

ard insulin. No conclusive data have as yet been obtained regarding the behaviour of the muscle of normal subjects during insulin action. In the three cases examined the muscle took up more sugar only during the early period of the insulin action.

### 58 (2290)

**The effect of x-rays on the skin of vitally stained white mice.**

By GERTY T. CORI (by invitation).

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A unit of x-ray energy for the mouse has been established which could be compared with the human erythema dose. The amount of x-ray which caused total spontaneous epilation was called the epilation dose. It was found to be five to six times more than the human erythema dose. The effect of x-rays on the skin of mice stained with Trypan blue has been studied. It was found that the reaction of the radiated skin in stained and control mice is not markedly different, the sensitiveness of the stained mouse being slightly above that of the control mouse. There was, however, a marked difference between the normal and stained mouse in the time at which epilation began after the radiation. Different radiation times, 80, 70, 65, 60 and 50 minutes were applied. The epilation always occurred earlier in the stained than in the control mice.

### 59 (2291)

**Variations in acetone excretion at different times during the day.**

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Determinations of the acetone bodies in urine were made every two hours during the day and on a single specimen collected at night in five experiments upon four subjects. In one experiment the diet was normal, in one it contained 1 and in the others

from 1.1 to 1.3 molecules of ketogenic for each molecule of anti-ketogenic material. These figures were calculated from Wood-yatt's<sup>1</sup> formula. In all cases the diets were planned to meet the estimated caloric needs of the subjects, and each patient had received the diet for several days before the experiment was carried out. The rate of acetone excretion in the normal subject and in the one who was receiving one molecule each of ketogenic and antiketogenic material was approximately constant, but in the others there were marked variations in that rate. The maximum rate occurred in the periods which began about two hours after the meals were eaten, and the minimum rate in the periods which immediately followed the ingestion of the meals. The average excretion at night was lower than in the daytime. These variations were considered as showing that the ingested carbohydrate was burned first, and that later mixtures richer in fat were burned.

If any patients for the whole twenty-four hour period had excreted acetone at the maximum rate found for any two hour period he would not have excreted the amount predicted on the assumption that one molecule of ketogenic is oxidized simultaneously with each molecule of antiketogenic material. The authors believe that such irregularities in excretion as are represented here account for the excretion of acetone which has been noted when diets relatively low in carbohydrates are fed to normal subjects; the fact that the excretion was very small in some of the specimens obtained in the period which followed immediately after the meals were eaten seems to show that variations at different times in the day are of more importance in causing such an excretion than are variations in the mixtures of food-stuffs oxidized simultaneously in different parts of the organism.

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<sup>1</sup> Woodyatt, R. T., *Arch. Int. Med.*, 1921, xxviii, 125.