tients suffering from cancer did not show higher toxicity than the blood of healthy individuals, and in this respect our data could not confirm Stern's observations.

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Urethane—Rat Preparation for Study of Intestinal Peristalsis.

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The following method of studying peristaltic movements of the intestines *in situ* has been found extremely useful by the writers in connection with an investigation of certain purgatives and is deemed worthy of description for the benefit of other investigators because it is simple, efficient and economical.

A white rat, previously starved for 24 hours, is anesthetized with an intraperitoneal injection of urethane. This anesthetic has been found by the writers to act with extraordinary rapidity in the rat, so that an injection of 1.25 gm. (using a 4% solution) per kilo weight of rat produces complete and deep anesthesia within 5 minutes, lasting for 5 or more hours without any appreciable depressant effect on the heart or respiration. Doses of 1.5 gm. per kilo produce an anesthesia lasting for 24 hours or more, while 1.0 gm. per kilo produces an anesthesia of shorter duration. The rat is tied on a small dissecting board and immersed in physiological saline solution at body temperature, care being taken to keep the head out of the water. A median incision is made through the abdominal wall, without producing any bleeding, and the intestines are allowed to float on the saline solution. For the study of the intestinal movements and the passage of food through the gastro-intestinal canal, a small quantity of India ink (0.5 of 1.0 cc.) is introduced directly into the stomach by injection through a fine catheter passed through the mouth and oesophagus into the stomach. The passage of food and gastric contents through the intestinal tract of the rat is a very rapid one, the whole length of the intestine being traversed ordinarily in an hour's time. This passage, or movement, of the intestinal contents mixed with the India ink or finely divided carbon particles can be plainly followed with the naked eye because the thin intestinal walls of the rat allow the dark contents to be seen through

them. In this way, after the normal movements of the intestinal contents have been studied, the effects of various laxative and constipating substances can be readily investigated. Such drugs are mixed with the India ink and introduced into the stomach either by the "stomach tube" or by direct injection with a stout hypodermic needle into the stomach cavity. The action of powerful alkaloids, *e. g.*, pilocarpin, physostigmin, atropin, etc., can be exerted by injections into the subcutaneous or muscular tissue, while such drugs as act directly on muscle cells, *e. g.*, barium chloride, papaverin, benzyl alcohol, etc., may be applied directly to the outer intestinal walls. The use of India ink for visualizing the intestinal contents in these experiments has been suggested to the authors by the employment of India ink in mice by Loewe and Faure in another connection.[1]

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Effect of Liver Extract on Basal Metabolic Rate in Pernicious Anemia.

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The following observations were made in an effort to determine whether or not the basal metabolic rate would be affected by the rapid increase in erythrocytes after the administration of liver extract.

We selected 2 female patients with uncomplicated pernicious anemia, neither of whom had had liver or liver extract. Each patient received 8 cc. of dilute hydrochloric acid daily. They were given general hospital diet for 36 days and high caloric general diet for 67 days, the total period of observation being 103 days. Liver extract was begun after a control period of 8 days.

The following determinations were made daily for 34 days, once during the sixth week and triweekly thereafter.

1. B.M.R.—Tissot spirometer and Haldane gas analysis. (Average of 2 analyses for each reading.)
2. Hemoglobin—Newcomer method.
3. Hematocrit—Van Allen method.
4. Reticulocyte counts—(1% brilliant cresyl blue, 500 cells being counted).

[1] Loewe, S., and Faure, G., *Arch. f. Exp. Path. u. Pharm.*, 1925, cvii, 271.