

brilliance, he possessed a charming, gay spirit. He was truly devoted to his patients and they to him. He taught, he guided, he directed, he inspired his associates.

In 1921 Dr. Root was married to Hester King; she died in 1954. He was married in 1956 to Mrs. Kathleen Berger, who survives him, as do his three children, Hester F.; Stephen N. and Dr. Howard F. Root, Jr., and five grandchildren.

In recent years, during which he travelled so extensively, Mrs. Root, an educator and author, was his constant companion and is known and loved by friends

in many countries.

On November 20 a memorial service was held in Boston at the Old South Church, in which Dr. Root had worked energetically for many years and served as Deacon and Moderator. In a moving tribute before an audience notable for the diversity of religious background of those present, Dr. Frederick M. Meek remarked that "His colleagues, his associates, the world of medicine salute him with gratitude and respect; and in the field of diabetes medicine and control, succeeding generations will recall him as pioneer and creative practitioner."

BOOK REVIEWS

DIABETIC CARE IN PICTURES, *Helen Rosenthal, B.S., and Joseph Rosenthal, M.D. Fourth Edition, \$6.50. 227 pages, 105 figures, 10 color plates. Philadelphia, J. B. Lippincott, 1968.*

There is no doubt that the incidence of diabetes in the population is increasing each year. Today, the availability of insulin or oral hypoglycemic agents, proper diet and antibiotics has prolonged the life of the diabetic to an almost normal life expectancy. Nationwide diabetes detection programs are also finding more and more asymptomatic diabetics. These millions of diabetics and their families are in dire need of a simplified text about diabetes. *Diabetic Care in Pictures* is prepared for the use of the patient and fulfills this need.

The authors are to be congratulated for a clear, descriptive, verbal and graphic presentation of diabetic diets; insulin preparations and the equipment available for their injection; urine testing; personal hygiene, foot care and Buerger-Allen exercise. About one third of the book is devoted to diets for diabetics. This portion of the book is comprehensive and includes many of the current food products. The food exchange lists are detailed and easy to understand. There are sample diabetic diets adjusted to meet sodium restriction, a bland, a low residue and a liquid diet.

Questions which the diabetic or his family may ask regarding obesity, heredity, marriage, pregnancy, exercise and alcoholic beverages are briefly but adequately answered by the authors.

My only criticism is that the authors did not include the directions or indicate the importance of obtaining a spot check urine specimen for sugar and/or acetone. A sample chart showing the date with the before breakfast and before dinner or before bedtime urine sugar results is also recommended. This type of daily record is most helpful in diabetes management.

I highly recommend the book to all of my diabetic patients, their families, and interns and residents. I suggest that the book be published in a paperback edition to reduce the cost and make it available to more patients.

CLINICAL DIABETES MELLITUS, *John Malins. First Published Edition, \$19.00, 502 pages 50 illustrations, 105 figures and*

tables. Eyre and Spottiswoode, Ltd., Publishers and by Richard Clay (The Chaucer Press) Ltd., Bungay, Suffolk, England. (Distributed in U.S.A. by Barnes and Noble, Inc., New York), 1968.

One might term this an unsophisticated clinical textbook by a sophisticated clinician whose career spans a quarter century steeped in some "twelve thousand newly diagnosed cases of diabetes." Taking dead aim at needs of the full time practitioner, the author makes no pretense at heavy treatment of the controversial and theoretical but, rather pursues the straight and narrow objectives of individual patient needs and therapeutic realities. The style is neither prolix nor perfunctory and the authors' opinions are couched in a generous bibliography. Those who might consider its tenor "middlebrow" should be reminded that perhaps thousands of less initiated physicians seeing diabetics need just such a treatise to tidy up their approach to a disease whose victims are all too often undiscovered, misdiagnosed, uneducated, undertreated and, indeed, sometimes overtreated.

Entertaining reading is provided by such uncommonly detected clinical signs as "white marks on clothing"—defined as "a white crystalline deposit on trousers and shoes from splashes of urine—associated with heavy glycosuria—noticed for years" before the patient presents to the physician. The female counterpart of this phenomenon is characterized as "stiff underclothes" from a little stress incontinence. A dash of British humor is gleaned from the remark that "an unusual deposit in the chamber pot is still mentioned but rarely now that this diagnostically useful article is falling into desuetude."

Among the chapters deserving special emphasis are: The diagnosis of diabetes (Chapter 4) delineating precise limitations and hazards of interpretation of glucose tolerance tests, and diabetic ketosis (Chapter 5), which is presented with fascinating clarity and eloquent simplicity. Indeed this meaty exposition conveys more practical knowledge in sixteen pages than most standard texts achieve in twice the space. That is not to say it could not be more complete, however.

Any reviewer with extensive patient experience in diabetes would recognize Malins as a keenly perceptive clinician with a firm grasp of the sober realities to be faced in applying cur-

rently accepted diagnostic and therapeutic technics at the individual patient level.

This book would not be inappropriate on the shelf of many internists, all general practitioners, residents and medical students.

