OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

HEALTH AFFAIRS

SEP 27 2005

Terry Doe
678 Any Street
Any Town, USA 01235

Dear Terry Doe:

We in the Department of Defense care very much about the health of those now serving and of those who have previously served. Some years ago we contacted Gulf War veterans of units that were near Khamisiyah, Iraq, between March 10 and March 13, 1991, to inform them of possible exposure to very low levels of chemical warfare agents released during demolition operations following the war. We are now contacting you again because there is some new information that may interest you.

In the August issue of the *American Journal of Public Health,* Institute of Medicine researchers compared the causes of death and their rates among U.S. Army Gulf War veterans whose units might have been exposed to very low levels of chemical warfare agents with U.S. Army Gulf War veterans whose units were unlikely to have been exposed. The rates and causes of death for both groups were similar. The overall rate of death for cancer was the same, with only a slightly higher death rate due to brain cancer among servicemembers assigned to units that might have been exposed.

The results of this study were based on death records from 1991 though 2000. The Department of Veterans Affairs (VA) is continuing to conduct death rate studies of all Gulf War veterans. These results should help to clarify the long-term health outcomes of Gulf War veterans, including those linked to the Khamisiyah demolition. We will continue to monitor findings for any indication of specific health-related issues.

We have enclosed a fact sheet and answers to frequently asked questions to provide you with more detailed information about this recent study.

Your health is important to you and to us, and if you have health concerns, problems or questions, you should consult with your primary care physician. Both the DoD and the VA offer medical evaluation programs for Gulf War veterans. To schedule an appointment, call toll-free at 1-800-796-9699 for the DoD program or 1-800-749-8387 for the VA program. For general information about Khamisiyah and related issues, please call 1-800-497-6261.

Sincerely,

Ellen P. Embrey

Ellen P. Embrey
Deputy Assistant Secretary of Defense
Force Health Protection and Readiness

Enclosure

KHAMISIYAH – FACT SHEET

Background

After the 1991 Gulf War cease-fire, U.S. servicemembers destroyed a large munitions depot in southern Iraq at a place called Khamisiyah. In 1996, the Department of Defense learned that some of the rockets destroyed at the depot had contained the chemical warfare agents sarin and cyclosarin. The Department estimated the possible hazard areas resulting from the spread of the nerve agents released by the demolition and identified military units located in those areas in Iraq, Kuwait, and Saudi Arabia from March 10 to 13, 1991.

Exposure levels to sarin and cyclosarin were very low and medical personnel in the area saw no evidence of health problems related to nerve agent exposure at the time. Current medical evidence indicates that such low levels of exposure are not likely to produce long-term health problems. The results of this initial analysis were first published in 1997 with additional results published in 2000.

In both 1997 and in 2000, the Department sent letters to individual veterans notifying them that their units had been located in the possible exposure area. The letters summarized the results of the investigations, and described sources of additional information and medical evaluations.

Recent Research

In the August 2005 issue of the *American Journal of Public Health*, the Institute of Medicine reported on the causes of death among Army veterans who served in the1991 Gulf War. The study compared the causes of death for veterans in two different groups. One group was made up of 100,487 veterans from units that were located in the possible exposure area related to Khamisiyah from March 10 to March 13, 1991. The comparison group was made up of 224,980 veterans from units that were located outside the possible exposure area.

Total death rates were the same for the two groups during 1991-2000. Soldiers from units in the possible exposure area had the same overall death rate as soldiers from units located outside the exposure area. For both groups of soldiers, the overall death rate during the period 1991-2000 was 60 percent lower (less than half) than the overall death rate among Americans of the same age, gender, and race.

The two groups had equal rates of death from disease, such as heart, lung or kidney disease. The two groups also had equal death rates from external causes, such as accidents and suicides.

The overall rates of death from cancer were the same in both groups. However, the rate of death from one specific type of cancer – brain cancer – was two times higher among the 100,487 veterans (25 deaths) whose units had been located in the possible exposure area than in the 224,980 veterans (27 deaths) who had been outside the exposure area. In other words, instead of observing only 12 brain cancer deaths, there were 25 brain cancer deaths reported among the 100,487 veterans.

The IOM report notes that neither sarin nor cyclosarin are known to cause cancer. The Department of Veterans Affairs continues to conduct mortality studies of 1991 Gulf War veterans. The results of these studies will clarify the long-term health outcomes of these veterans, including those linked to the demolitions at Khamisiyah.

FREQUENTLY ASKED QUESTIONS AND ANSWERS

Q: Should I ask my doctor for a test to see if I have brain cancer?
According to the American Cancer Society, there is no blood test or other screening examination currently available to detect brain tumors or cancer in the brain. For this reason, veterans who are healthy do not need to ask for any special testing. However, we encourage you to discuss any medical concerns you may have with your physician.

Q: Did sarin or cyclosarin cause the brain cancer in those veterans who were exposed?
In previous scientific research studies, sarin and cyclosarin have not been shown to cause cancer in humans or in animals. The causes of most cases of brain cancer are unknown. The reasons remain unknown for the higher rate of brain cancer among the possibly exposed soldiers.

Q: What are my chances of getting brain cancer?
For both groups of veterans and for Americans in general, the risk is about one case in 25,000 persons per year. The chance of developing brain cancer increases slightly as people get older, so the rate for people in their 50s is about one case in 10,000 persons per year.

Q: What are the long-term effects of a brief, very low-level exposure to nerve agents?
Current medical evidence shows that long-term health effects are unlikely. This is especially true if the level was so low that it did not cause any symptoms at the time of exposure.

Q: I feel healthy now. What should I do?
If you feel healthy, there is no need for you to seek medical attention now. If you have health concerns or symptoms, you are encouraged to request a medical examination. Both the DoD and the VA offer medical evaluation programs for Gulf War veterans. To schedule an appointment, call 1-800-796-9699 for the DoD program or 1-800-749-8387 for the VA program.

Q. Why did I get this letter?
Our investigations and records show that, if you were with your unit from March 10 to March 13, 1991, you might have been exposed to a very low level of chemical warfare agents sarin or cyclosarin released during demolitions at Khamisiyah.

Q: How can I get more information about the events at Khamisiyah, my possible exposure, and the results of the research?
If you want more information about the demolition at Khamisiyah, you can find an abstract of this most recent report at *http://www.gulflink.osd.mil/khamisiyah_iii/* If you don't have access to the Internet, or you would like more information, please call 1-800-497-6261 or write to us at:

Deployment Health Support Directorate
5113 Leesburg Pike, Suite 901
Falls Church, VA 22041-3226

Q: How can I get a copy of the new report?
Requests for reprints of the entire original journal article can be sent to: Tim Bullman, Department of Veterans Affairs, Mail Stop 135, Environmental Epidemiology Service, 810 Vermont Ave, Washington, DC 20420 (e-mail: *tim.bullman@hq.med.va.gov*).