

In Series I, 380 originally Schick-positive children actually received two injections of $\frac{1}{2}$ c.c. and 1 c.c. of anatoxin and when retested, 100 (*i.e.*, 26.2 per cent.) were still Schick positive, whereas in Series II, 941 of the children actually received three injections of $\frac{1}{2}$ c.c., 1 c.c., 1 c.c. of anatoxin, and when retested 18 (*i.e.*, 1.9 per cent.) were still Schick positive.

These results indicate beyond doubt the advisability of giving the three-injection course of prophylactic treatment.

Another advantage of the three-injection course is that although a child misses one injection through absence he still has the opportunity of receiving a second injection, and thus has a much greater chance of developing immunity.

Reduced Doses of Anatoxin.

At the commencement of the campaign a number of children who showed a positive Moloney reaction were given reduced doses of anatoxin (*i.e.*, 0.1 c.c. to 0.2 c.c. as an initial dose). In Series I, 152 of the children who received the reduced doses of anatoxin, 60 (*i.e.*, 39.5 per cent.) were still Schick positive when retested. Many of these children gave no reaction whatsoever to anatoxin, so in Series II we decided that, provided there was no induration accompanying the positive Moloney test, we would give an initial dose of 0.25 c.c. Hence the fewer number of reduced doses in this series.

Moloney Retesting.

In Series II it was decided to Moloney test :—

- (a) Those children who showed an original +++ Moloney reaction ; and
- (b) Those children who developed what we considered to be definite reactions to anatoxin injections.

(a) *Original +++ Moloneys.*—Sixty-five original +++ Moloney reactors were retested, and the following results obtained :—

57 +++ Moloney reactions when retested remained +++
 7 +++ Moloney reactions were recorded ++
 1 +++ Moloney reactions was recorded +

These 65 Moloney reactors were Schick tested and it was found that 38 gave a negative Schick test, while 26 had such a pronounced protein reaction that it was impossible to tell at the forty-eight hours reading whether they were Schick positive or negative. However, 11 of these doubtful Schicks were re-read four to seven days after testing, and all were then found to be negative.

These results appear to indicate (a) that the strongly positive Moloney state remains permanent, and (b) that the strongly positive Moloney reactor has an accompanying immunity to diphtheria.

(b) *Reaction to Anatoxin Injections.*—Sixty-one children who from the teachers or parents reports were considered by us to have had definite reactions following anatoxin injections were Moloney tested, and the following results obtained :—

Number tested.	Moloney +++	Moloney ++	Moloney +	Moloney —
61	35	15	6	5

Of these 61 reactors 28 showed an initial ++ Moloney reaction, 14 showed an initial + Moloney reaction, 19 showed an initial — Moloney reaction, and of the original 19 Moloney negative reactors 8 when retested gave a +++ Moloney reaction, 6 when retested gave a ++ Moloney reaction, 3 when retested gave a + Moloney reaction, 2 when retested gave a — Moloney reaction.

The 61 children were all Schick tested, and it was found that 43 had become Schick negative, 10 gave doubtful readings owing to the protein sensitivity reaction mentioned above but were probably negative, and 8 were still positive.

The result indicate that the children who experienced reactions during the course of immunization were primarily sensitized or became sensitized to the anatoxin as demonstrated by their strongly positive reaction to the Moloney test.

SUMMARY OF POST-IMMUNIZATION AND MOLONEY TESTING.

(a) *Immunity to Diphtheria.*—A total of 2,050 originally Schick positive children were given injections of anatoxin and re-Schicked three to six months after receiving their final injection. 380 of these children received two full doses of $\frac{1}{2}$ c.c. and 1 c.c. of anatoxin, and when retested 100 (*i.e.* 26.2 per cent.) were still Schick positive.

Nine hundred and forty-one of the children received three full doses of $\frac{1}{2}$ c.c., 1 c.c., 1 c.c. of anatoxin and 18 (*i.e.*, 1.9 per cent.) remained Schick positive.

(b) *Sensitivity to Anatoxin.*—In Series II, 61 children who had reactions following injections, and 65 originally +++ Moloney reactors were Moloney tested, and the following conclusions reached :—

- (1) The strongly positive Moloney state appears to remain permanent.
- (2) The positive Moloney reactor is more likely to develop reactions following injections of toxoid than the negative reactor though there is no guarantee that the latter will not develop a sensitivity to anatoxin during the course of immunization.
- (3) The children who had reactions following injections developed in general a positive Moloney state and acquired an immunity to diphtheria.

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