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Some desirable results following water drinking with meals.By **P. B. HAWK.***[From the Laboratory of Physiological Chemistry of the University of Illinois.]*

In the continuation of our studies on the influence of water drinking at meal time, data have recently been collected as to the influence of this factor upon some of the activities of the gastro-intestinal tract. Particular attention has been given to the stimulation of gastric secretion, the activity of the pancreatic function, and to the course of intestinal putrefaction. As regards the stimulation of gastric secretion it has been found that the stimulation is directly proportional to the volume of water ingested. The activity of the pancreatic function measured by the fecal amylase (Wohlgemuth's method) was found to be increased during the water period. At the same time intestinal putrefaction, as measured by the indican content of the urine (Ellinger's method) was decreased. Absorption was also facilitated and the excretion of fecal bacteria lowered when large volumes of water were ingested at meal time.

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Metabolism after hypophysectomy.By **C. G. L. WOLF** and **E. SACHS.***[From the Department of Chemistry, Cornell University Medical College, New York City.]*

Three out of a series of respiration experiments on sixteen dogs, in which a part or the whole of the hypophysis was removed were reported.

They represented: (1) Extirpation of part of the anterior lobe and all of the posterior lobe. (2) Removal of the anterior lobe, leaving the pars intermedia and the posterior lobe. (3) Complete hypophysectomy.

The amount of gland destruction was determined by serial sections of the brain after the autopsy of the animals. Control experiments were made to determine the effect of the operative

procedures without removal of the gland. There was no effect on the carbon dioxide output.

In case 1 there was a distinct lowering of the carbon dioxide output, and a low level was established which persisted for sixteen days after the operation. At the end of this time the animal, which had previously been retaining nitrogen, was again in nitrogen equilibrium. On autopsy, an increase in fat and atrophy of the ovaries was observed. The weight of the animal had increased.

In case 2 there was a lowered carbon dioxide output, although marked emaciation followed the operation.

Case 3 lived but 48 hours after the operation. A respiration experiment was performed 24 hours after hypophysectomy. There was a markedly decreased carbon dioxide output, and an unusually low nitrogen output for the same period.

The apparatus used in these experiments was a modified Pettenkofer-Voit. The periods used for the determinations were six hours.

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The influence of calcium and of sodium in M/10 solution upon the conductivity in nerve trunks.

By **DON R. JOSEPH** and **S. J. MELTZER**.

[From the Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.]

In a previous communication before this Society¹ we reported that calcium chloride in an M/10 solution is capable of reducing or completely abolishing the direct and indirect irritability of frog muscles. The reduction or abolition is reversible; sodium chloride restores rapidly the lost irritability. It was further found that the primary action of calcium does not affect both forms of irritability in an equal manner; in a number of cases, especially under certain conditions of temperature and season, a comparatively small amount of calcium solution abolished completely the indirect irritability (from the nerve) while the direct muscle irritability still persisted in nearly its original intensity. From these experiments we concluded, among other things, that calcium af-

¹Joseph and Meltzer, PROCEED. OF THE SOC. FOR EXPER. BIOL. AND MEDICINE, vol. vi, p. 104, 1909.