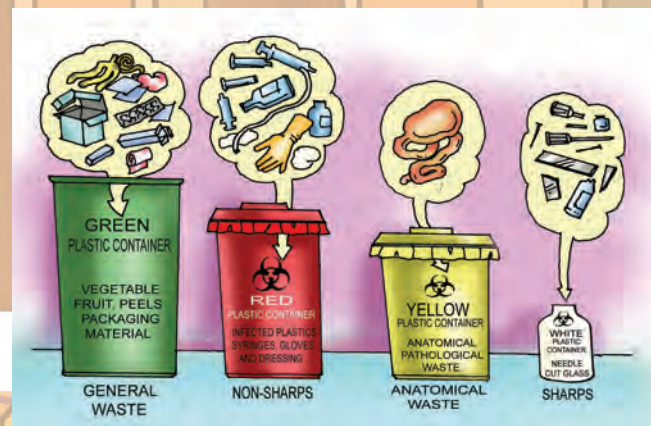




INFECTION MANAGEMENT AND ENVIRONMENT PLAN

GUIDELINES FOR HEALTHCARE WORKERS
FOR WASTE MANAGEMENT AND INFECTION CONTROL
IN PRIMARY HEALTH CENTRES



Ministry of Health & Family Welfare
Government of India



सत्यमेव जयते

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The World Bank

This Document has been designed by Arvinder Chawla and Kamal Kumar, illustrated by Vivek Kaushik and printed by Colorcom Advertising

2007, Printing of the IMEP guidelines for Government of India is supported by DFID, India.

Preface

Biomedical waste refers to all wastes generated from healthcare and health research facilities and associated laboratories. While most of this is communal waste, a small percentage can be deemed infectious and/or hazardous. These include infected sharps and wastes with infectious, hazardous, radioactive, or genotoxic characteristics, which if inadequately treated and managed can have adverse impact on the environment and on public health through air, land and water pollution. Therefore institutionalizing effective waste management systems in all healthcare facilities is a key prerequisite to improving efficiency and effectiveness of healthcare.

The regulatory framework for environmental management in the health sector in India is provided by the Bio-Medical Rules (prepared in 1998; amended in 2000 and 2003), which apply to all persons/institutions generating and/or handling healthcare waste in any form. The Rules define bio-medical waste as “any waste which is generated during diagnosis, treatment or immunization of human beings or animals, or in research activities or in the production or testing of biologicals and including categories mentioned in schedule-I of the rules”. The Rules, besides identifying the various waste categories, also recommend treatment and disposal methods and the standards to be laid down for the same.

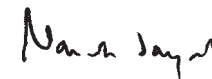
The Ministry of Health & Family Welfare commissioned the development of a National Policy document to address the issues relating to infection control and waste management and define a framework for implementation of an Infection Management and Environment Plan (IMEP) in healthcare facilities. This policy document was commissioned under the Reproductive and Child Health Programme Phase - II, with technical and financial support from DFIDI and the World Bank.

The final IMEP document comprises of **2 volumes**:

- ❖ A **Policy Framework document** which gives a broad overview and contains generic guidance to central and state level institutions on the type of systems and processes to be established for infection control and biomedical waste management.
- ❖ A set of **Operational Guidelines** which are designed as instruction manuals for healthcare workers at primary level healthcare facilities, i.e. Community Health Centres, Primary Health Centres and Sub Centres. These guidelines are in the form of simple pictorial presentations of the various steps needed to manage infectious waste in a hygienic, safe and environmentally sound manner.

The IMEP Guidelines will be implemented and monitored under the auspices of the National Rural Health Mission (NRHM) and will go a long way to internalise state-of-the art, best practices in managing health and environment risks in the healthcare institutions of our country.

Date: 1st April, 2007



(Naresh Dayal)

Secretary (Health and Family Welfare)
Ministry of Health and Family Welfare
Government of India

Acknowledgement

The Infection Management and Environment Plan document is an important component of the support to primary level healthcare being provided under the auspices of the National Rural Health Mission (NRHM) and Reproductive and Child Health Programme Phase - II. The Policy Framework document and the Operational Guidelines are intended to facilitate and enhance implementation of the Bio-Medical Waste Management Rules of the Government of India.

The vision and constant encouragement provided by Shri P.K. Hota, former Secretary, Health and Family Welfare enabled us to bring out these guidelines. I express my sincere thanks to Shri Naresh Dayal, Secretary, Health & Family Welfare under whose leadership these guidelines have been finalized.

Special thanks are also due to Ms. Ruma Tavorath, Environment Specialist, The World Bank, for her technical contribution and continued guidance to bring the document to its current shape. We are particularly thankful to Dr. Sean Doolan, Environment Adviser, DFID who conceptualized this document and to Mr. Stephen Young, Senior Infrastructure and Urban Development Adviser, DFID for the continued support. Ms. Ellora Guhathakurta, Programme officer, DFID deserves special mention for her meticulous and sustained follow-up and coordination throughout the administrative process.

I recognize the excellent contributions of Mr. S. Vaideeswaran, Consultant, The World Bank and Dr. Megha Rathi, Consultant, DFID in successfully translating the concepts of the Policy Framework and Operational Guidelines into reality. Sincere appreciation is due to Shri S.S. Brar, Joint Secretary (RCH) and Shri A.P. Singh, Director (DC) for their leadership, encouragement and guidance.

I acknowledge the contributions of Dr. V.K. Manchanda, erstwhile Deputy Commissioner (MCH), Dr. Narika Namshum, Deputy Commissioner (Child Health and Training),

Dr. I.P. Kaur, Deputy Commissioner (Maternal Health) and Dr. Himanshu Bhushan, Assistant Commissioner (Maternal Health).

I would like to make a special mention of Dr. Manisha Malhotra, Assistant Commissioner, Maternal Health Division, for her unstinting support and unwavering commitment to finalizing, disseminating and enhancing the importance of this activity within the NRHM agenda.

The cooperation and technical inputs provided to this activity by the members of the "Working Group" deserves special mention. So does the contribution of the secretarial staff from the various organizations who have facilitated us in this important activity.

Date: 1st April, 2007



(S. Jalaja)

Additional Secretary
Mission Director, NRHM
Ministry of Health & Family Welfare
Government of India

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Waste Management in Primary Health Centers

A Primary Health Centre (PHC) caters to a population of around 30 000 and undertakes various activities that generate different kinds of waste that need to be managed as per the Bio-medical Waste (Management and Handling) Rules, 1998. These rules make it mandatory for all health care facilities to have a sound health care waste management system. The present guidelines are intended to help the health care workers manage their waste and safeguard themselves and the community from the ill-effects of contaminated waste. This operational guide will help in establishing a sound Health care Waste Management system within the PHCs.

A PHC generates different kinds and quantity of waste based on the activities undertaken by it. The following table explains in brief the different areas and types of waste generated in a PHC.

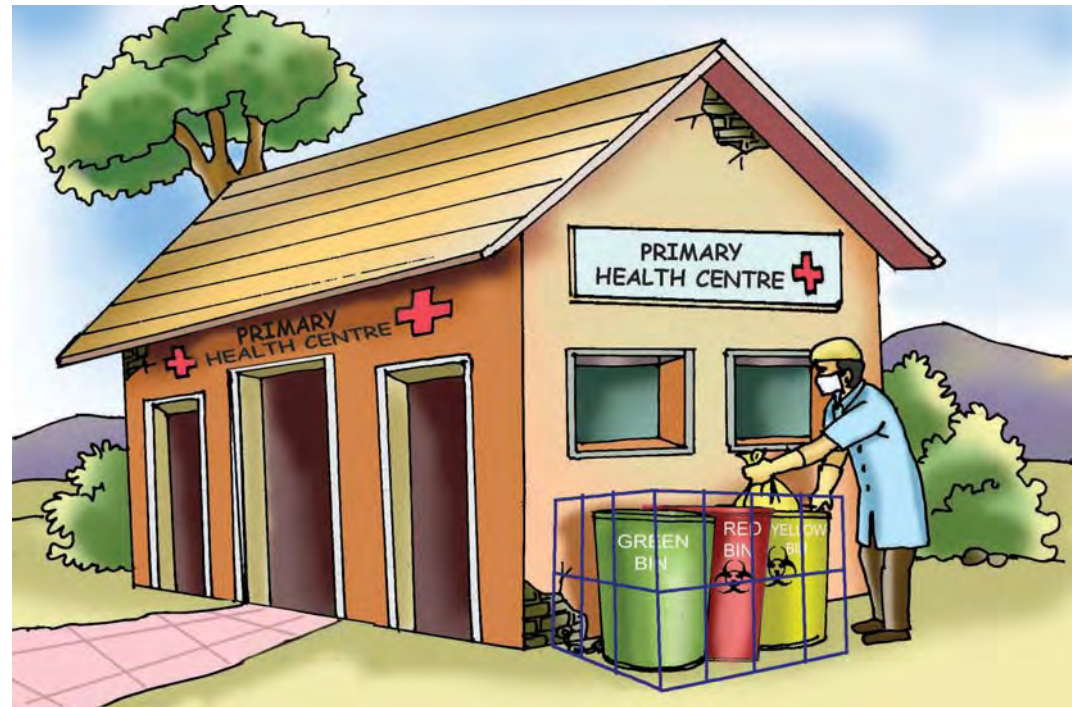


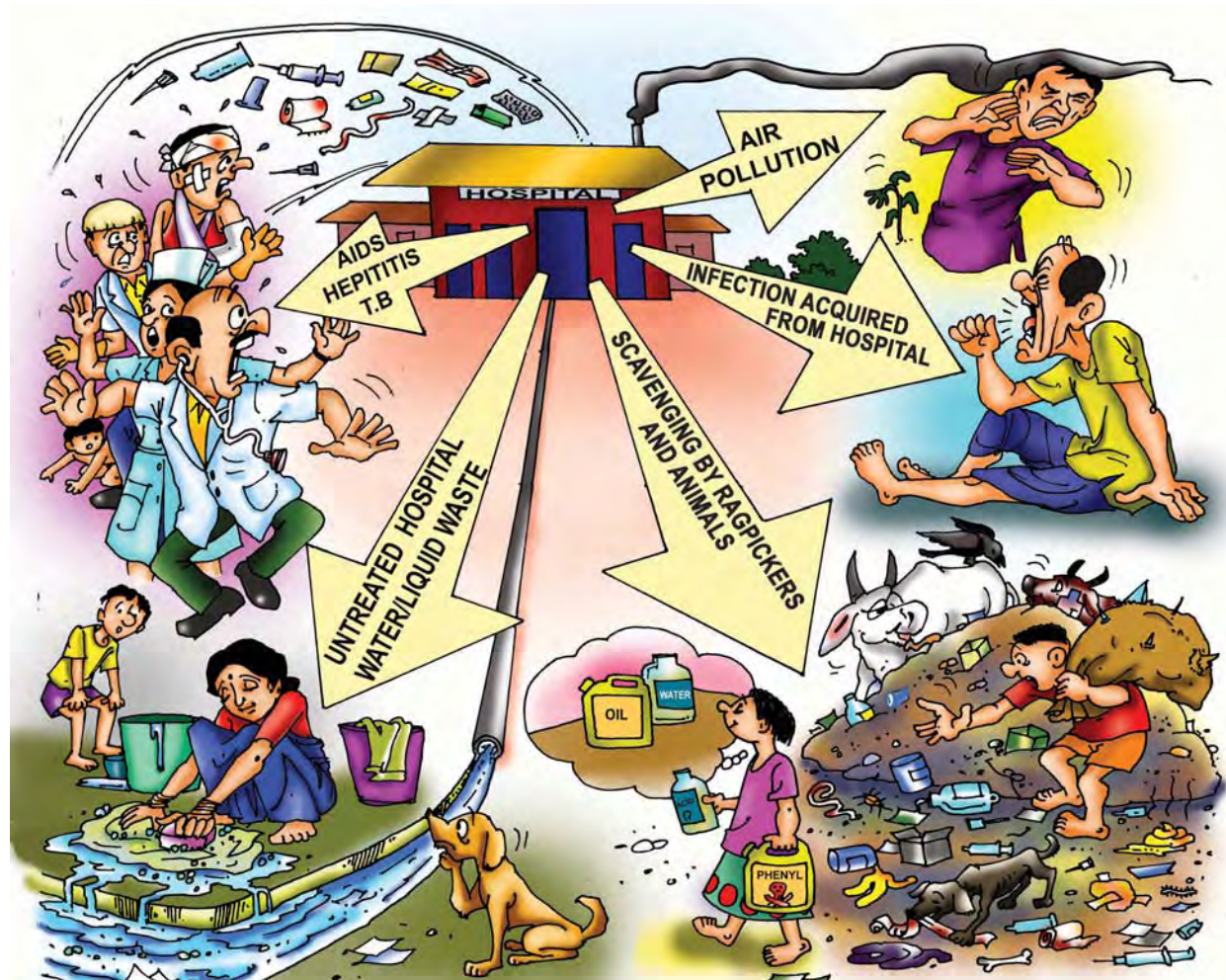
Table: Areas of waste generation and kinds of waste generated in the Primary Health Centres

