A Simple and Accurate Method for Detecting the Secretion of Sweat.*

By

Masao Wada and Toshikazu Takagaki
(和田 正男) (高垣 敏一)
(From the Physiological Laboratory of Prof. M. Wada, Tohoku University, Sendai.)

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Our knowledge of the excitability of the sweat glands is deficient, for lack of adequate methods capable of detecting the secretion of sweat with ease and accuracy. Our devices will be briefly described below.

The area to be examined of the skin is painted with the solution of 2–3 g. iodine in 100 c.c. absolute alcohol. After it becomes completely dry, this area is covered with a layer of the mixture of 50–100 g. fine starch powder and 100 c.c. castor oil. When there is no discharge of sweat, fine starch grains of this layer cannot be found with hand lens; but as sweating occurs, fine black spots or rings of the starch grains stained by the iodine-starch reaction appear at the sweat pores of the skin and can easily be discerned in the transparent layer of the mixture. This layer serves, on the other hand, to prevent a rapid evaporation of the sweat. In the case of a considerably black skin, it is necessary to use only the mixture of starch and castor oil; the discharge of sweat can be recognized by the appearance of white spots or rings of starch grains. For permanent record, the area may be photographed.

By this method we have clearly demonstrated a sudorific effect of adrenaline injected intradermally in man. The detail of this effect will be described by one of us (T.) in a forthcoming paper. The general knowledge that adrenaline does not excite the human sweat glands should be revised.

In the majority of young healthy men tested, the sweat glands on the forearm responded well to intradermal injections of acetylcholine in a concentration of 1 in 10^{12} and of adrenaline in a concentration of 1 in 10^{7}.

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