INTERIM GUIDANCE DOCUMENT

Initial clinical management of patients exposed to chemical weapons

World Health Organization

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INITIAL CLINICAL MANAGEMENT OF PATIENTS EXPOSED TO CHEMICAL WEAPONS

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Contents

INTRODUCTION

This interim guidance is aimed at healthcare workers who may receive patients exposed to chemical weapons at their healthcare facilities.

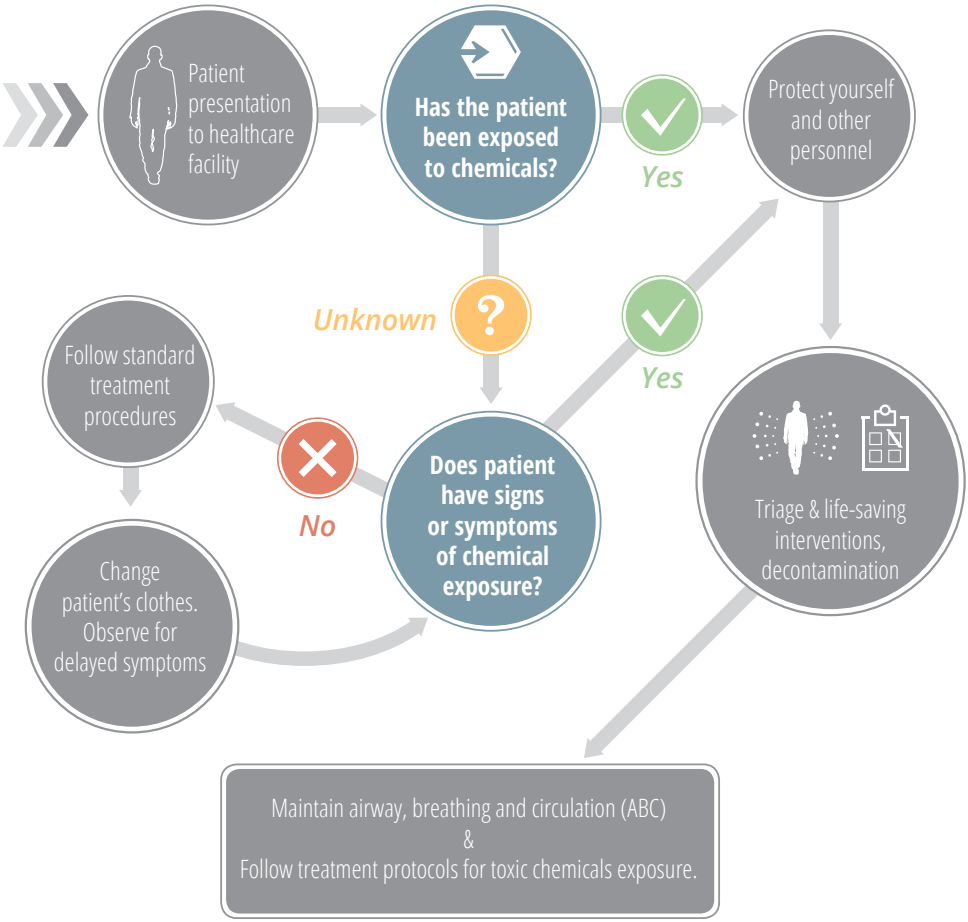
The guidance follows the case management flowchart on the next page.

It provides questions to guide the identification of contaminated patients, recommendations on personal protection, procedures for decontamination, guidance for triage and identification of categories of exposure, and treatment regimens for individual chemicals.

Users should study the contents of this document carefully and apply the principles and framework to their own situation and health care facilities.

Clinical work in this field should be accompanied with complete and practical training.

INITIAL MANAGEMENT OF PATIENTS FLOWCHART



DECIDE WHETHER PATIENT HAS BEEN EXPOSED TO CHEMICALS

KEY PRINCIPLES

- Patients may have been exposed to chemicals through inhalation, contact with the skin or eyes, by ingestion or by a contaminated projectile e.g. shrapnel.
- Exposure to a gas, vapour or aerosol may not leave visible signs of contamination but can still require decontamination.
- Patients presenting at healthcare facilities following exposure to chemical weapon events should be considered by default as contaminated and require urgent decontamination.
- Patient decontamination should occur in combination with triage and the provision of life-saving interventions.
- Injuries from trauma and other medical complications may also be present.

