The liver, spleen and adrenals showed significant decreases in reduced ascorbic acid content. The dehydroascorbic acid content of the muscle was increased slightly and both dehydroascorbic and reduced ascorbic acid of the plasma were increased two-fold.

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Effect of Environmental Temperature Upon Clotting Time of Whole Blood.

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The *in vitro* clotting time of normal whole blood, as reported by various workers, has a wide range of activity, varying from one minute to over 15 minutes.[1] There are several factors responsible for the wide variations. One important consideration is the method of obtaining blood samples. When finger puncture methods are used, there is a variable degree of contamination with thromboplastic tissue substances. With venous blood, the tissue substances are important only when venipuncture is not smooth. Another major variable is the degree of trauma and surface contact to which the blood is subjected during the determination. When the venipuncture is clean, and the apparatus and manipulations are standardized so that traumatic factors are kept constant, the only remaining significant extrinsic variable is the temperature. It is the purpose of this paper to indicate the magnitude of the effect of room temperature on the clotting time of whole blood.

In order to standardize the trauma factor and retain a precise endpoint, a rotating tube method for clotting time has been developed.[1] By this method 0.5 ml of venous blood is promptly placed in the bulbous end of a tube rotated around its long axis at a slow constant rate (one r.p.m.) by an electric motor. When the blood clots, the fibrous strands adhere to the ascending wall of the tube and are thus readily detected. The advantages of this method are that the degree of trauma and surface contact is constant and mechanically determined, and the endpoint is precise.

In order to determine the influence of temperature on the clotting time by this method, three identical sets of apparatus were set up at three different temperatures. One-half ml aliquots of the same samples of blood were delivered into bulbous tubes and the clotting time (fibrin appearance time) determined at the 3 different temperatures. The

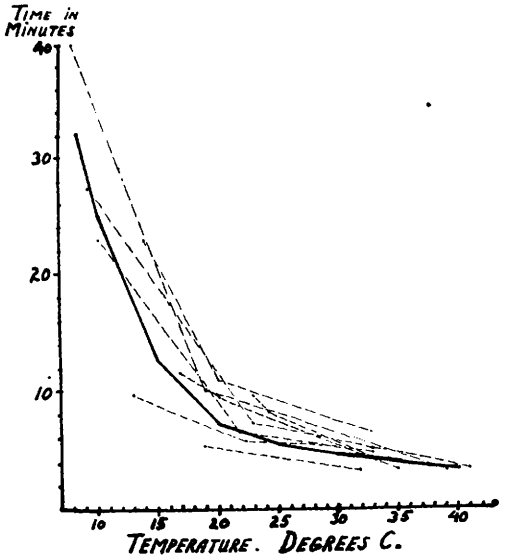

FIG. 1.
Relationship of clotting time to room temperature.

[1] Weiner, M., and Shapiro, S., *J. Lab. and Clin. Med.*, 1947, **32**, 1037.

blood samples were taken from patients chosen at random. In Fig. 1 the temperatures at which each clotting time was determined is plotted against the corresponding clotting time, and points determined with the same sample of blood are connected by broken lines. The solid line represents the estimated average slope of these broken lines. Its position in the figure is based on the average normal value of 5 min. 28 sec. previously determined at about 26°C. At this temperature, 4 to 6 3/4 min. is considered the normal range. It is obvious from the curve that winter-summer variations of room temperature, which may range from 19°C to 37°C in temperate climates, can result in considerable changes in the normal range of clotting time.

It is recommended that a curve such as shown in Fig. 1 be used to evaluate clotting time results whenever this determination is performed at room temperature.

Summary. The effect of room temperature on the clotting time of whole blood determined by the rotating tube method is described. The clotting time may be significantly prolonged in cool environments, and shortened in warm weather. A curve is described to correct for this factor.

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Pteroylglutamic Acid Deficiency in Mice: Hematologic and Histologic Findings.*

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The production of a deficiency of pteroylglutamic acid (PGA) can be accomplished in various mammalian species by feeding a purified diet containing the known essential vitamins, excluding PGA, to which has been added either succinylsulfathiazole, a PGA antagonist, or both. In the deficient state the animals have shown varying degrees of reduction of all circulating elements in the blood stream. Reports of bone marrow findings have been conflicting and incomplete and have not been reported previously for mice.

Procedure. Deficiency may be established in weanling mice more quickly than in adults. Weanling animals of a Swiss strain with an average weight of about 20 g were placed in wire mesh cages and were allowed distilled water ad libitum. They were fed unlimited quantities of a PGA free diet of the following percentage composition:

Glucose ("Cerelose")	59.1
Casein ("Labco" vitamin free)	20.0
Cellulose ("Cellu-flour" or "Ruffex")	5.0
Salts USP (Smaco)	3.8
Accessory salts*	0.2
Choline chloride	0.2
Inositol	0.1
Thiamine hydrochloride	0.0005
Riboflavin	0.001
Pyridoxine hydrochloride	0.0005
Niacinamide	0.005
Calcium pantothenate	0.0055
Ascorbic acid	0.01
2-methyl-1, 4-napthoquinine	0.001
Biotin	0.00001
Hydrogenated vegetable oils ("Primex")	8.0
Corn oil containing vit. A, D, and E†	2.0

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* Accessory salts contained in 0.2 g (expressed in mg): KCl, 100; NaCl, 87.2; $FeSO_4$, 10; $MnSO_4$, 1; $ZnSO_4 \cdot 7H_2O$, 1; $CuSO_4 \cdot 5H_2O$, 1; NaI, 0.3; NaF, 0.1; $CoCl_2 \cdot 6H_2O$, 0.01.

† Two grams of the corn oil preparation contained vitamin A, about 4500 units; vitamin D, about 560 units; and mixed tocopherols, about 2.7 mg.