



## Frequently Asked Questions about **BURN PIT EXPOSURES**

FACT SHEET 64-027-0514

This fact sheet is one in a series designed to address questions frequently asked by Soldiers about potentially hazardous exposures in the deployed environment. It has been prepared by the Environmental Medicine Program of the U.S. Army Public Health Command. The effects of exposure to any hazardous substance depend on the dose, the duration, how you were exposed, personal traits and habits, and whether you have experienced other hazardous exposures. Therefore, it is important that you discuss any specific health concerns with your health care provider.

### **HIGHLIGHTS:**

Burn pits are a method of solid waste disposal used by the military in field settings. Acute symptoms due to burn pit smoke exposure may occur, including reddened eyes, irritated respiratory passages, and persistent cough. Epidemiologic studies have not identified long-term health risks specifically associated with burn pit smoke exposure among deployed personnel, but a history of deployment to Southwest Asia has been associated with increased risk of persistent respiratory symptoms and asthma. Because health effects from burn pit emissions exposure are biologically plausible, DOD and the Institute of Medicine continue to study health risks that may exist.<sup>1</sup> U.S. military use of burn pits is being minimized in Southwest Asia (e.g., Iraq and Afghanistan), where possible. For DOD personnel supporting burn pit operations, recent CENTCOM policy guidance for voluntary use of N95 respirators provides an additional measure of protection.

**What are burn pits?** Burn pits have been a commonly used form of solid waste management during Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) in Southwest Asia. An "open-air burn pit" is defined as "an area, not containing ...an incinerator or other equipment specifically designed ...for burning of solid waste, designated for the purpose of disposing of solid waste by burning in the outdoor air at a location with more than 100 attached or assigned personnel and that is in place longer than 90 days." Prior to 2010, burn pit operations were less regulated. While samples were obtained from many base camps with burn pits, the largest burn pits (e.g., Joint Base Balad (JBB)) were the focus of evaluation. Though studies of the smoke did not identify specific health threats from burn pits, DOD has, nevertheless, been decreasing its reliance on burn pits.<sup>1</sup>

### **How might I be exposed to smoke from burn pits?**

When smoke rises from a burn pit fire, it forms a plume. The fate of the plume depends on weather conditions, and may travel to areas where people live and work. Smoke in the air may be breathed in by personnel. The smoke can also come into contact with eyes and nose. Burn pit soot and ashes may also contact skin (or food); however, inhalation is the major route of exposure for burn pit smoke.

### **What are the immediate and short-term effects of burn pit smoke exposures?**

Acute symptoms due to burn pit smoke exposure may occur, including reddened and irritated eyes, irritated respiratory passages (nose, throat, lungs), and cough that may persist.<sup>2</sup> These effects begin immediately or shortly after exposure starts, and typically resolve after exposure ceases.

**If you have questions regarding this document please contact:**

U.S. Army Public Health Command, Environmental Medicine Program,  
DSN 584-2714; COMM 410-436-2714; or email [usarmy.apg.medcom-phc.mbx.emp@mail.mil](mailto:usarmy.apg.medcom-phc.mbx.emp@mail.mil)  
5158 Blackhawk Road, Aberdeen Proving Ground, Maryland 21010-5403  
*Approved for public release; distribution unlimited.*

### **What are the long-term effects of burn pit exposures on lung health?**

It is possible that some Service members may experience long-term health effects of burn pit smoke exposure, possibly due to combined exposures (such as sand/dust, industrial pollutants, tobacco, and smoke from other sources) and individual susceptibilities (such as preexisting health conditions or genetic factors). Deployment to locations with a burn pit has been associated with respiratory symptoms. Deployment, generally, has been associated with increased risk of asthma, although these associations are not specific to burn pit locations. Constrictive bronchiolitis, a rare, chronic progressive lung disease, has been identified in a small number of formerly deployed Soldiers; although exposure to burn pit smoke has been hypothesized as a risk factor for this condition, its cause(s) have not been identified. The Institute of Medicine reviewed the potential long-term health effects of burn pit smoke exposure by assessing surrogate populations. They concluded that there is limited/suggestive evidence of an association between exposures to combustion products and reduced pulmonary function, and found inadequate/insufficient evidence of an association between exposures to combustion products and respiratory disease. The DOD continues to study inhalational exposures, including burn pit smoke exposure, in order to evaluate long-term health risks and protect Service members.<sup>2</sup>

**Is there a medical test for burn pit exposure?** There is no medical test specific for burn pit exposure.

However, your physician may conduct various medical tests to evaluate your health condition or symptoms if you have any (e.g., shortness of breath). It is DOD position that all personnel who believe they have been harmed by burn pit smoke get the care they need, deserve, and to which they are entitled.<sup>2</sup>

**What is DOD doing to protect me and others from burn pit smoke?** Prior to 2010, burn pits were commonly used for waste management, especially in Iraq and Afghanistan. They were not well regulated. Recently, DOD has been reducing burn pit smoke exposure. Recent policies and directives to Commanders minimize reliance on burn pits and require better management to minimize exposures. Requirements include: locating burn pits as far downwind as possible from working personnel, troop locations, and living areas; minimizing the size and contents of the waste stream, decreasing the duration of burning, and specifying burn times (beginning 3 hours after sunrise; ceasing 3 hours before sunset).

### **What can deployed persons do to protect themselves from burn pits?**

Personnel deployed to a location with a burn pit should avoid activities in areas of heavy smoke and avoid burning inappropriate or excess waste. A 2011 CENTCOM policy provides for **voluntary** use of NIOSH-certified N95 filtering facepiece respirators as an additional measure of protection and comfort for those involved in burn pit operations or working in proximity to one. The respirator program includes evaluation by medical personnel to ensure safety and train personnel in their proper use.<sup>3</sup>

**Where can I get more information?** If you have health concerns regarding burn pit exposures, we recommend discussing them with your physician or other health care provider. If your provider wants additional information, he/she may contact the Environmental Medicine Clinical Consult Service or visit our website.

<http://phc.amedd.army.mil/organization/institute/doem/Pages/EnvMed.aspx>

Our environmental medicine staff will do their best to assist you and your provider.

<sup>1</sup> DoDI 4715.19. Use of Open-Air Burn Pits in Contingency Operations, 15 February 2011 with 27 March 2014 change 2; Glossary Part 2. Definitions, [http://www.dtic.mil/whs/directives/corres/pdf/471519\\_2011\\_ch2.pdf](http://www.dtic.mil/whs/directives/corres/pdf/471519_2011_ch2.pdf)

<sup>2</sup> May 2011 Dr. Craig Postlewaite's Current DOD Public Health Statement on Burn Pit Exposures (insert reference) <http://www.dtic.mil/dtic/tr/fulltext/u2/a556388.pdf>

<sup>3</sup> CENTCOM FRAGO 07-759 Implementation of CENTCOM Policy Guidance and Provisioning for Use of Voluntary Respiratory Protection by DOD Personnel Supporting Burn Pit Operations. May 2011