These results indicate that the respiratory center is under the tonic control of the end organs of the carotid sinus region and of the aortic region, as well as those located in the lungs. These results suggest, furthermore, that this tonic activity is particularly important when the respiratory center is in a depressed state and also that the removal of this tonic influence at such a time may lead to respiratory death.

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Experimental Spontaneous Peptic Ulcer.

PAUL E. MC MASTER. (Introduced by Edmund Andrews.)

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In this work physiological processes other than the occurrence of peptic ulcer were being studied after jejuno-colostomy. A resulting and unexpected high incidence of peptic ulcer, however, has led to a study of this condition. All operations were performed on healthy adult dogs under morphine-ether anesthesia, using aseptic technique. Through a right paramedian incision the jejunum was isolated and sectioned approximately 25 to 30 cm. distal to the ligament of Treitz. Both ends were inverted. A side-to-side anastomosis was then made between the proximal jejunal stump and the caecum or ascending colon. At no time during the procedure was the stomach, duodenum or upper abdomen handled or explored, thus eliminating the element of trauma. The abdomen was closed. For 3 days after operation the animals were given intravenous saline only. Fluids and solid food were then given by mouth in gradually increasing amounts, until they were receiving the regular stock diet.

Seven dogs have died at intervals, longer than 8 days after operation. In 6 of these 7 animals, autopsy revealed on gross examination acute to more chronic forms of peptic ulcers. In one dog autopsied 8½ days after operation an acute gastric ulcer, 2x2 mm., with destruction of the mucosa was found 4 cm. proximal to the pylorus. Two other animals, having died 14 and 27 days after operation, showed gastric ulcers in the pre-pyloric region. The first was an acute ulceration of the mucosa with rounded margins, measuring 2x2 mm., and the other was a large ulcer 1x0.6 cm., having indurated and rolled margins and penetrating deeply into the stom-

ach wall. Near this last ulcer was a second small acute ulceration 2x1.5 mm.

Two dogs died of perforated duodenal ulcers, 39 and 53 days respectively after operation. In the first one the duodenal ulcer was 2 cm. distal to the pylorus and measured 1.4x0.8 cm. There was an associated acute gastric ulcer, 1.5 cm. proximal to the pylorus, 4x6 mm. in size. In the second case the duodenal ulcer was 2.5 cm. distal to the pylorus and measured 2x2.5 cm. In this case there was also an associated prepyloric ulcer 1x0.5 cm., the margins being indurated and rolled, with the appearance of being chronic.

One dog died 144 days after operation and a chronic indurated duodenal ulcer 1.2x0.8 cm. was found 2 cm. distal to the pylorus. The seventh dog died of pneumonia 40 days after operation, but revealed no peptic ulcer at autopsy.

There were no ulcers at the anastomotic rings and not other gastro-intestinal pathological findings, except in the seventh dog, in which 2 large acute ulcers were present in the colon, 8 cm. distal to the anastomosis.

In 2 dogs a duodeno-colostomy was done and they lived 22 and 28 days respectively. No peptic ulcers were present in these at autopsy. In several dogs that received the same care and food as the above dogs, but which died from other experimental procedures, no peptic ulcers were found.

Anorexia, vomiting and tarry stools occurred in the dogs with peptic ulcer. All the dogs in the series lost considerable weight. There are 2 factors accountable for this: first, a decrease of bowel absorptive space, and secondly, refusal of food by the dogs after ulcer symptoms developed.

Studies are being made to determine a specific etiological factor for the occurrence of peptic ulcer after this procedure.

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A Coagulo-Flocculation Test for Malignant Tumors.

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The study of protein fractions of normal serums, those in various diseases, and malignant tumors led to the development of a diag-