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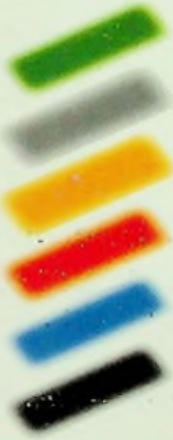

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THE INDIAN SOCIETY OF HOSPITAL WASTE MANAGEMENT®

SAFE MANAGEMENT OF HEALTH CARE WASTE - SELECTED RESOURCES

HEALTH CARE WASTE MANAGEMENT CELL
DEPARTMENT OF COMMUNITY MEDICINE
M S RAMAIAH MEDICAL COLLEGE
B A N G A L O R E

Hospital Waste Management is an important Subject that needs urgent attention. In most circumstances it is appropriate to consider an incremental approach realising that an improvement is of great value even if resources do not allow achievement of the highest standards immediately.

Report of a consultation of Medical Wastes Management in Developing countries. WHO, Geneva, 1992

Waste Sharps Management

WASTE SHARPS MANAGEMENT - the Question and Answers

What?

WASTE SHARPS are Needles, Syringes, Scalpels, Blades, Broken Glass, or any other item which, can cause punctures or cuts. Thus they are capable of causing injuries or introducing infection by piercing the skin or mucus membrane. They may be USED or UNUSED.

Why?

- Sharps are commonly used in Patient Care.
- Nurses, Laboratory Technician or any other category of Health Care Personnel can get injury/Infection; either before, during or after handling these WASTE SHARPS.
- When WASTE SHARPS are not collected separately or contained properly, they can cause injury / infection to the people collecting the Waste.

Where ?

Particular Attention for WASTE SHARPS MANAGEMENT should be given in the following areas:

- Nursing Stations
- Blood and other Sample Collection Areas
- Operation Theatres
- ICU/CCU/ITU
- Injection Rooms
- Wards
- Any other place

When ?

Special Precautions should be undertaken for WASTE SHARPS MANAGEMENT during:

- Drawing of Blood
- Transfer of Blood/Specimen
- Recapping Needle
- After incision/suturing
- While discarding Needles and other sharps
- Collecting Waste
- Transporting Waste

Waste Sharps Management

How ?

STEP 1	Be Aware Beware	WASTE SHARPS can Injure or Infect
STEP 2	Segregate	Separate Collecting reduces chances of Injury
STEP 3	Decontaminate[1]	Decontamination / Disinfection reduces Chances of Infection
STEP 4	Deform/Destroy[2]	Prevents misuse of the Needles and Syringes
STEP 5	Contain	- Use a heavy duty (Puncture Proof) Plastic container to collect the WASTE SHARPS. A narrow mouth contain facilitates collection; minimizes / obstructs unnecessary handling/ removal. - If it is broken Glass: Cordon and Secure the area; Wear Gloves and boots; Collect with spatula; Discard into the WASTE SHARPS CONTAINER
STEP 6	Label	Use a Blue /White Transluscent Container or Label the container properly (VISIBLE & READABLE)
STEP 7	Transport	Use Heavy Duty Gloves while handling WASTE SHARPS especially while Transporting; AVOID Transporting Manually - Use Trolley
STEP 8	Final Disposal	Mutilation / Shredding prevents reuse; Send to the recycler or bury in a concrete pit

1 **Decontamination procedure:**
Chemical Treatment: 1% Hypochlorite Solution or 2% Bleach (Freshly prepared One Full scoop Teaspoonfull Bleaching powder (7/10grams) in 1 litre of Water) Minimum Contact Period of 60 minutes
Autoclaving: A Temperature of 121c: pressure of 15 psi for a minimum of 60 minutes.
Before removing the needle from the syringe flush it with the disinfectant liquid. Discard Needle into WASTE SHARPS CONTAINER; remove plunger from the barrel of the syringe before immersing it in the disinfectant Liquid. If the Container is Medium or Large size; Drain the Disinfectant Liquid every day. (Make a hole in the cap / Use a Strainer / Use double containers)

