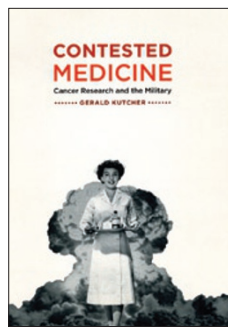


## A shameful system of research



### Contested Medicine: Cancer Research and the Military

Gerald Kutcher

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Reviewed by Audra J Wolfe

In 1958, Eugene Saenger, a cancer researcher at the University of Cincinnati School of Medicine, submitted a proposal to the Department of Defense (DOD) for a study on the effects of total body radiation (TBI) on patients with cancer. Two years later, Saenger began one of the most notorious human radiation experiments of the postwar era. Over a period of more than ten years, Saenger and his research team exposed approximately 80 patients with terminal cancer to potentially lethal doses of radiation; at least eight of them are now thought to have died from radiation poisoning. Advisory groups repeatedly expressed concern about the scientific merits of the program, its clinical goals and its procedures for informed consent, yet the study continued unimpeded until bad publicity finally shut it down in 1972.

Gerald Kutcher's remarkable *Contested Medicine* is an attempt to situate Saenger's experiments within the broader culture of postwar clinical research. Kutcher is more interested in understanding Saenger than in judging him; his account neither exonerates nor condemns Saenger. The result is a nuanced and insightful account that uses the University of Cincinnati TBI study as a lens to examine a host of crucial issues in postwar research, including the continuing evolution of research protocols, the expansion of informed consent, the use of patients as proxies and the transfer of medical authority from individual physicians to regulatory institutions.

The competing—and perhaps incommensurable—goals of medical care and clinical research form the crux of Kutcher's analysis. The principle of equipoise at the heart of the modern randomized clinical trial (RCT) requires investigators to believe that they have no rational basis for choosing between treatment options. The utilitarian ethics of the RCT stress sound scientific practices and statistical significance. In contrast, the Hippocratic rule of clinical practice privileges the physician's duty to the interests of his or her patients. At what point, Kutcher asks, should the physician's observations in the clinical trial shape his or her practice? Are the clinical investigator's responsibilities primarily to the cause of science or to the welfare of the patient? Contemporary bioethics has attempted

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to resolve this impasse through universal principles that stress avoidance of harm, benefit to society and individual self-determination. These principles, however, assume that risks and benefits will be clear at the outset of a study and that a patient's safety can be ensured through informed consent. Kutcher is critical of both notions.

Retrospective critics, particularly the 1990s-era President's Advisory Committee on Human Radiation Experiments, have typically portrayed the Saenger episode as pathological—an appalling misstep from the days before bioethical considerations were fully institutionalized into research practice. Kutcher's achievement is to demonstrate not only that none of these principles were nearly as established by the mid-1950s as we might care to believe but also that even those researchers who subscribed to them found it nearly impossible to assess Saenger's study because his experimental methods and assumptions so closely mirrored their own. Here the context of the Cold War becomes crucial, particularly in understanding the perceived benefits of Saenger's study. There was genuine optimism in the immediate postwar years for the potential of nuclear medicine to overcome cancer—radioisotopes, after all, were the centerpiece of Eisenhower's Atoms for Peace program. In this context, it was not unreasonable to think that TBI might offer therapeutic benefits to patients with metastatic cancer. At the same time, the possibility of tactical nuclear warfare had left military leaders scrambling for more information on the effects of radiation exposure on the bodies of fighting soldiers. Saenger's experimental plan therefore worked as both an attempt to develop a human dosimeter and as a potential treatment for cancer. Later, as it became clear that their patients were dying from radiation sickness and that extreme measures would be necessary to keep them alive, Saenger and his colleagues began to see their research as an investigation into the optimal conditions for bone marrow transplants. The goals and protocols of Saenger's research project constantly shifted in response to both his patients' prognoses and to his institutional audience.

Throughout the 1960s, the project's critics at the University of Cincinnati focused on the question of whether the military benefits were ancillary to a therapeutic study or whether the anticipated therapeutic benefits were merely an excuse to perform military experiments. The question of consent similarly focused on whether the subjects had been informed of the possible military uses of the study and not on its potential dangers. A particularly powerful chapter on the heart-wrenching experiences of a single patient who died 25 days after her radiation treatment serves as a reminder of how beside the point these principled discussions were for the patients who served as proxies for soldiers. Regardless of whether the experiments might benefit national security or the practice of medicine, they were terrible. The fact that Saenger's peers had difficulty articulating this, Kutcher argues, says as much about the prerogatives of midcentury clinical research as it does about the ethics of Saenger and his colleagues.

Although Kutcher does not do so, it is possible to extend his argument to the entire political economy of postwar science and medicine. Many of Saenger's critics focused on the impropriety of accepting DOD dollars, but the DOD was, after all, offering. Such a close relationship between military agencies, universities and civilian researchers was commonplace during the Cold War. Two decades after the end of the Cold War, Kutcher's fine book is a disquieting reminder of the instrumentalist roots of modern clinical ethics.