textbooks having been written in this area. Since most of the publications on magnetic resonance imaging cover the basic principles, this reviewer initially thought that Dr. Young's book was an unnecessary addition to the field. After reading the lucid and succinct work of 175 pages, I have changed my mind and would strongly recommend it as one of the books on MRI that should be placed in medical libraries (institutional, departmental, and individual). I would also recommend that it be used as an introductory textbook to magnetic resonance imaging.

The book is composed of 11 chapters, with the first five chapters dedicated totally to basic principles of nuclear magnetic resonance. The next four chapters concentrate on magnetic resonance imaging systems, and the last two contain an introduction to site planning and a short quiz on nuclear magnetic resonance, respectively. There are numerous high quality, quite readable figures, and the author uses a series of analogies that help transmit the basic knowledge in an enjoyable fashion. As is typical of introductory texts, the book's greatest strength (its succinctness) is also its greatest weakness—areas outside the introductory principles are covered only superficially.

In conclusion, this book can serve as an introduction to the fundamentals of nuclear magnetic resonance, but it should be supplemented by additional reading in the areas of actual clinical imaging, equipment requirements, and spectroscopy. The $19.00 recommended price is a bargain when one sees the quality of the content, printing, and figures.

JERRY W. FROELICH
Henry Ford Hospital
Detroit, Michigan

**EXERCISES IN DIAGNOSTIC ULTRASONOGRAPHY OF THE ABDOMEN** F. S. Weill, A. Le Mouël. New York/Heidelberg/Berlin/Tokyo, Springer-Verlag, 1983, 125 pp

*Exercises in Diagnostic Ultrasonography of the Abdomen* consists of an informal presentation of cases grouped together to form nine chapters. Each chapter consists of somewhat related clinical situations (shades of DRG!). The choice of cases in this series of exercises reflects common problems one would encounter in a hospital practice and in which ultrasound can provide diagnostic clues; e.g., entities such as jaundice, pancreatic disease, liver metastases, and fluid collections of varying consistencies are well represented. A series of images are initially presented in the form of a "gentle quiz", then the reader is led to the pertinent findings by a series of repeated images with arrows delineating the points to be recognized. In this manner the authors hope to sharpen the observer's skill and general diagnostic acumen. The style is informal and somewhat entertaining.

The exercises are directed to persons with previous knowledge and experience in ultrasound, since a number of ultrasound signs and features are pointed out but not explained. One disappointing feature is the fair-to-poor quality of some of the contact scans, which detracts from their teaching value. Unfortunately, the amount of correlation with other imaging modalities is minimal, and for this reason, it is not felt that these exercises in abdominal sonography can be recommended as routine reading for most nuclear medicine physicians.

RUTH ROSENBLATT
LEONARD M. FREEMAN
Montefiore Medical Center
Bronx, New York

**BODY CT—A HANDBOOK.** A. K. Dixon. Naperville, Illinois, Churchhill Livingstone, 1983, 167 pp; $24.00

This softbound handbook on the use of computed tomography in the body covers all regions from the neck to the extremities, including the spine. It is meant to serve primarily as a practical manual for obtaining adequate studies in these regions. To a lesser extent, it provides useful information regarding the diagnosis of various entities, but it is not meant to be a text of anatomy or pathology. With these limited goals in mind, this reviewer feels that the author achieves them quite admirably.

The content includes much more than essential basic information, and one of the nicest aspects is that the author assumes the reader will have little or no knowledge of computed tomography. One can comfortably read through the entire text. The first chapter deals with the language of CT scanning and defines terms in common use. The second chapter discusses the referral of patients and the selection of those most appropriate for this imaging modality. There is a nice discussion of initial considerations regarding such things as presenting complaint and body habitus, and there are even sections that deal with the organization of the request form and the handling of referrals from other hospitals. Chapter Three, concerning the preparation of the patient, illustrates the careful attention to detail by the author, for the discussion covers not only the use of contrast medium, but also mode of patient dress, reduction of patient anxiety, and special pediatric considerations.

The main body of this text, Chapters Four through Eight, deals with the examination of the various body regions. There are separate chapters on the lymph nodes of the abdomen, the abdomen exclusive of lymph nodes, the chest, the spine, and miscellaneous areas. Several of these chapters are further subdivided by organ system. Each section is organized in a similar manner and contains an introduction, a section on technique, and a section dealing with special problems in that particular body area, which favors very rapid and convenient reference. The introduction primarily contains indications for studying that body region; the technique section outlines considerations for obtaining the images, such as section thickness and interval; the problem section covers the myriad of difficulties that arise in the process of attempting to obtain an adequate examination. The reader is warned of virtually every pitfall one may encounter, and solutions are provided for each problem situation.

Chapters Nine and Ten pertain to the special subjects of radiotherapy planning and interventional procedures. The former is mainly a discussion of the different approach to obtaining images when one's goal is therapy planning and not diagnosis. The latter is a limited, albeit detailed, presentation of biopsy procedures using CT guidance.