S.No.	Areas of Waste generation	Activities performed	Types of Waste generated*	Consumables used for Managing Waste
1.	Operation Theatre	Family planning procedures, cataract surgeries. Minor Surgical Procedures	Blood and body fluids, soiled waste, swabs, cotton, syringes and needles, blades, gloves and masks	Coloured bags, bins, hub cutter/destroyer, 1% bleaching powder solution, Puncture Proof Container.
2.	Labour Room	Child birth (Deliveries)	Placenta, blood and body fluids, soiled waste, cotton, swabs, syringes and needles, blades, tubings and IV sets masks and gloves	- do-
3.	Laboratory	Malarial smears, TB testing and other essential laboratory services	Blood and body fluids, syringes and needles, gloves, slides, sputum and sputum cups, chemical waste and liquid waste	- do-
4.	Injection Room	Immunization and curative injections	Syringes and needles, ampoules, vials, broken glasses, gloves and vaccine waste	- do-
5.	Ward	In-patient services	Blood and body fluids, syringe and needle, slides, ampoules, vials, chemical waste, liquid waste, broken thermometer and soiled waste	- do-

S.No.	Areas of Waste generation	Activities performed	Types of Waste generated*	Consumables used for Managing Waste
6.	OPD	Out-patient services, routine examination of patients	Blood and body fluids, syringes and needles, slides, ampoules, vials, broken thermometer, plaster cast chemical waste and liquid waste,	Coloured bags, bins, hub cutter/destroyer, 1% bleaching powder solution, Puncture Proof Container.
7.	Store	Store	Discarded medicine	Green bag and bin

** General or non-biomedical waste is generated at all the points of waste generation in the health care facility*

While managing the waste generated from PHC a waste management system that is simple, safe for health care workers and the community, easy to operate and economically viable. For the easy understanding and implementation of waste management in PHCs the various steps for waste management have been depicted in the form of illustrations. These illustrations are self-explanatory and are aimed at helping the health care workers to manage the waste as per the Bio-medical Waste (Management and Handling), Rules 1998.



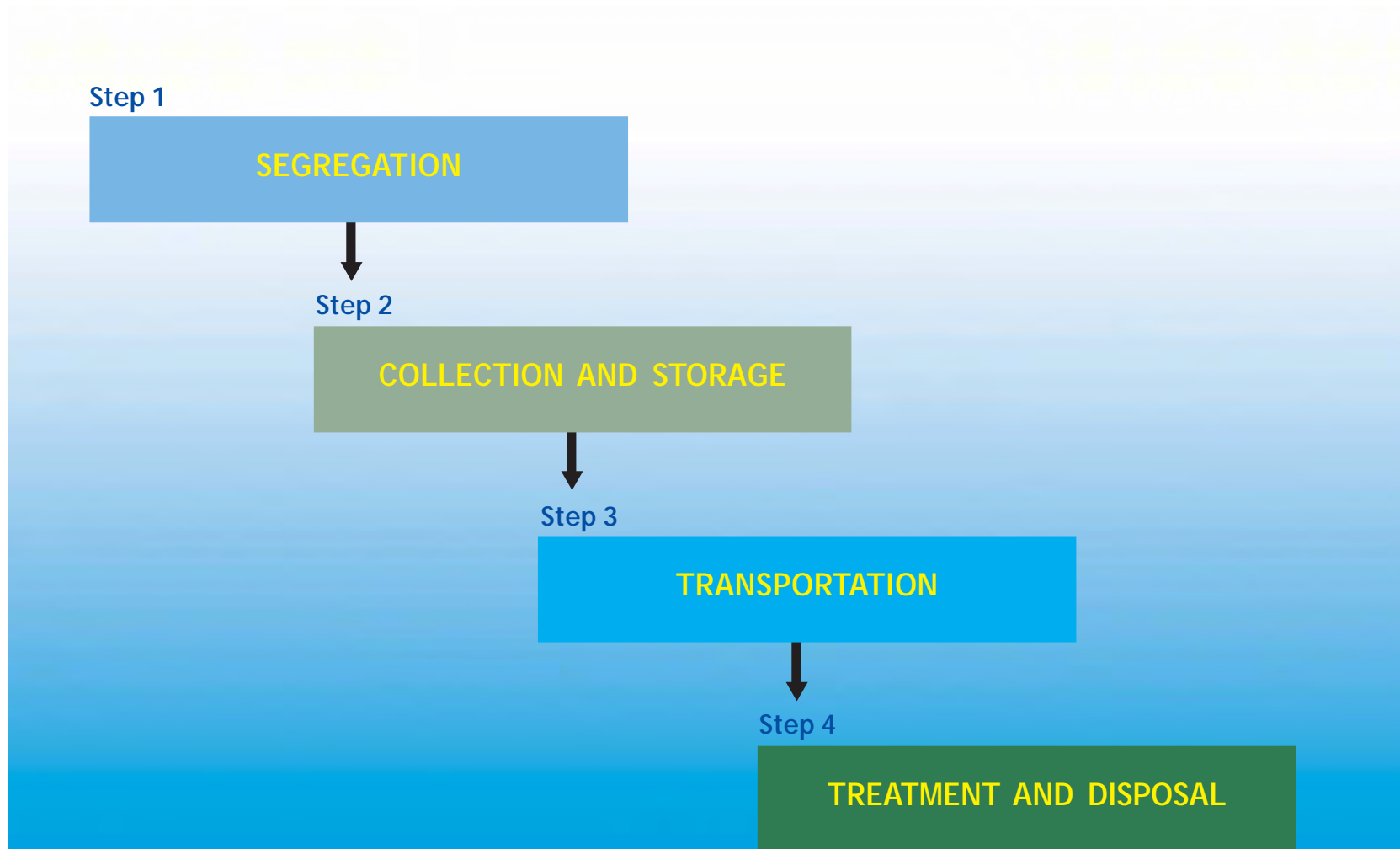
Health care waste is a risk to all, it affects us in different ways



WASTE MANAGEMENT



1. Steps For Waste Management



1.1 Segregation

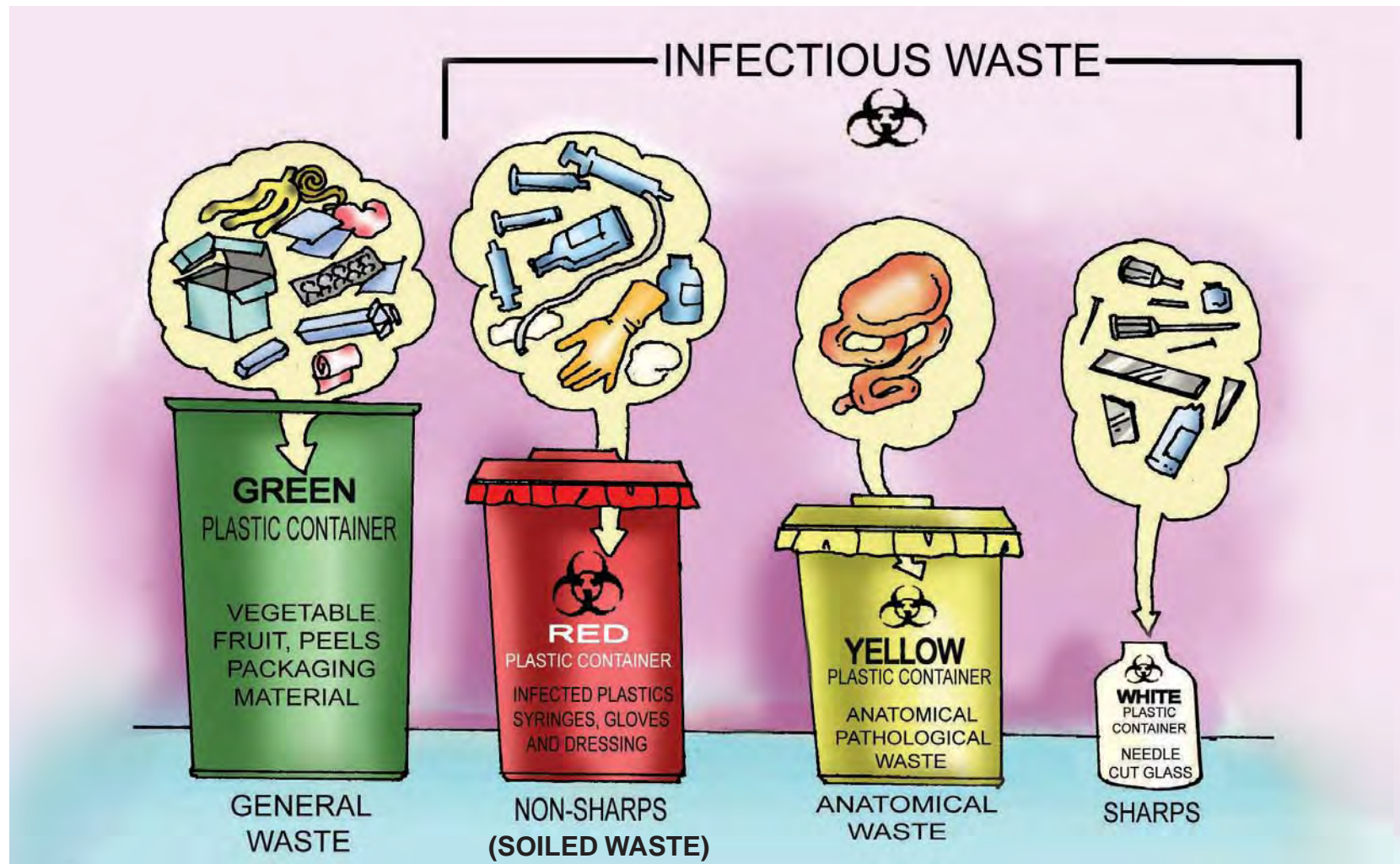
Do's

1. Always segregate waste into infectious and non-infectious waste at source of generation as per the colour coding in the health care facility like CHC/PHC/Sub-centre
2. Infectious waste includes
 - a. Sharps: Needles, blades, broken glass which are to be disposed in white/ blue puncture proof container
 - b. Non-Sharps (soiled waste): Infected plastics, syringes, dressings, gloves, masks, blood bags, urine bags are to be disposed in red plastic bins/bags
 - c. Anatomical waste: Placenta, body parts to be disposed in yellow plastic bins/bags
3. Non-infectious (General) waste includes waste similar to household waste like packaging material, cartons, fruit and vegetable peels, syringe and needle wrappers, medicine covers to be disposed in green/black plastic bins or bags

