



# Environmental Conditions at Karshi Khanabad (K-2) Information for Health Care Staff



*A Collaborative Effort of DHCC, AFIERA, NEHC, and USACHPPM*

American troops began working at K-2 (Stronghold Freedom) in Oct 01. K-2 is at the site of an old, Soviet-era air base in Uzbekistan and general conditions are harsh. It is a very active site supporting OPERATION Enduring Freedom. Thousands of service members (mostly Army and Air Force, but some Marines) from various Guard, Reserve, and active duty units have worked at K-2 or are scheduled to go there soon. Some people who worked there are concerned that the environmental conditions may have affected their health. This information sheet prepares medics for some of the more common questions.

## **What are conditions like at K-2?**

This is a bare bones, rustic site, as is often the case with contingency operations. The most common complaint was of a bad smell coming from a trench near the tent city. Others talked about “black goo” while digging or mentioned high levels of disease, like TB.

## **What kind of assessment was done at K-2?**

At any new site, an occupational and environmental baseline (EBS) survey is a required part of the health risk assessment process. In Nov 01, the U.S. Army Center for Health Promotion and Preventive Medicine-Europe (USACHPPM-EUR) did an EBS. They found widespread jet fuel plumes, usually 1-3 meters under ground, most likely from a leaking Soviet-era underground fuel distribution system. This was the cause of the odor and pooling associated with digging.

They also found smaller, localized areas of surface dirt contaminated with asbestos and low-level radioactive processed uranium, both from the destruction of Soviet missiles several years ago.

Finally, the amount of dust and other particles in the air was often high, varying with the season and weather, e.g., dust storms.

## **How would these exposures affect health?**

Although the odor is unpleasant, the fuel vapor level found in the area of the trench is well below the Minimal Risk Level developed by the Agency for Toxic Substances and Disease Registry. Noses are marvelously sensitive and can detect chemicals at low levels that are not harmful to health.

Asbestos was present. However, it was not detected in the air and would not be inhaled, so any health risk from asbestos is very small. The level of radioactivity found cannot get through the skin, so the only health risk would be from breathing radioactive dust in the air or by living or working directly over the most radioactive areas. Neither of these situations was detected at K-2.

Dust is a respiratory irritant that bothers some people more than others. Symptoms such as cough, sneezing, sinus irritation, increased posterior nasal drainage, and sore throat are common during peak periods. People

with asthma or allergies may notice that their usual symptoms worsen. These effects usually resolve as the local environmental conditions improve. Permanent health effects are uncommon.

Long-term health effects from the short-term, low-dose exposures possible at K-2 seldom if ever occur. A few scientists and clinicians, however, hypothesize that low doses of one or more environmental agents may cause a wide variety of symptoms in certain sensitive people. Unfortunately, there is conflicting evidence and not everyone agrees. Reported symptoms might include depression, anxiety, or unexplained physical symptoms such as fatigue, subjective memory and concentration problems, chronic pain, or an irritable bowel. Such symptoms can appear for many reasons and most commonly occur in people without any known exposure to environmental contaminants. Any new information about K-2 exposures or associated health effects will be sent to health care providers and service members right away.

## **What protective steps were taken?**

The air base leadership quickly took protective action in Nov 01. They filled the trench with clean soil to create a cap to hold the vapors underground. They also covered the areas of radioactive soil and asbestos with a thick layer of clean dirt to keep people safe. These areas remain off-limits to everyday activity, and both permission and protective equipment are required before any digging can occur.

Air monitoring and other follow-up sampling are ongoing to ensure that conditions do not change and that these measures remain effective.

## **What about chemical warfare agents?**

News media in Jun 02 reported that trace amounts of nerve and blister agents were detected in some areas of the K-2 complex. However, extensive confirmatory testing of new samples using specialized testing equipment was completely negative for chemical warfare agents. The initial tests using less specific equipment apparently gave false positive results most likely due to contaminants from recent painting and other refurbishing activities. Monitoring continues at K-

2 to ensure service members remain protected and to provide early detection and reporting if conditions change.

