

Waste Management & Environmental Cleaning



What is Waste?

- Waste includes
 - Human waste: vomit, urine, stool, placenta
 - Water waste: Chlorine used to wash boots, soapy water used to wash dishes
 - Leftover food
 - Sharps: needles, scalpels
 - Burnable waste: disposable gloves, gowns, face masks, disposable towels, used bandages



Why is it Important?

- Waste from sick people can spread disease
- You be careful when handling waste
- People who handle waste **MUST** wear PPE for cleaners



Personal Protective Equipment

- Put on PPE slowly and carefully
- **DO NOT RUSH!**
- It is **HIGHLY RECOMMENDED** that You must have a buddy watch you put on the PPE



Sequence for Putting on PPE

1) Take Off Jewelry

1



2) Put on Boots/ shoe covers

2



3) Wash hands

3



4) Examination gloves

4



5) Gown

5



6) Head cover

6



7) Face mask

7



8) Face shield

8



9) Apron

9



10) Thick rubber gloves/heavy duty

10



1. Remove Jewelry

- **Remove ALL jewelry before putting on PPE**
 - Watches
 - Bracelets
 - Rings
 - Earrings



2. Put on Boots

- Put on boots





3. Wash Your Hands

- **Wash your hands immediately before putting on PPE**
- **Use Soap and water**
...OR Hand sanitizer
...OR **0.05% Chlorine**



4. Put on Examination Gloves

- **Select correct size**
- **Insert hands into gloves**



5. Put on Gown

- Opening is in the back



6. Put on Head Cover

- Put on the head cover
- Tuck your hair into the head cover



7. Put on a Face Mask

- Place the mask over your nose and mouth
- Secure on head with ties
- Adjust to fit



8. Put on a Face Shield

- Position shield over the face and secure with the elastic band
- Adjust the face shield to sit just above your eyebrows
- Adjust to fit comfortably



9. Put on Apron

- Slide the apron over your head
- Tie at the waist



10. Put on heavy duty/rubber gloves



Taking Off PPE for Cleaners



PPE Removal Area

- Take off PPE in the “PPE REMOVAL AREA”
- Supplies inside the “PPE REMOVAL AREA”



Chlorine foot bath



Bucket filled with 0.5% Chlorine for used aprons



Bucket filled with 0.5% Chlorine for thick rubber gloves



Disposable towels



0.05% Chlorine



Rubbish bin



Taking Off PPE

- Taking off PPE **MUST** be done under the supervision of infection control person
- Every time you take off a PPE item, wash your hands with 0.05% chlorine



Sequence for Taking Off PPE

- 1) Remove the heavy duty/rubber gloves
- 2) Remove apron
- 3) Remove gown
- 4) Inspection/cleaning boots
- 5) Remove face shield
- 6) Remove face mask
- 7) Remove head covering
- 8) Remove second pair of gloves

1



2



3



4



5



6



7



8



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



1. Take Off heavy duty/ Rubber Gloves

- Take off heavy duty/rubber gloves
- Place the gloves in a container filled with 0.5% chlorine



0.5% chlorine for heavy duty/ rubber gloves



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



2. Take off Apron

- Untie the apron from the back
- Lift the Apron over your head and take off
- Place the apron in a bucket filled with 0.5% chlorine



0.5% Chlorine



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



3. Take Off Gown



- Unfasten ties
- Peel gown away from neck and shoulder
- Turn contaminated outside toward the inside
- Throw it away



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



4. Inspection/Cleaning of Boots

- Infection control person **MUST** inspect your boots for any visible blood or other body fluids (blood, vomit, urine, stool)



Inspection/Cleaning of Boots

- If your boots are dirty:
 - Wipe off the visible body fluid with a disposable towel and throw it away
 - Wipe area again with a disposable towel soaked with 0.5% chlorine
- **DO NOT** clean the sole or bottom of the boot



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



5. Take Off the Face Shield



- Do not touch the front of the face shield
- Lift the elastic strap over your head
- Throw it away



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



6. Take Off the Face Mask



- Do not touch the front of the face mask
- Untie the bottom tie
- Untie the top tie
- Discard



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**



7. Take off Head Cover

- Take off head cover
- Throw it away



**Wash your gloved hands with
0.05% chlorine and throw some
chlorine solution on top of the tap**





8. Take Off Gloves

- **Remove your gloves slowly**
- **Grasp glove at the palm with opposite gloved hand; peel off**
- **Hold removed glove in gloved hand**
- **Slide fingers of ungloved hand under remaining glove at wrist**
- **Peel glove off over first glove**
- **Throw away the gloves**



