

OUR PRIZE COMPETITION.

SHOW HOW THE TOOTH BRUSH MAY CARRY INFECTION FROM A DIPHThERIA CARRIER, AND HOW IT SHOULD BE DISINFECTED. WHAT OTHER ARTICLES MAY BECOME VEHICLES OF INFECTION, ESPECIALLY IN SCHOOLS?

We have pleasure in awarding the prize this week to Miss Violet Ventris, S.R.N., North-Western Hospital, Lawn Road, Hampstead, N.W.3.

PRIZE PAPER.

A tooth-brush that has been used by a diphtheria "carrier" is a most dangerous means of infecting others.

It is quite a common occurrence for people to harbour diphtheria germs in their throats without any signs of the disease; yet such persons are a menace to the safety of the public, and should, of course, be isolated. Such a person, therefore, would be a means of infecting others by his tooth-brush, provided no means were taken to disinfect it after use.

The infection in diphtheria resides chiefly in the discharges from the nose and throat, and this means that the saliva is infected and the whole of the surface that comes in contact with the tooth-brush—the teeth, gums, &c.—are ready soil in which the diphtheria bacillus may multiply. The Klebs-Loeffler bacillus, a rod-shaped germ, which, once it gains access to the throat, and conditions are favourable for its growth, rapidly multiplies and gives rise to membranous exudation and other local changes.

But in a "carrier" this membranous exudation may never develop, and the patient may appear to be in good health; but for all that he is a great source of danger to those with whom he comes in contact, and may give rise to a severe epidemic of diphtheria by infecting others with these unsuspected germs that he is harbouring at the back of his throat or the back of the nose.

If a tooth-brush has been used by such a person and is left about without being disinfected, it becomes a source of infection, especially if it is left about with other brushes. It may be picked up by accident by someone else and used, when he would in all probability be infected by the germ, and perhaps fall a victim to a very bad attack of the disease.

The "carrier" himself, every time he uses the brush, is re-infecting his own mouth with the brush that is teeming with dried particles of dust and dirt and germs from his own mouth. In any case, there are "more germs in the human throat than there are in Barking Creek"

—to quote a well-known pathologist—and a "carrier" is just teeming with them.

To disinfect the tooth-brush properly it should be disinfected by boiling after use. This, however, is not always practicable in a private house, or even in schools. Another method is to keep the tooth-brush in some flat receptacle and covered with some strong, non-poisonous disinfectant. In any case, the disinfectant should be changed once in the twenty-four hours, and fresh solution put into the receptacle.

When finished with, the tooth-brush must be destroyed by burning; never on any account should it be passed on to anyone else, even after being in strong disinfectant.

In diphtheria it is by no means clear how infection is always spread. The bacillus can generally be found in the membranes, which are formed in the throat and larynx, and thus it is easy to see how direct infection may arise by kissing or by contamination with the material brought up in the act of coughing. But it may also be spread indirectly by means of utensils for eating and drinking; also handkerchiefs and towels, clothes, books, pencils, and toys. These would be the most likely articles to become vehicles of infection in a school. Outbreaks have been traced to milk and bad sanitary arrangements, but in these days of constant sanitary supervision by the Ministry of Health this is not so likely to occur.

If a case of diphtheria is suspected in a school, the wisest plan would be to have all drinking vessels, spoons and forks, &c., boiled for twenty minutes, as these would be the chief means of infecting other children. Everything that is possible should be done in the way of disinfection, for there is no disease which produces such formidable effects throughout the whole system as a bad attack of diphtheria, and children between the age of three and twelve are very likely subjects.

HONOURABLE MENTION.

The following competitors receive honourable mention:—Miss M. Ramsey, S.R.N., Miss B. James, Miss S. Collier.

We have to thank Miss M. Catherine, Cork, for two nice papers. Unfortunately they have arrived on Tuesday instead of Monday morning, and so are disqualified for the Prize.

QUESTION FOR NEXT WEEK.

Describe a case of phlegmasia (white leg), with regard to onset, symptoms, and subsequent history.

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