

lipochrome index for the 75 diabetic patients was 3.4, corresponding to an average carotene content of 0.25 mg. per 100 cc. of blood.

The average lipochrome index for the 86 non-diabetic patients was 1.7 with an average of 0.11 mg. carotene per 100 cc. of blood. In 10 of these cases with icteric indices below 10, carotenemia was responsible for an average of 20.6% of the corresponding icteric indices, while in 21 cases with icteric indices between 10 and 100 it averaged 8.6% and in 6 cases with icteric indices above 100 the lipochrome indices averaged only 1.2% of the corresponding icteric indices.

From the above findings it would not appear that carotenemia alters the validity of the icteric index except in cases of marked carotenemia such as may be found in some diabetic patients, and then only if the icteric index is quite low.

7249 P

Effect of Dinitrophenol on the Oxygen Uptake of Rat Tissue.

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The observation by Cutting and Tainter¹ of a marked acceleration of the metabolism of animals injected with small quantities of dinitrophenol stimulated a study of the effect of the injection of the dinitrophenol on the oxygen uptake of rat tissues. Rats were injected with the sodium salt of dinitrophenol (40 mg. per kilo of body weight). After a period of from 30 to 40 minutes the animals were killed by a blow on the head and the oxygen uptake of the tissue determined as quickly as possible, employing the technique previously described.² The respiratory quotient was determined as described by Richardson.³

Table I presents the results which were obtained employing rat liver. It is seen that when phosphate Ringer's solution was employed, the oxygen uptake of rat liver slices obtained from the injected animals was essentially the same as that obtained with the

¹ Cutting, W. C., and Tainter, M. L., *PROC. SOC. EXP. BIOL. AND MED.*, 1932, **29**, 1268.

² Muntwyler, E., and Binns, D., *Am. J. Physiol.*, in press.

³ Richardson, H. B., *Physiol. Rev.*, 1929, **9**, 61.

TABLE I.
Average Rate of O₂ Uptake of Rat Liver after Subcutaneous Injection of
Dinitrophenol (40 mg. per kilo body weight).

No. of Animals	Oxygen Uptake in Minutes		Respiratory Quotient		Remarks
	60	120			
	Cu. mm. / mg. dry tissue				
3	9.2	15.8		Control	—Phosphate Ringer's
5	8.4	15.4		Dinitrophenol	—Average temperature increase 4.6° F.
3	11.9	21.8	0.807	Control	—Glucose phosphate Ringer's
4	9.7	18.3	0.732	Dinitrophenol	—Average temperature increase 4.9° F.

control. The oxygen uptake of the liver tissue obtained from injected animals, when suspended in phosphate Ringer's solution containing glucose, was slightly less than that of the control liver. The respiratory quotient of the liver tissue from injected animals was lower than that of the control liver.

Experiments are now in progress in which observations are being made on the oxygen uptake of other rat tissues and also experiments dealing with the effect of the dinitrophenol on the oxygen uptake of rat tissue *in vitro*.

7250 P

The Acid-Base Balance of the Blood in Migraine.*

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The present study was prompted by the findings of R. and S. Weissmann-Netter¹ who have made a series of observations on the carbon dioxide and the pH of the blood of patients with migraine. They found that the hydrogen ion concentration and the alkali reserve are normal in the periods of freedom from attacks but that a tendency to alkalosis develops 48 hours prior to an attack. They also reported that hyperventilation may result in an attack of mi-

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¹ Weissmann-Netter, R., and Weissmann-Netter, S., *Compt. rend. Soc. de biol.*, 1925, **92**, 341.