Psychologic Factors Influencing Postoperative Narcotic Administration. L. D. Egbert, M.D., S. J. Lamdin, M.D., and T. P. Hackett, M.D., *Departments of Anesthesia and Psychiatry of the Harvard Medical School at the Massachusetts General Hospital, Boston.* Patient care is in part scientific, in part based on perceptual processes, called "clinical impression." A common impression is that the psychological attitude of a patient influences his hospital course, specifically his postoperative recovery. In this study an attempt was made to investigate some of the factors which may modify a patient's ability to face the stress of illness and operation. *Method:* Fifty eight patients were interviewed the evening before abdominal surgery by an anesthesiologist, who recorded the patient's response to standard questions regarding his "confidence in a good outcome." Comparisons were then made to determine whether patients with confidence, and patients without confidence, differed in the number of milligrams of narcotic (calculated as equivalents of morphine) administered from midnight to midnight of the first day after operation. *Results:* The average number of milligrams of morphine, received by the 25 patients who were confident of a good outcome, was 25.2 ± 13.5 mg. per 70 kg., as contrasted to the "non-confident" group (33 patients) who received an average of 43.5 ± S.D. 22.1 mg. per 70 kg. The difference between the two groups is statistically significant ($P < 0.01$). There were no significant age, sex or socio-economic differences between the two groups. *Discussion:* What are the origins of and the ingredients in confidence? The synonyms of "assurance" and "self-possession" imply that the confident person has an outlook on life which enables him to face stresses with courage based on reason. A display of reason and courage may be related to a patient's knowledge about the procedure and its sequelae of discomfort and pain. A previous study (Egbert, and others: New Eng. J. Med. *270:* 825, 1964) demonstrated that, if a patient is told what to expect after operation and is given specific suggestions which may help minimize his postoperative discomfort, he actually requests less narcotic postoperatively. In this study it is not known whether the confident patients were those more "educated" in their expectations. In contrast to the rational basis of confidence, "faith" and "trust" depend on factors, which are in a more incalculable realm. Since there was a strong suggestion in the data of a correlation of religious faith with morphine consumption, the records were reviewed of another 60 surgical patients who had cholecystectomies; the patient's religion, age, and weight were noted, and the number of milligrams of morphine received per 10 kg. in the first 24 hours after operation was tabulated. Protestants received an average of 41.6 ± S.D. 17.5 mgm. morphine, Jews 34.0 ± S.D. 12.5 mgm. morphine, and Catholics 26.0 ± S.D. 14.4 mgm. morphine. The difference in morphine consumption between Protestants and Catholics is significant ($P < 0.01$). Religion could not be correlated with the "feeling of confidence," and the tentative assumption is made that religious faith is a separate important variable, exerting an influence on a patient's ability to face stress. This study cannot claim to have eliminated all possible bias, or considered all variables. The various patient groups were reasonably similar in terms of age, sex, socio-ecoonomic status and site and seriousness of the operation. It is not certain that the amount of narcotic given was in fact related directly to the need for narcotic, neither is the severity of suffering known, which led to narcotic administration, nor is the distribution known of placebo non-reactors in the patient groups. *Conclusion:* The psychological attitude of the patient is of unquestioned importance. This study represents an attempt to begin the transition from clinical impression to the factual knowledge, which will help physicians help their patients.

Passage of Lidocaine and Prilocaine Across the Placenta. Burton S. Epstein, M.D., and Charles S. Coakley, M.D., *The George Washington University School of Medicine, Washington, D. C.* The effects of lidocaine, a drug with soporific effects, were compared with prilocaine (Citanest, formerly propitocaine, Astra), which is devoid of sedative properties, during intermittent or single injection peridural anesthesia for obstetrics. The object was to determine whether or not any

