

ACETONE BODIES IN URINE ON CARBOHYDRATE AND FAT
DIETS.—BY N. B. DREYER, B. A. (CAPE ET OXON),
M. A. (OXON), M. R. C. S. (ENG.), Assistant Professor
in Physiology, University of Dalhousie, Halifax, N. S.

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Acetone bodies include acetone, aceto-acetic acid and B-hydroxy-butyric acid. The last named is fairly stable and does not break up unless treated with strong oxidizing agents. Aceto-acetic acid on the other hand, is easily split up, giving off acetone. The results described below refer to acetone and aceto-acetic acid only.

Acetone determinations were carried out by the Scott Wilson method⁽¹⁾.

Summary of Results:

On mixed diets of carbohydrate fat and protein, acetone bodies showed marked variations from day to day.

On carbohydrate diets carried out for a period of eleven days, where fat was cut down to a minimum, acetone bodies gradually decreased, until finally only traces were detected. The ordinary qualitative nitroprusside reaction was negative, but quantitative estimations revealed presence of acetone in concentration of 0.0058 mgm. per 100 cc. urine. On the twelfth day the diet was changed to one rich in fat, and carbohydrate was reduced to a minimum. Acetone bodies increased, but at the end of the first twenty-four hours, the quantity had only increased ten-fold. The large quantities of glycogen in the body, stored while on carbohydrate diet, presumably acted as a catalyst in oxidising the fatty acids. On the fourth day of feeding fat, the acetone bodies had increased several hundred fold. On feeding carbohydrate with fat the amount was cut down considerably.

The effect of protein was not tested.

¹ Scott Wilson. *Journal of Philosophy*, Vol. XLII, 1911