

## Operational Guidelines for Staff Health and Safety in Refugee WASH Programmes

### FOREWORD

These Operational Guidelines form part of UNHCR’s series of WASH Operational Guidelines for Refugee Settings which are the result of an extensive review process with WASH actors active in refugee settings. It is recognized that the Operational Guidelines will require continuous review and amendment in response to changes in engineering best-practice and feedback from the field. Therefore further review will be managed by a Technical Review Committee which will meet regularly to discuss issues related to the use of the guidelines and an annual review will be reported back to the WASH community. More urgent amendments will be reported as, and when, required.

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## **Operational Guidelines for Staff Health and Safety in Refugee WASH Programmes**

### **1. SCOPE**

1.1 UNHCR and WASH actors must ensure that all WASH programme staff (including volunteers or casual labour contracted to undertake WASH related activities) understand the risks involved in WASH related activities and receive training in the infection control standard precautions and these guidelines. This is particularly important for staff who are involved in either:

- ◆ The cleaning of toilets;
- ◆ The maintenance of toilets;
- ◆ The desludging of toilets;
- ◆ The collection and movement of excreta;
- ◆ The collection or movement of solid wastes;
- ◆ The handling of vector control or water treatment chemicals;
- ◆ Staff who may potentially come into contact with excreta, sewage, wastewater, solid waste, medical waste or any other sources of (potential) infection.

### **2. WHAT ARE THE INFECTION CONTROL STANDARD PRECAUTIONS?**

2.1 The infection control standard precautions are a series of procedures designed to prevent cross transmission from both recognised and unrecognised sources of infection. In the case of WASH programmes these sources of (potential) infection include excreta, sewage, wastewater, solid wastes, market wastes, and medical wastes in addition to any equipment or items which have been in contact with these items (such as shovels, waste containers, waste transportation vehicles).

2.2 The infection control standard precautions are necessary to ensure the safety of all staff involved in excreta management and solid waste management in the refugee setting in addition to protection the general population from disease.

### **3. APPLICATION OF THE INFECTION CONTROL STANDARD PRECAUTIONS**

3.1 All staff providing excreta management and solid waste related services in a refugee setting must apply the principles of the infection control standard precautions at all times. A lapse in compliance must be reported to the excreta management senior programme staff immediately.

### **4. WHO HAS THE RESPONSIBILITY FOR APPLYING THE INFECTION CONTROL STANDARD PRECAUTIONS?**

4.1 Senior programme management have the responsibility to ensure that all programme staff have the means and knowledge to apply the infection

control standard precautions, however all staff themselves have the following responsibilities.

- ◆ To attend induction and refresher education sessions as required.
- ◆ To consider the elements of the infection control standard precautions as an objective within staff continuing professional development.
- ◆ To immediately report any lapse in compliance to senior management.
- ◆ To immediately report any illness which may be as a result of occupational exposure to senior management.

4.2 The infection control standard precautions outlined in this guideline include:

- ◆ Personal protective equipment
- ◆ Hand hygiene
- ◆ Occupational exposure management
- ◆ Management, cleanliness and sterilization of equipment
- ◆ Safety along the excreta disposal and solid waste disposal chains
- ◆ Safe final disposal of excreta and solid wastes

## 5. PERSONAL PROTECTIVE EQUIPMENT

5.1 The use of Personal Protective Equipment (PPE) is essential for the health and safety of WASH staff undertaking excreta management, solid waste related activities, disease vector control, and certain activities related to the handling of water treatment chemicals. Selection of PPE must be based on an assessment of the risk of occupational injury or the transmission of micro-organisms during working.

5.2 The use of PPE is considered standard in situations where staff may come into contact with hazardous chemicals, excreta, sewage, wastewater, solid waste or any other sources of (potential) infection. Everybody involved in providing excreta management and sanitation services should be educated about the infection control standard precautions, and trained in the use of PPE. For the purposes of this guideline, the PPE includes:

- ◆ Protective gloves
- ◆ Protective aprons and overalls.
- ◆ Protective footwear.
- ◆ Protective face, mouth/eye protection, e.g. masks/goggles/visors.

## 6. GLOVES

6.1 **How to choose the correct glove.** Gloves are available in a variety of materials. UNHCR and WASH actors should undertake a risk assessment to ensure that the physical characteristics and barrier properties are acceptable, and that the gloves selected provide protection

against the risks encountered. Gloves must be well fitting to avoid interference with dexterity, friction, excessive sweating and finger and hand muscle fatigue. Gloves should be sufficiently strong to withstand puncture (e.g. from bottles, tins, or any other sharp waste).

- 6.2 **When to wear gloves.** Gloves must be worn for all activities that have been assessed as carrying a risk of exposure to chemicals, excreta, sewage, wastewater, solid waste, and when handling sharp or contaminated waste. Torn, punctured or otherwise damaged gloves should not be used and should be changed immediately. Spare gloves should be carried by crews that are mobile.
- 6.3 **Removal and disinfection of gloves.** Gloves should be removed promptly after use and before touching non-contaminated/clean areas/items, environmental surfaces, or other persons (including the person wearing them). Gloves which have (potentially) come into contact with pathogenic organisms during excreta management or solid waste activities should be cleaned with soap and water followed by rinsing in a 0.2% chlorine solution and then left to dry. Care should be taken when removing gloves to avoid contamination of hands and clothing. Hand hygiene should be performed immediately after the removal of gloves.

