagnosis. In addition to this, certain of the medical staff of the Ministry of Health are ready to assist in cases of special importance. All definite cases must be immediately reported to the Ministry of Health, since in these days of rapid transit infection may be spread over a wide area in a very short space of time.

The telephone service is of great assistance in dealing with small-pox, since valuable time is saved by its use. In any well-organized public health department, if a doctor has asked the medical officer of health or the county small-pox specialist to see a doubtful case, the hospital authority is advised forthwith, and the ambulance and the disinfecting staff with their motor disinfecting van are standing by. Thus it is possible, directly a positive diagnosis is made, for the patient to be removed promptly, the infected premises thoroughly disinfected, and textile contents of the infected room and patient's clothing removed for disinfection, or, better still, for destruction. It has been the custom in many districts, if the case is one of the haemorrhagic type, to destroy the bedding, clothing, etc., and to make compensation for the loss sustained. Those who have seen bad cases of this type of the disease will agree as to the wisdom of this course of action.

On the question of disinfection, it will be found advisable to arrange for the laundry van to deliver only washed articles at the house from which a case has been removed, and for it to call at the Council's disinfecting station for the soiled week's wash which will have been previously collected from the house and thoroughly disinfected. This should be done for a fortnight after the removal of the patient.

It is of considerable assistance to the medical officer of health when practitioners in such cases either request "contacts" not to leave the house until they have been vaccinated, or else obtain the addresses to which they are proceeding and inform the medical officer of health. Tracing and vaccinating all "contacts" is of supreme importance if the disease is to be held in check. It is customary to keep them under supervision, especially those foolish ones who refuse to be vaccinated, for fourteen days. Well-organized public health departments will obtain the full list of contacts within a few hours of the diagnosis of the case and send information concerning them, or of the patient's personal movements during the preceding fortnight, to other districts concerned. This is done by telephoning the information forthwith upon its receipt and confirming the message by letter. Similarly, by means of a "circular" letter, every doctor practising in the district is advised by post the same day of the occurrence of a case and is given any special information appertaining to it. This communication is of especial importance at the commencement of an outbreak, and
may be of considerable help to doctors in their inquiries concerning the movements and associations of their patients who may be suffering then or at a later date from suspicious symptoms.

If the medical officer of health is of opinion that, from the type of the disease, the locality of the premises, the patient's occupation and other important factors, there is a possibility of the disease assuming epidemic proportions, he will probably issue handbills to the public through the medium of clinics, welfare centres, schools, public libraries, etc., also placarding the district with posters. These handbills and posters, which are kept in stock ready for use, are usually couched in the following terms:

"SMALL-POX.

"The occurrence of SMALL-POX makes it very advisable that every person should be vaccinated or revaccinated.

"In the opinion of the highest medical authorities, vaccination is a perfectly safe procedure and is the greatest protection we have against small-pox.

"Unvaccinated persons are highly susceptible to small-pox; revaccinated people are practically immune.

"Any persons wishing to be vaccinated should consult their own private doctor without delay; or vaccination will be performed free of cost by the Public Vaccinators whose names and addresses are as follows:

As the Poor Law Guardians control the vaccination officers and public vaccinators and will do so until the Poor Law is incorporated with the Municipal Service, it is necessary for them to be notified whenever small-pox occurs. Here again it is best to notify each and all at once, and not merely to be content to send an official communication to the "Clerk of the Guardians."

The offices of the Public Health Department in such times of stress are usually open after normal hours, and officers remain on duty at week ends. In addition, sanitary authorities put their medical officer of health on the telephone at his private residence, so that he is available to medical practitioners and can receive urgent messages from the caretaker at the public offices at any time. Experience has shown that promptness of action is of great importance, and this is realized in all efficient health departments, where work and travelling in connexion with small-pox is performed as rapidly as possible and is accorded priority over all ordinary departmental work.

It is possible, however, for the best laid plans of the medical officer of health to go astray, as may be instanced by the two following incidents. At the beginning of the last epidemic, a case occurred—the first in the district for very many years. Immediately the "alarm" was sounded this district, which prides itself on its high standard of efficiency, promptly took action and all possible steps were taken to deal with the outbreak.
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Unknown to the medical officer of health, however, a handy-man in the municipal depot, seeing the disinfectors hard at work and clearing out all material in hand (for articles not infected with small-pox are always treated separately and cleared away), voluntarily "lent a hand," and by so doing came into contact with the infected articles. All the staff of the medical officer of health's department had been vaccinated, but this "handy-man," in common with too many of the general public, was unprotected. Of this no report was made; the disinfectors alone knowing that he had had anything to do with the infected clothing, bedding, &c. It came as "a bolt from the blue" when in due time this man went down, and the truth came out. Despite all explanations, the indisputable fact remained that an employee of the sanitary authority, who was unprotected by vaccination, had caught small-pox while assisting with the disinfection of infected articles.

In another instance, a case was notified from a tenement house, and here again considerable pains were taken to ensure that every person liable to have come into contact with the patient should be vaccinated. Apparently every one was accounted for, and the sanitary staff congratulated themselves on having successfully secured the vaccination of all concerned.

<table>
<thead>
<tr>
<th>DAY</th>
<th>Exposure to infection</th>
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<tbody>
<tr>
<td>1</td>
<td>Exposure to infection</td>
</tr>
<tr>
<td>2</td>
<td>13 days, incubation period. Patient not infectious, and apparently in good health</td>
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<tr>
<td>3</td>
<td>2 days, invasion. Patient probably not infectious if skin unblemished</td>
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<tr>
<td>4</td>
<td>2 days, papular rash</td>
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<tr>
<td>5</td>
<td>2 days, vesicular rash</td>
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<tr>
<td>6</td>
<td>4 days, pustular rash</td>
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<tr>
<td>7</td>
<td>8 days, drying stage</td>
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In due course, however, the landlady of another tenement house in an
adjoining street complained to the medical officer of health that a young
man who had taken one of her furnished basement rooms at the time
of the occurrence of the first case had been ill in bed, unattended, for a few
days, and that she "did not like the look of him." Upon investigation, the
medical officer of health found that the young man was a member of the
family first affected and, on account of his opposition to vaccination,
immediately the first case was diagnosed and vaccination for all "contacts"
was proposed, had removed from his home and persuaded the other
members of the family to keep silence concerning him.

Such circumstances as these thwart the energies and endeavours of the
most painstaking and careful officers, who, too often, while fighting small-
pox are never praised when their efforts are successful by those who
would be only too ready to blame them should they fail in their endeavours
to control the disease.

Of all the ills to which mankind is heir, this is at least one that can be
almost certainly avoided; and it is most regrettable that the want of
knowledge of the toll levied by this most loathsome disease should
have lulled the public into a false sense of security and led so many of
them to ignore the protection afforded by such a relatively simple matter as
vaccination.

The preceding table may be interesting to those concerned in fighting
small-pox; it has been found to represent the general run of the average
case, assuming that exposure to infection takes place on day No. 1.

The decline in vaccination that has been in progress for many years
has resulted in a large number of the population being unprotected by
vaccination, and sooner or later there will be an epidemic on a very large
scale. The people, in the exercise of their liberty, have had the right
to choose between vaccination and the risk of infection, and they have
chosen the latter. The material therefore, is to hand, and at some
unexpected time the conflagration will start.