Joint Base Balad Burn Pit

FACT SHEET 47-002-0214

Purpose: This fact sheet is provided to assist Service members with better understanding exposures to, and potential health risks from, airborne pollutants at Joint Base Balad (JBB), Iraq. It also serves as a reference for other deployment locations where Service members may have had similar exposure concerns.

Key Points:

1. It is plausible that Service members may be affected by long-term health effects, possibly due to combined exposures (such as sand/dust, industrial pollutants, smoke and other compounds) associated with deployment to Southwest Asia, and individual susceptibilities such as preexisting health conditions or genetic factors.

2. Anyone with health concerns should see a health care provider.

3. Department of Defense (DOD) and Tri-service preventive medicine units have been studying this issue for over a decade but more research is necessary to fully quantify the potential long-term health risks related to these exposures. The DoD is collaborating with both the Veterans Affairs (VA) and the Defense Health Board to ensure the health risk assessment is complete and thorough.

4. An Airborne Hazards and Open Burn Pit Registry is being created by the VA to enhance their ability to keep Veterans informed about studies and treatments.

Background: The JBB was located in north central Iraq and served as the major logistics air base for Operation Iraqi Freedom/New Dawn. It was located in a semi-arid environment and was subject to sand and dust storms and pollutant emissions from localized (e.g., vehicle and industrial) and military related (e.g., flight line and open burning) sources, which contributed to degraded air quality. Open burning of solid waste on JBB generated complaints and health concerns amongst Service members from 2003 until open burning ceased in 2009. On-site open burning was used to dispose of the waste without exposing Service members to hostile action by hauling the waste outside of the secured perimeter and to improve the overall sanitary conditions of the camp.

Sampling and Findings: Due to concerns about potential exposures to airborne hazards, deployed preventive medicine personnel began air sampling in 2004. Initially the sampling focused on particulate matter (PM), which is a complex mixture of extremely small particles suspended in the air by sources such as: power plants, motor vehicles, aircraft, burn pits, generators, construction activities, fires, and natural windblown dust. The PM includes solid particles and liquid droplets emitted directly into the air. The PM can include sand, soil, metals, volatile organic compounds (VOC), allergens, and other compounds such as nitrates or sulfates that are formed by condensation or transformation of combustion exhaust. Studies in the U.S. have linked exposure to excessive PM to a variety of potential health effects. When operational conditions allowed for more extensive air sampling, air samples were also collected for pollutants commonly associated with trash burning and other combustion sources; these included dioxins, furans, polycyclic aromatic hydrocarbons, and VOCs.

Epidemiological Investigations: The DOD recognizes that acute symptoms due to smoke exposure may occur, including reddened eyes, irritated respiratory passages, and cough that may persist for some time. It is plausible that Service members may be affected by long-term health effects, possibly due to combined exposures (such as sand/dust, industrial pollutants smoke, and other compounds) associated with deployment to the Southwest Asia, and individual susceptibilities such as preexisting health conditions or genetic factors.

The DOD is collaborating with the VA and independent researchers to quantify the potential long-term health risks related to such exposures.

Over the past decade, DOD and Tri-Service preventive medicine units have conducted environmental health sampling to characterize dust and ambient particulate matter, including the burning of solid waste, and identified the associated population health risk. The data's risk characterization demonstrates that high levels of ambient particulate matter, which may include burn pit smoke, can irritate the eyes and respiratory passages. Such exposures may cause or exacerbate chronic lung conditions including chronic bronchitis and asthma. The DOD has enlisted the Defense Health Board to review some of the clinical aspects of this issue and the research priorities. The first meeting was held on 20 September 2013 and the report is expected by the end of 2014. Personnel are advised to see a health care provider if they believe they are experiencing health problems due to their deployment or any other reason.

U.S. Army Public Health Command
Deployment Environmental Surveillance Program
5158 Blackhawk Rd, APG, MD 21010-5403
410-436-6096/DSN 584-6096

Air Hazard and Burn Pit Registry:

The VA, in coordination with DOD, has established an Airborne Hazards and Open Burn Pit Registry, per Public Law 112-260, designed to allow previously deployed military personnel with concerns regarding their exposure to various sources of air pollution during their deployment to provide detailed information regarding their exposure situation and health concerns. In addition, the registry offers an optional medical assessment, though it is not required to be in the registry. The registry will enhance the VA's ability to monitor the effects of exposures and keep Veterans informed about studies and treatments.

Contacts:

U.S. Army Public Health Command
Phone: (800) 222-9698
http://usaphcapps.amedd.army.mil/MSRV/ServiceRequest.aspx

DOD Force Health Protection & Readiness (FHP&R) Program
Phone: (800) 497-6261
http://www.ha.osd.mil/FHPR/default.cfm

DOD Deployment Health Clinical Center (DHCC)
Phone: (866) 559-1627
http://www.pdhealth.mil

USAF School of Aerospace Medicine
Phone: (888) 232-3764
http://www.wpafb.af.mil/afrl/711hps/usafsam.asp

Navy & Marine Corps Public Health Center (NMCPHC)
Phone: (757) 953-0700
http://www-nmcphc.med.navy.mil

Reference Documents/Websites:

Institute of Medicine Report
Long Term Health Consequences of Exposure to Burn Pits in Iraq and Afghanistan
http://www.iom.edu/Reports/2011/Long-Term-Health-Consequences-of-Exposure-to-Burn-Pits-in-Iraq-and-Afghanistan.aspx

Armed Forces Health Surveillance Center
Epidemiological Studies of Health Outcomes among Troops Deployed to Burn Pit Sites
http://fhp.osd.mil/pdfs/100604_FINAL_Burn_Pit_Epi_Studies.pdf

U.S. Government Accountability Office
Afghanistan and Iraq: DOD Should Improve Adherence to Its Guidance on Open Pit Burning and Solid Waste Management
http://www.gao.gov/products/GAO-11-63

Deployment Health and Family Readiness Library
http://deploymenthealthlibrary.fhp.osd.mil/

Defense Health Board
http://www.health.mil/dhb/

Burning Trash and Human Waste Exposures for Service Members and Their Families
http://deploymenthealthlibrary.fhp.osd.mil/Product/RetrieveFile?prodId=313

Open Pit Burning, General Facts and Information,
http://deploymenthealthlibrary.fhp.osd.mil/Product/RetrieveFile?prodId=55

Defense Health Board
http://www.health.mil/dhb/

Health Effects Institute
http://www.healtheffects.org/about.htm

Health Effects of Dioxin Exposure for Service Members,
http://deploymenthealthlibrary.fhp.osd.mil/Product/RetrieveFile?prodId=314

U.S. Environmental Protection Agency (EPA) Air Qualityhttp://www.epa.gov/oar/oaqps/cleanair.html

National Research Council
Health Risks from Dioxin and Related Compounds: Evaluation of the EPA Reassessment
http://www.ejnet.org/dioxin/nas2006.pdf

World Health Organization
"Dioxins and Their Effects on Human Health"
http://www.ejnet.org/dioxin/nas2006.pdf