Leaving PPE REMOVAL AREA

- As you leave the PPE removal area, walk through the chlorine boot bath





Wash Your Hands

- **Wash your hands immediately after removing PPE**
- **Use Soap and water**
 - Always use soap and water if your hands are visibly dirty
- **OR 0.05% Chlorine**
- **OR Hand sanitizer**



- Cleaning should always be carried out from “clean” areas to “dirty” areas, in order to avoid contaminant transfer
- **Change PPE if visibly soiled**



Waste Management — Supervisor Duties

- Oversee all parts of waste management
- Train and supervise waste disposal staff
- Make a schedule for collecting and burning disposable waste
- Make sure waste collection and burning is done safely



Waste Management — Staff Duties

- Bring waste from the clinic/hospital to the disposal site
- Operate the incinerator/burning pit
- Make 0.5% chlorine solution every day for cleaning
- Make 0.05% chlorine solution every day for handwashing stations





Type of Waste	How to Collect and Dispose ?
<p>Human Waste</p> <p>Stool, urine, vomit, placenta</p>	
<p>Waste Water, Leftover Food</p> <p>Used chlorine water, water used to wash dishes, water used to wash rubber boots</p>	
<p>Sharps</p> <p>Needles, scalpels, knives, broken glass</p>	
<p>Burnable Waste</p> <p>Disposable gloves, gowns, face masks, face shields, disposable towels, used bandages</p>	

Type of Waste	How to Collect	How to Dispose
<p>Human Waste Stool, urine, vomit, placenta</p>	<p>Bucket</p>	<p>Pour down the latrine</p>
<p>Waste Water, Leftover Food Used chlorine water, water used to wash dishes, water used to wash rubber boots</p>	<p>Bucket</p>	<p>Pour down the latrine</p>
<p>Sharps Needles, scalpels, knives, broken glass</p>	<p>Sharps container</p>	<p>Incinerator</p>
<p>Burnable Waste Disposable gloves, gowns, face masks, face shields, disposable towels, used bandages</p>	<p>Plastic bag</p>	<p>Incinerator or burn pit</p>



Waste collection



- Waste should be segregated at point of generation to enable appropriate and safe handling.
- Collect all solid, non-sharp, infectious waste using leak-proof waste bags and covered bins.

Bins should never be carried against the body (e.g. on the shoulder)



How to Dispose of Human Waste Collected in a Bucket

1) Tip the bucket slightly and slowly and carefully pour 0.5% chlorine into the bucket

– As you pouring , try to coat all the sides of the bucket with the chlorine

- **AVOID splashing**



How to Dispose of Human Waste Collected in a Bucket

- 1) Cover the bucket and wait 15 minutes
- 2) Carry bucket without splashing or spilling to the latrines
- 3) Pour the contents of bucket down the latrine
- 4) Clean and disinfect the bucket



How to Dispose of Waste Water and Leftover Food

- 1) Put waste water and leftover food in buckets
- 2) Carry bucket without splashing or spilling to the latrines
- 3) Pour the contents of bucket down the latrine
- 4) Clean and disinfect the bucket



How to Dispose of Sharps

- All sharps **MUST** be placed in a waterproof, puncture resistant container **BEFORE** it is brought to the incinerator



How to Dispose of Sharps

- 1) When the sharps container is $\frac{3}{4}$ full, close and seal the container
- 2) Place the sharps container in a bucket
- 3) Carry the bucket to the incinerator and burn the sharps container
- 4) Clean and disinfect the bucket



How to Dispose of Burnable Waste in a Plastic Bag

- 1) When the plastic bag is $\frac{3}{4}$ full, close the bag shut with string or tape
- 2) Place sealed bag inside another bag
- 3) Bring to the incinerator/pit for burning



Picking a Place for Incinerator/Burning Pit

- On the health facility area
- Away from the normal flow of people/cars
- Should NOT be in an area where it will attract people



How to Make a Burning Pit for Waste

- Dig a pit that is 2 meters deep (about 7 feet) and filled to a depth of 1–1.5 m (or about 3–5 feet)
- Pit should be wide enough to hold all the burnable waste that will be burned
- An incinerator may be used during an outbreak to destroy solid waste
 - It is essential to ensure that total incineration has taken place
 - Caution is required when handling flammable material and when wearing gloves due to the risk of burn injuries if gloves are ignited



How to Burn Waste in a Pit

- Place the waste into the pit
- Pour fuel (diesel) on the waste and start the fire
- Watch the burning to make sure all the waste is completely burned
 - When the fire has gone out, if any waste was not completely burned, repeat burning



How to Burn Waste in a Pit

- When no waste remains and the fire goes out, cover the ash with dirt
- When the pit becomes $\frac{3}{4}$ full, cover it with half a meter of soil
- Dig a new waste pit

Placenta and anatomical samples should be buried in a separate pit.