2 **Deforming/Destroying:**
Always use Instruments. Do Not Use Bare Hands. Use heavy-duty gloves.
Cutting-pliers are availabe every where, not costly and many know how to use them.
Use a Mechanical / Electrical Needle Cutter where ever possible

PLASTIC WASTE MANAGEMENT

WHAT YOU SHOULD KNOW AND DO

- ❒ Plastics are a heterogenous family.
- ❒ Plastics are polymers of Hydrocarbons typically derived from petroleum of natural gas.
- ❒ Plastics by not being biodegradable remain in the soil for more then one thousand years, contaminating the soil and the surrounding water bodies.
- ❒ Plastics constitute a major chunk of Health Care Waste. More so, with the increase in use of disposable items like syringes, IV bags, blood bags, catheters etc.
- ❒ There is four times more plastic in Health Care Waste than in Municipal Waste.

PROBLEMS

- ❒ Collection and reuse or Resale of the single-use (disposable) products without adequate treatment result in possible spread of infections
- ❒ Infection to the Waste Handlers, especially the rag pickers and pourakarmikaas.
- ❒ Improper Burning or Sub-standard incineration of these plastics release toxic gases like dioxins and furans and also other harmful gases like sulphur dioxide, oxides of nitrogen, hydrochlorides, etc. The dioxins and furans are said to be potent carcinogens.
- ❒ Improper landfilling or dumping them results in leaching and contamination of soil and surrounding water bodies.

Do's	Don'ts
1. Ensure dis-infection of the plastics	1. Do not reuse single use plastics items/ materials
2. Ensure that they are deformed	2. Do not mix plastic equipment with other waste
3. Segregate the plastic Waste	3. Do not burn plastics

PLASTIC WASTE MANAGEMENT

PROPER MANAGEMENT

BIOMEDICAL WASTE RULES, 1998 PROHIBITS INCINERATION OF CHILORINATED PLASTICS

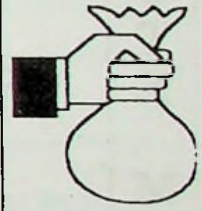
It is possible to **EARN FROM PLASTIC WASTE**

- ❒ Minimise the use of plastics especially outside patient care, by using bottles, glass, and earthen or metal wares.
- ❒ Properly disinfect waste plastics. Deform it before it can be sold
- ❒ Seperation of the plastics from other types of waste before deforming gets more money

Plastics are better managed by non burn technologies. Microwaves, autoclaves, hydroclaves, chemical disinfection are the most suited to treat plastic waste.

Examples of Plastic Waste in Health Care Institutions are given below

Type	Material
IV Bag, IV Fluid Container, Catheter Set, CVP Manometer, Suction catheter, Blood Bag and Components, IV fluid container,	PVC
Catheter Set, Metrogel Inj. Bottle, Dextrose Bottle, CVP Manometer, Gloves Cover, Syringe, Syringe Cover, Blood administration set cover, Drape Cover, IV set cover	PE
Dextrose Bottle, Dialysis fluid Container, Needle Cap, Syringe, Syringe Cover, Scalp vein set Cover, Gelco, Cover, IV Fluid container, Blister cover, IV set cover	PP



PVC=Poly Vinyl Chloride;PE=Poly Ethylenen; PP= Poly Propolene; PS= Poly styrene

Insulin Syringe	
Innerpiston	PS
Outer part	PP
Red part	PP
Back Part	PP

PROPOSED METHOD FOR DISINFECTION OF COMMONLY USED ARTICLES/ MATERIALS/SURFACES IN ORDER OF PREFERENCES

Sriniwas (1992): Hospital Acquired infections: Guidelines for Control, Government of India, Ministry of Health and Family Welfare, Department of Health, Nirman Bhavan, New Delhi.

All articles and surfaces to be disinfected must first be cleaned and washed with warm water preferable containing detergent.

