limited to three cases. One was a boy, H. G., whose sister and two brothers were healthy and in whom heredity could not be traced. He was rather delicate in appearance, of slight build and with rosy cheeks. His person was never free from ecchymoses, and he occasionally had severe epistaxis—a particularly copious flow during an attack of typhoid fever causing a fall of temperature and other symptoms of collapse. When about fourteen years old, while in swimming, he attempted to dive and struck the water too horizontally, so that he experienced a severe shock. Soon after he began to have a severe neuralgia of the trigeminal nerve and paralysis of a cranial nerve or its branches—the exact notes have been mislaid—and Dr. Geo. L. Walton, who saw the case in consultation, agreed with me that probably a hemorrhage had taken place inside the cranium. The termination was favorable; and the boy has now become quite a robust young man.

A second case was one of menorrhagia in a girl, age twenty-four, who had been subject since puberty to purpuric spots on the arms and legs and to severe epistaxis. In this case again no family diathesis was known. It was reported in the Boston Medical and Surgical Journal, November 27, 1890.

The third case, N. O., also had no family history of hemophilia. Her mother’s mother had three blue babies who died young. The patient was cyanotic when born, and for three months was regarded as a blue baby, but thereafter her complexion became clear. Until she was four years old she had no natural hair but merely lanugo. While a little baby, she had some bloody fecal discharges, and the pressure of the hands in lifting her would leave black-and-blue spots. Twice when milk teeth were extracted she had serious bleeding. A blow on the leg caused a large hematoma. Her mother had sometimes to get up in the night and change her night-dress and the bed-sheets because of bleeding from mosquito bites. There was never any arthritis.

She first menstruated at the age of thirteen, but scantily. Three weeks later, there was a slight show of blood; and a week after that a profuse and obstinate menorrhagia began, causing great exhaustion. Finally, Dr. W. H. Richardson and Dr. C. W. Townsend were called in by the family physician, Dr. G. W. Tinkham, of Weymouth. The flow had then lasted twelve days; the pulse was 140, and a moderate amount of pale watery blood was leaking through the tampon which had been inserted the day before. The tampon was safely removed two days later. A slight oozing, however, continued for six days more. An interesting account of this experience was given by Dr. Townsend in the Boston Medical and Surgical Journal of November 27, 1890.

From that time till her death in January, 1896, this young lady suffered from menorrhagia. On three occasions only were so few as thirty-six napkins used. More often one hundred were needed, and sometimes two hundred. After the bleeding ceased, she would lie one or two weeks in bed, to recuperate, and then would gain color and strength very rapidly; so that after she had been down astir three or four days she would have so brilliant a color that it was difficult to believe she could have been ill.

The last hemorrhage continued some four months. The patient had complained during some time of pain in the region of the heart, but nothing could be made out except weakness of that organ, which was naturally ascribed to the profound anemia. The writer was not called to see her till near her end, and did not venture to inaugurate any energetic treatment, for which caution the findings of the pathologist, Dr. Whitney, make him thankful. Hot douches had not proved efficient. Tamponing had once been followed by such septic symptoms that Dr. Tinkham did not feel authorized to repeat it. The autopsy will be reported by Dr. Whitney.

ON THE VALUE OF PROMPT CO-OPERATION WITH THE MUNICIPAL AUTHORITIES FOR THE PREVENTION OF THE SPREAD OF DIPHTHERIA.

BY ROBERT W. GREENLEAF, A.M., M.D.

As diphtheria has been so prevalent of late, particularly in our suburban towns, the following cases are of interest. They illustrate what can be done to prevent the spread of this disease when physicians in private practice avail themselves of such measures as those now so efficiently carried out in our City Hospital.

One focus of contagion was as follows: On November 10, 1893, a woman came to my office and asked me to see her little girl, Annie M., seven years of age, about whom she was anxious, as the child complained of sore throat. She had been playing about on that day, but had not been as usual for two days.

She lived in another part of the city, was not considered to be very ill, and, as it was already nine o’clock, one might have felt justified in satisfying the mother with temporary measures and postponing his visit till morning. As diphtheria was possible, the visit was made at once. A membrane characteristic of the disease was found in the throat. The glands of the neck were considerably swollen, and the diagnosis, diphtheria of a septic type, was made.

The problem of the household was a serious one. The child had contracted the disease at school. Three younger children, aged respectively five, three and two years, were still well. They, with the mother and father, were crowded together in a tenement, consisting of a kitchen, bedroom and two cold “side-rooms.” Could the disease be arrested then and there? I advised immediate isolation and disinfection.

The husband went with me to the City Hospital. Admission was at once secured, and the ambulance sent for the patient, who arrived safely soon after ten o’clock. Notification to the Board of Health that night ensured disinfection of the rooms next morning.

Two days later matters stood in this way: A visit to the hospital found Annie much improved and the membrane disappearing under the antitoxin treatment. The children at home had had their throats cleansed several times a day with a solution of peroxide of hydrogen. All were well except the baby, who was a little irritable. Diphtheria was suspected, but on the next day she was rather better. On the following day, however, she had a characteristic membrane on the tonsil, a culture from which confirmed the diagnosis of diphtheria. The other members of

1 Read before the Clinical Section of the Suffolk District Medical Society, December 18, 1897.
the household were not affected. The problems then were, Shall the mother accompany a nursing child to the hospital, and leave an infected household to the care of friends who would thus be likely to still further spread the disease by exposing their own children? or would it be better to let them remain at home? The latter plan was decided upon. The baby was given a full dose of antitoxin, and the other children were given immunizing doses.