### **What did post-deployment surveys show?**

Service members are supposed to fill out a post-deployment survey (DD Form 2796) before leaving the theater. This is one of the ways the services monitor the conditions experienced by deployed troops. Of those surveys in which service members reported exposure concerns, the most common concerns were depleted uranium, petroleum products, tuberculosis, radio-frequency exposure, and general radiation exposure.

### **What should I expect from returning K-2 personnel?**

Service members may ask about any of the above topics or others that we don't know about yet. Some may believe they were exposed to dangerous chemicals and that they haven't been told the truth. They may have symptoms that they think are the result of these exposures, or they may feel well now, but report concerns regarding their future health.

Available indications are that the protective risk control measures in place since November 2001 remain effective. However, rumors and conflicting reports have circulated, and your reassurances may not lessen their level of concern. Listen actively, show that you care about them and their concerns, and promise to do your best to help them. Avoid any temptation to contradict them.

### **What should I do in the clinic?**

The best advice for the medical staff is to show respect and appreciation for the patient's recent service to his or her country. It often helps rapport if you thank them for that service. Show them care and concern at all times.

A complete and thorough history and focused physical examination is always appropriate. Be sure to book extra time for these patients and spend more time than usual gaining their perspective regarding possible K-2 exposures and other health concerns. Similarly, take more time than you normally would to explain all options and follow-up plans.

Follow-up evaluations and clinical continuity are essential to the care of any patients, but can be difficult, especially for reservists and National Guard members. Still, a single primary care provider that guides the patient through the evaluation process, knows patient concerns, and can track his or her care is ideal and it shows care, concern, and commitment to the patient. Try to provide this service whenever possible.

Another option for the reservists and National Guard members is the VA. Recent legislation allows the VA to provide health care at no cost to all combat veterans for any illnesses that are at least conceivably related to military service. This includes such things as potential

health effects from possible environmental exposures that occurred during deployment. The service is available to all combat veterans for a period of two years after their separation from military service, and the veteran is not required to prove any connection to military service. Veterans in this current deployment will be covered. Be sure and pass this information on.

It is common for individuals in these circumstances to express overt mistrust, anger, and even outrage at any reassurances you might offer. It is never appropriate to confront these individuals or to suggest that their symptoms are minor, exaggerated, or faked. Never diagnose symptoms as "psychogenic" or "somatoform." All complaints deserve your complete professionalism. Always give these individuals the benefit of the doubt in your clinical conclusions, documentation efforts, administrative determinations, and education efforts.

### **Are there special evaluations I should do?**

Let your clinical suspicion based on the history and physical direct your testing. Under the circumstances, you should have a low clinical threshold for ordering labs and clinical consultations. However, exhaustive (so-called "no stone unturned") evaluations trying to "rule out" every remote possibility are inappropriate, often lead to false positive findings that can increase patient concern and may have other harmful effects.

Some people may ask for or demand specific tests they have heard about. These might include:

- *Volatile organic compounds (VOCs) in blood.* All of us have VOCs in our blood from exposure to fresh paints, gasoline at local filling stations, and other common exposures. VOCs are cleared from blood in less than a day, so test results would reflect only recent exposure. Testing is only useful if exposures are more recent and extensive than the exposures suspected at K-2. Finally, testing has no prognostic value.
- *RBC cholinesterase levels.* This test is used to monitor chronic or acute exposures in people who work with pesticides. There are variations in test results between different individuals. Pre-exposure baselines are therefore necessary for accurate interpretation. RBCs are constantly turning over in the body. Consequently, this test is no longer useful an average of only 30 days after an exposure. RBC cholinesterase levels did not correlate with symptoms in the Tokyo subway nerve agent attack. Perhaps most importantly, since all available evidence suggests exposures did not occur, the likelihood that a positive test would be a true positive is essentially zero.

