

strength of reagents constant. This method appears to yield larger crystals than those obtained by the old method.

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The influence of ether anesthesia on the excretion of nitrogen by dogs.

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A series of nine experiments were made upon four dogs, the experiments ranging in length from 7 to 17 days. The plan followed was to get the animals into a condition of nitrogen equilibrium, then to induce ether anesthesia continuously for periods varying from $\frac{1}{2}$ hour to $4\frac{1}{2}$ hours. The initial influence of the ether was to cause an increased excretion of nitrogen, the average daily percentage increase varying from 6.5 per cent. after 30 minutes anesthesia to 43.5 per cent. after 3 hours narcosis. In the latter case the animal had been anesthetized on each of the two preceding days and therefore this large increase may represent the cumulative effect of the anesthesia. In six of the nine experiments the average daily excretion of nitrogen continued above normal during the entire experimental time after anesthesia was induced, the ultimate average daily increase varying from 3.5 per cent. for a 5-day period following 2 hours anesthesia to 17.5 per cent. for a 14-day period after ether narcosis had been induced for periods of 1, 2 and 3 hours on 3 successive days. In the three experiments which showed a diminished excretion of nitrogen after anesthesia the normal output of nitrogen was decreased 1.5 per cent., 1.8 per cent., and 4.0 per cent. as the result of anesthesia periods of $\frac{1}{2}$ hour, $4\frac{1}{2}$ hours and 1 hour respectively.

In each experiment the anesthetic had a diuretic effect, the extent of the diuresis varying from an initial average daily increase of 5.7 per cent. in the volume of urine after $\frac{1}{2}$ hour of anesthesia to an increase of 24.8 per cent. after an anesthesia period of $4\frac{1}{2}$ hours. The diuretic effect continued until the close of the experiment in every instance except one, the average daily percentage

increase in the urine volume for the entire experimental time ranging from 3.1 per cent. for 7 days after $4\frac{1}{2}$ hours anesthesia to 20.7 per cent. for 7 days after 2 hours anesthesia. In one experiment narcosis for 1 hour caused a diuresis which was persistent throughout the remaining 10 days of the experiment during which time the urine output was increased a total of 710 c.c. or 18.4 per cent.

Anesthesia caused the animals to lose body weight, the percentage loss during the 24 hours following anesthesia varying from 1 per cent. to 3 per cent. The loss of weight following the anesthesia of a dog for periods of 1, 2 and 3 hours on three successive days was 6.5 per cent.

In all except two experiments the reaction of the fractions of urine first voided after anesthesia was amphoteric, alkalinity generally predominating. In the two experiments noted the urine was acid both before and after anesthesia. The specific gravity of the first urine passed after ether narcosis generally ranged from 1024 to 1042 as compared with a normal specific gravity ranging from 1015 to 1019.

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The relative value of antitoxin and other curative substances in antidiphtheric serum.

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Cruveilhier, in a paper in the *Annales de l'Institut Pasteur* (XVIII, p. 249), quotes Roux, Marfan, Martin and Momont as finding that the dose of antidiphtheric serum which is most efficacious is not always the one that contains the greatest number of antitoxic units. They assert that in the serum, there are, besides antitoxin, other substances whose therapeutic value is ignored in the present measurement of antitoxic units.

Cruveilhier carried out a series of experiments, in animals infected with diphtheria bacilli, and compared sera of different antitoxic strengths from several horses as to their value preventively and curatively. His results apparently showed that it was the