Don'ts

Never mix infectious and non-infectious waste either at source of generation, during waste collection, waste storage, waste transportation or during final disposal of waste

Segregation



Always segregate waste at the source of generation

1.2 Collection and Storage

Do's

1. Always collect the waste in covered bins
2. Fill the bins upto the 3/4th level
3. Clean the bins regularly with soap and water/disinfect the bins regularly

Don'ts

1. Never overfill the bins
2. Never mix infectious and non-infectious waste in the same bin
3. Never store waste beyond 48 hrs

Collection and Storage



Bad: Don't overfill the bins



Good: Always fill only 3/4th bin

1.3 Transportation

Do's

1. Always carry/transport the waste in closed containers
2. Use dedicated waste collection bins/trolleys/wheel barrows for transporting waste
3. Transport waste through a pre-defined route within the health care facility

Don'ts

1. Never transport the waste in open containers or bags, it may spill and lead to spread of infections
2. Never transport waste through crowded areas

Transportation



Bad - Don't carry waste in open bags, and never carry it through crowded areas



Good - Always carry the waste in secure sealed containers/ bags

1.4 Treatment and Disposal

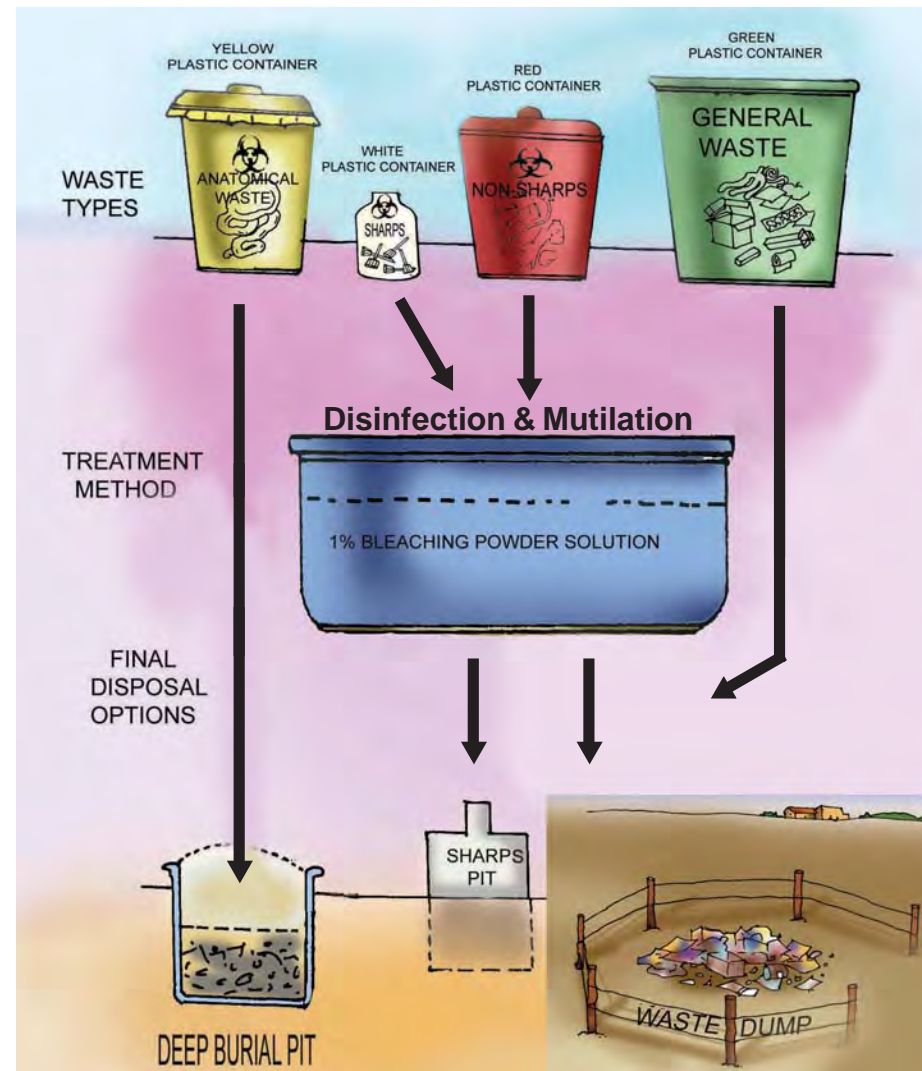
Do's

1. Always remember to disinfect and mutilate the waste before its final disposal
2. Remember the following while treating the waste streams
 - a. Anatomical waste to be deep buried
 - b. Syringes to be cut (with hub cutters) and chemically disinfected with 1% bleaching powder solution at source of generation before final disposal into sharps pit
 - c. Infected plastics to be chemically disinfected or autoclaved, shredded and recycled and sent for final disposal into municipal dumps
 - d. General waste without any treatment to be sent to waste dumps for final disposal

Don'ts

Never throw infectious waste into general waste without any pre-treatment and mutilation

Treatment and Disposal



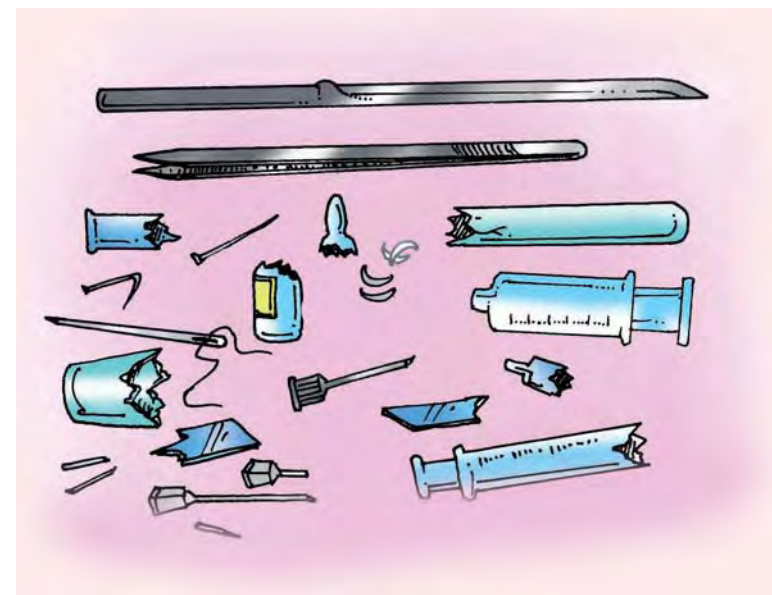
Ensure disinfection and mutilation of waste before final disposal

2. Management of Different Waste Streams

2.1 Sharps

2.1.1 Sharps and its Kind

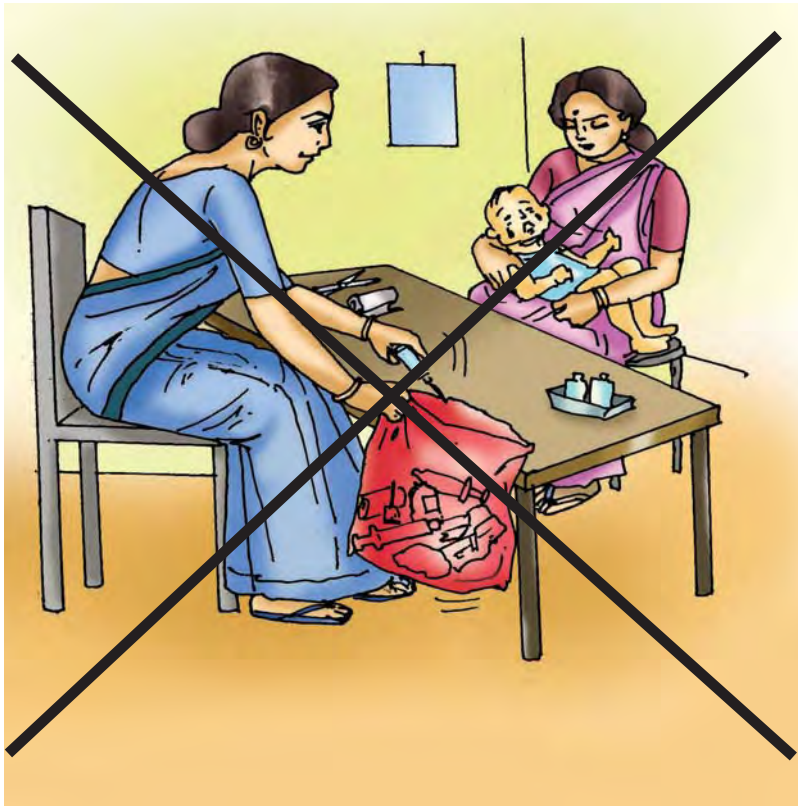
Sharps are such objects that are capable of causing injuries by piercing the skin. Sharps include metal sharps like needles and blades and glass sharps like broken ampoules, vials and slides



2.1.2 Different Kinds of Needles and Syringes

In the following pages the waste management of

a) Disposable syringes, b) Auto-disable syringes and c) Glass syringes has been illustrated