Material	Method
Ampoules	Disinfectant with alcohol/Methylated spirit/P.V.I. before cutting
Skin	Tincture Iodine/Alcohol
Thermometer	Keeping Gluteraldehyde/PVI/ Hexachlorophenes/ chlorhexidine + cetrimide (salvon) for at least 10 minutes before next use.)
Articles/Ware: Stainless Steel/Enamel plated/Plastics e.g. Bedpan/Urine bottles/Bowls	Wash with warm detergent, disinfect with chlorine releasing compound/P.V.I./ Formaldehyde/Phenolic compounds/ Chloro xylenols/Hexachlorophenes/Chlorhexidine
Surfaces like Floor/Walls/Trolleys/ Furniture/Sink/Wash basin	Wash with detergents disinfect with chlorine releasing Compound/Carbolic acid / P.V.I. / Hexachlorophenes
Humidifiers and incubators	Fill daily humidifiers with sterile distilled water containing 0.1% silver nitrate. Clean and disinfect with chlorine releasing Compounds/activated gluteraldehyde/alcohol or carbolic acid.
Crockery/Cutlery disinfectant	Wash with warm detergent solution, keep in boiling water for 10 minutes/expose to steam. No chemical should be used.
Laboratory Discarding Jar	Phenolic compounds (carbolic acid)/ chlorine releasing Compounds/ chlorxylenols and hexachlorophenes
Syringes and needles	Chemical disinfectant must not be used for needle and syringes
Instruments Cheatle forceps	Keep in concentrations recommended for grossly contaminated articles of PVI/ Chlorhexidine + Cetrimides/ Chloroxylenols, gluteraldehyde. **Change the disinfectant daily**

PROPOSED METHOD FOR DISINFECTION OF COMMONLY USED ARTICLES/ MATERIALS/SURFACES IN ORDER OF PREFERENCES (continued)

Sriniwas (1992): Hospital Acquired infections: Guidelines for Control, Government of India, Ministry of Health and Family Welfare, Department of Health, Nirman Bhavan, New Delhi.

All articles and surfaces to be disinfected must first be cleaned and washed with warm water preferable containing detergent.

Material	Method
Sharp instruments - Skin piercing and invasive instruments (not sterilisable by heat	Chemical disinfection only as last resort, if sterilisation by heat is situations, Activated gluteraldehyde/ Carbolic acid for at least 10 hours for sterilisation
Equipment: Catheters, Cystoscope Endoscope, Laproscope	Chemical disinfection only at last resort, if sterilisation by heat is not possible. Immerse in activated solution of gluteraldehyde/ Carbolic acid for 4 to 10 hours or more. Only vegetative bacteria, fungi and viruses are killed by immersing in surface disinfectants for 30 minutes.

CONCENTRATION/DILUTION OF THE DIFFERENT DISINFECTANTS TO BE USED IN CLEAN CONTAMINATED AND GROSSLY CONTAMINATED

Sriniwas (1992): *Hospital Acquired Infections: Guidelines for Control, Government of India, Ministry of Health and Family Welfare, Department of Health, Nirman Bhavan, New Delhi.*

Disinfectants	*Recommended Concentrations/Dilution*	
	Clean Contaminated	*Grossly contaminated (Dirty)*
I Chlorine releasing compounds available Chlorine	0.1%	1.0%
1. Sodium Hypochlorite Liquid bleach usually 5% availabe chlorine	1gL(1000ppm) 20ml/L	10gL(10.000ppm) 200ml/L
2. Calcium hypochlorite (usually 70% available chlorine)	1.4g/L	14.0g/L
3. Sodium-dichloroisocyannurate (NaDCC) (usually 60% available chlorine) More stable, available at tablets of 1.5g)	1.7g/L	17.0g/L
4. Chloramine Slow Chlorine release (More stable than 1 & 2 (25% available chlorine)	20g/L	20g/L
II Iodine Compounds		
1. Tincture of Iodine (iodine 0.5% + alcohol 70%)	2.5%	2.5%
2. Polyvidone iodine (PVI) (Usually 10% sol.(1% Povidone iodine (Betadine)	2.5%	2.5%
III Aldehydes		
1. Glutaraldehyde (Activated) Cidex.2% glutarldehyde)	2.0%	2.0%
2. Formaldehyde-formaline (40% Solution of formaldehye and 10% methanol in water)	5%(2%formaldehyde)	10%(4% formaldehyde)
IV Alcohol		
1. Ethyn Alcohol 70%	70%	
2. Isopropyl Alcohol 70%	70%	
3. Methylated Spirit (Denatured alcohol) 70%	70%	

