



FIGS. 2 AND 3.

Microphotographs of 2 samples of endometrium obtained by curettage.

In addition to the set-up described above several sharp curetting instruments are needed. The size of the instrument is limited only by the diameter of the os, as no method of dilating has been developed. Meyhoefer's eye curette has been found most satisfactory, although Buck's ear curette also has been used. The cervix must be cleaned of mucous, and the curette passed through the cervix. By placing the left hand on the abdomen of the monkey immediately cephalad of the pubis, the operator may feel the knife in the fundus and may exert slight external pressure at the time the tissue sample is being scraped from the endometrium. Unless the cervix has been cleared of mucous, the specimen will often be lost on withdrawal of the knife. Epithelium of the cervix is easily distinguishable from the endometrium.

The technique is not thoroughly satisfactory but does afford an opportunity for obtaining endometrial tissue (Figs. 2 and 3) without interfering with the continuance of an experiment.

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A Biological Method of Assay of the Adrenal Cortical Hormone.*

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Since extensive experimentation has failed to reveal a reaction of the normal animal to cortical hormone administration, it has become

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increasingly clear that for the time being, adrenalectomized animals must be used for standardization purposes. There is no known criterion for determining accurately the degree of insufficiency from which an adrenalectomized animal is suffering, and consequently standardization cannot be based on the return of an animal suffering from adrenal insufficiency to a normal physiological condition. We have, therefore, accepted the other alternative, that is the maintenance of normal physiological condition in the adrenalectomized animal. During recent metabolic studies on bilaterally adrenalectomized dogs, permitted to go into adrenal insufficiency by the withdrawal of daily injections of cortical hormone, it was noted that the earliest indication from normality is a rise in the blood non-protein and in the urea nitrogen.¹ We have utilized this observation as a basis for biological assay of the extracts.

Adult dogs, 6 to 10 kg. body weight are selected, free of infection and worm infestation. They are adrenalectomized in 2 stages, and the success of the operation is established after complete healing of the wounds by production of insufficiency symptoms by withdrawal of extract. The dogs are then placed in separate cages and given 0.5 cc. extract per kilo in 2 equally divided doses daily, morning and evening, subcutaneously until it is demonstrated that the blood non-protein-nitrogen (or urea) is at a normal and constant level, that the weight is maintained, the food properly eaten, and the clinical condition in every respect normal. The ration given is constant and consists of 80 calories per kilo per day of Bal-Ra dog ration with 1 cc. cod liver oil 3 times weekly and 1 gm. vitavose per kilo 3 times weekly on alternate days. The dogs are permitted to run in open air weather permitting, at least 2 hours daily. When normal constant conditions are assured the per kilo dosage is progressively reduced at 7-10 day intervals, usually from 0.5 cc. per kilo to 0.25 cc., then to 0.13 cc. and so on until the blood non-protein-nitrogen shows a definite rise (15 mg. or to a level above 50 mg. per 100 cc.) followed by anorexia and the other clinical evidences of imminent adrenal insufficiency. Our stock extract (1 cc. represents 30 gm. beef adrenal cortex) prepared by methods previously described will maintain the animals in normal condition at a level of from 0.25 cc. to 0.1 cc. per kilo, the minimum dose varying with different batches of extract. At the present time we are using 2 animals for each assay. Several of our adrenalectomized dogs on assay work have been completely adrenalectomized for the past 6 to 10 months.

¹ Harrop, Piffner, Weinstein and Swingle, *Science*, 1931, **73**, 683.

TABLE I.
Dog P-1. Second adrenal removed Jan. 17, 1931. Assay of Feb. 1 extract lot.

Date 1931	Weight kg.	NPN blood mg.%	Dose ext. cc. per kg. per day	Clinical condition.
Feb. 4	6.4	46	0.25	Lively. Eats well.
15	6.3	36		
20	5.9	60		
24	5.5	92	0.12	Symptoms of severe insufficiency.
25	5.3	44	2.0	Recovering. Food fairly well taken.
26	5.8	38	2.0	Lively. Eating well.

A dog unit is defined as the minimum daily kilogram dose of cortical hormone necessary to maintain normal physiological conditions in the adrenalectomized dog for a period of 7 to 10 days; the two criteria of normal physiological condition being maintenance of body weight and blood level of non-protein-nitrogen (or urea). According to this definition the hormone content of different batches of our stock cortical extract varies from 4 to 10 dog units per cc.

Recently Kutz² has suggested the use of the adrenalectomized rat as a test animal since adrenalectomy is uniformly fatal in young rats of his colony. Obviously the use of a small animal form would have very definite advantages in standardization work, but the findings of various workers on the percentage mortality in the rat following adrenalectomy are so confusing that for the time being we prefer to use the dog. All workers are agreed that the occurrence of accessory tissue in the dog is exceedingly rare.

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Experiments on the Filtrability of the Rosenow Streptococcus of Anterior Poliomyelitis.

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This paper deals with the successful filtration through Berkefeld candles of 2 strains of the Rosenow anterior poliomyelitis streptococcus. These strains were designated 1630.30 and 1694².50. 0.5 cc. of a 20-hour brain infusion broth culture of 1630.30 was inoculated intracerebrally into each of 3 rabbits. Two of these animals died in less than 24 hours, and the third in 36 hours. Autopsies showed

² Kutz, R. L., PROC. SOC. EXP. BIOL. AND MED., 1931, 29, 91.