

The heated scarlet fever streptococcus toxin may be ultimately used as a control as it can be more conveniently prepared. However the following results are rather significant: In a group of 200 children who received the Dick test and two controls (heated toxin and toxin neutralized with 25 per cent mixed convalescent plasma) 52 or 26.0 per cent gave positive Dick reactions, 40 or 20.0 per cent showed a slight reaction with the heated control and no reaction with the neutralized control and 5 or 2.5 per cent gave combined reactions, in which both controls appeared, but were much less marked than the Dick reaction. Of the immune children, 80 or 40.0 per cent gave a negative Dick reaction and negative controls and 23 or 12.5 per cent gave negative-pseudo reactions, in which the Dick test and the two controls were exactly similar. *It is interesting to note that in this group of 200 children there were 40 on whom the neutralized convalescent plasma toxin acted as a more perfect control than the heated toxin.*

All dilutions of the scarlet fever toxin should be made with normal saline (0.85 per cent) containing 0.25 per cent phenol if they are to be kept for a few days.

The final dilution (1:1000) of the scarlet fever streptococcus toxin is more stable than the final dilution of diphtheria toxin for the Schick test. The final dilution can be kept and used for two weeks and probably longer without noticing any appreciable diminution in its toxic strength.

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The irritating local effect of human blood serum or plasma containing chyle obtained soon after meals.

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In carrying on work with the intradermal blanching test in scarlet fever rashes we noted that serum or plasma obtained from human beings soon after meals and containing a consider-

able amount of chylous fluid produced a distinct local irritating effect on the human skin. The irritating action showed itself by a local inflammatory area that appeared on the following day. In some of the tests there was a minute superficial postule, which contained polynuclear leucocytes, but no bacteria. Blood serum or plasma taken from the same individuals before meals and appearing quite clear did not show this irritating local action. Studies are being carried out at the present time to see whether the same holds true for bleeding from animals taken before and after meals.

This factor of the irritating quality of chyle-containing plasma and serum will have to be taken into consideration when blood is withdrawn from animals that will be used for injections of human beings. The increasing application of human sera obtained from convalescent and normal individuals in the prophylaxis and treatment of various infectious diseases like measles, scarlet fever and poliomyelitis indicates its importance. In treating cases of scarlet fever with intramuscular injections of whole blood, as we recommended a few years ago, we noted in two individuals fairly marked local reactions at the sites of injection. A few of the other patients showed slight or moderate reactions. Although our attention was not drawn to it at the time these patients were treated it is probable that the local irritating effect of the homologous blood was caused by the same factor.

It is possible also that some of the unexplained reactions following blood transfusions carried out by expert operators with perfect technique will be cleared up if note is taken of the food intake of the blood donors. It would follow that such donors should not partake of heavy meals before giving blood.

The removal of blood for therapeutic purposes from convalescent patients and normal individuals should, therefore, be carried out before meals. It is interesting to note in this connection that some laboratories have been in the habit of bleeding animals furnishing antitoxic and various bacterial antisera after fasting them for twenty-four hours.