TEXTBOOK OF ENDOCRINOLOGY, *Edited by Robert H. Williams with contributions by 24 authorities. Fourth Edition, \$24.00. 1258 pages. Philadelphia, W. B. Saunders Company, 1968.*

The fourth edition in eighteen years of Williams' multiple-authored review of endocrinology has been published. As a result, many clinicians and investigators will find it a little easier to bring themselves up to date in this rapidly moving field. The fourth edition is a thoroughgoing revision with eleven new authors of twenty-four, and extensive changes by the others. Although the title is *Textbook of Endocrinology*, the book covers much of what was once called metabolism. A useful addition to the standard roster of the endocrine glands are correlative chapters on hormonal aspects of sex differentiation, the central nervous system, growth and development, water and electrolyte metabolism, genetics, carcinoid, and non-endocrine tumors.

There is also a chapter on lipid metabolism and another describing laboratory technics used routinely at the Mayo Clinic in the diagnosis of endocrine disorders.

Williams devotes 220 pages to carbohydrate metabolism, most in the chapter on the pancreas and the remainder in that describing hypoglycemia. The extensive review of the

biochemistry and physiology of diabetes is very meaty indeed, and reads at least in part like a dehydrated version of his book on diabetes. An astounding amount of research is condensed into a relatively small space. This is excellent as reference material, but somewhat turgid as prose. It is unfortunate that the author did not take more time and space for critical evaluation of the data presented.

The discussion of the clinical aspects of diabetes is very well done. Williams feels that the aim of treatment should be "optimal utilization of glucose throughout each twenty-four-hour interval," and that the development of complications may be related to our inability to achieve adequate twenty-four-hour utilization. Evidence is adduced to support this view. The management of various types of diabetes with insulin and with the oral agents, the calculation of diets, the pathology of the complications and their management are all covered in appropriate detail and with a balanced, authoritative and, at least for this reviewer, sound point of view. The chapters on the pancreas and on hypoglycemia are as useful and comprehensive a review of the field of carbohydrate metabolism as this reviewer has been able to find short of an entire book devoted to the subject.

Certainly it is not possible to review all the chapters in this limited space. Those on the pituitary, thyroid, adrenals, testes, ovaries, and parathyroids are all well written, comprehensive, and authoritative. They are most useful in providing up-to-date information for the researcher, teacher and clinician. The fourth edition of Williams' *Textbook of Endocrinology* maintains its position as the best one-volume review now available.

ABSTRACTS

Alexander, K.; Teusen, R.; and Mitzkat, H. J. (Medizinische Klinik der Medizinischen Hochschule, Hannover, Germany): PLETHYSMOGRAPHIC MEASUREMENTS OF BLOOD FLOW IN LIMBS OF DIABETIC AND METABOLICALLY HEALTHY SUBJECTS. *Klin. Wschr.* 46:234-38, March 1, 1968.

In diabetic patients, occlusion plethysmographic measurement of blood flow revealed at the forearm and the calf of the leg slightly elevated values at rest and after ischemic stimulation. The rise of integrated capillary pressure after ischemic stimulation was lowered in forearm, calf of the leg, thumb and big toe. There was no correlation with duration of known diabetes. By analysis of function there is no basis that insulin has any toxic effect on the microcirculation. O.V.S.

Ascroft, S. J. H.; Coll-Garcia, E.; Gill, J. R.; and Randle, P. J. (Dept. of Biochem., Univ. of Bristol, Bristol, England): GLUCOSE METABOLISM, ISLETS AND INSULIN RELEASE. *Brit. Diabetic Assoc. Autumn Meeting*, Oct. 6, 7, 1967. *Diabetologia* 4:178, 1968.

Verbatim summary. A study has been made of carbohydrate metabolism in normal mouse and rabbit islets obtained by microdissection or collagenase digestion (Hellerstrom, 1964; Moskalowski, 1965; Lacy and Kostianowsky, 1967) with the object of correlating release of insulin with alterations in carbohydrate metabolism.

Mouse islets prepared with collagenase showed reproducible and meaningful secretory behavior on in vitro incubation in media supplemented with glutamate, fumarate and pyruvate. Release was stimulated by glucose, glucagon, theophylline and tolbutamide; the glucose response was suppressed by mannoheptulose and adrenaline; the glucagon was suppressed by adrenaline; the adrenaline effects were reversed by phentolamine. These measurements were made by radioimmunoassay using mouse insulin as standard.

Rates of glucose oxidation were measured in mouse pancreatic acinar tissue and islet tissue (obtained by microdissection or collagenase) using [1-C-14, 6-C-14 or U-C-14] glucose. In acinar tissue glucose oxidation did not increase on raising glucose concentration over the range 27.5 to 450 mg./100 ml. and glucose oxidation was inhibited by phloridzin but not by mannoheptulose. In mouse islets glucose oxidation was increased by raising glucose concentration over the range 27.5 to 450 mg./100 ml. and glucose oxidation was markedly inhibited by mannoheptulose but not by phloridzin. Measurements of glucose distribution showed that glucose was confined to extracellular water in acinar tissue but intracellular free glucose may be present in mouse islets. The K_m (for glucose) of hexokinase extracted from mouse acinar tissue was c. 0.1 mM; that of mouse islets was c. 0.1 mM, and it was