How to disinfect spills of body fluids

- Pour 0.5% chlorine solution onto a clean rag
- Let stand for 15 minutes.
- Remove with rag or paper towels.
- Discard rag in plastic bag for infected waste
- Wash area with soap and water.
- Disinfect again with 0.5% chlorine solution



How to disinfect patient clothing and bedding before laundering:

- Soak soiled clothing in 0.05% chlorine for at least 30 minutes.
- Remove and place in a container of soapy water overnight, rinse thoroughly and dry on line.
- If you have a suspect or probable Ebola case discard and burn contaminated materials.



How Often Should I Clean and Disinfect ?

- Surfaces (Tables, chairs, desks)
 - Twice a day (in the morning before clinic opens, and in the evening after the clinic closes)
- **Clean Triage area or anywhere a suspect patient has been**
- Medical Equipment
 - After each patient
 - Thermometers, stethoscopes should be cleaned and disinfected after **EACH** patient



- Cleaning with a moistened cloth helps to avoid contaminating the air and other surfaces with air-borne particles.
- Allow surfaces to dry naturally before using them again.

- **Dry sweeping with a broom should never be done.** Rags holding dust should not be shaken out and surfaces should not be cleaned with dry rags



Chlorine Solution

- Chlorine is a VERY STRONG chemical
- Make the solution in an open area to avoid fumes
- You must wear your recommended PPE when making chlorine solution
 - Face shield, mask, gown, apron, gloves and rubber gloves, rain boots



Chlorine Solution

- Chlorine loses strength with time
 - Everyday throw out the old chlorine solution
 - Everyday make new chlorine solution
- Sunlight weakens chlorine solution
 - Keep the chlorine solution away from direct sunlight

Caution:

- Chlorine solutions can weaken gloves. Gloves must be checked after cleaning, and before reuse.



Disinfection Chlorine Solutions & Uses

0.05%

DISINFECTION of :

- Bare (or gloved) hands, skin and shoes
- Thermometers
- Laundry
- Plates, cups and eating utensils.






0.5%

DISINFECTION of:

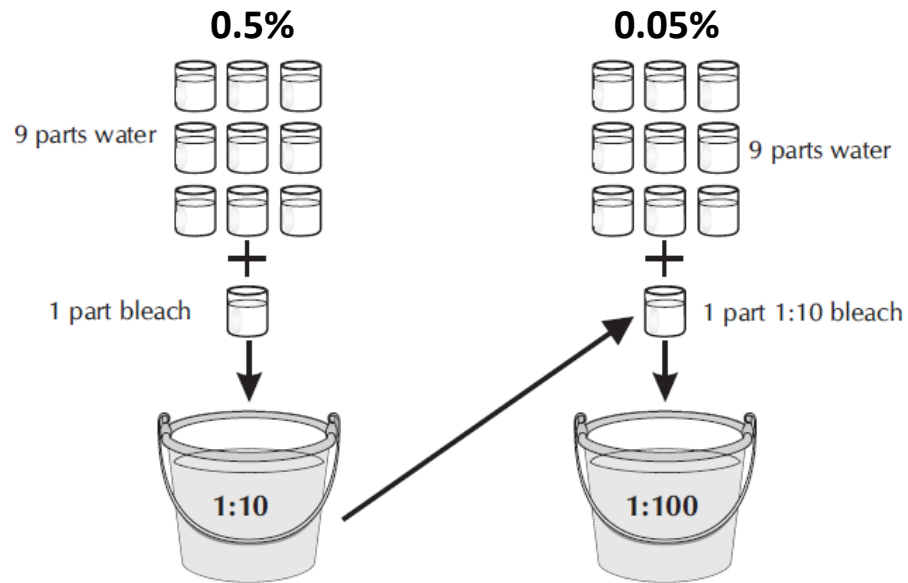
- Body fluids , excreta, vomit etc.
- Corpses
- Toilets & bathrooms
- Floors
- Beds and mattress covers
- Footbaths



Preparation and use of chlorine

	1:10 solution <ul style="list-style-type: none">•Soiled clothes•Toilets•Body Fluid Spills•Floors/Environment	1:100 solution <ul style="list-style-type: none">•Bare hands and skin
Calcium hypochlorite powder or granules 70% 	1 tablespoon per 2 liters of water  	1 tablespoon per 20 liters of water  

Making chlorine water from 5% bleach



Find the Mistake







**NO
headcover**



**NO
headcover
You must
wear a
head cover**





**NO
headcover
You must
wear a
head cover**

Using a broom





**NO
headcover
You must
wear a
head cover**

**Using a broom
DO NOT use a
broom to sweep**





Keep Safe – Keep serving

- THANK YOU!

