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### Scarlet Fever Immunity Reactions in Relation to Allergy.

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In a study of the reaction of children to Dr. Larsen's ricinoleated scarlet fever antigen, as determined by the Dick test, a wide diversity of response has been noted. Frequently children with positive Dick tests developed negative skin reactions, sometimes as early as 4 days, following the administration of antigen, but a return to the original state of skin sensitivity was observed in the majority in 6 to 8 weeks. Only a very few remained negative for as long as 6 months.

The variation in response is partially indicated by the following cases:

TABLE I.

No.	Original Skin Reaction	Skin reaction at subsequent intervals after antigen administration.			
		1 Month	4 Months	6 Weeks	3 Months
No. 20	+	—	+	—	—
No. 33	+	—	±	++	—
No. 60	+	++	+	—	—
No. 70	+++	+	±	+	+
No. 66	++	—	—	—	+
No. 67	++	—	+	+	+
No. 69	— (on 2 occasions)	±	+	+	—

Following antigen administration a decrease in reaction was noted in almost all who originally showed a markedly positive test. In

a small number of cases 2 doses of antigen or even 3 failed to produce a negative test, or at least one which persisted over periods varying from 3 weeks to 3 months. An increase in reaction was noted frequently after the giving of antigen, which as a rule tended later to decrease, but in individuals who were originally slightly sensitive might be marked and persistent.

Infants very rarely gave a positive reaction and were frequently negative to as much as 20 skin test doses. One infant, 2 weeks old, whose skin reaction was negative to 50 S. T. D., developed temporarily a positive Dick test, 16 days after the last portion of 900 S. T. D. of scarlet fever toxin (so-called) had been given.

The diversity of skin reaction, as indicated by the Dick test, following antigen administration, seems to find no parallel in the phenomena of true toxin reactions and antitoxin production. Nor does the development of a positive test in an infant previously negative, in response to treatment with scarlet fever streptococcus filtrate find its explanation on any but an allergic basis. Our observations support the view that susceptibility to scarlet fever is concerned with an allergic factor; that infants, born non-sensitive, develop a sensitivity through frequent contact and close association with the streptococcus, and that the Dick test gives some indication of the degree of the sensitivity. Under sufficient stimulation the body cells may react to such an extent as to mask the allergic state. A negative Dick test may signify that an individual has not yet been sensitized, or has been sufficiently stimulated to have developed circulating antibodies, which mask the allergy.

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##### **Effect of Acidosis in Strychnine Poisoning.**

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It has been demonstrated by a number of investigators that changes in the reaction of the blood toward the acid side prevent the clonic contraction and spasticity of the skeletal muscles in parathyroid tetany. The experiments reported here show that a decrease in the pH of the blood produced prior to the administration of lethal doses of strychnine, prevents violent tetanus, convulsions and death.

Acidosis was produced in 7 dogs by subcutaneous injections of