The results confirmed our earlier work. The temperature rose steadily after injection, the height being roughly proportional to the dose given. The maximum was attained in from three to five hours, after which the temperature gradually returned to normal. As an example, a rabbit weighing 2,500 grams was injected subcutaneously with 25 c.c. sterile sodium chloride solution, *m*/6. In five hours a maximum temperature of 40.4° C. was recorded. The next day 35 c.c. were injected, with a maximum of 41° C. in five hours. The following day 20 c.c. gave a maximum of 40° C. in three hours. 25 c.c. Ringer's solution caused a slight rise, but not so marked as the pure sodium chloride (39.8° as against 40.4°). This is not in accord with our original findings, and it is possible that the distilled water used at that time was not perfectly pure. Our present results are more in harmony with Loeb's theory of balanced solutions, and with the results of other workers.

As intravenous injections become more and more general, it would seem wise, when sodium chloride is used as a menstruum for other substances, that the amount injected should be so graduated as to fall below that which will cause a febrile reaction; or better still, Ringer's solution should be used.

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The influence of morphin upon the elimination of intravenously injected dextrose.

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In a series of eight experiments dextrose was injected into dogs which had received 10 mg. of morphin per kilo of body weight. Ten other dogs received similar dextrose injections but no morphin, the slight operation having been performed under local anesthesia produced by cocain or ethylchloride. The dosage of dextrose was 4 gm. per kilo of body weight, injected in a 20 per cent. solution in about one hour. The difference in the urinary

and blood findings in these two series of experiments was quite striking. In the eight morphinized animals the average quantity of sugar in the urine secreted in two hours and a half (that is, from the beginning until one and a half hours after the end of the injection) amounted to 63 per cent. of the injected sugar, 80 per cent. being the largest and 50 per cent. the smallest quantity. The average quantity of sugar in the urine of six non-morphinized dogs in two hours and a half, amounted only to about 17 per cent. of the injected sugar, 30 per cent. being the highest and 4 per cent. the lowest quantity. There was, also, however, a difference between the two series of dogs in the volume of urine secreted. In the morphinized dogs the average amount of the injected sugar solution was 137 c.c. and of the urine 197 c.c.; in the non-morphinized dogs the average of the injected sugar solution was 187 c.c. and of the urine only 83 c.c. On this account experiments were made on four non-morphinized dogs in which the dextrose was dissolved in ¼ M solution of sodium sulphate, and there resulted a reversal in the relation of the volumes of the injected sugar and the urine: 212 c.c. of dextrose solution injected and 281 c.c. of urine secreted. Nevertheless, the elimination of sugar in the urine was not increased. In fact, in these four experiments the elimination of sugar in the urine was even less; it amounted on the average only to about 9 per cent. of the injected sugar, 13 per cent. being the highest and 7 per cent. the lowest quantity.

As to the sugar content of the blood, we may state briefly that in the non-morphinized dogs the original level was reached in half an hour after the end of the injection, while in the morphinized dogs that level was reached only one hour and a half after the end of the injection.

Summarizing briefly our results with regard to the effect of morphin we may say that, on the one hand, it increases considerably the elimination through the kidneys of intravenously injected dextrose, while, on the other hand, it perceptibly retards the return of the sugar content of the blood to its previous level.