

# Psychological Effects of Radiological Contamination Incorporated into CBRN Anti-Terrorism Preparedness Trainings\*

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Terrorist attack preparedness must address the psychological effects in view of the well-studied fact that for every casualty in the nuclear terrorism scenario there would be at least 500 people with psychological and psychosomatic alterations that may be difficult to distinguish from the actual contaminated victims. However, radiation casualty preparedness lessons from Gulf War I and Gulf War II have not yet been adequately evaluated regarding the psychological impact of internal uranium contamination of military personnel and civilians. The Uranium Medical Research Centre (UMRC) tested two groups of veterans from Gulf War I and II. Each group of nine patients was tested positive contaminated with uranium. The clinical anamnesis was carefully evaluated in each case.

A standard questionnaire used by UMRC for the assessment of the patients contained both physical and psychological problems. Three categories refer to psychological symptoms: "confusion and disorientation", "depression and loss of initiative" and "insomnia".

All patients showed both physical and psychological health problems such as insomnia, affect disorders, short and long term memory loss, agitation and severe social disruptions. Victims of Gulf War I and II tested by UMRC and found to be contaminated by uranium present a complex variety of both physical as well as psychological damage. Both groups of patients have the same psychological symptoms that cannot be explained solely by the regular effects of posttraumatic stress symptoms (PTSS).

It can be concluded that the measured uranium contamination poses a serious threat to psychological health. A clear conclusion of the etiology of the problems, however, cannot be made. Therefore, these findings demand a re-evaluation of the psychological impacts of radiological contamination and significant adjustments in CBRN anti-terrorism preparedness trainings for health care professionals in the military and civilian scenarios.

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