

# NMT Bookshelf

## **SCINTILLATION CAMERA LUNG IMAGING: AN ANATOMIC ATLAS AND GUIDE**

Charles H. Mandell, Grune & Stratton, New York, NY, 1976, \$28.00

The goal of this book is to aid the physician in the interpretation of scintillation camera images of the lung. One of its most novel features is a series of images of lung models in which lesions of various segmental arteries are viewed in six projections (anterior, posterior, both laterals, and both posterior obliques), both as "cold" and "hot" lesions.

Properly studied and compared with actual cases, these images should be helpful learning aids. A second desirable feature is the emphasis on and examples of the use of posterior oblique views, which are becoming more and more routine throughout the field of nuclear medicine.

A weakness of the book is too little emphasis on Xenon-133 studies of regional ventilation, which are, in my opinion, the greatest aid in increasing the relative specificity of radioactive tracer studies in the differential diagnosis of different lung diseases. Also inadequately covered is the characteristic difference between posterior and anterior views in the supine patient with pleural effusion.

All in all, though, the concepts, photographs and text are useful. This book should help in this area of nuclear diagnostic medicine that is still difficult.

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## **THE BASIC PHYSICS OF RADIATION THERAPY (2nd Edition)**

Joseph Selman, Springfield, IL, Charles C. Thomas, 1976, 715 pp, \$25.75

This book should be welcomed by all involved in the training of radiation therapy technologists and radiation oncologists. It can serve as an accepted basic textbook for an introduction to radiation physics, treatment planning, radiation biology, and health physics.

As might be surmised, no text can cover all these topics in the detail needed by today's professional, but in 715 pages, Dr. Selman has presented most of the principles in an easy style that is reasonably free of ambiguity.

The book is a complete revision of the first edition and has included a more relevant coverage of external beam dosimetry, a better discussion of radiation protection, and an interesting account of the development of time-dose concepts.

On the negative side, too much effort remained on the use of orthovoltage equipment and too little on the use of linear accelerators. Some attention should have been given to the use of simulators and how to obtain an acceptable localization radiograph. A discourse on the role of treatment-planning computers would have been a worthy substitute for space given to diagnostic uses of radioisotopes. Lastly, more rigor should have been given to basic physics, such as the discussion of systems of units to better prepare the reader for handling the radiation physics relationships.

In a rapidly moving field such as radiation therapy, it is not possible for any comprehensive description to remain current, but Dr. Selman's book will remain a solid introduction to the field for several years to come.

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## **ICRU REPORT 25 CONCEPTUAL BASIS FOR THIS DETERMINATION OF DOSE EQUIVALENT.**

International Commission on Radiation Units and Measurements, Washington, DC, 21 pp.

As the title implies, this report is the most recent of a series of reports dealing with radiation units and measurements. Report No. 25 is some 21 pages in length. As such, it constitutes a pamphlet or monograph rather than a book and it deals in precise terms with the concept of "dose equivalent" in five chapters plus three appendices.

The report is authored by a committee of the ICRU consisting of five persons well renowned for their work in this area: H. H. Rossi, (Chairman), D. Beninson, H. J. Dunster, B. Lindell, and H. O. Wyckoff.

Dose equivalent is the absorbed dose modified by a factor to include the magnitude or probability of biological effect. As such, it is claimed to be more relevant than the absorbed dose alone. After defining dose equivalent, the report deals with the various quantities involved and their interrelationships, and then with the application of these terms to the doses calculated for radiation protection purposes. The last section deals with the means by which the dose equivalent index may be measured. Three appendices are included to specify the hierarchy of radiation quantities, absorbed dose, and the effects of angular distribution of the incident radiation, respectively.

Like the other ICRU reports, this one is worded very carefully and concisely. Each sentence and paragraph is chosen such as to avoid ambiguity and no words are

JOURNAL OF NUCLEAR MEDICINE TECHNOLOGY