(table continued overleaf)

CONCENTRATION/DILUTION OF THE DIFFERENT DISINFECTANTS TO BE USED IN CLEAN CONTAMINATED AND GROSSLY CONTAMINATED (continued)

Disinfectants	*Recommended Concentrations/Dilution*	
	Clean Contaminated	*Grossly contaminated (Dirty)*
V Hydrogen Peroxide (30% stabilized Soln.)	6%(freshly Prepared)	Not recommended
VI Phenolic Compounds		
1. Phenol(Carbolic acid)	5.0%	10.0%
2. Creson	2.5%	5.0%
3. Lyson (saponified cresol)	2.5%	2.5%
VII Chloroxylenol		
1. (4.8%V/V is marketed as Dettol)	4.0%	10.0%
2. 1+0.1% (EDTA)	3.0%	6.0%
VIII Diguanides		
Chlorhexidine(1.5%V/V)(Hibitane)	5.0%	10.0%
Chlorhexidine + Cetrimide(Savlon)		
IX Ethylene Oxide gas	450-800mg/L	

ROUTINE CLEANING SCHEDULE

Wash Basin	Daily and as needed	Soap solution / Water
Bathrooms	Every two hours and as needed	Soap solution, water, bucket, cloth
Bedside lockers, beds	Daily - damp wipe Fridays - thoroughly clean	Soap solution, water, bucket, cloth
Buckets, bedpans, urinals, sputum mugs, and feeding cups	Daily and as needed	Soap solution, phenol, water
Cleaning Clothes	Daily	Soap solution, water, Bucket
Dustbin	Daily and as needed	Vim powder, water, cloth
Fans	Thursdays and as needed	Damp cloth
Floors	4-5 times duty Morning duty : 07.0 a.m. - Wet-mopping 11.0 am - Sweeping and wet mopping Afternoon Duty : 02.00 p.m. - Sweeping and wet-mopping Night Duty 08.00 p.m. - Sweeping and wet-mopping 06.00 a.m. - Sweeping	Broom / Dust mop Soap solution, water, Bucket, Cloth
Kidney tray	Daily and as needed	Soap solution, Phenol, Water
Wall dusting and removal of cobwebs	Sundays and as needed	Long - handled broom
Wall - wet mopping, stands for intravenous sets, oxygen tanks, and bedside screens	Mondays and as needed	broom
Window Glass	Wednesdays and as needed	Razor blade, cloth, water bucket

General Tips for Safe Managment of Health Care Waste

1. **Categorise the WASTE into SIX Categories**

   I General Waste - Dry (Waste Paper, Paper covers,Packing materials)

   II General Waste(Food Remains any decomposable Matter)

   III WASTE SHARPS (Blades, Broken Ampoules, Needles, Lancet, etc.)

   IV RECYCLABLES (Container, Items of Plastics, Intact Glass, Metals)

   V INFECTIOUS WASTE Any item/material which has come into contact with blood and or body fluids including Urine, Stools, specimen materials and Culture plates,etc.

