



DEPARTMENT OF VETERANS AFFAIRS
Veterans Benefits Administration
Washington, D.C. 20420

May 17, 2007

Wray C. Forrest

Dear Mr. Forrest:

According to records recently released by the Department of Defense (DoD), you participated in tests at Edgewood Arsenal in Maryland during your tour of service in the Army. The purpose of this letter is to inform you about the tests and what to do if you have related health concerns.

Information About the Tests

The tests at Edgewood Arsenal exposed participants, with their consent, to a number of different chemicals. The tests' objectives were to determine specific health effects associated with exposure, to assess various pre-and post-exposure medical treatments, and to evaluate the effectiveness of personal protective equipment. Not all volunteers were exposed to chemical agents; some received placebos (harmless substances with no health risks). Others performed stress tests without exposure to chemicals. Please see the enclosed DoD fact sheet, *Edgewood Arsenal Chemical Agent Exposure Studies: 1955-1975*, for additional information.

What You Can Discuss About the Tests

You may be concerned about releasing classified test information to your health care provider when discussing your health concerns. To former service members who participated in these tests, DoD has stated:

"You may provide details that affect your health to your health care provider. For example, you may discuss what you believe your exposure was at the time, reactions, treatment you sought or received, and the general location and time of the tests. On the other hand, you should not discuss anything that relates to operational information that might reveal chemical or biological warfare vulnerabilities or capabilities."



FACT SHEET

Deployment Health Support Directorate

For more information,
800-497-6261

Version 1.0 (2006)

Edgewood Arsenal Chemical Agent Exposure Studies: 1955 – 1975

The Department of Defense is committed to share with the Department of Veterans Affairs the databases it compiles on military personnel who participated in prior military chemical and biological operational testing. During the 1990s, the Defense Department compiled the Mustard Participant Database and from 2000 to 2003, the Projects 112 SHAD Database. The Department is currently working to catalogue tests conducted since 1942 that were not included in the earlier databases. As part of this effort, the Defense Department is cataloguing the tests that were conducted at Edgewood Arsenal, Maryland from 1955 to 1975. The Institute of Medicine (IOM) published a three-volume study between 1982 and 1985 on the long-term health effects of exposure to the chemicals tested.¹ The study did not detect any significant long-term health effects in Edgewood Arsenal volunteers.

During the 1955-1975 Edgewood Arsenal testing, the Army Chemical Corps Medical Department conducted classified medical studies involving nerve agents, nerve agent treatments (antidotes), psychochemicals (hallucinogenic drugs), irritants, and blistering agents. The purpose of the studies was to ensure that the U.S. military could adequately protect its servicemembers from possible wartime exposures to chemical warfare agents. As part of this effort, the Army conducted testing on approximately 7,000 volunteers at Edgewood Arsenal. These studies exposed participants, with their consent, to a number of different chemicals. The study objectives were to determine specific health effects associated with exposure (particularly at low dosages), to assess various pre- and post-exposure medical treatments, and to evaluate the effectiveness of personal protective equipment in preventing exposure.

The program evaluated the effects of low-dose exposures to chemical agents and their treatments, how well personnel performed mentally and physically following exposure, how easily some chemicals were absorbed into the body through the skin, and the effectiveness of personal protective equipment. Not all volunteers were exposed to chemical agents. Some only received placebos (harmless substances with no health risks) or performed stress tests without any exposure to chemicals.

Initially, investigators determined exposure levels based on known safe levels in laboratory animals. They increased exposure levels only when there was a low risk of

¹ Institute of Medicine, *Possible Long-Term Health Effects of Short-Term Exposure to Chemical Agents* (Washington, DC: 1982, 1984, 1985).

Frequently Asked Questions Edgewood Arsenal Chemical Agent Exposure Studies: 1955 – 1975

Q: Where did the Army get its test participants?

A: Army enlisted men assigned to installations near Edgewood Arsenal were the initial source of volunteers. Over time, the Army recruited volunteers from throughout the United States and from other Services. About 75 service members participated during each 30-60 day testing period. As a group, the volunteers selected to participate in the studies were above average in physical and mental qualifications when compared to other service members.

Q: Were study participants true volunteers?

A: The Army obtained the voluntary consent of volunteers and provided them with study information.

Q: Does the Department of Defense still conduct human experimentation with chemical agents?

A: No. Current medical chemical defense programs involving human subjects do not involve the exposure of these subjects to chemical agents.

There are medical chemical defense programs that involve the use of human subjects in controlled clinical trials to test and evaluate the safety and effectiveness of medical products (drugs, therapies, etc.) to protect against chemical agents. The use of human subjects in these trials involves volunteers who have provided informed consent. All use of human subjects in these trials is in full compliance with the "Common Rule," Federal Policy for the Protection of Human Subjects, Food and Drug Administration (FDA) regulations, Federal Acquisition Regulations (FAR), DOD Directives and Instructions, and *all* other applicable laws, regulations, issuances, and requirements.

Q: What databases are the Department of Defense maintaining on veterans exposed to chemical and biological agents?

A: DoD maintains a Project 112 SHAD (Shipboard Hazard and Defense) database. This database contains the names of veterans who were participated in Project 112 SHAD testing in the 1960s and 1970s. It contains more than 6,000 names and is updated as needed when we discover additional veterans who were part of this testing. We also maintain a database containing the names of veterans who participated in mustard agent tests during World War II. We are currently in the process of populating our third exposure database, the Edgewood Arsenal Chemical Agent Exposure Studies database (1955-1975). The Edgewood Arsenal Chemical Agent Exposure Studies Database (1955-1975) is part of the database of all other chemical and biological testing since World War II.

serious side effects. The study investigators assured that the exposure levels administered would not result in serious or life-threatening side effects. If required, the volunteers received treatment for any adverse health effects.

Q: Besides names and service numbers, what other information does the DoD database contain on the Edgewood volunteers?

A: For each individual, the database will contain the following:

- Type of test (i.e., performance, equipment, etc.)
- Type of exposure (i.e., injection, intravenous (IV), etc.)
- Date of exposure
- Agent/simulant name
- Agent/simulant amount if recorded
- Treatments required as a result of the exposure
- Documents describing the test procedures, if available

Q: Who maintains the database for veterans exposed to radiation?

A: The Defense Threat Reduction Agency maintains information on veterans exposed to radiation during the Nuclear Test Personnel Review (NTPR) Program.

Q: What types of tests were conducted at Edgewood?

A: Table 1 provides a rough breakout of volunteer hours against various experimental categories:

Incapacitating compounds (i.e., vomiting agent)	29.9%
Lethal compounds (i.e., sarin)	14.5%
Riot control compounds (i.e., CS)	14.2%
Protective equipment and clothing (masks, rubber suits, etc.)	13.2%
Development evaluation and test procedures	12.5%
Effects of drugs and environmental stress on human physiological mechanisms (i.e., wakefulness)	6.4%
Human factors tests (ability to follow instructions)	2.1%
Other (visual studies, sleep deprivation, etc.)	7.2%

Q: Did the Army expose the volunteers to hallucinogenic compounds?

A: Yes, there were studies at Edgewood that exposed volunteers to hallucinogenic drugs like LSD. Although the current medical literature indicates that such exposure may have some long-lasting effects among some individuals, such as "flashbacks" (visual hallucinations without new drug exposure), the volunteer records from the times of the Edgewood studies did not record these kinds of after effects among the Edgewood study volunteers.