### **Can mental health consultation help?**

Consultation to mental health is encouraged under appropriate clinical circumstances, since psychological conditions are among the most common of clinical

conditions, they are often disabling, and treatment is typically effective. However, mental health consultation deserves special attention because it is almost always threatening to the patient. It often signals to the patient that you think their problem is “psychogenic” or “imaginary.” In addition, the patient may feel that the military is trying to shift blame away from itself and onto the patient.

In the first visit, it is recommended that you use the following statements to lay the groundwork for later consultation, if needed: “It would not be unusual to have concerns about possible chemical exposures at K-2. How are you and your loved ones coping with all of this? Do you have adequate support during this difficult time? Seeing a mental health provider can help. Let me know if you think this would be helpful for you.”

If the patient reacts negatively, leave the issue alone and come back to it at a later visit. If the patient is receptive, further discussion is necessary. Never refer a patient to mental health care without carefully explaining the reason for referral and getting the patient’s perspective and consent to obtain the referral. Always schedule a follow-up visit after the mental health consultation so that the patient does not feel discounted or rejected. Consultations purely to determine if symptoms are “organic or psychogenic” are discouraged.

When dealing with military-related illness and exposure concerns, never force a patient into psychiatric care unless you think the situation is emergent or life threatening (e.g., involves suicidal or violent ideation).

### What can I do to build trust and rapport?

Patients undergoing evaluations for suspected military or deployment-related exposures are usually highly concerned. They may mistrust your statements and opinions, particularly if they view them as falsely reassuring. They may interpret seemingly positive news as confusing, incredible, or even as evidence of a cover-up. Remember, these patients have recently returned

from a hostile environment where they were told they were probably exposed to environmental contaminants. Do not take their mistrust and apprehension personally. There are many other potential reasons for this mistrust such as well-known limits to the confidentiality of military health records and the possible impact of health problems on one’s future military career.

It is worth mentioning a few ways of reducing mistrust and building rapport. You can invite patients to bring their spouse or ‘significant other’ to a follow-up appointment. Loved ones often are as concerned as the patient and may be even more mistrustful. Involving them in the visits is informative for them, and it often improves patient-provider trust.

Another way to foster trust is to see the patient every 6-8 weeks, making sure to follow-up on all concerns and test results. This is an important and visible evidence of your compassion and commitment to the patient. If concerns do not resolve, consultation is probably appropriate.

### What can they do to protect their health?

The most common killers are preventable. Never miss the opportunity to reemphasize the importance of maintaining a healthy lifestyle (avoid tobacco, exercise regularly, follow a nutritious diet, drive safely, play smart, and drink alcohol in moderation, if at all).

Additionally, individuals should remain alert to work, home, and recreational environments, correcting hazards within their control and reporting unsafe conditions to appropriate officials.

### Summary of key messages.

The most important messages to communicate are:

- There were no K-2 exposures of health consequence.
- The protective risk control measures were effective.
- Ongoing monitoring ensures continued protection.
- Show care and commitment during clinical care.

*This Information Was Assembled In Collaboration With AFIERA, NEHC, USACHPPM*

### Where can I get more information?

- **U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM)**  
 Phone: 800.222.9698 Internet URL: <http://chppm-www.apgea.army.mil>  
 Environmental sampling & risk assessment: Mr. Jeff Kirkpatrick 410-436-8155  
 General medical information: Dr. Coleen Weese 410-436-2578
- **Air Force Institute for Environment, Safety and Occupational Health Risk Analysis (AFIERA)**  
 Phone: 888.232.ESOH (3764) Internet URL: <http://afiera.afms.mil>  
 General medical information: Lt Col (Dr.) Kenneth L. Cox 210-536-1788
- **Navy Environmental Health Center (NEHC)**  
 Phone: 757.953.0764 Internet URL: <http://www-nehc.med.navy.mil>  
 General medical information: CDR (Dr.) Alan Philippi
- **Deployment Health Clinical Center (DHCC)**  
 Phone: 866.559.1627 Internet URL: <http://www.pdhealth.mil/>  
 Post-deployment health care information: LTC (Dr.) Charles Engel
- **Department of Veterans Affairs** Internet URL: [www.va.gov/environagents](http://www.va.gov/environagents)