

Lecture 22: Cold War Medicine

1. Introduction

- Physics and fame after WWII
- Physicists' new ethical concerns
- Physicist-Physician parallels

2. Early Ideas about Radiation and Health

- Tragedy of the radium dial painters
- Cyclotron, isotopes, and the Lawrences
- Isotopes as benign and useful medical tool
- Ensuing confusion

3. Medicine and the Manhattan Project

- Concern for worker and soldier safety
- Confusion about health effects of radiation
- Exposure studies: plutonium, x-rays, etc.
- Creative choice of research populations
- Managing risk to patients
- Berkeley Radiation Laboratory
- Fission products and radiological weapons
- US Strategic Bombing Survey

4. Cold War Radiation Medicine

- Studies on battlefield exposure of soldiers
- Military informed consent
- Nuremberg War Crimes Tribunal
- Ethics and military expediency
- Keeping ethical violations secret
- Atomic volunteers

5. Antibiotics and World War II

- Failed promise of germ theory
- Accidental discovery of penicillin
- Penicillin and wartime rationing
- Ethics of research and rationing
- Emergence of medical research industry

6. Medicine and Cold War Politics

- International health aid as political tool
- Malaria Control in War Areas
- Centers for Disease Control

CDC's Epidemiological Intelligence Service
EIS and ethics of biological weapons programs
Ethics and international health research

Further Reading:

David Jones and Robert Martensen, "Human Radiation Experiments and the Formation of Medical Physics at the University of California, San Francisco and Berkeley, 1937-1962." In *Useful Bodies: Humans in the Service of Medical Science in the Twentieth Century* (2003)

David Jones, "The Health Care Experiments at Many Farms: The Navajo, Tuberculosis, and the Limits of Modern Medicine, 1952-1962." *Bulletin of the History of Medicine* 76 (Winter 2002): 749-790.

AEC Advisory Committee on Biology and Medicine, 10 November 1950
(http://www.gwu.edu/~nsarchiv/radiation/dir/mstreet/commeet/meet11/brief11/tab_i/br11i2a.txt)

Names and Dates:

Radium Dial Painters

Ernest Lawrence (1901-1958): Cyclotron, 1929; Nobel Prize, 1939

John Lawrence, medical use of isotopes

Joseph Hamilton, radiological weapons

Medical Physics, Radiation Medicine

U.S. Strategic Bombing Survey

Atomic Bomb Casualty Commission, 1946-1982

Nuremberg War Crimes Tribunal, 1945-1946

Informed Consent

Alexander Fleming (1881-1955)

Penicillin, discovered 1928, used therapeutically 1941

National Institutes of Health, established 1946

Malaria Control in War Areas → Communicable Disease Center (CDC),
1946

Epidemiological Intelligence Service, 1950

U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID),
1969

Film Footage:

"The Atom and You":

<http://tis.eh.doe.gov/ohre/multimedia/film/index.html>

Effects of Atomic Blasts:

<http://www.nv.doe.gov/library/films/testfilms.aspx>

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Soldier participation in bomb tests:

<http://www.nv.doe.gov/library/films/testfilms.aspx>

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