mals after 2 hours, and isolating the desoxypentose nucleic acid from their tumors and livers. The specific activity of the nucleic acid phosphorus was measured and considered to be an index of the turnover rate. It was found necessary to purify the nucleic acid much more carefully than is done in standard methods in order to obtain a constant specific activity upon successive reprecipitations.

The animals whose livers were irradiated with 4.25×10^5 ergs showed only 66% of the tumor nucleic acid specific activity of the control group. The animals whose muscles were irradiated with 5.25×10^5 ergs showed 84% of the tumor nucleic acid specific activity of the control group. Both these experiments definitely confirm the existence of an indirect effect of radiation on the desoxypentose nucleic acid turnover rate.

One group of animals received 60 r (1.4×10^5 ergs) total body X-irradiation with 180 KV X-rays and both the tumors and livers showed a significant depression in the turnover rate.

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Further Experiments on Influence of Hyaluronidase on Formation of Intraperitoneal Adhesions in the Rat. (17951)

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Chandy and Rhoads reported a reduction in the number of adhesions formed in the peritoneum of the rat in response to standardized trauma when a hyaluronidase preparation was employed locally(1). In this study, hyaluronidase was first applied to crush injuries of the rat cecum on the hypothesis that it might diffuse whatever substances that were responsible for initiating the process of adhesion formation due to its action as a spreading factor(2,3,4). Experiments to extend this series to other types of trauma, and other preparations of hyaluronidase have been carried on in this laboratory since with the results that will be recorded below. The additional experiments that were done in the same way showed somewhat the same trend, but the difference was less marked and was not statistically significant when considered apart from the original series. When the method for producing the trauma was changed, these hyaluronidase preparations were ineffective in inhibiting the formation of adhesions. In all of the experiments the white rat was employed.

Methods. The abdomen was opened under aseptic conditions in 110 rats and the cecum traumatized by the use of one of 3 instruments. An Allis tissue forceps was used in 44 animals, a Payr clamp in 19 animals, and a straight Kelly hemostat in 47 animals. After the injury had been produced, an observer decided whether the animal was to be injected locally with hyaluronidase or used as a control. Schering hyaluronidase was applied to the Allis and Payr clamp injuries and Hydase (Wyeth) and Alidase (Searle) to straight hemostat injuries (see Table).

Discussion. An analysis of the results obtained reveals that adhesions developed in 76% of 55 animals treated with various preparations of hyaluronidase after standardized mechanical methods of producing adhesions were performed. These methods at the same time produced adhesions in 89% of the 55 animals that were used as controls.

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TABLE I.
More Recent Experiments on Effect of Hyaluronidase on Adhesion Formation Due to Mechanical Trauma.

Agent (applied locally)	Total	% adhesions in treated rats	% adhesions in control	Instrument used to produce adhesions
5% hyaluronidase (Schering)	19	42.1	76	Allis
5% hyaluronidase (Schering)	9	88.9	100	Payr
1250 TRU hydase (Wyeth)	17	94	100	Kelly
1250 VRU alidase (Searle)	10	100	100	"

TRU = Turbidity reducing units.
VRU = Viscosity reducing units.

While it is not possible with the data now available to prove that hyaluronidase will not exert an effect under some other experimental conditions, our inability to extend the original observations in this series of experiments has led us to believe that hyaluronidase, in the rather liberal doses used, has no general applicability in the prevention of intraperitoneal adhesions in the rat.

Conclusions. Adhesions were produced in the rat by mechanical trauma to the wall of the cecum by 3 standardized methods. The effect of 3 hyaluronidase preparations applied locally to the injured area at the time of laparotomy was tested. One preparation was tested against 2 types of injury and the other 2 preparations were tested against a third type of injury. No statistically significant effects were obtained to support the positive results previously reported by 2 of us.

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Polysaccharides in Ulcerative Colitis and Normal Human Rectum Compared by Stains of Biopsy Specimens. (17952)

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The hypothesis of Meyer, Gellhorn, Prudden, Lehman and Steinberg(1) that the enzyme lysozyme(2) plays a role in the pathogenesis of chronic ulcerative colitis depends in part on the demonstration of a lysozyme substrate in the colon. These workers found extremely high titers of lysozyme in the feces of patients with chronic ulcerative colitis. We have also observed an elevated output of lysozyme in the feces of all patients with ulcerative colitis tested so far. As yet, Meyer (1), Jerzy Glass(3), and others(4) have been unable to demonstrate a lysozyme substrate in the bowel or in the surface mucus from the colon. Wang and coworkers(4) report damage of the mucosa and submucosa by lysozyme placed in the lumen of the bowel of rats. This report concerns the demonstration of a lysozyme substrate by the histochemical method of McManus(5) or Hotch-

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