



PROPHYLAXIS OF TYPHOID FEVER WITH SPECIAL
REFERENCE TO ORAL ADMINISTRATION OF
TYPHOID VACCINE

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Dr. Earl Baldwin McKinley** reports the incidence of typhoid fever in 15 southern states. Oklahoma ranks the highest with 2,620 cases in 1931, Georgia second with 1,799 cases in 1932.

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**"A Geography of Disease," Am. J. Tropical Med., Sept. 1935, supplement.

These figures should cause us to pause and consider seriously the cause or causes of the high morbidity of typhoid fever in our state. We know the specific cause of this disease, its vehicles of transmission and we also have highly effective preventive measures. In addition to effective methods of sewage disposal and water purification and the ever alert vigilance of public health officials in connection with food products, especially milk, we have a prophylactic vaccine, the value of which has been established beyond a question. During the World War the use of this vaccine in the armies of the world kept the incidence of typhoid fever down to practically nothing. It would seem therefore, that if typhoid vaccine were given to the entire population of Oklahoma, typhoid would be no more; at least, its incidence would be very small. Although typhoid vaccine as it is now used is very effective, still it has some definite disadvantages. (1) The cost of the vaccine while insignificant as compared to its value is still a factor against it; (2) Since about three weeks are needed to complete a course of the vaccine, the time element is important; (3) Although serious reactions practically never occur, it sometimes happens that the general reactions are severe enough to cause loss of time from work; (4) The vaccine is administered by the hypodermic method, a method to which many people seem to object.

Absolute perfection is, of course, practically impossible of attainment and any method of administration of vaccine will probably be subject to some criticism. In view of the foregoing facts the Department of Bacteriology became interested in the oral method of administering typhoid vaccine. This method overcomes the disadvantages of the hypodermic method because: (1) It is less expensive than the hypodermic vaccine; (2) Only three days are needed to complete the course; (3) There is no reaction of any kind; (4) The general public will be willing to take the vaccine by mouth and hence it will be easily possible to vaccinate practically the whole population of Oklahoma.

A survey of the literature shows that typhoid vaccine has been given by the oral method to a large number of people, especially in South Africa, South America and Europe. So far as we know, it has not been used to any great extent in this country. We have fairly accurate evidence of its having been given to over 100,000 persons, with about 75,000 persons as controls; the incidence among the vaccinated was 0.05 per cent and among the controls, 1.35 per cent.

Our own experience in administering oral vaccine to 10 people (Table I) leads us to believe that the oral method is really effective.* However, work is still in progress and we wish to reserve any definite statement for a later time.

TABLE I. *Protocol*

Group I, no previous vaccination for typhoid:

No.	Agglutinin titer of blood before taking oral vaccine	Agglutinin titer of blood after taking oral vaccine
6	0	1-320.
7	1-80	1-160.
9	0.	1-320.
10	0	1-320.

Group II, history of last vaccination for typhoid in 1920:

3	0	1-640.
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*For details of the work to date, see Okla. State Med. J., Sept., 1935.

Group III, history of last vaccination for typhoid in 1934:

1	1-50.	1-640.
2	1-60.	1-1280.
4	1-80.	1-640.
5	1-100.	1-640.
8	1-80.	1-640.

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