Bad - Mixing of waste



Good - Sharps in puncture proof container

a) Disposable Syringes

Do's

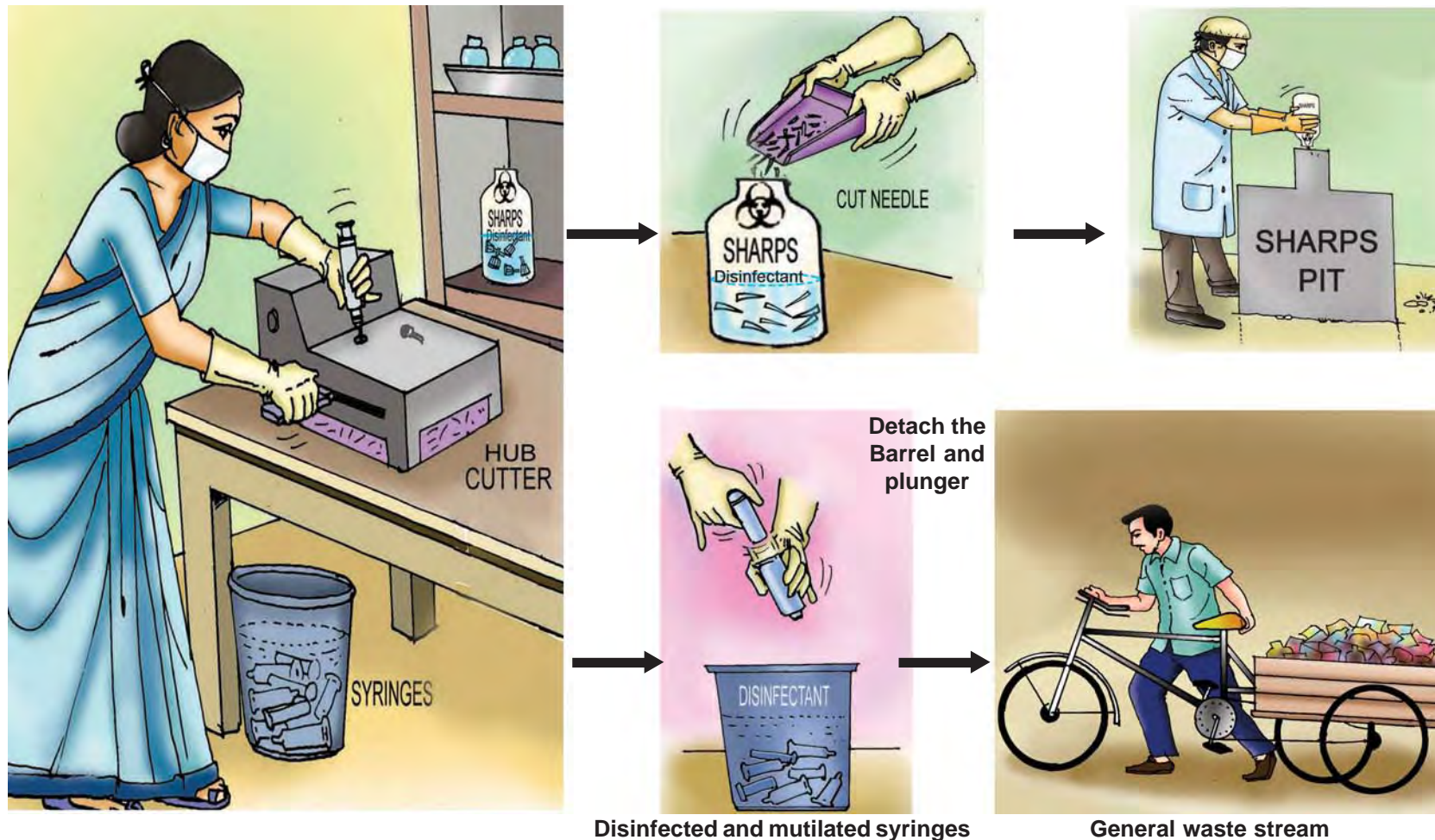
1. Always wear protective gears like gloves while handling needles and syringes
2. Always collect needles and syringes in puncture proof containers
3. Always mutilate/cut the tip of the syringe and the needle with a needle and hub cutter before disinfecting them
4. Remember to detach the barrel and the plunger before disinfecting the syringe
5. Disinfect the mutilated needles and the syringes with 1% bleaching powder solution at least for one hour
6. After disinfection and mutilation of needles and syringes collect them in puncture proof container
7. Final disposal of disinfected and mutilated syringes in general waste stream/recycling

Don'ts

1. Never mix sharps with other waste streams
2. Never throw the needles and the syringes without mutilation and disinfection into the waste bin
3. Never recap or bend needles
4. Never discard the sharps in polybags
5. Never burn the syringes
6. Never dispose the sharps in open areas accessible to scavengers



Disposable Syringes



b) Auto-Disable Syringes

Do's

1. Always wear protective gears like gloves while handling needles and syringes
2. Always collect the auto-disable syringes in puncture proof containers
3. Always mutilate/cut the tip of the syringe and the needle before disinfecting them with a needle and hub cutter
4. Disinfect the mutilated needles and the syringes with 1% bleaching powder solution for at least 1 hour
5. After disinfection and mutilation of needles and syringes always collect them in puncture proof containers
6. Final disposal of disinfected and mutilated syringes in general waste stream/recycling

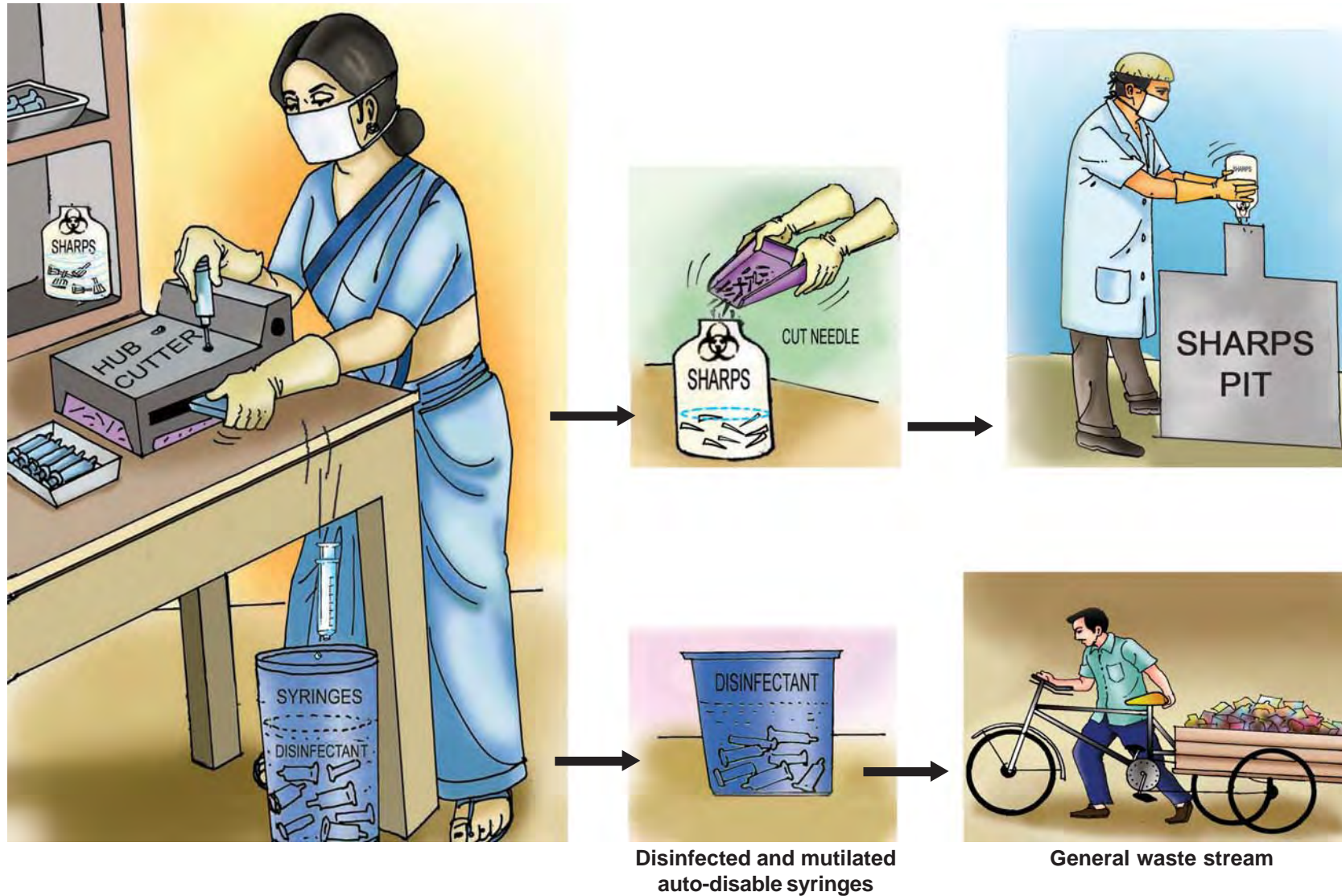
Don'ts

1. Never mix sharps with other waste streams
2. Never recap or bend the needles
3. Never throw the needles and the syringes without mutilation and disinfection into the waste bin
4. Never burn the syringes



