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Author: United States. Public Health Service

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Diphtheria

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How to Recognize the Disease
How to Keep from Catching It
How to Treat Those Who Do Catch It

KEEP WELL SERIES No. 4

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1919

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Diphtheria

AFTER babyhood has passed, beware of diphtheria. Of all the deaths of children 3 and 4 years of age, more than one-seventh are caused by diphtheria.

Diphtheria is preventable and, when properly treated with antitoxin, is curable. Most of the children who die from diphtheria really lose their lives because of the ignorance and carelessness of their parents.

Diphtheria is a disease most often occurring in children and resembling a sore throat or tonsillitis. It is caused by a small germ called the diphtheria bacillus. The disease may resemble:

A very mild sore throat, the tonsils and back of the mouth being redder than usual, and the person not feeling ill.

It may look like a *more severe sore throat* or tonsillitis with a white or grayish patch, called a [4] membrane, on the tonsils. There may be only one or a few small distinct patches, and the throat may feel somewhat sore. The glands in the neck, below the tonsils, may be slightly enlarged and may feel about the size of small peas. The patient may feel rather ill.

Or the disease may be like a *very severe sore throat*, with small or large gray or white patches. Not only the tonsils but also the uvula, the small rounded end of the palate which hangs down between the tonsils, may have on it white or gray patches. (If there is a membrane on the uvula, the disease is almost certainly diphtheria.) With such a throat the person feels very sick. Not only does the throat hurt, but there are usually aches in the back of the neck and in the muscles generally. The glands in the neck may be quite large and feel painful when touched. The soreness in the throat may extend down the windpipe, and membranes may form there. The patient is feverish and often is delirious. The fever, however, is not necessarily high.

In some cases the membranes may form in the larynx (Adam's apple). When this is the case the [5] patient's voice sounds hoarse and croupy, and the child may breathe with difficulty. In small children it is not uncommon, if such cases remain untreated, for this membrane to choke the patient. Therefore, in all cases of croup, send for a doctor immediately.

THROAT CULTURES.

In order to prevent the spread of diphtheria to others it is important always to recognize the presence of the disease, even in mild cases. In order to do this the doctor makes a culture from the throat and nose of the suspected individual. He takes a piece of sterile cotton wrapped around the end of a thin stick of wire and touches this to the throat and tonsils, especially where there are patches or membranes. Then he sends this swab to a laboratory, where cultures are planted from it. The next day these cultures are examined with a microscope to see if diphtheria [6] bacilli, the germs which cause diphtheria, are present.

Since the diphtheria germs or bacilli grow on the lining of the throat and air passages, they are easily thrown out from the mouth and nose of the patient with particles of mucus or spit when the patient coughs, spits, or sneezes. But even when the patient talks, especially when he talks loudly, tiny droplets of mucus or spit are given off. These droplets may have diphtheria bacilli on them. The same is true of particles of food, no matter how small, falling from the patient's lips. Eating utensils such as cups, glasses, forks, and spoons that have touched the lips of the patient may likewise have saliva on them. When the patient has diphtheria all these droplets of saliva and of mucus may, and usually do, contain many diphtheria bacilli. Curiously, some persons may have diphtheria bacilli in the nose and throat and yet remain entirely well. Such persons are called [7] "healthy carriers." They are especially dangerous, because there is no outward sign which will tell them or others that they are carrying deadly disease germs around.

All who attend the patient must be very careful not to get any of the dangerous discharges from the patient's mouth or nose on the hands. In fact, it is important for the attendant always to wash her hands promptly after waiting on the patient. Besides this, care should be taken that the germs are not carried to others by the use of eating utensils, such as cups, glasses, spoons, forks, or plates. All of these should be sterilized with *boiling* water after each meal.

ANTITOXIN TREATMENT.

Depending on the way it is treated, diphtheria is one of the least dangerous or one of the most dangerous diseases. It is one of the least dangerous when promptly treated with antitoxin; it is one of the most dangerous when the antitoxin treatment is not given, or is delayed or insufficient. [8] In the days before we had antitoxin one out of every three children who had diphtheria died. Now, if antitoxin is used on the first or second day of the disease ninety-eight out of every hundred children recover. The sooner diphtheria is attended to the more certain is a cure.