   VI Other Hazardous Waste Chemical and Lab reagents. Pressurised containers and canisters

2. Keep appropriate containers to collect the particular type of waste for further processing CONTAINMENT IS THE FIRST STEP IN WASTE PROCESSING DO NOT MIX THE DIFFERENT TYPES OF LABORATORY AND CHEMICAL REAGENTS INTO A SINGLE CONTAINER

3. **Reducing the Infectious Nature** of the Waste takes immediate priority. Chemical Dis-infection is Simple and easy to perform Cleaning of the Reusable items is mandatory before chemical disinfection TWO TEASPOONS of Bleaching Powder in ONE LITRE of water (approximately 2% Bleach Solution) is an effective dis- infectant The infectious nature of the Materials is immediately reduced when once fixed in Formalin TO REDUCE FURTHER POLLUTION AND TO ADHERE TO THE POLLUTION CONTROL GUIDELINES SEGREGATE CONTAIN AND BAG THE INFECTIOUS WASTE GOING FOR INCINERATION DO NOT ADD CHLORINE COMPOUNDS TO THE INCINERABLE WASTE

4. **Ensure that all understand the**

   A)Categories of Waste

   B)Methods of Handling Waste

   C)Use of Barrier Protection while handling Waste

5. ASK QUESTIONS AND **OBTAIN CLARIFICATION** ASSUMPTION CAN BE DANGEROUS AND HAZARDOUS

PROTECT YOURSELF WHILE HANDLING PATIENTS

Are your taking these UNIVERSAL PRECAUTIONS? All the time?




	GLOVES	GOWN	MASK	GLASSES
Taking B.P.	-	-	-	-
Taking T.P.R.	-	-	-	-
Giving I.M. Injection	-	-	-	-
Handling soiled Laundry	✓	-	-	-
Cleaning Contaminated Instrumens	✓	-	-	-
Starting I.V. or Taking Blood	✓	-	-	-
Controlling Minor Bleeding	✓	-	-	-
Controlling Massive Bleeding	✓	✓	✓	✓
Delivery	✓	✓	✓	✓
Intubation	✓	✓	✓	✓
Suctioning	✓	✓	✓	✓

REPORT ALL ACCIDENTS

- CUTS, NEEDLES PRICK -

TO YOUR SUPERVISOR

The Policy Towards Safe Management of Health Care Waste

of_____

Introduction:

(The Mission and vision of the Institution)

Preamble :

Health Care Waste needs to be handled carefully. Mismanagement of this potentially hazardous waste will affect not just the generators or operators of this waste but also the general community. All efforts in Safe Management of Health Care Waste must have the common end point of being eco-friendly.

Towards this end,_____will ensure the following:

a) The Health Care Waste generated in_____will be managed in such a manner so as not to pose special risk to the individual and to the community
b) The Health Care Waste will be managed in an environmentally friendly manner.
c) _____ will make all attempts and facilitate for an Integrated Waste Management System both within and outside the institution.
d) All necessary steps and precautions will be undertaken provide appropriate protective measures including preventive measures to all the Health Care Personne who come into contact with the Health Care Waste.
e) _____will proactively reach out, interact, co-operate, collaborate, undertake research and network with both governmental, Non-governmental and othe agencies for Safe Management of Health Care Waste.
f) _____will undertake any other endeavour required to promote Safe Management of Health Care Waste.

Towards operationalizing these aspirations _____will sincerely imlement the following Codes of Practice.

Health Care Waste is a special category of Waste, which needs special precautions while handling. Mis management of Waste affects not just the generators operators but also the General Public. This has been the most often quoted fact whenever any one talks of Safe Management of Health Care Waste.

