evaporation to dryness in the cold are extracted with petroleum ether, the extract filtered, desiccated and weighed. Known amounts of butter oil were recovered with but small error by this method.

The average total daily output of the ether-soluble substances was 4.43 gm. per child. Compared with the individual daily intake, the excretion was equivalent to from 0.75% to 6.5% of the amount of fat ingested, with an average value of 2.56%. These patients were receiving daily approximately 3 gm. of fat per pound of body weight, constituting about 75% of the total calories. The retention is similar to that found in children receiving the usual fat intake, which comprises about 30% of the total calories.

This study confirms the observations of others that fat absorption in the healthy person is practically complete, even with a high fat intake. It also indicates that the adequacy of fat digestion in diabetic children is not demonstrably diminished.

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Glycogen Formation under Amytal Anaesthesia.

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In a previous report[1] it was pointed out that dogs under amytal anesthesia exhibited a decreased capacity to assimilate injected glucose. Preliminary to a study of factors influencing the distribution of injected glucose, it was desirable to know whether this effect of amytal was a quantitative one affecting all tissues or whether its effect was limited primarily to certain tissues.

A comparison of glycogen formation in the unanesthetized and anesthetized (amytal) animal has been made in experiments on 8 dogs. Samples of liver and muscle tissue frog glycogen determinations were quickly removed under light ethylene anesthesia. One hour later glucose was injected at the rate of 3 gm. per kilo of body weight per hour for a period of 3 hours. One hour later when the blood sugar had returned to approximately its original value, samples of tissue were removed from the opposite side for analysis.

It was found that approximately the same increase in muscle glycogen had occurred in animals with or without amytal anesthesia. (Table I.) However, the increase in liver glycogen was over twice

[1] Hines, H. M., Boyd, J. D., and Leese, C. E., *Am. J. Physiol.*, 1926, lxxvi, 293.

as great in the unanesthetized animals as in the experiments in which the glucose injections were made under amytal anesthesia. Because of this finding we believe that animals under this anesthetic are not suitable for experimentation in problems concerning carbohydrate storage.

TABLE I.
Glycogen increase in gm. per 100 gm. of tissue.

With amytal			Without amytal		
No.	Liver	Muscle	No.	Liver	Muscle
1	1.73	.95	5	4.39	.63
2	2.63	.20	6	5.72	.59
3	1.59	.54	7	4.16	.18
4	2.23	.20	8	3.52	.52
Avg.	2.05	.47	Avg.	4.45	.48

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Effect of Pituitrin Administration on Rate of Disappearance of Injected Substances.

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In previous investigations by the authors,[1, 2] it was found that pituitrin administration resulted in a decreased rate of removal of injected fluid and glucose by the tissues of the unanesthetized dog. This report is concerned with the effect of pituitrin on the removal from the blood stream of intravenously injected chlorides and a colloidal dye, Brilliant Vital Red. The former is of interest because the work of other investigators tended to show that the diuretic-antidiuretic action of pituitrin may be due to an effect on electrolyte distribution.

Unanesthetized dogs deprived of food and water for a period of 20 hours were injected with an isotonic or hypertonic (5 times isotonic) Ringer's solution at a rate of 15 or 25 cc. per kilo body weight per hour by the continuous intravenous method. At times commercial pituitary extracts in amounts of .05 to .08 cc. per kilo

[1] Hines, H. M., Leese, C. E., and Boyd, J. D., *Am. J. Physiol.*, 1927, lxxxi, 27.

[2] Hines, H. M., Leese, C. E., and Jacobs, H. R., *Am. J. Physiol.*, 1927, lxxxiii, 269.