World Health Organization
Sustainable Development and Healthy Environments/

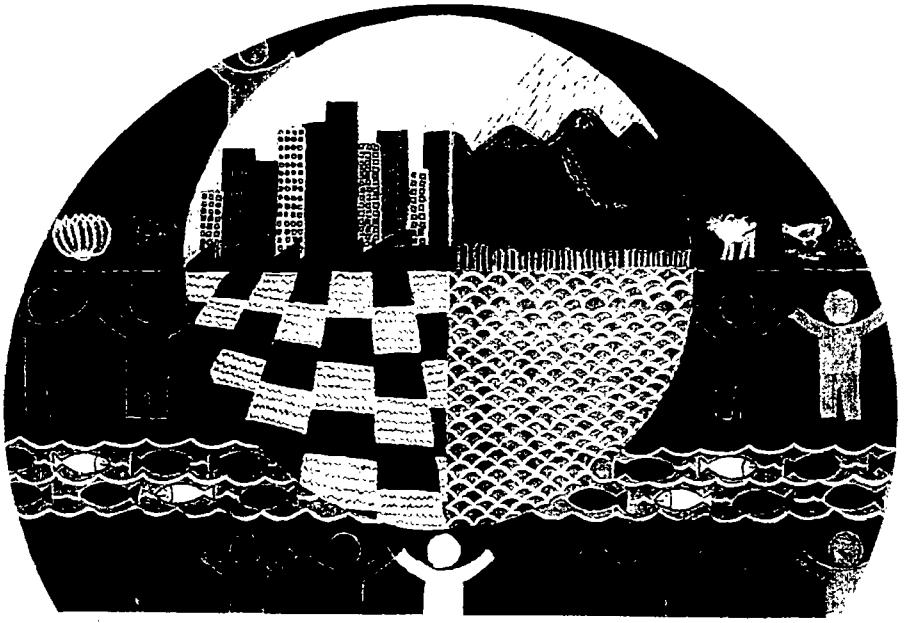
WHO/SDE/OEH/01.12
Orig.: English
Dist.: Limited

WHO Guidance on Exposure To Depleted Uranium

For Medical Officers and Programme Administrators

Protection of the Human Environment

Geneva 2001



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WHO Guidance on Exposure to Depleted Uranium

For Medical Officers and Programme Administrators

Prepared in collaboration with
United Nations Joint Medical Staff

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Contents

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Introduction

Depleted uranium (DU) has been used in medical and industrial applications for decades but only since its use in military conflicts in the Gulf and the Balkans has public concern been raised about potential health consequences from exposure to it. Concerns have been particularly for peacekeeping forces, humanitarian workers and local populations living and working in areas contaminated by DU following conflict.

There has been a large amount of research on the health consequences to workers in the mining and milling of uranium, and on its use in nuclear power, that enables a reasonable assessment of its impact on human health. Since DU acts chemically in the same way as uranium, and the radiological toxicity is somewhat less than uranium, this research can be used to evaluate health risks from ingestion, inhalation and contact with DU.

In late 1999, the WHO Department on the Protection of the Human Environment (PHE) recognized the need for an independent review of the scientific literature from which health risks could be assessed from various DU exposure situations. This review was published as a monograph in April 2001. For further information on this monograph, refer to the WHO web site: **http://www.who.int/environmental_information/radiation/depleted_uranium.htm**. The information and recommendations in this guidance are largely based on this review.

Significant input was provided in the compilation of this guidance by the United Nations Joint Medical Staff and other members of the review group formed to complete the monograph. WHO acknowledges, with sincere gratitude, the contributions of all the authors and reviewers of this guidance. As further information becomes available, this guidance will be updated by the Radiation Project within WHO's Unit on Occupational and Environmental Health.

Scope and Purpose

These recommendations, produced by the World Health Organization in conjunction with the United Nations Joint Medical Service, are for medical officers and for programme administrators who are about to send or have staff working in areas where DU has been used in conflict. This report provides advice on the need for special medical examinations or monitoring the health of populations living in conflict areas, and for medical staff examining patients who may have had significant exposure to DU.

The following questions are addressed:

1. Should staff be sent into areas where DU was used in conflict?
2. Should staff have special medical examinations before, during or after working in DU areas?
3. Is it necessary to screen populations living in DU areas?
4. What are the medical procedures for people possibly exposed to high levels of DU?

Depleted Uranium

There has been much concern expressed that populations living in conflict areas where depleted uranium (DU) has been used may be at greater risk of some health consequence resulting from exposure to DU as dusts, contact with DU munitions or armoured tanks, or ingesting DU in food or through the water supply.

Brief details of the characteristics of DU are given in the Annex. A thorough review of the possible health effects of exposure to DU has been completed by WHO and is available on the web site at: **http://www.who.int/environmental_information/radiation/depleted_uranium.htm.**

There are a few web sites that provide details on locations where DU was used in conflict. In order to make preliminary judgements about exposure of people to DU, it may be helpful to refer to these sites to determine if patients claiming to be exposed to DU were really in conflict areas. Web sites containing helpful information are:

UNEP: **http://balkans.unep.ch/du/reports/report.html**

NATO: **http://www.nato.int/du/**

See US Department of Defence web sites for Gulf war

Other environmental risk factors

It is important to realize that during conflict there is the possibility that many different heavy metals, chemicals and biological agents can be released into the environment. Thus patients claiming to have been exposed to DU may have some other exposure to a chemical or biological agent that should be assessed. This will become evident from a thorough assessment of all potential exposure situations.

Responses To Questions

1. Should staff be sent into areas where DU was used in conflict?

Healthy staff can be sent into DU conflict areas without fear of adverse health consequences from DU exposure. There may be areas where there is significant DU debris or dusts, but these should have been cordoned off and sign-posted accordingly.

2. Should staff have special medical examinations before, during or after