

Industrial Medical Experience Associated with The Palomares Nuclear Incident

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The Accident

During 1966 popular news periodicals¹⁻⁴ carried accounts of an aircraft accident near Spain, involving planes of the United States Air Force. Many other reports described uncontrolled dispersion of four unarmed nuclear weapons over the southeastern coastal areas of that country.⁵⁻⁸ Three book-length accounts of the accident and subsequent events were quickly published.⁹⁻¹¹

These reports related the details of a mid-air collision and explosion. Seven crew members were killed in the accident, and four nuclear weapons dropped to earth. Three weapons were quickly found, two of which experienced a non-nuclear explosion, scattering their contents.^{1,2,9-11} The fourth was not easily located, and subsequent land and sea search efforts involved large numbers of military and civilian personnel.^{4,7,8,12} On April 7, 1966, the missing bomb was removed from the Mediterranean Sea.⁹ The land search was climaxed by removal of topsoil, sealing it in drums and shipping to the United States for burial. The amount removed varies with the reporting agency. Values of 1,600 tons,¹ 4,900 barrels,⁵ and 1,500 cubic yards⁶ were cited. According to one source⁸ "the earth and vegetation contain only small quantities of radioactive materials scattered when the nuclear weapons impacted."

Industrial Medical Problems

In the usual context of industrial medicine, the worker is considered as more or less of a specialist whose possible exposures to hazardous situations and toxic materials is defined reasonably well by his work specialty. Therefore, a vigorous program of health education coupled with close monitoring of the environment and the man is sufficient to protect the worker. Health education is probably the most significant portion of the program, and is successful only after many months and years of emphasis.

With the above in mind, consider the situation in Spain. Violation of integrity of two devices permitted limited dispersal of contents and strong winds over the area enabled material to be spread. Land search operations for the weapons had to proceed with an absolute minimum of delay. Manpower requirements were quickly met by assigning personnel from adjacent areas to temporary duty in Spain. Only a very small percentage of these troops had had any experience with incidents of this nature, the use of instruments for detection of radioactivity,

(This study was carried out only on the nearly 1,700 participants from the US forces in the field decontamination. No data on the local population!) ERN