## 7. OVERALLS AND APRONS

- 7.1 **How to choose overalls and aprons.** There are many types of work overalls and aprons available and they should be selected following a risk assessment to ensure they are appropriate for use and avoid any interference during excreta management or solid waste activities. UNHCR and WASH actors should ensure that hard wearing cotton overalls and plastic aprons are available to staff and they are worn for a wide array of excreta management and solid waste activities according to a classification of tasks. Full-body waterproof suits should be worn, rather than plastic aprons, when there is a risk of significant splashing of chemicals, excreta, sewage or wastewater (e.g. when undertaking toilet desludging activities) as indicated by a risk assessment.
- 7.2 **When to wear overalls and aprons.** Excreta management and solid waste staff should generally arrive at work, change into clean overalls and aprons and undertake the work shift, changing overalls if they become soiled. During break times or at the end of the work shift they should then remove their soiled overalls and aprons, perform hand hygiene and (if necessary) shower, change into the clothes they came to work, and return home. Soiled overalls or aprons that have (potentially) come into contact with pathogenic organisms during excreta management or solid waste activities must not be taken home by the staff member. UNHCR and WASH actors should make arrangements for the decontamination, laundering, drying and storage of work overalls and

aprons. Torn, damaged, or soiled overalls and aprons should not be used and should be changed immediately. Spare clean overalls and aprons should be carried by crews that are mobile. UNHCR and WASH actors should ensure that programme staff have their own dedicated, private, and fully functional showering facilities to allow staff to bathe before changing into their own clean clothes and return home.

- 7.3 How to change soiled overalls and aprons.** All overalls and aprons (whether visibly soiled or not) that have been used in activities related to excreta management or solid waste management should be removed carefully avoiding contact with soiled areas. If visibly contaminated, the overalls and apron should be turned inward, rolled into a ball and then the item should be discarded immediately into an appropriate receptacle (for example a plastic bin) for disinfection and laundering. Overalls and aprons that are not visibly contaminated may be hung in a suitable closed locker in the sanitation yard for use the following day. Used overalls that have been used in excreta management or solid waste related activities should never be left on environmental surfaces. Used overalls that are not visibly contaminated should be laundered and disinfected at least once a week.

## **8. FACE, MOUTH AND EYE PROTECTION**

- 8.1 How to choose the correct protection and when and how to wear it.** Face masks and eye protection must be worn where there is a risk of chemicals, excreta, sewage, wastewater, or soiled wastes splashing into the face and eyes, or there is a risk of occupational injury to the eyes. Face masks should always fit comfortably, covering the mouth and nose. Goggles must 'wrap around' the eye area to ensure side areas are protected. Face shields/visors should be considered, in place of a face mask and/or goggles, where there is a higher risk of splattering/aerosolisation of chemicals, sewage or wastewater. Face protection should not be touched while being worn and should be removed immediately following an activity. Face protection should be removed immediately once an activity has been completed. If face masks become soiled they should be changed immediately. Torn or otherwise damaged face protection should not be used and should be removed immediately. Spare clean face protection should be carried by crews that are mobile.
- 8.2 How to remove face, mouth and eye protection.** Remove face, mouth and eye protection promptly after use, avoiding contact with any soiled areas, and placed in a designated location (e.g. a plastic bin) for decontamination, cleaning and drying or disposal. Hand hygiene should be performed immediately after removal/disposal of face, mouth and eye protection. Soiled face, mouth and eye protection should never be placed

on environmental surfaces. Soiled face, mouth or eye protection should not be taken home by staff members.

## 9. FOOTWEAR

**9.1 How to choose footwear.** Correctly fitting, waterproof, durable protective steel reinforced work boots must be worn where there is a risk of contamination from excreta, sewage, wastewater, or soiled wastes, or there is a risk of occupational injury to the feet (for example from glass, tins, razor blades, or syringes during the collection of solid wastes). Excreta management and solid waste staff should generally arrive at work and change into their overalls and boots for the work shift. At the end of the work shift they should then remove their soiled overalls and boots, perform hand hygiene and (if necessary) shower, change into the clothes they came to work, and return home. Soiled footwear that has (potentially) come into contact with pathogenic organisms during excreta management or solid waste activities must not be taken home by the staff member. The organisation should make arrangements for the decontamination, drying and storage of work footwear.

**9.2 How to remove footwear.** Care should be taken when removing footwear to avoid hand contamination. Hand hygiene should be performed following the handling of footwear.

## 10. HAND HYGIENE

**10.1** Hands are the most common way in which staff involved in the excreta management or solid waste collection programme may come into contact with infectious agents. Good hand hygiene is the most important practice to remove or destroy transient micro-organisms and reduce the transmission of infectious agents. Hands should be decontaminated at a range of times in order to remove or destroy infectious agents. UNHCR and WASH actors should ensure that programme staff have their own dedicated, private, and fully functional handwashing facilities to allow staff to comply with hand hygiene procedures.