difference in toxicity could be observed in the mother or newborn. *Method:* A double blind study was performed using (1) 1.5 per cent lidocaine, (2) 1.5 per cent lidocaine with 1:200,000 epinephrine, (3) 1.5 per cent prilocaine and (4) 2 per cent prilocaine. Blood samples were drawn from a maternal vein during signs of possible CNS toxicity and from the maternal and umbilical vein at delivery. Local anesthetic concentrations were determined by the methyl orange technique. One hundred eighty-seven patients were studied (41–51 patients in each group). The average total dose (mg.) administered was lidocaine (511, S.D. ± 214), lidocaine with epinephrine (422, S.D. ± 167), prilocaine 1.5 per cent (449, S.D. ± 180), and prilocaine 2 per cent (568, S.D. ± 163). *Results:* A blood pressure fall to 90 mm. of mercury systolic or less occurred in 41 patients (no statistical significance between groups). This responded to elevation of the legs or displacement of the uterus in all but 7 cases in which vasopressors were used. No convulsions occurred and patients showing signs of mild CNS toxicity required no treatment (no statistical significance between groups). Twenty-five per cent of the mothers receiving lidocaine alone were sedated compared to 6 per cent for lidocaine with epinephrine ($P = < 0.05$) and 12–13 per cent for prilocaine 1.5 and 2 per cent ($P = < 0.3, > 0.2$). At delivery, the mean maternal venous blood level for lidocaine 1.5 per cent (2.6 S.D. ± 1.3 μg./ml.) was significantly higher than all other groups ($P = < 0.01$): lidocaine with epinephrine (1.7, S.D. ± 0.08), prilocaine 2 per cent (1.5, S.D. ± 1.0), and prilocaine 1.5 per cent (1.4, S.D. ± 0.7). The latter was significantly less than lidocaine with epinephrine ($P = < 0.05$). No statistically significant difference existed between the mean umbilical vein blood levels after lidocaine 1.5 per cent (1.8, S.D. ± 0.9 μg./ml.), lidocaine with epinephrine (1.6, S.D. ± 0.8), prilocaine 1.5 per cent (1.6, S.D. ± 1.1) or prilocaine 2 per cent (1.5, S.D. ± 0.8) and only after lidocaine was a significant maternal-fetal gradient noted (0.8 μg./ml.). Low Apgar scores at one and five minutes did not correlate with high maternal or umbilical venous anesthetic levels. At one minute, 12 newborns had an Apgar score of less than 6. In 11, this probably related to prematurity (5), Rh incompatability (1), toxemia (1), nuchal cord (2), or excessive premedication in the mother (2). The mother of the remaining infant probably experienced a mild reaction to lidocaine 1.5 per cent; however, the umbilical venous blood level in the infant (1.7 μg./ml.) was not higher than the mean of the group and at five minutes the Apgar score was 10. *Discussion and Conclusion:* The lack of fetal depression following peridural anesthesia with lidocaine, the absence of correlation between fetal depression and anesthetic blood concentration, and the mean umbilical venous concentration of lidocaine 1.5 per cent (1.8 μg./ml.) compare favorably to the data of Shnider (Shnider, S. M.: New Eng. J. Med. *274:* 266, 1966). This is far below the toxic level of 5.29 μg./ml. found in conscious man (Foldes, F. F., and others: J.A.M.A. *172:* 1493, 1960). Lower maternal venous blood concentrations of prilocaine and lidocaine with epinephrine probably relate to the more rapid destruction of the former and decreased venous absorption of the latter, yet umbilical venous blood concentrations remained identical for all groups. High maternal blood anesthetic levels in the range of 6.7 μg./ml. after mepivacaine, resulting in depression of the newborn (Morishima, H. O., and others: ANESTHESIOLOGY *27:* 147, 1966) were not observed with lidocaine and prilocaine. (Supported by Astra Pharmaceutical Products, Inc.)

Fundoscopic, Ophthalmodynamometric, and Tonometric Observations During Anesthesia and Cardiopulmonary Bypass in Man. OSCAR FARMATI, M.D., *Instructor in Anesthesiology, University of Pittsburgh, School of Medicine, and Eye & Ear Hospital, Pittsburgh, Pennsylvania.* Previous investigations demonstrated that progressive deepening of general anesthesia lowered retinal artery pressure, measured by ophthalmodynamometry, out of proportion to the radial artery pressure, measured by auscultation. In normal unanesthetized man, the ratio between retinal and brachial arterial pressure is 1:2 (Farmati, O., Freeman, A., and Moya, F.: South. Med. J., in press). This investigation was continued during nonpulsatile flow conditions when the