CODES OF PRACTICE

CODE 1	_____will evolve an appropriate institution policy for Safe Management of Health Care Waste
CODE 2	All efforts will be made to involve the Health Care Personnel in evolving the Institution policy towards Safe Management of Health Care Waste
CODE 3	A house-keeping policy will be evolved and streamlined for effectiveness and efficiency
CODE 4	The Instituion Committee for Safe Management of Health Care Waste will bear the responsibility of implementing, monitoring and evaluating practices for Safe Management of Health Care Waste by developing suitable indicators
CODE 5	A designated Waste Management Co-ordinator will liaison for effective management of Health Care Waste
CODE 6	The Instituion specific Action Plan will be prepared in a participatory manner for a definite duration; periodicaly reviewed, evaluated and modified accordingly
CODE 7	All the Health Care Personnel will be made aware of the different points of generation of waste, types of wastes generated, precautions to be taken while collection, handling, transportation and disposal. Towards this end a formal orientation for the new incumbents and a periodic (annual) orientation for all the stafff will be conducted
CODE 8	All Waste generated will be segregated at the pint of generation according to statutory guidelines and options available for waste managment
CODE 9	An efficient mechanism consonant with the philosophy of waste management (Reduce, Reuse, Recycle) will be developed to collect, transport and dispose off the Waste after ensuring that it is non-infectious and non-hazardous
CODE 10	All potentially infectious waste will be decontaminated disinfected before it is transported outside the point of generation; where required a separate discard autoclave will be maintained or any other appropriate method will be utilized for this purpose
CODE 11	All soilded linen will be disinfected before being transported to the laundry
CODE 12	The instituion specific disinfection policy will be reviewd, defined, delineated and monitored
CODE 13	All attempts will be made to provide adequate number of toilets, a system for its maintenance including providing for adequate water and patient education for effective use
CODE 14	The segregated Health Care Waste will be transported in appropriate containers with minimal handling by the Waste Handlers to the intermediate storage area (or the disposal site) with in the institution
CODE 15	A Separate area will be designated for storage and (if required for) sorting of the Health Care Waste

CODES OF PRACTICE

CODE 16	A daily register indicating and recording the type and quantity of Waste handled will be maintained. The document will be scrutinised periodically
CODE 17	_____ will periodically submit the prescribed reports to the statutory authority
CODE 18	The Organisation Chart of the personnel/mechanism of Waste Collection-transportation-disposal will be prominently displayed
CODE 19	All attempts will be made to ensure an adequate supply and usuage of protective devices like masks, gowns, boots, aprons, goggles, etc., to all Health Care Personnel especially Waste Handlers
CODE 20	Appropriate Immunisations and Periodic Medical Examinations will be undertaken for all the Waste Handlers
CODE 21	Practice of Universal Precautions will be made mandatory for all categories of the Health Care Personnel
CODE 22	System of recoring reporting and notifying illness, injuries and accidents consequent to Waste handling will be evolved and maintained
CODE 23	For generating and managing Health Care Waste,_____ will register with the statutory authority after paying the requisite fee and completing the due procedures
CODE 24	The Health Care Personnel will be periodically updated with the legal provisions regarding Safe Management of Health Care Waste
CODE 25	All attempts will be made to incorporate aspects of Safe Management of Health Care Wate especially Principles of Universal Precautions into the Training curriculum of both Medical and para-medical courses
CODE 26	The patients, patients attendant(s), Visitors to the institution and the general community will be involved in endeavours for maintenace of the system for Safe Management of Health Care Waste
CODE 27	All efforts will be made to provide appropriate support technical, educational materials and such other things for undertaking endevours towards Safe Management of Health Care Waste including Training, Orientation and Education
CODE 28	All efforts will be made to participate in an develop a co-operative waste management facility fulfilling the norms/guidelines set by the statutory authorities
CODE 29	All efforts will be made to recycle the cecyclable waste like paper, plastic, metals and glass
CODE 30	All efforts will be made to proactively reach out, interact, co-operate, collaborate, undertake research and network with both governmental, Non-governmental and other agencies for Safe Management of Helath Care Waste

Safe Management of Health Care Waste

Health Care Waste is a special category of Waste, which needs to be handled appropriately with precautions. It affects not just the generators and the operators but also the general public. Currently it is being managed casually.