NEVER BURN SYRINGES

Auto-Disable Syringes



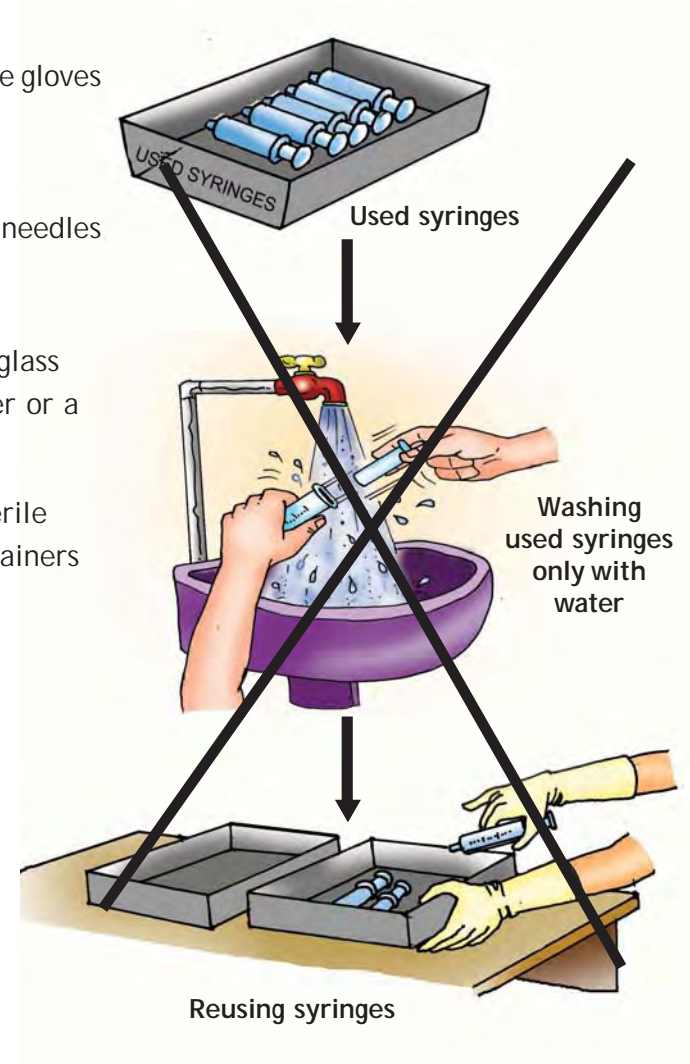
c) Glass Syringes

Do's

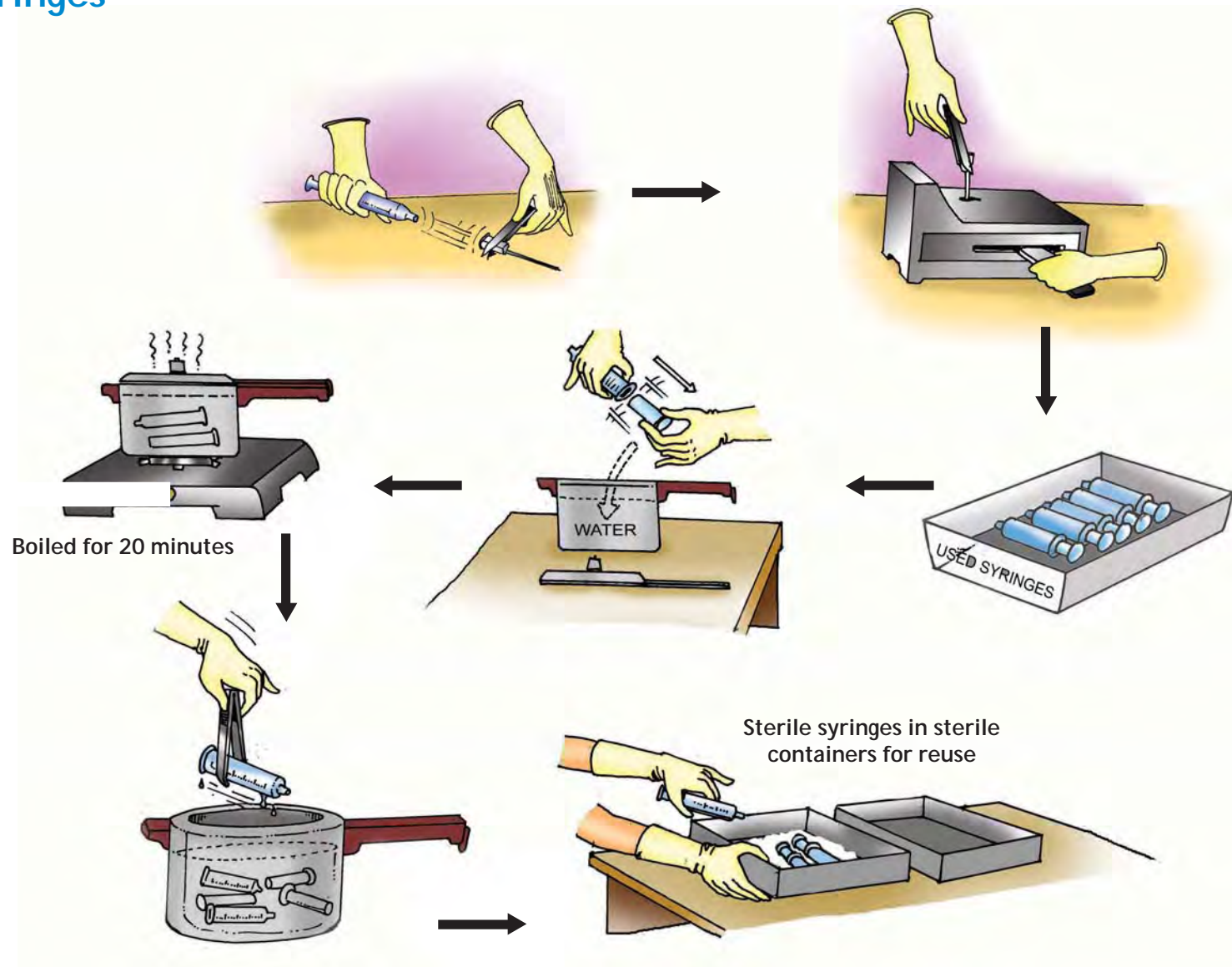
1. Always wear personal protective gear like gloves while handling needles and syringes
2. After using the glass syringes remove the needles by forcipex and mutilate the needles
3. Collect the glass syringes in a box
4. Remove the barrel and plunger of the glass syringe and sterilize them in a sterilizer or a cooker for at least 20 minutes
5. Remove the sterilized syringes with sterile forcipex and store them in sterile containers

Don'ts

1. Never reuse the glass syringes without proper sterilization. Ensure proper sterilization of the syringes
2. Never reuse the needles
Always single use the needles



Glass Syringes



2.1.3 Broken Glasses

Do's

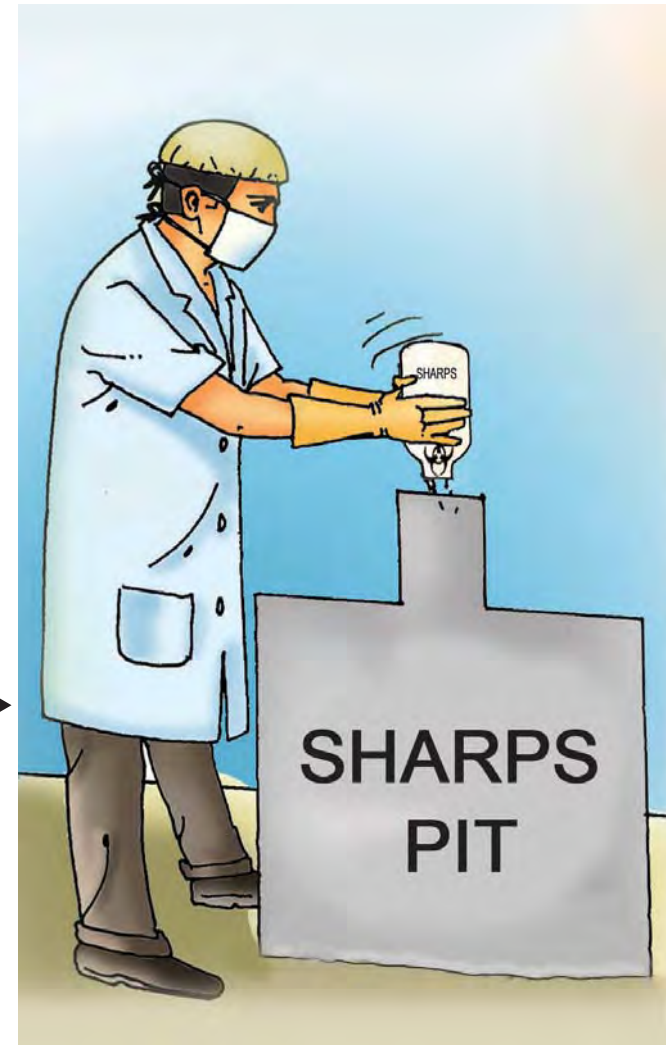
1. Always safely cut and discard the ampoules and vials in sharps container
2. Finally dispose the broken glasses in sharps pit

Don'ts

1. Never cut the ampoules in such a way that they can hurt others
2. Never break glass sharps manually



Broken Glasses



2.1.4 Metal Sharps

Do's

1. Discard the metal sharps like blades, lancets and scalples in puncture proof container with disinfectant solution
2. Finally dispose the metal sharps in sharps pit

Don'ts

1. Never dispose sharps in nonsecure area
2. Never discard the metal sharps in non-puncture proof containers

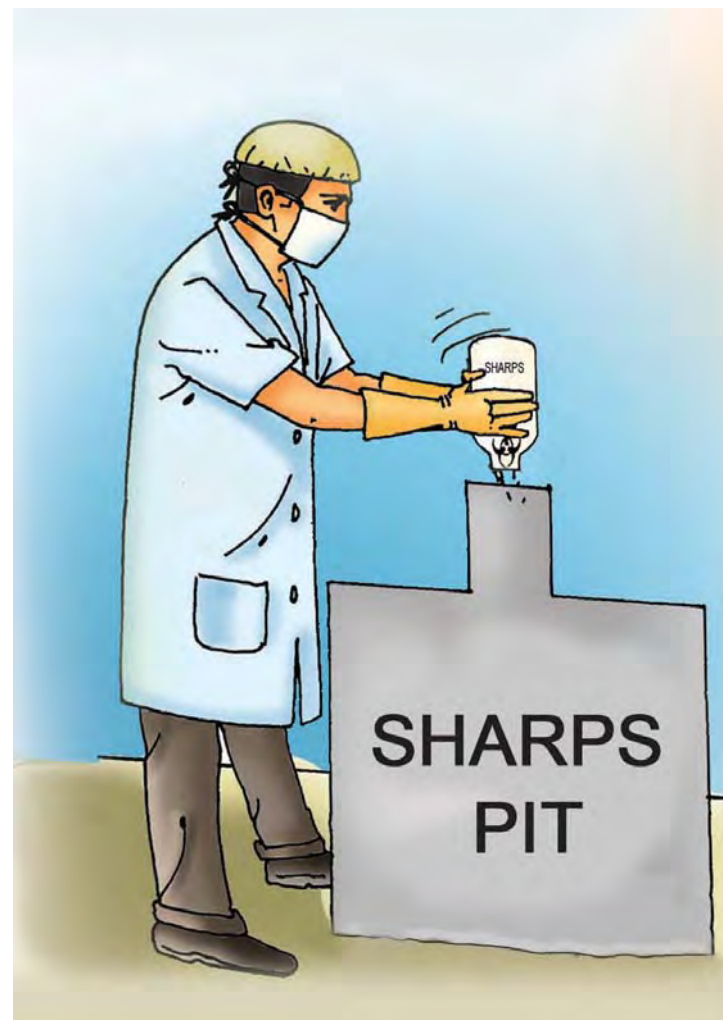


Nonsecure disposal of sharps



Never collect sharps in plastic bags

Metal Sharps



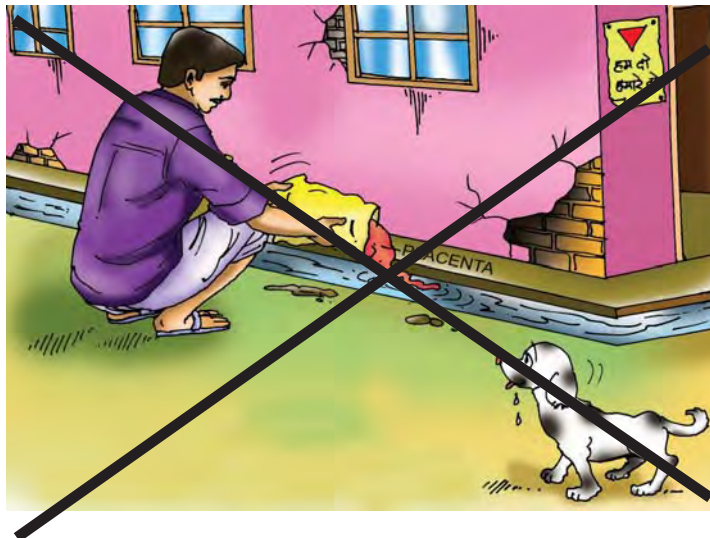
2.2 Anatomical Waste

Do's

1. Always segregate anatomical parts from other waste streams at the source of generation in yellow bags/containers
2. Collect anatomical waste like placenta in closed bags/covered bins at the source of generation
3. Transport the placenta from source of generation to final disposal site in covered bins/bags
4. Dispose the placenta along with disinfectant in secure deep burial pit

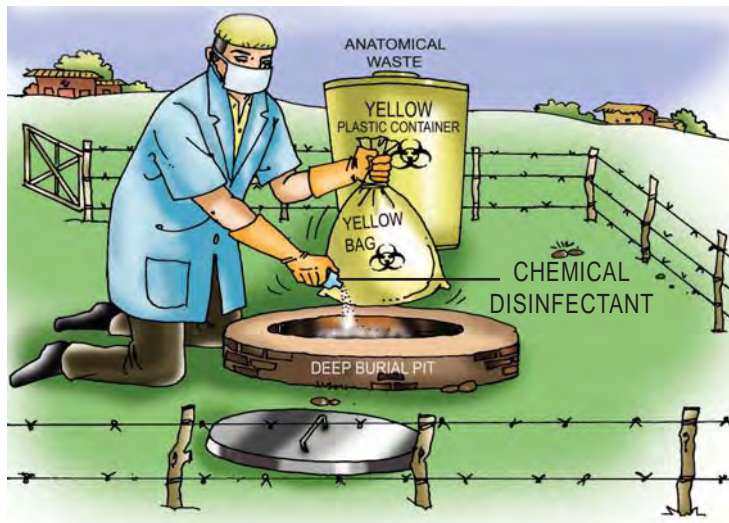
Don'ts

1. Never mix the waste at source of generation or later during collection and transportation
2. Never dispose the anatomical waste in un-secure open areas or in water bodies



