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Objective Studies of Electrification in Mirotechnique

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OBJECTIVE STUDIES OF ELECTRIFICATION
IN MICROTECHNIQUE

KARL A. STILES AND DOUGLAS W. EASTWOOD

Tests have been made on the amount of electrification that is present when tissues are sectioned with a rotary microtome. An aluminum foil electroscope with carefully controlled conditions gave the following results. Radium, ultra-violet radiation, and spark discharges lowered the electrification to a negligible amount. Grounding the microtome, or draping it with Christmas tree tinsel had no measureable effect. Humidification of the surrounding air in several tests lowered the amount of electrification, but was too inconvenient to be practical. The best results were obtained by modification of the imbedding medium. Of eighteen different imbedding mediums, diglycol stearate, sold by the Glyco Products Company, proved to be the best. No measureable amount of electrification could be obtained with this material though other common imbedding materials used as a control showed high electrification and difficulty was encountered in obtaining ribbons from them. Since diglycol stearate is dispersible in water, attempts were made to infiltrate directly from the lower alcohols and fixatives with good results. Tissue can be infiltrated by it in a paraffin oven in one to three days using several changes. Imbedding is more successful in a fifty-fifty mixture of paraffin and diglycol stearate, and the electrification is not greatly increased.

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HEREDITY AND THE ETIOLOGY OF TUBERCULOSIS

KARL A. STILES AND THOMAS N. STEWART

This study traces tuberculosis of the throat through five generations of a family very susceptible to this disease.

The disease varies little throughout the family, in place of infection and in virulence.

This investigation includes one hundred and eight individuals; twenty-two having had tuberculosis of the throat; three, tuberculosis of the lung; two, tuberculosis of the bone, and three, other