Preamble :

In the exploratory study undertaken in 1997 by Bangalore Mahanagara palike, Centre for Environment Education. Department of Community Medicine, MSRMC, the problem areas for Safe Management of Health Care Waste were identified to be:

a) Lack of Awarness
b) Lack of Information support
c) Lack of Practices
d) Lack of Effective co-ordination

The lack of awareness was not confind to the Group D or class IV workers who usually handle the Waste but was also evident amongst all the categories of Health Care Personnel. This included Doctors. Nurses and Administrators too. In essence the Health Care Waste Management was not an issue. Those who had concern did not know how or whom to approach. There was no recognisable information/document/ resource centre which could offer a comprehensive solutions to their problems. The minority group of Health care Personnel who were aware about the issues and concerns regarding Health Care Waste did not practice what can be considered essential. i.e., wearing of aprons, use of gloves, masks, gown, or even simple hand washing. There was a small group who attempted to practice segregation but were immediately de-motivated when what was segregated went into the same container when it was being transported. There existed no co-ordnation between Waste generation, collection and transportation between within the Health Care Settings and outside the Health Care settings.

Realising that the issues and concerns regarding Safe Management of Health Care Waste was fundamentally one that of behaviour, attitude and perception, the study group formulated PROBABLE SOLUTIONS and NOT THE SOLUTIONS. The FIVE PROBABLE SOLUTIONS were delineated as:

1. Awarness programmes
2. Capacity Building
3. Strengthening of Facilities for systems development
4. Recording and Reporting
5. Research Endeavours

SCOPE OF THE PRESENTATION

The current presentation attempts to identify a framework for the efforts undertaken as a follow up of the exploratory study. Thus the objectives include:

Safe Managment of Health Care Waste The check list for Health Care Settings

Guidelines for filling up the checklist:

1. **Supervision is a difficult task.It is not fault finding. It is providing for a vision hitherto not available for the personnel i.e., it is providing super-vision**
2. **It is desirable that the activities according to the proforma.**
3. **Open mind, Frankness and informal atmosphere need to be set in before the endeavour is undertaken**
4. **It is mandatory to provide a feed back to the institution regarding their Health Care Waste Management practices.**
5. **Use separate sheet of paper for comments by the investigator**

Name of the Health Care Setting:
Address :

Telephone/Fax/Email:
Name of the respondent with designation :

Services provided (encircle): Only OPD/OPD+IP /Others (Specify)

Facility (encircle one or Many): General /Speciality /Super-speciality

Staff Position (number):

Duty Doctors	Consultants Doctors	Nursing Staff	Ward Boys/Ayah
X-Ray technicians	Lab Technicians	Others	Others
Total Number of Staff			

Number of Beds:
Average In patient admission/Day
Average Deliveries/Month
Number of Dental Chairs:
Outpatient Strength in the Last One year
Inpatient Strength in the Last one year

Average Bed Occupany:
Average out patients/Day
Average Surgeries/Month

Tick if the following is present:

- Infection Control Committee
- HIV Infection Control Policy
- Waste Sharps Management Policy
- Waste Management Committee
- Waste Management Policy
- Disinfection Policy
- Occupational Safety Policy

Encircle the facilities available for Waste Management:

Segregation & Containment Deep Burial Incineration Microwaving Autoclave Others (Specify)

REMARKS

1 Authorisation /Renewal obtained:
2 System of recording illness /injuries / accidents : Yes/No
3 System of recording and reporting illness/injuries/accidents: Yes/No
4 Periodic monitoring of the waste management facility undertaken : Yes/No
5. Training provided to the staff: Yes/No ; Retraining provided to the staff : Yes/No

Record if the following is happening regarding handling of Health Care waste

Waste Materials	Segregation	Disinfection	Disfigurement	Containment	Transportation	Colour coding	Final Disposal
Surgery remains							
Waste sharps							
Incinerable Waste							
Placenta							
Plastics							
Paper							
Food Waste							
Laboratory Waste							
Others (specify)							
Others (specify)							

NOTE : NA = Not Applicable; C = Complete; IC = Incomplete, S = Satisfactory, NS = Not Satisfactory, A = Appropriate; IA = Inappropriate

OCCUPATIONAL SAFETY OF THE HEALTH CARE PERSONNEL :

Indicate *Yes if* being provided and used, *No* if otherwise

	Uniform	Apron	Boots	Mask	Goggles	Gloves	Vaccination given
Duty Doctors							
Nurses							
Technicians							
Laboratory							
Radiology							
Others							
Waste handlers							
Ward boy							
Ayah							
Helper							
Others							

WASTE CONTAINERS (sample in a representative fashion)

	1	2	3	4	5
Location of Container					
Waste contained					
Size (in Lts)					
Shape					
Lid Present	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
Material of the container					
Collection Frequency/day					

In a separate sheet of paper list the suggestions by the staff for the improvement of the solid waste management mechanism regarding the Containers, Frequency of Collection, Frequency of Disposal, Use of protective devices, Transportation of the Waste.