Chapter Eleven presents a pragmatic approach to the viewing of images at the console, the recording of images on film, followed by a useful summary of the author's method of reporting and distributing reports. The final chapter considers the physical layout of the department itself and provides helpful information regarding the staffing of various duties in the division.

The shortcomings of this text are minor, with the primary drawback centering around the technique descriptions. The information is not based on the use of state-of-the-art equipment but rather on an older CT scanner with a slow scanning time (10 sec per slice in most cases). Certainly there are many slow scanners in operation today, but the trend is towards fast acquisition times. In addition, emphasis on patient motion, intravenous glucagon to slow bowel peristalsis, and general anesthesia to sedate children is unnecessary with the use of a faster scanner. Although the author admits that inconsistencies among equipment manufacturers and the use of a faster scanner will change the technique approach, this reviewer feels that differences as compared with modern scanners will make the entire technique chart essentially inapplicable.

A more detailed discussion of the dosages, concentrations, and administration techniques of IV contrast would have been desirable. Finally, it was surprising to find that the use of CT equipment to guide drainage catheter placement had been omitted from the interventional section.

In spite of the above criticisms, this book is a very readable and practical introduction to the subject of body CT scanning. It will not appeal to those who already have read some of the comprehensive texts on the subject, and it is definitely not a replacement for texts of CT anatomy and pathology. Nevertheless, for those new to the science or who have a limited understanding of CT scanning, this handbook is an excellent means of gaining information about this imaging modality. It is well worth the modest price.

DARYL A. ADAMSON
Oregon Health Sciences University
Portland, Oregon

**RADIATION-INDUCED CHROMOSOME DAMAGE IN MAN.** T. Ishihara, M. S. Sasaki, Eds. New York, Alan R. Liss, Inc., 1984, 650 pp, $98.00

Ionizing radiation is well known as a potent inducer of chromosomal damage in mammalian cells. Indeed, many of the early studies of the cellular effects of radiation focused on the structural changes produced in chromosomes. Such damage has been closely related to the cytotoxic effects of radiation, and increasing attention is now being paid to the role of chromosome rearrangements in gene mutations and in the process of malignant transformation of mammalian cells. The present volume represents a comprehensive review of current knowledge concerning radiation-induced chromosomal aberrations in mammalian cells. Its 28 chapters offer a balanced view of mechanistic studies, assay techniques, and studies of induced aberrations in human populations. They include contributions by a number of the world's leading experts in the field.

The book is divided into six sections on the origin and nature of radiation-induced chromosomal aberrations, chemical and biological modifications, chromosome damage in relation to other biological consequences, chromosomal aberrations in germ-line cells and in human populations exposed to radiation, and finally a section on the study of aberrations in risk assessment. Several chapters focus on the role of DNA damage and repair in the production of chromosomal abnormalities, and there is an interesting chapter that examines the relationship between specific chromosomal aberrations and radiation-induced mutations. Another particularly useful and well-written chapter reviews current knowledge concerning the radiosensitivity of cells from cancer-prone individuals, and the possible role of hypersensitivity to DNA-damaging agents in genetic predisposition to neoplasia. The six chapters summarizing our knowledge of chromosome aberrations in radiation-exposed human populations include the study of atom bomb survivors, of patients treated for ankylosing spondilitis, and of individuals exposed through their occupations, as well as an interesting chapter reviewing the studies of populations from areas with elevated natural background radiation.

The various chapters in this book are generally well written, with the obvious goal of reviewing the available data in the subject area rather than covering the personal research of the authors. As a result, there are comprehensive bibliographies, and this volume should thus prove to be a valuable reference text on the chromosomal effects of radiation from environmental, medical, or accidental exposures. It also serves as a valuable source of information concerning current knowledge of the nature and biological consequences of radiation damage to human chromosomes.

JOHN B. LITTLE
Harvard School of Public Health
Boston, Massachusetts

## BOOKS RECEIVED

*Radiation Protection Procedures in the Use of $^{99}Tc^{m}$.* M.D. Short, J.H. Todd, P.J. Mulvey, N.W. Ramsey. London, The Hospital Physicists' Association, 1984, 16 pp, £2.50

*Christensen's Introduction to the Physics of Diagnostic Radiology.* Third Edition, T.S. Curry, III, J.E. Dowdey, R.C. Murry, Jr., Philadelphia, Lea & Febiger, 1984, 515 pp, $30.00

*Fundamentals of Nuclear Medicine.* N.P. Alazraki, F.S. Mishkin, Eds. New York, The Society of Nuclear Medicine, 1984, 191 pp, $12.00

*Biological Effects of Ultrasound: Mechanisms and Clinical Implications.* National Council on Radiation Protection, Bethesda, MD, National Council on Radiation Protection, 1984, 266 pp, $15.00

*Atlas of Sectional Anatomy: Head, Neck, Trunk.* Philomena McGrath and Peter Mills, Basel, Karger, 1984, 238 pp, $49.25