Never dispose anatomical waste in open

Anatomical Waste



2.3 Sputum Cups and Slides

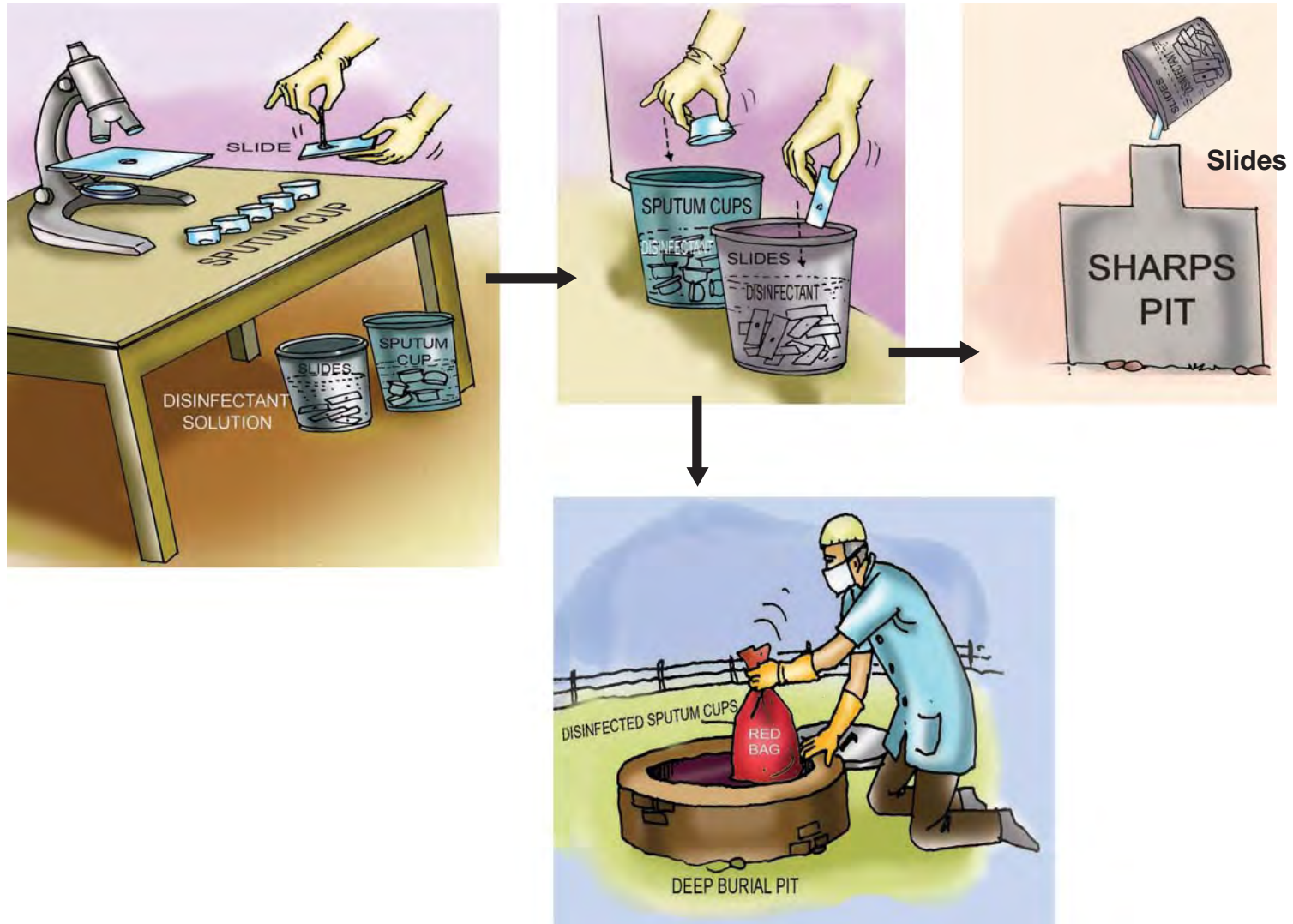
Do's

1. Always wear personal protective gears like gloves and masks while handling sputum cups and slides
2. Dispose the sputum cups and slides into covered containers 5% Sodium Hypochlorite solution for at least one hour
3. After disinfection dispose the:
 - Sputum cups into burial pits
 - Slides into sharps pit
 - Liquid waste into drains

Don'ts

1. Never handle highly infectious waste without wearing personal protective gears
2. Never break the slides after use, during disinfection or final disposal. Dispose the slides without breaking them
3. Never dispose any infectious waste without pre-treatment

Sputum Cups and Slides



2.4 Plastic Waste

Do's

1. Always cut/puncture the plastic waste such as intra-venous tubes, bottles, syringes, latex gloves and mask by scissors before disinfection
2. Disinfect the plastics in covered containers with 1% bleaching powder solution at least for one hour
3. Dispose the disinfected and mutilated plastics in municipal dumps or send for recycling

Don'ts

1. Never dispose used plastics without any pre-treatment like disinfection and mutilation before final disposal
2. Never reuse the disposable gloves and masks

Plastic Waste



2.5 Liquid Waste

Liquid waste is any blood, body fluid, pus, any discharge from wounds or liquid chemicals

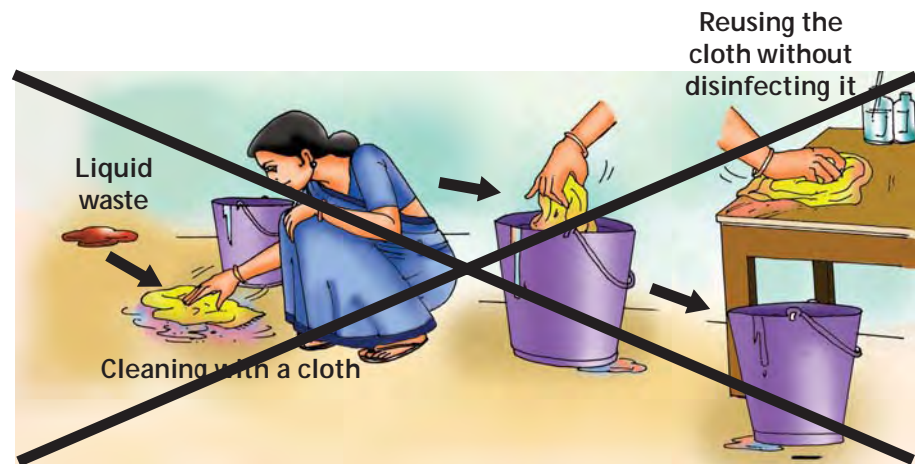
2.5.1 Liquid Waste Spills

Do's

1. Clean the liquid waste spill by adding equal or more quantity of bleaching powder solution and leave the area for 30 minutes
2. Wipe the area with a swab/cloth
3. Discard the swab/cloth after cleaning the area into red bin meant for plastics and other waste
4. If possible dispose the liquid waste into the drains

Don'ts

1. Never clean liquid waste spills without adding disinfectant to the spills
2. Never reuse the cloth used for cleaning the spills for any other purpose



Liquid Waste Spills



2.5.2 Disposal of Disinfectants

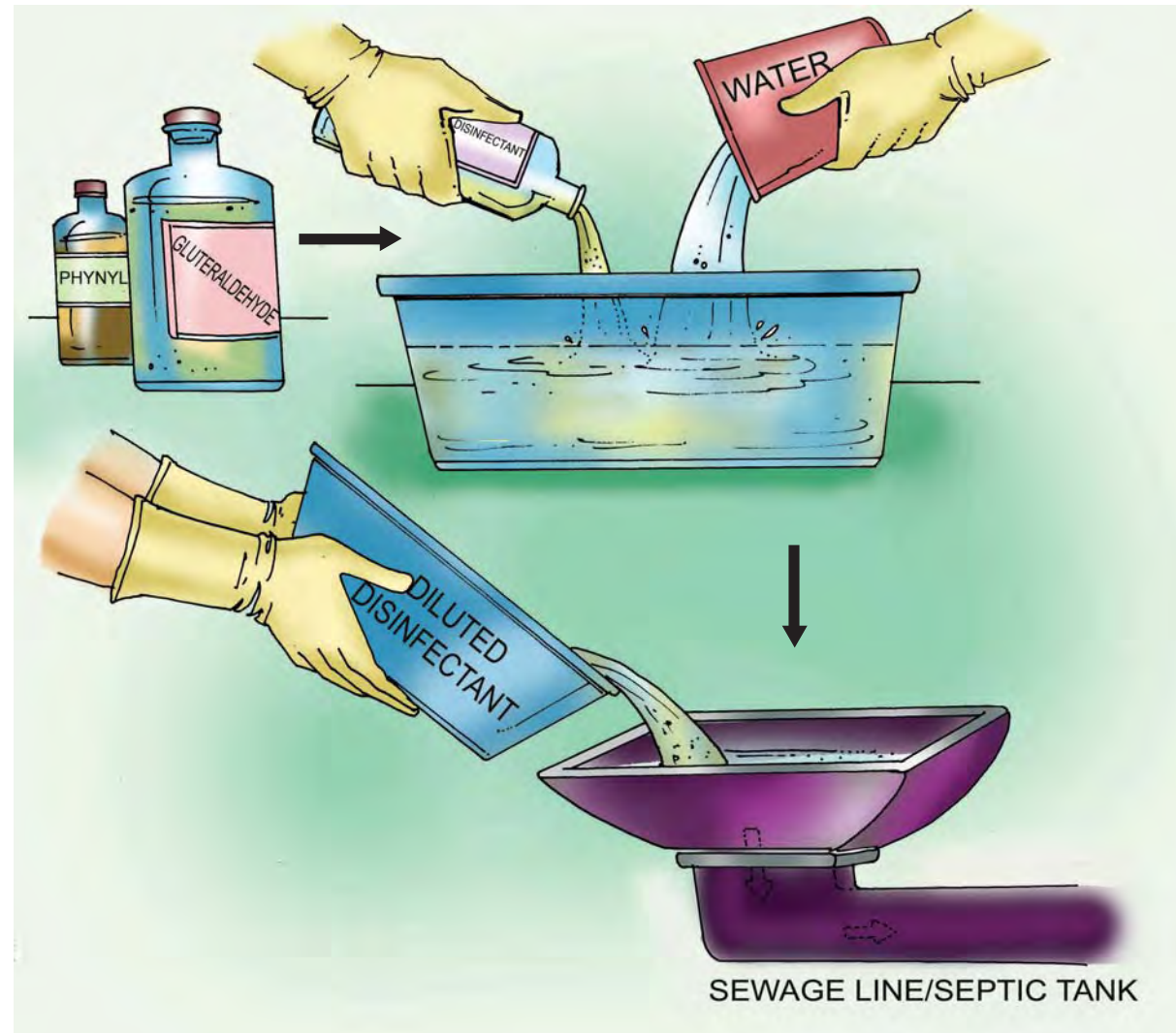
Do's

1. Always dilute the disinfectant before disposal into drains
2. Wear personal protective gears while handling disinfectants
3. Always destroy the empty disinfectant container to avoid reuse

Don'ts

1. Never dispose the chemicals, disinfectants without diluting them
2. Never use expired chemicals or disinfectants. Send them back to the stores

Disposal of Disinfectants



2.6 Mercury Spills

Mercury is a hazardous chemical used in different instruments like thermometers and blood pressure instruments within the health care facilities. It has to be managed properly to ensure it does not cause harm to the health care workers and the community at large