When?	Why?
Decontaminate your hands after direct exposure risk to excreta, solid wastes, medical wastes, body fluids	To protect yourself and others from infectious organisms.
Decontaminate your hands on completion of touching or using waste collection equipment or vehicles.	There is a high potential risk that waste collection equipment and vehicles are contaminated with infectious organisms.
Decontaminate your hands every time you take a break from your work for example during tea breaks, toilet	To protect yourself and others during your work break.

breaks or any other breaks.	
Decontaminate your hands at the end of your work shift before you go home.	To protect yourself and others once you leave the work environment.
Decontaminate your hands directly after removing personal protective equipment.	There is a high potential risk that personal protective equipment is contaminated with infectious organisms.

## 11. OCCUPATIONAL EXPOSURE MANAGEMENT

11.1 Chemical spillage and injuries from sharp objects (for example glass, tin cans, razor blades, or syringes) are the most common types of injury to be reported by WASH Staff. In all cases, correct use of PPE in particular protective gloves and boots should help to reduce the risk of injury and exposure to infectious agents. Any incident where occupational exposure has occurred must be reported immediately to senior management. UNHCR and WASH actors should ensure that all staff immunisations are up to date (e.g. hepatitis B).

## 12. ACTIONS IN THE EVENT OF A SHARPS RELATED INJURY

- ◆ Skin/tissues should be gently encouraged to bleed. Do not scrub or suck the area.
- ◆ Wash/irrigate with soap and warm running water. Do not use disinfectants or alcohol.
- ◆ Cover the area using a waterproof dressing.
- ◆ Eyes and mouth should be rinsed/irrigated with copious amounts of water. There are often eyes/mouth washout kits available in clinical areas.
- ◆ Report/document the incident to the local healthcare facilities. Urgency is important as post exposure prophylaxis (PEP) for exposure to medical wastes for HIV or other treatments may be available (i.e. ideally PEP should be commenced within 1 hour of the incident having taken place, but is not advised if exposure time exceeds 72 hours).
- ◆ Near misses should also be clearly reported/documentated.
- ◆ Ensure that the item that caused the injury is disposed of safely to ensure that a further incident is avoided.
- ◆ Report the incident to senior management.

## 13. MANAGEMENT, CLEANLINESS AND STERILIZATION OF EXCRETA AND SOLID WASTE EQUIPMENT

13.1 Equipment (or vehicles) used to move, contain, store, or maintain excreta, sewage, wastewater or solid water can easily become contaminated with excreta, or other body fluids. Therefore excreta and

solid waste management equipment (e.g. bins, trucks, containers, buckets, pumps, shovels, wheelbarrows) must be appropriately cleaned, disinfected, and stored in order to limit the risk of transmitting pathogens and attracting disease vectors (in particular flies and vermin).

#### **14. STORAGE OF EXCRETA MANAGEMENT AND SOLID WASTE EQUIPMENT**

- 14.1 Equipment used in the handling, storage, or transportation of excreta, sewage, greywater or solid waste must be cleaned on a daily basis or when visibly dirty with detergent and water, disinfected with 0.2% chlorine solution, dried and stored following each use. A dedicated cleaning facility may be established (sanitation yard) with cleaning tools (e.g. high pressure sprayers). A refuse truck decontamination station may be established at the exits of landfill sites / sewage lagoons. A static garbage bin cleaning facility may be established at the landfill area.
- 14.2 Ensure that excreta and solid waste management equipment and tools are checked for cleanliness prior to use, e.g. when being removed from storage.
- 14.3 Ensure that equipment and vehicles used in the storage or transportation of excreta or solid waste are checked for leaks and cleanliness.
- 14.4 Ensure that wastewater from cleaning activities is carefully disposed into a properly designed soak pit or infiltration trench that does not contaminate ground water or other water supplies.
- 14.5 Ensure that storage, e.g. shelves, units, lockers should have easy-to-clean, smooth impervious surfaces and should be water-resistant and durable enough to tolerate repeated disinfection with mild chlorine solutions. All sanitation items, must always be stored off the floor to facilitate effective cleaning.

#### **15. SAFETY ASSESSMENTS**

- 15.1 The management and reduction of risks along the excreta disposal and solid waste disposal chains is an important element of the infection control standard precautions. At each step (collection, transportation, processing, storage, disposal) in the chain a risk assessment (sanitary survey) must be carried out to identify risks to staff, the public and the environment in addition to any control measures. Final disposal of excreta and solid wastes must be in a location that eliminates all risk to the population and the environment.

#### **16. INCIDENT REPORTING**

- 16.1 Any incident where inappropriate excreta or waste management has occurred or there has been a near-miss (a public health incident concerning excreta, sewerage, wastewater, solid waste nearly occurred

but was narrowly missed) should be reported immediately to senior management so that a review and policy change can occur.