TECHNOLOGY EVALUATION OF BIO-MEDICAL WASTE TREATMENT SYSTEMS

A] TECHNOLOGY

a) Name of the Technology:

b) Places where being implemented in India:

B] TECHNICAL CRITERIA:

a) Waste processing capacity: Minimum:Maximum:

b) Change after processing: (%): Weight: Volume

c) Categories of waste handled:

d) Categories of Waste excluded:

e) Pre-processing requirement:

f) Post-processing requirement:

g) Type/Nature of end product after the process:

h) Any other waste generated during the process:

Solids	Liquids	Gases

k) Uses(s) of the end products generated:

i) Space requirement :

equipment per se	including all equipment	including service area (Utility)

n) Construction requirement:

o) Any other: (Specify)

Power	Water	Others

p) Human resources requirement for managing the facility:

Qualifications	Training	Number

q) Options for enhancing capacity: Specify, if Yes

r) Availability of spares: If Yes, place where sourcing from

s) Nature of Collaboration (include within India and outside India)

C] POLLUTION CRITERIA

a) Types and Nature of Pollutant generated: Describe

Liquids	Solids	Gaseous

Method(s) of	Available	Offered
monitoring inside the work spot		
monitoring outside the work spot		
Control of the pollutants		
Treatment of the pollutants		

D] SAFETY CRITERIA

a) Maintenance requirements:

Nature	Periodicity

b) General frequency of repairs

c) Life span of 1 Unit

d Nature of Occupational hazards

E] ECONOMICS / FINANCES:

a) Cost of the equipment

b) Cost of additional equipment

c) Running costs per month (Average)

d) Average Maintenance/repair/replacements costs per month

F] AGENCY:

a) Name of the agency/dealer

b) Specialisation (in years) in the technology in reference:

c) Other services offered:

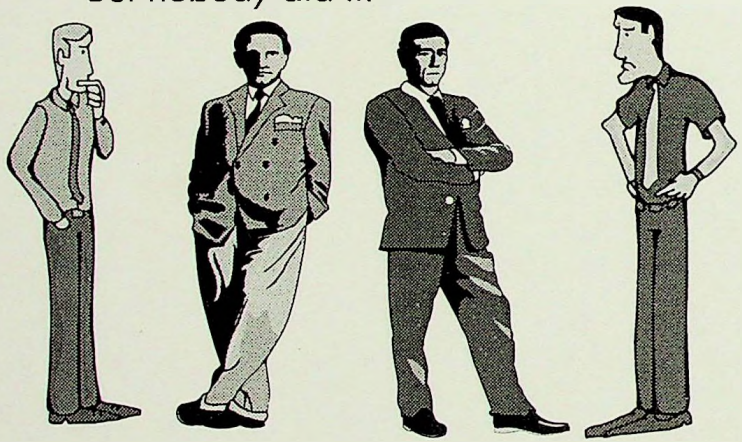
Maintenance	
Repairs	
Spares	
Finances	
Technical	
Contingency	

e) Period since working

f) Other similar agencies in India

Story About 4 People

This is story about 4 people.
Everybody, Somebody, Anybody, Nobody.
There was an important job to be done;
Everybody was sure that Somebody would do it.
Anybody could have done it;
But nobody did it.



Somebody got angry about it;
Because it was everybody's job.
Everybody thought anybody could do it.
But nobody realised that,
Everybody would not do it.
It ended that Everybody blamed Somebody
When Nobody did What Anybody could have done.

-Anon

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