Do's

1. Always wear personal protective gears like gloves and masks while handling mercury spills from breaking of thermometers or leaking blood pressure equipments
2. Always collect mercury droplets together by using two cardboard pieces
3. Drop the collected mercury into a bottle having some water. Tightly cover the bottle's lid
4. Send the bottle containing mercury back to the stores

Don'ts

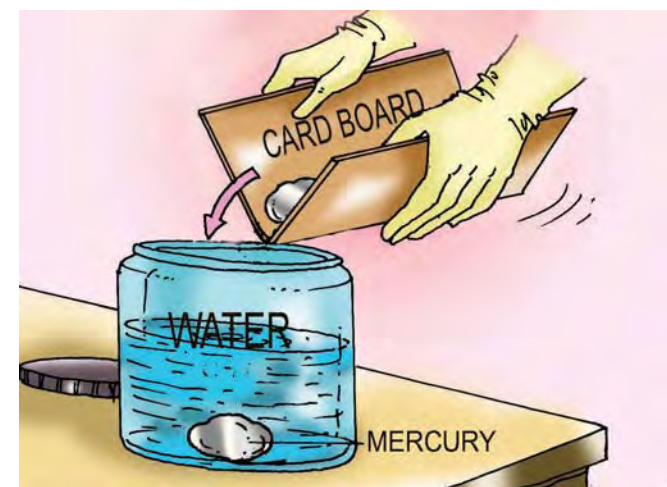
1. Never touch the mercury with bare hands.
2. Never throw the mercury in waste bins or drain



Mercury Spills



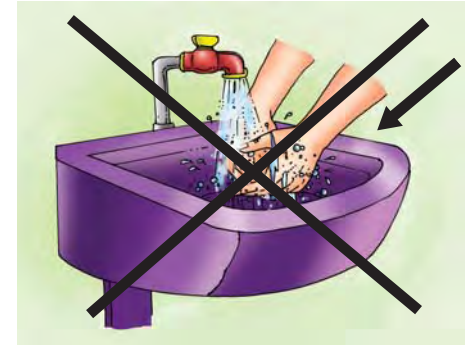
Breaking of thermometer



INFECTION CONTROL

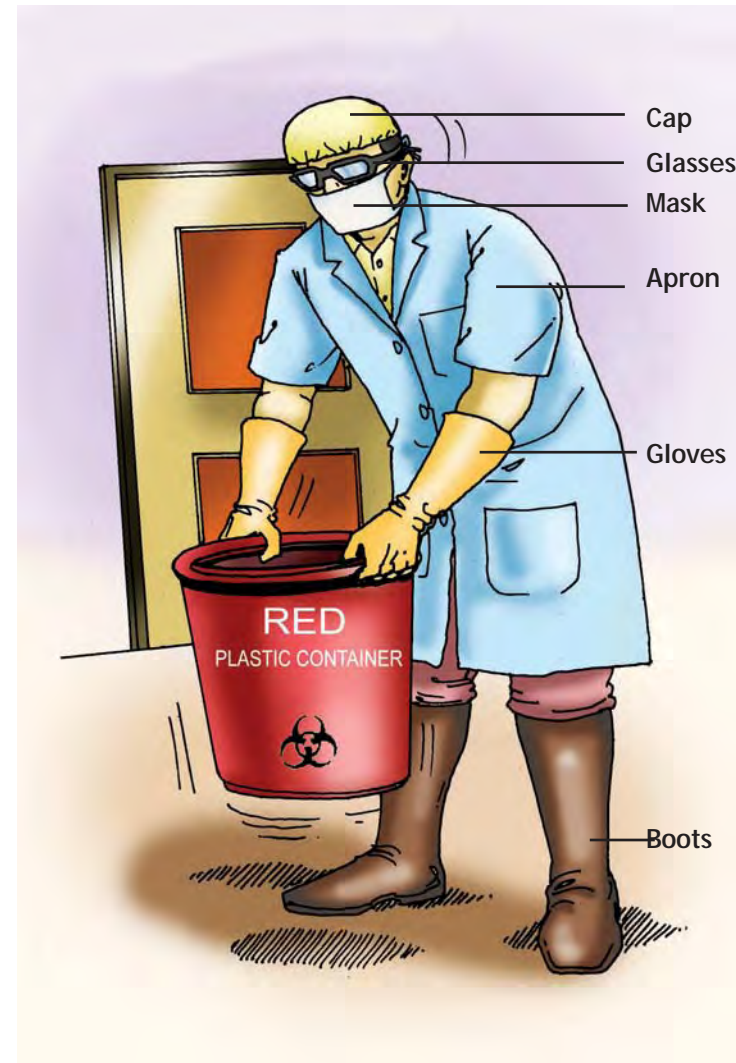
1. Hand Washing

1. Hand washing is one of the most important infection control precaution to be followed by all health care workers
2. Always wash your hands before and after any procedure, examining two patients, handling waste, eating and drinking, collecting lab samples and handling blood and body fluids
3. Routine hand washing can be done by using soap and water



2. Personal Protective Equipments

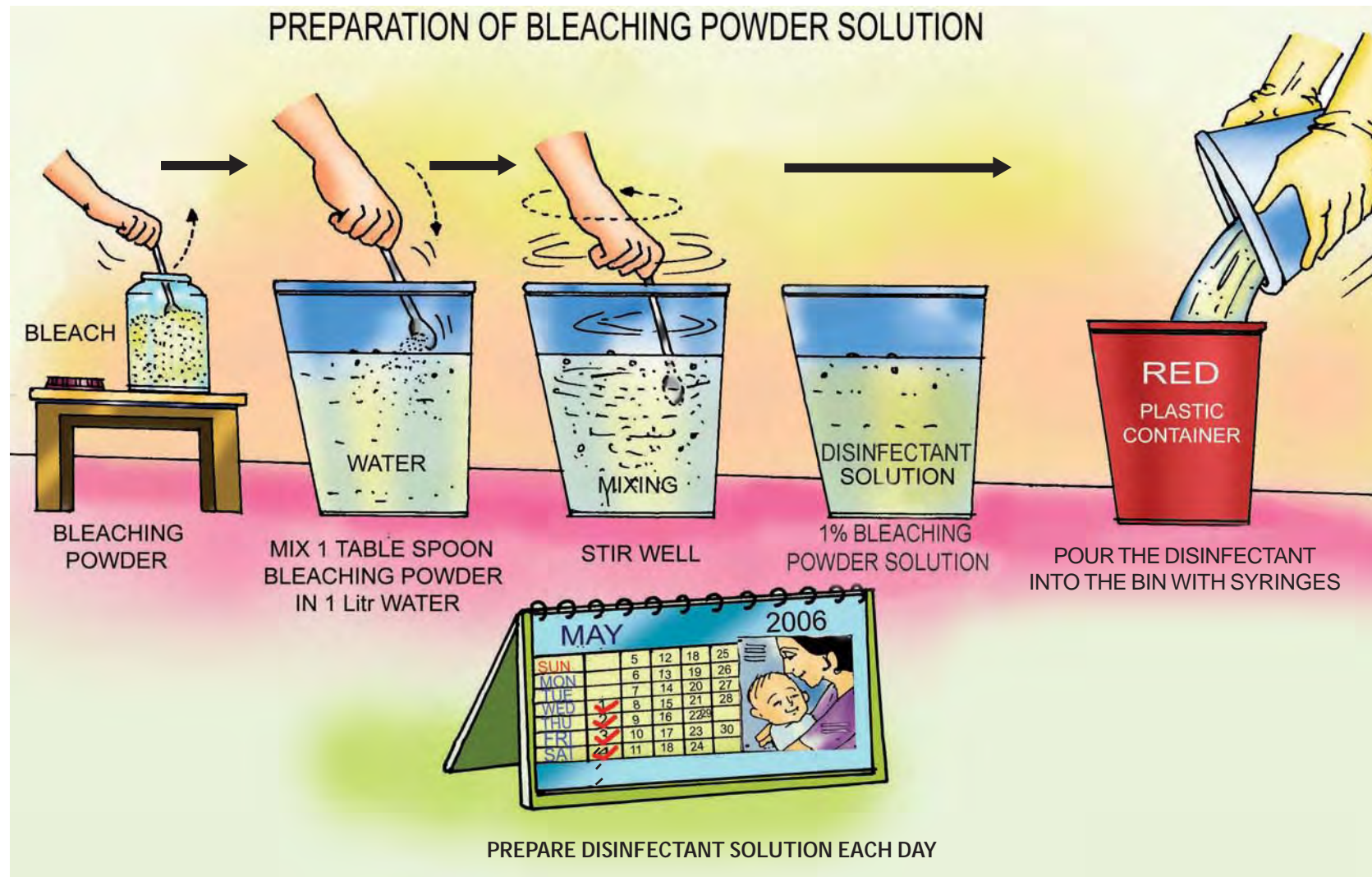
1. Always wear personal protective gears while handling waste
2. Wearing head gears, eye covers (glasses), mask, apron, gloves and boots these constitute the barrier for transmission of infections
3. Taking immunization against Hepatitis B and Tetanus are important universal precautions



3. Use of Disinfectants

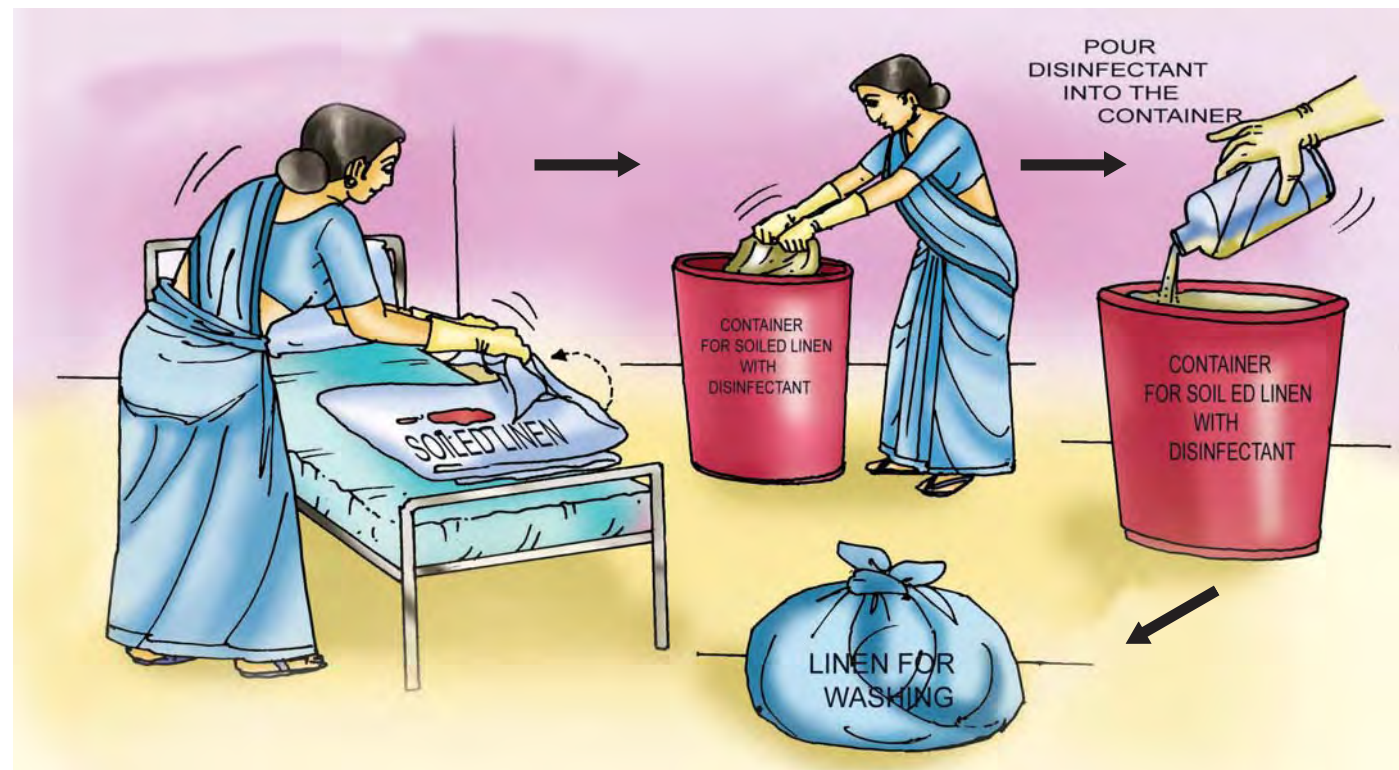
1. Store bleaching powder in dry, dark and cool places
2. The bleaching powder container should always be kept closed
3. While preparing 1% bleaching powder solution add 1 table spoon of bleaching powder in 1 litre water
4. Stir the solution well
5. After the solution is ready, pour the solution in the waste bin meant for disinfection of used plastics and sharps
6. Always remember to prepare new bleaching powder solution every day. Only use freshly prepared bleaching powder solution each day

