during the repair, and it was observed that anesthesia was rapidly wearing off. The results in this group indicate that the addition of hyaluronidase to the anesthetic solution causes a far wider distribution of anesthetic effect, but results in an anesthesia of shorter duration. Group III. Two hundred cases were studied, in which pudendal block was performed with 1 per cent procaine, to which hyaluronidase and epinephrine were added. . . . The duration of anesthesia was accurately measured in 87 cases, and in this group the average duration was 80 minutes. . . . Group IV. Ten pudendal blocks were performed by injection of small amounts of 2 per cent procaine containing hyaluronidase and epinephrine at the ischial spines and tuberosities. The vulvar injections were omitted. This was an attempt to simplify the technique of pudendal block, relying on hyaluronidase to achieve satisfactory distribution of anesthesia. Satisfactory results were obtained in only two cases. In the remaining eight, skin anesthesia varied widely or was absent, and relaxation was poor. . . .

"Anesthesia for delivery and perineal repair was regarded by the doctor as satisfactory in 95 per cent of cases in which pudendal block with procaine, hyaluronidase and epinephrine was employed. . . . Pudendal block anesthesia by this method was regarded as inadequate only in difficult midforceps deliveries, where extensive manipulation or difficult rotation was required. There were no breech extractions in this series." A. A.

CULVER, G. A.; MAKEL, H. P., AND BEECHER, H. K.: *Frequency of Aspiration of Gastric Contents by the Lungs During Anesthesia and Surgery.* Ann. Surg. **133**: 289–292 (March) 1951.

"Aspiration of gastric contents is probably the most common serious accident to occur during general anesthesia and surgery. It usually is preventable, and it rarely is excusable. It often is fatal. Obvious vomiting is only half the problem, for silent aspiration of gastric contents by the deeply anesthetized patient during operation is common too. This study in 300 unselected surgical patients was designed to get factual data on the frequency of these two accidents and to gain insight into the factors responsible for each, as well as factors of importance in the prevention of each type of accident. . . . In the patients studied during the course of this work 10 mg. Evans blue dye (T-1824) were placed in the stomach 15 to 30 minutes before the induction of anesthesia. If a gastric tube was present, 4 cc. of 0.25 per cent aqueous solution of the dye were placed in it and this was washed down with 10 cc. water. The tube was then clamped off until the induction of anesthesia was started. When no gastric tube was in use, the dye was placed in a gelatin capsule and swallowed with 30 cc. water. As soon as the operation was over, inspection of the mouth, pharynx, larynx, trachea and main bronchi was made by direct vision through laryngoscope and bronchoscope. All secretions, whether dye stained or not, were aspirated at the time of bronchoscopy. . . .

"In 300 unselected surgical patients regurgitation (as indicated by dyed stomach contents in the pharynx) occurred in 79, or 26 per cent of the patients. Of these 49, or 16 per cent, aspirated gastric contents into the lungs. Frank vomiting occurred in 24 patients, 8 per cent of the cases. Sixteen of these aspirated. Silent aspiration occurred in 25 patients, 8 per cent. Regurgitation occurs much more often when the Trendelenburg or lateral positions are used than when the horizontal supine position or the lithotomy position is used. Special care in

cleaning out the regurgitated material is necessary when these positions are employed. The patients of inexperienced anesthetists aspirate more commonly than do those of experienced anesthetists. . . . Gastric tubes exert a protective effect, presumably by keeping the stomach contents low in volume. An empty stomach is an absolute essential in the prevention of either frank vomiting or silent regurgitation and aspiration of gastric contents during anesthesia and surgery."

A. A.

KROHN, SIDNEY; SPRIGGS, J. B., AND DABBS, C. H.: *A New Method of Postoperative Anorectal Analgesia.* Am. J. Surg. 82: 275–277 (Aug.) 1951.

"Alleviation of discomfort experienced by individuals following anorectal surgery presents a problem which heretofore has not been satisfactorily answered. Previous methods of injection with local anesthetics have proved effective in relieving discomfort, but have not been widely employed because of the relatively high incidence of undesirable tissue reaction. . . . The thought occurred to us that the undesirable feature of pooling might be avoided by using hypospray rather than needle injection. . . . Because there were no available data describing the effect of oil anesthetics injected into humans by this method, preliminary study was done on animals. . . . Twenty-nine male patients undergoing anal surgery were given xylocaine in almond oil by hypospray injection and the degree of postoperative discomfort compared with a control group of the same number similar in age, sex and degree of severity of hemorrhoids. . . . The degree of sphincter spasm, pain on defecation and tenderness on digital examination was much less in the treated group than in the control group. These findings are in agreement with the results reported by others using needle injection technic of oil anesthetics. In contrast to previously reported technics, however, no tissue reactions were encountered in any of the twenty-nine patients whom we treated. Sites of injection were inspected daily throughout the hospital stay (eight to ten days) in all cases. No evidence of edema, erythema, induration, abscess or slough was encountered during hospitalization nor at the time of reexamination three weeks following discharge. Despite the relatively small number of patients treated, the complete absence of any detectable inflammatory reaction at the site of injection encourages us to report this technic. Additional clinical trial seems justified on the basis of these results."

A. A.

ELMAN, ROBERT; WEICHSELBAUM, T. E., AND GRAUL, MARJORIE A.: *Significance of Postoperative Glycosuria and Ketonuria in Nondiabetic Adults.* A. M. A. Arch. Surg. 62: 683–697 (May) 1951.

"Even though glycosuria and acetonuria are fairly common after operation their exact significance is not generally known. Do they mean a serious disturbance in carbohydrate metabolism? Is the excretion of ketone bodies evidence of a transient overproduction thereof by the liver or of diminished utilization by peripheral tissue? Is the glycosuria the result of a diminution of peripheral utilization of glucose or of increased glycogenolysis? A number of surgical patients were observed in whom quantitative determinations of the 24 hour output of glucose and of acetone were made in an attempt to answer these questions. . . . Observations were made on 394 twenty-four hour urine specimens obtained from 78 patients undergoing a