In severe cases suspected to be diphtheria the doctor always gives diphtheria antitoxin at once. This is a wise thing to do, because the disease goes on rapidly and a delay of 12 or 24 hours may be fatal. Besides, no harm is done, even if the disease proves not to be diphtheria. The antitoxin, although making some people uncomfortable for a day or two, never does any real harm. Whenever antitoxin is given to a person ill with diphtheria it should be given in *one dose, large enough and early enough*.

TEMPORARY PROTECTION WITH ANTITOXIN.

[9]

Diphtheria is very contagious, and many people, especially children, can catch it. For this reason, whenever a case of diphtheria is discovered, the doctor injects the antitoxin not only into the patient, but also, as a protective against the disease, into those who have come into contact with the patient. This is spoken of as "immunizing" these individuals. The immunizing dose is not so large as the curative dose given to the patient, but it is usually sufficient to protect those exposed to diphtheria for a month from the time of injection. At the end of that time the protection disappears.

THE SCHICK TEST.

A few years ago a very simple test was discovered to tell whether a person could or could not catch diphtheria. This is known as the Schick test. It consists in injecting a few drops of a prepared diphtheria toxin into the skin and then watching whether a characteristic red spot [10] appears where the injection was made. If such a spot does not appear within two or three days it shows that the person can not catch diphtheria.

LASTING PROTECTION BY DIPHTHERIA VACCINATION.

For those in whom the characteristic redness appears, and who are therefore known to be liable to catch diphtheria, doctors now advise a course of protective injections similar to those which have proven so successful against typhoid fever. This protective treatment consists of three small injections, a week apart. There is no sore, as there is in smallpox vaccination, and the injections are harmless. The protection lasts for years, and perhaps even for life.

Why not have the doctor make a Schick test on your child, and if this shows the lack of protection against diphtheria have him give the three protective injections?

PERSONAL AND BEDSIDE HYGIENE.

[11]

1. (*a*) All discharges from the nose and mouth should be gathered in soft, clean cloths or rags or papers and destroyed by burning. (*b*) The patient should cover the mouth and nose when coughing or sneezing, for a cough or sneeze will throw droplets of mucus to a distance of 10 or 12 feet.

2. The attendant should wear a washable gown that completely covers her clothing. It should be put on when entering the room of the patient and taken off immediately on leaving it.

3. A basin of water, together with a cake of castile soap (or where possible an antiseptic solution), should be placed in a convenient place, so that the doctor and nurse attending the patient may wash their hands whenever leaving the room, and even *before* touching the door handle.

4. All eating utensils that the patient uses should be washed in boiling hot water separately from other dishes and used exclusively by the patient.

5. All bedclothes and bedding should be boiled in soap and water, or they should be exposed to [12] the sunshine. *Direct sunshine kills disease germs.*

6. The person attending the patient should wear a double layer of gauze or other soft thin cloth across the mouth and nose as a *face mask* whenever near the patient so as to prevent the droplets containing the germs coming from the patient's mouth from entering and lodging on the lining of the mouth or throat of the attendant. *Always remember that even though you may not get the disease if the germs lodge in your throat they may grow there and you may carry the disease to another person who may catch it.*

7. There should be but one attendant wherever possible.

8. No visitors should be permitted in the sick room—not even during convalescence.

9. The one who attends the sick should not prepare or handle the food of others. Sometimes it is [13] impossible to take this precaution, as very often it is the mother who must take care of the patient, cook, and do all the housework. In such cases the one attending the sick must *never neglect* whenever near the patient—

(1) To wear a face mask.

(2) To wear a washable gown (which is to be taken off on leaving the room).

(3) To wash her hands when leaving the sick room.

Every attendant on the sick should know how disease germs are carried from the sick to the well. This knowledge should make her more careful, and thus help to prevent the spread of the disease.

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For other instructive Health Leaflets
write to the—

UNITED STATES
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