

Book Reviews

B. Raymond Fink, M.D., Editor

Immunology. A Programmed Text. By J. W. STREILEIN and J. D. HUGHES. Boston, Little, Brown and Company, 1977. Pages: 337. Price: PNS.

The authors have produced a primer to allow self-instruction in the principles of immunology. The format is that of a statement on one page that includes a question, usually consisting of either a blank to complete or a multiple choice to be made, answered on the next page. There are 671 such sequences. The reader begins going through these, then reaches the last page of the book, when he must turn the book over and go back through the next sequence (printed upside down) until the front of the book (depending on how you look at it) is reached, then turn the book over again and. . . All this is actually somewhat amusing, and at first one feels he's really accomplishing something since he's moving so quickly through the pages. No matter that he'll have seven more trips to complete before he's done.

Now, what about the content of this course? It is good, solid, traditional immunology, plus a sprinkling of fairly recent findings. The reader will learn a lot about immunology if the tedium of the early parts of the presentation can be endured. It starts slowly and stays that way for quite awhile. The formal definition of the immune response and its components is worked over and over until one wonders when the authors are ever going to get on with it. When they finally do, the rest of the book is amusing, informative and worth the effort.

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Local Anesthetics. Second edition. By R. H. DE JONG. Springfield, Ill., Charles C Thomas, 1977. Pages: 338. Price: \$32.50.

The expanding use of local anesthetics is both cause and result of the greatly improved understanding of their properties obtained in recent years. Knowledge of their mode of action is, if possible, even more important for local anesthetics than general anesthetics, for once the local anesthetic has been injected there is no re-treating. Remarkable progress has been made, so much so that this volume, initially intended as a revision of the author's well known *Physiology and Pharmacology of Local Anesthetics* has in fact become a wholly new text.

de Jong's stature as a scholar, teacher, and investigator is patent on every page. To an exceptional power of lucid exposition he adds a deft spryness of style that gives his story an altogether delightful verve. The material is so interesting, so well put together and so well written that, believe it or not, once on one's way one is hard put to stop. The publisher, too, has catered to reading comfort by setting the text in large type in double columns on matt paper.

Needless to say, one can find a few shortcomings. The bibliography, though quite extensive and up to date, is a little unbalanced, getting on for half of it being cited in the 20 pages devoted to central nervous system reactions. One notices particularly a paucity of references in the early chapters on history—barely two pages on that—, the neural target, and impulse propagation.

The diagrams illustrating the sections on impulse blockade and the blocking progress have a didactic effectiveness that justifies their simplicity, but this cannot be said of the drawing of a nerve

in cross-section, nor of the one giving an idealized representation of the nerve membrane. Its ideal is passé. The portrait of receptors, however, is a delight and wryly up to date. The graphic discussion of the kinetics of neural spread of the agent, though notably clear, is almost entirely a product of theory and common sense, two by no means reliable substitutes for concrete observations. Neither is it of any help in solving the conundrum of what proportion of the afferent fibers must be blocked to stop the feeling of pain. But these, of course, are limitations of knowledge and not of the book.

The high level of exposition and comprehensiveness is maintained throughout the chapters on cardiovascular effects, absorption, biotransformation and last, adverse effects, with a happy balance between narrow information and broad understanding, although a diagram illustrating phase 4 in a pacemaker cell would be a useful addition. For good measure there are appended tables of trade names, safe dosages (though nary a word about cocaine), dissociation constants, and molecular weights. In the text table of tissue partition coefficients one notes with surprise the presence of coefficients for all sorts of organs but not one for nerve, presumably because none is available. The discussion of distribution volumes of etidocaine, lidocaine, mepivacaine and bupivacaine, pegged at 133, 91, 84 and 71 liters, respectively, invites misunderstanding through failing to insist that these are *apparent* distribution volumes. One more trifle—the structural diagrams of cocaine and β -cocaine ought to be unified.

de Jong's explanation of rate constant by means of a loan interest rate of 6 per cent per annum takes one back to the good old days. No matter. The good old days are right now, for all to enjoy who acquire his book. Learning was never pleasanter.—*B.R.F.*

Blood Transfusion for the Clinicians. By J. WALLACE. New York, Churchill Livingstone, 1977. Pages: 351. Price: \$22.50.