At my visit on the 20th, ten days from the appearance of the first case, matters stood thus: The baby was entirely free from any symptoms, and was playing about the room as usual. No one else in the household had been ill, and no untoward symptoms had arisen from the antitoxin treatment. The place had been fumigated a second time by the Board of Health on the day before, and a note had just come from the hospital directing the parents to take the child home that afternoon. Certainly a very happy result and markedly in contrast to those of the pre-antitoxin days, when with one case in a family of children the chances were that all would have taken the disease and that one or more would have succumbed.

Another starting-point of infection was as follows: On the evening of November 16th I was called to attend a servant in one of our leading hotels. She was in a room containing about a dozen beds, some of which were occupied by two persons. She had an extensive, foul-smelling, diphtheritic membrane in her throat. That day she had been away, and had just come back to go to bed. She had felt ill only two days. In this case also, permission having been given by telephoning the proper authorities, she was sent at once to the City Hospital. The girl who had slept with her the preceding night, though well, was also sent there for observation and extra security. The bed-clothing was disinfected by boiling water and the mattress burned. Two other maids who felt ill were examined. One had a slight coryza, another had a pharyngitis. Their throats were cleansed with peroxide and they were in good condition the next day. No other cases of diphtheria have occurred since, both maids sent to the hospital are now well; and one may justly feel that a contagion was averted among the servants and guests of the house.

Another focus was equally instructive. In midsummer I was called by Dr. D. W. Cheever to aid him in the care of a young girl suffering with tonsillar abscess, by making visits in his absence. Her case was somewhat doubtful as she had a considerable and foul exudation. A culture proved it to be non-diphtheritic. At the same time a servant in the house was just beginning to complain of sore throat. Certain signs suggested diphtheria. Immediate removal to the hospital was advised and carried out. Cultures confirmed the diagnosis, and she finally recovered under the antitoxin treatment.

In this case, the girl remained in the house, it might have proved a serious matter. Several seamstresses were employed there; and, had illness come among them, not only would it have proved destructive to the business of a hard-working and deserving woman, but each case would have been a fresh distributing centre for the disease. As it was, no other cases resulted.

In offering these cases which show so strikingly the value of prompt isolative measures and of the antitoxin treatment, I desire to express my appreciation of the admirable contagious service at the Boston City Hospital; also my indebtedness to the resident physician for the privilege of inspecting it.

To those of us who were almost literally bathed in diphtheria, scarlet fever and the like during our hospital life in the pre-antitoxin days the improved conditions are most welcome.

A word as to what I saw there (when I visited the hospital for information concerning the little patient first mentioned in this paper) may be of interest to those who have not had the opportunity of making such a visit.

Dressed in the ward cap and gown and carefully disinfected at the close of the visit, the likelihood of my carrying contagion elsewhere was minimized.

Instead of our old wares, though they were as neat and clean as careful oversight could make them, all was in the perfection of modern ward construction and appliances.

Instead of signs of suffering in the little patients, with which we were only too familiar, of the 92 cases of diphtheria seen that evening, all appeared sleeping peacefully. Intubation had replaced tracheotomy.

There were ten intubated cases present; all doing well. There was not a sound of noisy breathing or coughing in either ward, nor was there a particle of odor once so characteristic and dreaded in this disease. The floors were so clean that the hand or a piece of white cloth could be rubbed over them without being perceptibly soiled.

Results in the pre-antitoxin days showed a mortality of 43 per cent counting all cases, and 32 per cent. in selected ones. The present figures show a mortality of 13 per cent. for all cases and about 8.5 per cent. in similarly selected ones, that is, excluding moribunds and late-entering cases. This is a just exclusion if both percentages are stated, as such cases are hardly fair exponents of the value of hospital care.

Since the introduction of the antitoxin treatment I am told that there have been 1,972 cases treated up to October, 1896. Of these, 70 cases have died within twenty-four hours. Of 200 cases of intubation the mortality had been but 53 per cent., whereas the usual rate previously was 72 per cent. for intubation and 88 per cent. for tracheotomy.

These splendid results are largely due to the antitoxin treatment. There have been no ill results worthy of mention attending its use. It has been shown to be competent in the prophylaxis of exposed patients. Certainly, sufficient data are now accumulated to permit of its unhesitating acceptance as a boon of inestimable value.

It is but fair, however, to consider that some of the success so strikingly evident at the Boston City Hospital was due to the scrupulous care in every detail of ward administration, including the foresight in providing the best appliances for ventilation, for dissection of clothing, for cremation of ward garbage, dust and the like. Credit must also be given in part to the judicious treatment often associated with the antitoxin, supportive or stimulant in character.

A knowledge of how admirably appointed and how efficiently managed this service is should certainly be widespread in the community. The profession and the laity should be fully aware that by prompt and judicious co-operation with the authorities much can be done to minimize the risk of spreading diphtheria.