Before the patient enters the healthcare facility ask the following questions

1 What is the history of exposure of the patient?

A	Where was the patient? When did they start experiencing symptoms? What did they experience first? Were others experiencing similar symptoms?
B	Did the patient notice an unusual smell, e.g. garlic (indicates mustard gas), bitter almonds (indicates cyanide), fresh hay or grass (indicates phosgene).
C	Take a family / patient / witness / first responder report.
D	Use contextual information (e.g. health authorities, law enforcement, reputable media sources etc.)

2 Can you observe any signs of chemicals on or around the patient?

A	Dust, powder or liquid droplets on body surface or clothes.
B	Discoloration of clothes, scorching or damage to clothing (e.g. indicating a chemical reaction).
C	Non-exposed persons accompanying the patient show symptoms and signs suggesting secondary exposure.
D	If available, chemical agent detection procedures/equipment (e.g. a chemical agent monitor, rapid test for sulfur mustard or cholinesterase activity) should be utilized.

3 Are there signs and symptoms of exposure?

Does the patient appear unwell? See list of signs and symptoms on pages 15-17.

If there is any suspicion that the patient is contaminated with chemicals, decontamination is an immediate priority. Contaminated clothing should be removed as soon as possible and discarded appropriately as chemical waste.

PROTECT YOURSELF AND OTHER PERSONNEL

Personal Protective Equipment (PPE) is essential to first responders and personnel responsible for decontamination, triage and emergency treatment at the healthcare facility.

KEY PRINCIPLES

- Healthcare workers are mainly exposed to toxic chemicals through direct contact with the agent on patients' skin / clothing or by inhalation or mucosal contact with a vapour hazard.
- The effective use of PPE is dependent on availability, training and an understanding of the mechanisms of secondary exposure.
- Appropriate standards and levels of PPE are dependent on the resources at different healthcare facilities and on the properties of the chemical agent.
- All PPE confers a loss of mobility, dexterity, vision and ability to communicate freely. PPE also places an increased physiological burden on the user.
- Even at higher levels of protection, PPE does not completely eliminate the risk of agent penetration due to eventual break-down in protective barriers.
- PPE should be removed carefully to avoid touching contaminated areas. It should be removed in a designated location and disposed of as hazardous waste

General principles should be employed to provide a minimum level of staff protection before healthcare workers decontaminate and treat exposed patients.

CONTACT HAZARD

The main contact hazard can be prevented by wearing appropriate gloves (nitrile or butyl rubber, not latex). The number and thickness of the gloves used will depend on the dexterity required by the user.

Chemically-resistant clothing should also be worn if available. If not available, then as a minimum disposable, fluid-resistant clothing or gowns should be utilized and regularly changed.

VAPOUR HAZARD

Standard medical and surgical masks offer no respiratory or mucous membrane protection from toxic vapours.

An air-purifying respirator, e.g. with an activated charcoal filter, or self-contained breathing apparatus is required. Respirators require training, safety testing and fit testing.
They can only be worn by users for limited time periods.

PREPARE FOR EMERGENCY DECONTAMINATION

Decontamination is the reduction or removal of toxic agents so that they are no longer hazardous. This is achieved through physical removal or by chemical inactivation.

Emergency decontamination involves actions that can be applied as soon as possible after exposure, with the aim of reducing absorption and limiting the risk of secondary exposure. Depending on the assessment of the situation and the resources available, it may be followed by a more thorough decontamination.

Methods for decontamination can be adapted to the situation and the resources available. Patient decontamination methods are broadly divided into 'wet' (using water) or 'dry' (removing clothes and using absorbent materials). Viscous or oily agents may be difficult to remove by one method alone.

KEY PRINCIPLES

- Exposed patients should be decontaminated outside, prior to entry into healthcare facilities, even if they are not displaying symptoms.
- Removal of clothing is a highly effective method of decontamination.
- Decontamination should be implemented/supervised by appropriately trained personnel wearing adequate PPE.
- When possible, self-decontamination should be emphasized and supported by clear guidance and instructions.
- Methods of decontamination, whether 'dry' or 'wet' should be adapted to local resources and the situation.
- Decontamination should occur in parallel with triage and the provision of life-saving interventions.
- Contaminated waste or clothing should be disposed of safely.