According to the author, the objective of this book is to provide a simple, but comprehensive, account of the general principles of blood transfusion to clinicians who use transfusion therapy. The author states that the book is organized in such a way that the individual practitioner can be selective with his particular interests in blood transfusion. This, he asserts, is accomplished by writing each chapter as a separate topic with frequent cross references to coordinate various aspects of blood transfusion mentioned in other chapters. Although he is well intentioned and has written a comprehensive account of blood transfusion, his book is not well organized, lacks illustrations and is therefore subject to visual monotony, and is written in such a manner that the clinician cannot readily refer to a particular subject not covered as a specific chapter. For example, the anesthesiologist looking for information about the problems associated with massive transfusion must refer to several chapters and is forced to read entire chapters since headings within each chapter are unclear and do not indicate the particular subject matter being covered. In addition, the book is poorly referenced for those wishing to do further reading on subjects covered only superficially. This criticism is particularly valid for the anesthesiologist, since many of the topics of particular interest to him, such as microaggregate filtration, citrate intoxication, and treatment of transfusion reactions, are only marginally covered by the author.

These comments, however, should not detract from the overall

value of the book. Written for clinicians, it contains an enormous wealth of material not available in other blood banking texts. The author covers in depth the problems of supplying blood to the practitioner, stressing areas of transfusion practice particularly vulnerable to blood shortages (e.g., cryoprecipitate for hemophiliacs), as well as problems of inventory control and outdated. In so doing, he provides the clinician with a readily understandable blood banker's rationale for use of blood components rather than whole blood. His discussions of the use of "universal donor" blood, plasma volume expanders, transfusion reactions, and compatibility testing are of particular value for the anesthesiologist. For those interested, I would recommend Chapters 2 and 3, which discuss the use of blood and blood components, Chapters 4 and 5, which discuss the blood groups and their relevance to the clinician, and Chapter 9, on the complications of blood transfusion. Chapters 7 and 10 deal with collection of blood and organization of transfusion services and may be useful to those directly involved with organization of a blood transfusion service and iv team.

Doctor Wallace is a British author and frequently cites the British Pharmacopeia and British transfusion practices. Although the basic concepts expressed are universally accepted, several specific practices are not applicable in the United States, e.g., shelf life of CPD-stored blood is 21 days in the United States, compared with 28 days in Britain.

A few statements by the author can be criticized. For example, in his zeal for promoting the use of component therapy, he states that the use of packed erythrocytes reduces the amount of toxic substances transfused (e.g., ammonia, potassium). This is true, provided the erythrocytes are prepared from whole blood just prior to transfusion, but is not usually the case since most components (platelets, fresh frozen plasma, cryoprecipitate) must be extracted from whole blood shortly after withdrawal from the donor. Because of this practice, packed erythrocytes are generally stored the same length of time as whole blood, and since erythrocytes are subject to the same storage lesion they will thus contain similar amounts of toxic substances.

Another statement concerning the transfusion of partially cross-matched blood in emergency situations is potentially misleading. The author states that partially crossmatched blood seldom leads to incompatible blood transfusion. This is generally true; but it must be remembered that there is potential for disaster with this type of transfusion practice, especially for those recipients who have had exposure to foreign erythrocyte antigens by way of either previous transfusions or pregnancies. A patient of this type receiving incompletely crossmatched blood will have a ten times greater risk of incompatible transfusion than those not previously receiving transfusions or pregnant. It must also be remembered that the majority of clinically significant antibodies are detected in the later stages of the crossmatch. Thus, it is unwise to transfuse partially crossmatched blood, especially to those patients who have had prior transfusions or pregnancies.