Use of Disinfectants



4. Soiled Linen Management

1. Always wear gloves while handling soiled linen
2. Fold the soiled linen in such a manner that you do not get in contact with the soiled part
3. Add disinfectant to the soiled linen before sending it to washing
4. Store washed linens in clean and sterile area



5. Cleaning Floors

1. Wear Personal protective gears like gloves and apron while cleaning the floors
2. Clean the floors regularly
3. Use hot water and soap for routine cleaning of the floors
4. Add disinfectants to water for critical care areas like operation theater
5. Mop/cloth needs to be disinfected after every use



6. Sterilization of Reusable Equipments

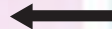
1. Always sterilize reusable instruments like scissor, knife, forceps, etc., before reusing them
2. Wash and clean the instruments before sending them for sterilization
3. After the instruments are sterilized, handle them with sterile gloves
4. Store the sterile instruments in special areas meant for storing them

Sterilization of Reusable Equipments

Used instruments

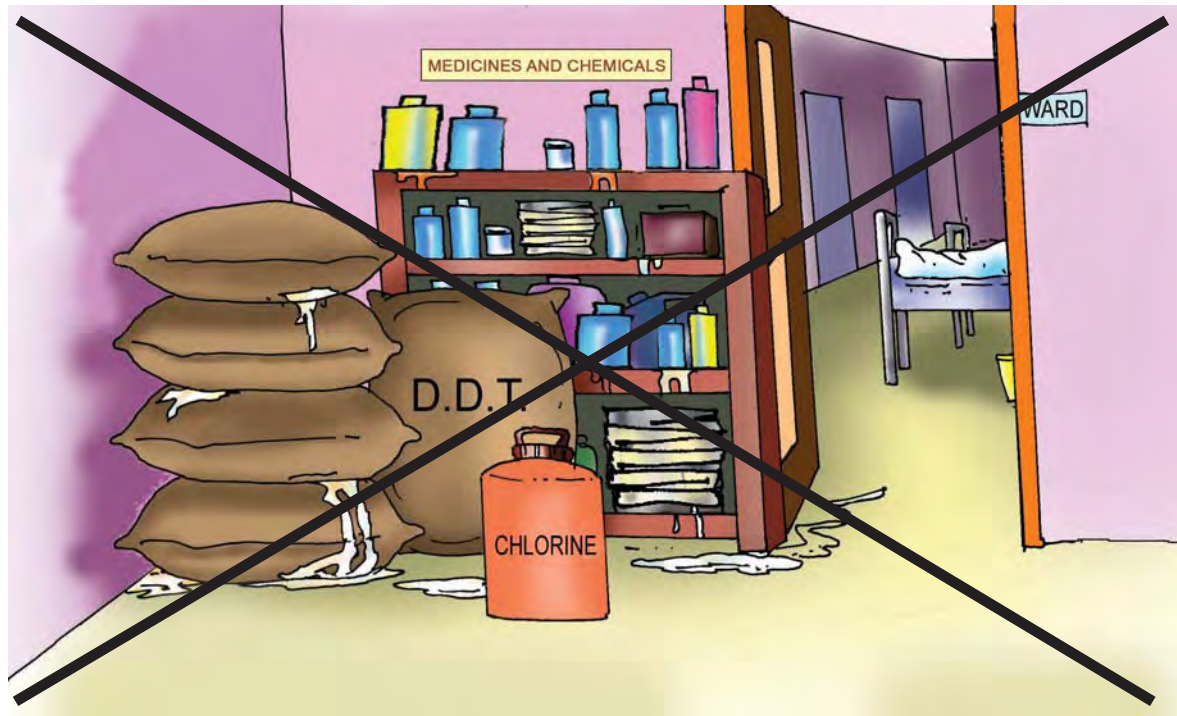


Sterilization of used instruments



7. Storing Medicines and Chemicals

1. Always store medicines and other chemicals like DDT in separate storing areas
2. Never store the chemicals and the medicines together. Chemicals may leach into the medicines and be a reason of concern to the patients and the staff
3. Never store medicines beyond the expiry date



Storing Medicines and Chemicals



C. ANNEXURE

Schedule 1 Bio-Medical Waste (Management and Handling) Rules, 1998

Option	Waste Category	Treatment & Disposal
Category No. 1	Human Anatomical Waste (human tissues, organs, body parts)	incineration@/deep burial*
Category No. 2	Animal Waste (animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal houses)	incineration@/deep burial*
Category No 3	Microbiology & Biotechnology Waste (wastes from laboratory cultures, stocks or specimens of micro-organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures)	local autoclaving/ micro-waving/ incineration@
Category No 4	Waste sharps (needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps)	disinfection (chemical treatment@@/autoclaving/ micro-waving) and mutilation/shredding ##

Option	Waste Category	Treatment & Disposal
Category No 5	Discarded Medicines and Cytotoxic drugs (wastes comprising of outdated, contaminated and discarded medicines)	incineration@/destruction and drugs disposal in secured landfills
Category No 6	Solid Waste (Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood)	incineration@ autoclaving/microwaving
Category No. 7	Solid Waste (wastes generated from disposable items other than the waste sharps such as tubings, catheters, intravenous sets etc).	disinfection by chemical treatment@@autoclaving/ microwaving and mutilation/shredding##
Category No. 8	Liquid Waste (waste generated from laboratory and washing, cleaning, house-keeping and disinfecting activities)	disinfection by chemical treatment@ and discharge into drains
Category No. 9	Incineration Ash (ash from incineration of any bio-medical waste)	disposal in municipal landfill
Category No. 10	Chemical Waste (chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc.)	chemical treatment@@ and discharge into drains for liquids and secured landfill for solids

@@ Chemicals treatment using at least 1% hypochlorite solution or any other equivalent chemical reagent. It must be ensured that chemical treatment ensures disinfection.

Multilation/shredding must be such so as to prevent unauthorised reuse.

@ There will be no chemical pretreatment before incineration. Chlorinated plastics shall not be incinerated.

* Deep burial shall be an option available only in towns with population less than five lakhs and in rural areas.

Schedule 2

Bio-Medical Waste (Management and Handling) Rules, 1998

Colour Coding	Type of Container - I Waste Category	Treatment options as per Schedule I
Yellow	Plastic bag Cat. 1, Cat. 2, and Cat. 3, Cat. 6.	Incineration/deep burial
Red	Disinfected container/plastic bag Cat. 3, Cat. 6, Cat.7.	Autoclaving/Microwaving/ Chemical Treatment
Blue/White translucent	Plastic bag/puncture proof Cat. 4, Cat. 7. Container	Autoclaving/Microwaving/ Chemical Treatment and destruction/shredding
Black	Plastic bag Cat. 5 and Cat. 9 and Cat. 10. (solid)	Disposal in secured landfill

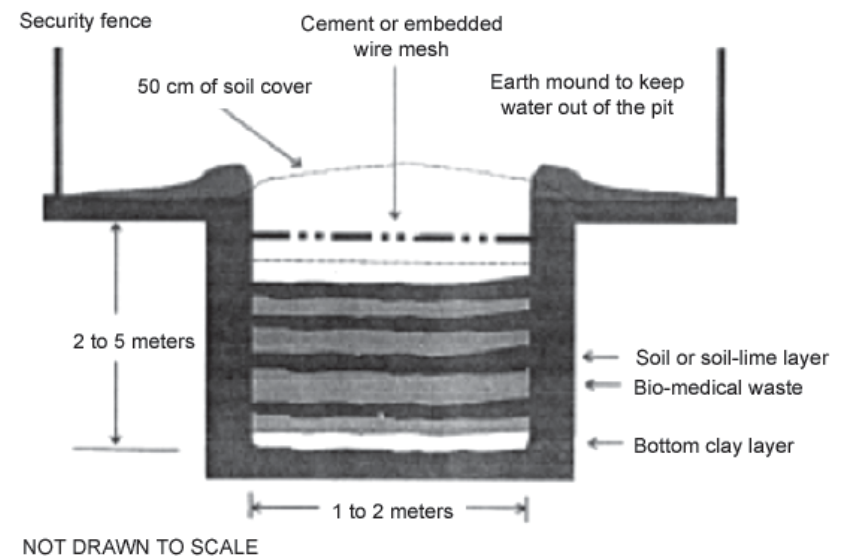
Notes:

1. Colour coding of waste categories with multiple treatment options as defined in Schedule I, shall be selected depending on treatment option chosen, which shall be as specified in Schedule I.
2. Waste collection bags for waste types needing incineration shall not be made of chlorinated plastics.
3. Categories 8 and 10 (liquid) do not require containers/bags.
4. Category 3 if disinfected locally need not be put in containers/bags.

Standards for Deep Burial Pit

Bio-Medical Waste (Management and Handling) Rules, 1998

1. A pit or trench should be dug about 2 meters deep. It should be half filled with waste, then covered with lime within 50 cm of the surface, before filling the rest of the pit with soil.
2. It must be ensured that animals do not have any access to burial sites. Covers of galvanised iron/wire meshes may be used.
3. On each occasion, when wastes are added to the pit, a layer of 10 cm of soil shall be added to cover the wastes.
4. Burial must be performed under close and dedicated supervision.
5. The deep burial site should be relatively impermeable and no shallow well should be close to the site.
6. The pits should be distant from habitation, and sited so as to ensure that no contamination occurs of any surface water or ground water. The area should not be prone to flooding or erosion.
7. The location of the deep burial site will be authorised by the prescribed authority.
8. The institution shall maintain a record of all pits for deep burial.



Form III (Accident Reporting)
Bio-Medical Waste (Management and Handling) Rules, 1998

- 1. Date and time of accident:.....
- 2. Sequence of events leading to accident:.....
- 3. The waste involved in accident:.....
- 4. Assessment of the effects of the accidents on human health and the environment:.....
.....
- 5. Emergency measures taken:.....
- 6. Steps taken to alleviate the effects of accidents:.....
- 7. Steps taken to prevent the recurrence of such an accident

Date	Signature
Place.....	Designation.....