

BOOKS AND PUBLICATIONS

All interested medical physicists are encouraged to have their names added to a list of available reviewers. Please rank your interest among radiation therapy, x-ray, imaging, nuclear medicine imaging, ultrasound imaging, MR imaging, radiation injury, radiation protection, and others. Make your interest known to Dimitris Mihailidis, Ph.D., Books Review Editor (dimitris@charlestonradiation.com). Include your name and e-mail address in the body of the response.

Management of Persons Contaminated with Radionuclides: Handbook. National Council on Radiation Protection and Measurement (NCRP), NCRP Report No. 161, Bethesda, MD, 2009. 286 pp. (spiral-bound). Price: \$165.00, ISBN: 9780929600994.

Description

This publication is a handbook for use “in the field” and thus has been published in an unusual format: Spiral-bound on durable, waterproof synthetic stock with color-coded tabs separating the various sections (or “parts”). It is printed in an easily legible black Times Roman font on white background. It includes one color “decision-tree” diagrams (color-coded to the aforementioned tabbed parts), a handful of line drawings, numerous tables, an extensive reference list, and a detailed index. Although a number of formulas are included, it is non-mathematical in content. This volume is also available in electronic form as a PDF file and, at a discounted price, in both hardcopy and electronic forms. It is an expanded update of the National Council on Radiation Protection and Measurement (NCRP) Report No. 65 on *Management of Persons Accidentally Contaminated with Radionuclides* published in 1980 and is one of the most recent additions to the ongoing series of “NCRP Reports” periodically published by the NCRP. The book is comprised of four tab-separated parts, with an upcoming companion volume providing the technical and scientific bases of the current handbook. The companion volume will be available in electronic (PDF) form at a cost of \$80. The current volume provides extensive reference data for and practical guidance to medical professionals and others who may

respond to radionuclide contamination incidents.

Purpose

As noted, this book provides reference data for and practical guidance to those who may need to respond to radionuclide contamination incidents. These may range from situations in which only several people or even a single individual receive minor contamination in a research, medical, or industrial setting to those in which large numbers of people are contaminated as a result of accidental or deliberate environmental releases of large amounts of radioactivity, such as a breach-of-containment nuclear reactor accident or an act of nuclear terrorism. The Report focuses on the medical management of individuals exposed to and potentially contaminated with radionuclides in such incidents, with an emphasis on decontamination measures.

Audience

This handbook is directed to individuals who would provide medical care and perform radiation-safety functions in the event of radioactive contamination or potential contamination of small to large numbers of individuals. It is intended to provide guidance and recommendations to medical and radiation-safety personnel for assessing and reducing external and internal radionuclide contamination levels, and thus the risks of radiation-induced adverse health effects. As such, it is directed to medical and/or radiation-safety personnel assisting and advising first responders on-site, most likely in the immediate aftermath of an emergency, as well as to those providing follow-up care at hospitals and other off-site locations.

Content/Feature

As noted, this handbook is comprised of four color-coded, tab-separated parts, Parts A, B, C, and D. (Part E, the upcoming scientific-and-technical-bases volume, will provide detailed information in support of the guidance in the handbook.)

Part A (Compendium of Radiation Facts and Guidance) is comprised of five sections providing quick reference information for incident responders and includes a glossary and a summary of relevant properties of various radionuclides and radiations. This compendium will be useful to anyone responding to a radionuclide contamination incident, regardless of their radiation knowledge, training, and experience. Part A also reviews objectives for the first medical and radiation-safety personnel on the scene. These include providing medical aid to the injured, identifying irradiated and/or contaminated individuals, detecting and identifying radioactive material, identifying sources of external radiation, controlling contamination, and initiating decontamination of individuals and the site. Part A also includes a detailed color-coded flow diagram outlining the sequence of medical management activities organized into nine stages, which are described in the balance of the handbook (Parts B–D).

Part B (Onsite and Prehospital Actions) includes three sections dealing with the first three stages, respectively, of medical management activities, namely, on-site assessment and control of both radiation and medical aspects of a radionuclide contamination incident. These focus on external contamination and decontamination issues.

Part C (Patient Management in Hospital) deals with Stages 4–7 of medical management, patient evalua-

tion and medical care, internal contamination assessment, clinical decision-making, and short-term/acute medical management (including decontamination measures), respectively.

Part D (Patient Management Posthospital) addresses the final two stages, follow-up medical care and management of contaminated decedents, as well as contamination control of medical facilities.

Assessment/Comparison

In light of the persisting threat of nuclear terrorism, this book is an important and timely update of NCRP Report No. 65. Consistent with the historically high standards of NCRP

publications, it is very well written and well organized, and encyclopedic in its completeness. The numerous tables, in particular, concisely present an enormous amount of practically useful information. The spiral-bound, tabbed format on waterproof stock is a thoughtful feature of this handbook. A compilation of relevant web-based resources (including URLs), perhaps as an appendix, would have been a useful addition, as would an explicit statement advising responsible personnel to read and understand the handbook in advance of a contamination emergency. Nonetheless, this publication should be included among the reference materials in every radiation safety office and hospital emergency

room. It will very likely emerge as the “standard” for management of radioactively contaminated individuals.

Reviewed by Pat Zanzonico, Ph.D.

Pat Zanzonico is a Member and Attending Physicist in the Department of Medical Physics of Memorial Sloan-Kettering Cancer Center in New York City. His main areas of interest are nuclear medicine and molecular imaging. He is a member of the Editorial Board and past Associate Editor of the Journal of Nuclear Medicine, member of the Medical Internal Radionuclide Dosimetry (MIRD) Committee and the Nuclear Regulatory Commission's Advisory Committee on Medical Uses of Isotopes (ACMUI), and a Consultant to the International Atomic Energy Agency (IAEA).