The author also contributes to the myth that transfusion of fresh blood will promote wound healing and fight infection. Like others making this claim, he fails to cite references that would substantiate this supposed benefit.

The clinician, whether it be anesthesiologist, internist, or surgeon, reading this book cannot help but profit from the great deal of information presented by the author. The reader must be prepared, however, to be frustrated by organizational problems, lack of references, and tendency toward monotony. One can only hope that in subsequent editions the author will make appropriate changes that would make this book a valuable addition to blood transfusion literature.

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Obstetric Anaesthesia and Analgesia. By DONALD D. MOIR.
Baltimore, Williams and Wilkins, 1976. Pages: 293. Price: \$23.95.

The stated goal of *Obstetric Anaesthesia and Analgesia*, by Donald D. Moir of Glasgow, is that it may help in preventing the death of even a single mother or child. Reflecting the organization of British medical care, it is aimed at the practicing anesthetist, the anesthetist-in-training, the obstetrician, the senior midwife, and even the consultant anesthetist who may wish to learn some of the recent developments in this rapidly growing area of medical practice.

The opening chapter is a brief, elegantly written summary of the history of obstetric anesthesia. In the traditional vein, the next two chapters are devoted to a review of the physiology of pregnancy and labor and of the pharmacology of drugs used in labor. The former, clearly and directly presented, suffers from the absence of any discussion of fetal physiology, treating only the mother. The chapter on pharmacology, with its comprehensive review of individual drugs, suffers from the lack of a unifying conceptual framework of perinatal pharmacology and pharmacokinetics. For example, the term "placental transfer" is used liberally throughout the book without a precise definition. The fetal/maternal concentration ratio of a drug at delivery is not necessarily an index of drug transfer from mother to fetus. It defines neither the rate at which a drug crosses the placenta nor the total amount transferred from mother to fetus. The reader is left with the mistaken impression that a great deal is known about such matters, whereas, in reality, there are relatively few quantitative data.

While the most important recent advances in obstetric care and in perinatal medicine reside in more effective antepartum and intrapartum diagnosis and treatment, these are outlined all too briefly in one short chapter by M. J. Carty, with little attempt at correlation with anesthetic management. If the anesthesiologist is to function as a full member of the perinatal health care team and as a consultant, more information than this is needed.

The strongest part of the book is the second half, dealing with clinical anesthesia. Here, Moir emerges in his role as advocate of the comfort and safety of mother and child. He correctly points out that no method of pain relief in labor (save perhaps the psychological) is entirely free of side effects. Further, he emphasizes the inefficiency, ineffectiveness, and hazards of reliance upon such drugs as the opioids. His description of the advantages, indications and technique of lumbar epidural block is well done, although somewhat different in detail from that generally practiced in the United States. A convincing plea is made for the reconsideration and more widespread use in the United Kingdom of subarachnoid block in obstetrics, while his critique of pudendal block is excellent, pointing out that pudendal block is frequently provided in the absence of the ability to do something better. He argues forcefully against the routine administration of general anesthesia for uncomplicated vaginal delivery and the provision of general anesthesia without endotracheal intubation. The description of the anesthetic management of cesarean section by either general or regional anesthesia is comprehensive, detailed, and up-to-date.

The American reader will find less valuable those portions of the text aimed at obstetric practice by midwives. In addition, obstetrics in Britain differs in other ways from that in the United States. For example, the management of the hypertensive disorders of pregnancy in the United States is primarily through the use of magnesium sulfate, while many other drugs and lumbar epidural block are much more frequently used in Britain. Low or outlet forceps are more frequently used in the United States. Many obstetric centers in the United States no longer routinely prescribe ergot alkaloids, owing to the high incidence of side effects and the lack of proven superiority over oxytocin. Not