

of orange oil and not more than seventy-seven per cent. of alcohol be present in the official tincture.

THE UNIVERSITY OF WASHINGTON,
COLLEGE OF PHARMACY.

BASAL METABOLISM DETERMINATION.*

BY J. ATLEE DEAN.

A New York physician has said, "We would feel less handicapped in caring for a patient with typhoid fever without a thermometer, than we would in directing the treatment of a toxic goiter without basal metabolic rate estimations."

Within the past few years this feeling, noted above, has become more and more evident among the more advanced medical practitioners. There are five different points where this test is of particular value.

1. In eliminating patients with pseudo-toxic goiter from the group of patients of true thyrotoxicosis;
2. In classifying patients with thyrotoxicosis;
3. In following the treatment of these patients;
4. In the diagnosis of myxedema of varying grades of severity;
5. In giving a rational method in deciding the dose of thyroid necessary in each individual case of myxedema.

In hospitals, and the higher type of diagnostic clinics, they speak of the basal metabolic rate with the same degree of familiarity as we do of the temperature, pulse and respiration, and it, therefore, behooves us to understand the principle of the test even if we are not familiar with the actual technic of obtaining the results.

Briefly described, the metabolic rate is obtained by measuring the amount of oxygen consumed in a given time. This appears simple, but when consideration is given to the following observations, a correction must be made for barometric pressure, for the temperature of oxygen within the apparatus, the test must be performed with a stop-watch, the sex and age of the patient demands a correction and the results are given in a percentage above and below the normal—it is easily seen that accuracy is essential.

The normal basal metabolic rate is obtained when the body is at rest, the patient having partaken of no food for fourteen hours, by using an average value of 4.83 calories per liter of oxygen, a normal respiratory quotient of 0.082 and the Du Bois formula of body surface.

The results are expressed as plus when they are above normal, minus when below normal; between plus 10 and minus 10 are usually regarded as ordinary.

Basal metabolic rate determination is another means by which chemistry can assist medicine in making a diagnosis and help the physician in determining the correct dosage after the diagnosis is made.

More will be heard of this interesting subject in the future.

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* Pennsylvania Pharmaceutical Association, Bethlehem, 1924.