

Handbook for Survival – Saving Lives During Radiation Release and Other Disasters.

Allen Brodsky, ScD, CHP, CIH, Dipl. ABR. Fideli Publishing Inc. 119 W. Morgan ST., Martinsville, IN 46151. ISBN : 978-1-60414-810-7, September 2014.

A book review by Ray Johnson, Radiation Safety Counseling Institute, Rockville, MD.

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This short book (145 pages) is the culmination of Dr. Brodsky's 65 year career devoted to good science in radiation safety and really caring for the welfare of workers and the public. The book is a condensed version of his 2011 book *Actions for Survival – Saving Lives in the Immediate Hours After Release of Radioactive or Other Toxic Agents*, MJR Publications, Baltimore, MD 373 pages. In these books Dr. Brodsky has taken on the daunting task of presenting defensible science for safety in words that are understandable to persons without scientific training. During his career he constantly challenged those who abused science for their own agenda. He describes how he has confronted antinuclear activists, other scientists, and the heads of government agencies in a lifelong endeavor to correct bad science and the results of misunderstandings about radiation.

The book is divided into five chapters:

1. Simple actions to take at the moment of an explosion or storm to save life
2. Understanding dangerous vs. safe or zero ranges of radiation dose and risk
3. Ranges of radiation and concentrations of radioactivity from everyday sources.
4. Further preparations to improve chances of saving lives
5. How to find reliable experts you can believe: very difficult but doable.

Dr. Brodsky draws upon a lifetime of experience to provide simple tools and insights for protection from radioactive or other toxic agents. He urges all citizens to understand and learn minimum actions described in this book for saving lives, especially in this era of renewed threats of "Death to America." Early in the book he presents a one page exhibit on simple immediate actions to reduce injury and radiation dose, including: A. Drop and cover. B 7/10 rule for A-bomb radiation, and C. Look for fallout dust.

He expresses concerns for the use of the newer "politically correct" SI units and indicates that the traditional measurements of exposure in Roentgen better relate to absorbed doses in the body. He also notes that most radiation instruments available during an emergency will have a scale in units of Roentgen. His presentation on definitions and concepts used in discussing radiation issues may seem complicated for lay persons.

Dr. Brodsky provides extensive discussion on estimating risks of exposures or doses under emergency conditions. He describes acute radiation effects up to 6 Gy (600 rad). He also discusses long term stochastic effects. He endorses the use of the linear non-threshold dose (LNT) model for deriving peace-time dose limits for managing radiation exposures to workers

and the public under controllable conditions. He does emphasize, however, that use of LNT ignores the considerable evidence for hormesis for doses under 0.2 Gy (20 rad) or even larger doses spread out over time. He notes also that the word “risk” is not to imply danger, but rather to indicate a chance of effects. He makes a point that the risk related to a dose of 250 mSv (25 rem) for life saving is minimal. He describes results of studies which suggest that about 700 mSv/year (70 rem/yr) is a level above which some elevation of cancer risk can occur, but below which hormetic effects are likely to overcome them.

Dr. Brodsky provides a list of supplies to acquire in preparation before an emergency. This list includes water, canned foods, battery powered lights and radio, first aid kit, dust masks, tools, chemical toilet, blankets, matches, soap, bleach, and a radiation meter, or a wallet card-size color-changing dosimeter (called SIRAD – Self –indicating Instant Radiation Alert Dosimeter). He also discusses how to build a shelter or create improvised shielding. He presents several pages of discussion on radiation instruments that may be useful in a radiation emergency. He describes a GM detector called NukAlert-ER which he believes should be widely distributed around the country.

He has several pages of discussion on how to care for trauma victims. He says that triage should begin with airway management and a breathing assessment, to be followed by a head-to-toe examination, while watching for hypothermia. He emphasizes that medical needs should always take priority over concerns for radiation exposures. He also discusses decontamination and waste removal.

His chapter on finding reliable experts was especially interesting because he discusses his own failures in communication with other scientists, government officials, and the media. He indicated, that on occasions where his attempts to refute bad science in the media were rejected, he felt his rights to freedom of speech were violated by press censorship. From his experience, however, he concludes that opinions detrimental to health can be turned around by telling the truth. His experience demonstrates that we need to show our audience, whether one person or hundreds, that we really care. He emphasizes the good news, namely,

“It is possible for anyone with the facts to spread truth to almost anyone in the public with an open mind, simply by showing you care, introducing the facts in plain language, and talking to them directly in person.”

Overall this book presents an interesting lifetime odyssey of a man who cares deeply and is willing to commit his energy and talents to righting the wrong impressions for radiation safety fostered onto the public and first responders by bad science. While most people at his age have quietly retired to other pursuits, Dr. Brodsky is still actively engaged in his lifelong struggle to present the truth of defensible science. Readers of this book will gain new insights that may change the views traditionally held about the dangers of radiation and what to do for protection of themselves and their families.