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I.0 PURPOSE

The principal purpose of disposing biohazard wastes e.g. sharps, laboratory wastes, and microbiological specimens is to avoid contamination with infectious wastes agents known to be infectious to humans.

2.0 SCOPE

This procedure is applicable to hospital as well as laboratory.

3.0 BACKGROUND

Medical laboratories are special and unique. Work environments that may pose identifiable infectious disease risk to persons in or near them. Correct Biohazard waste handling is therefore necessary to reduce or eliminate exposure to laboratory staff, other persons and the out side environment to potentially hazardous material: such as Blood or other body fluids, lab wastes and microbiology specimens which might be contaminated with agents known to be infectious to human.

4.0 RESPONSIBILITY

Laboratory Director, QAM and All Laboratory staff

5.0 EQUIPMENT AND MATERIALS REQUIRED

A. Incinerator
B. Autoclave
C. Wastes bin
D. Unmarked waste bags
E. Disposable sharps containers
F. 1% household bleach
G. Latex gloves
H. Autoclavable tape

6.0 HOSPITAL WASTE

Include all waste that is discarded and not intended for future use. Waste is a Potential Reservoir of pathogenic organisms.

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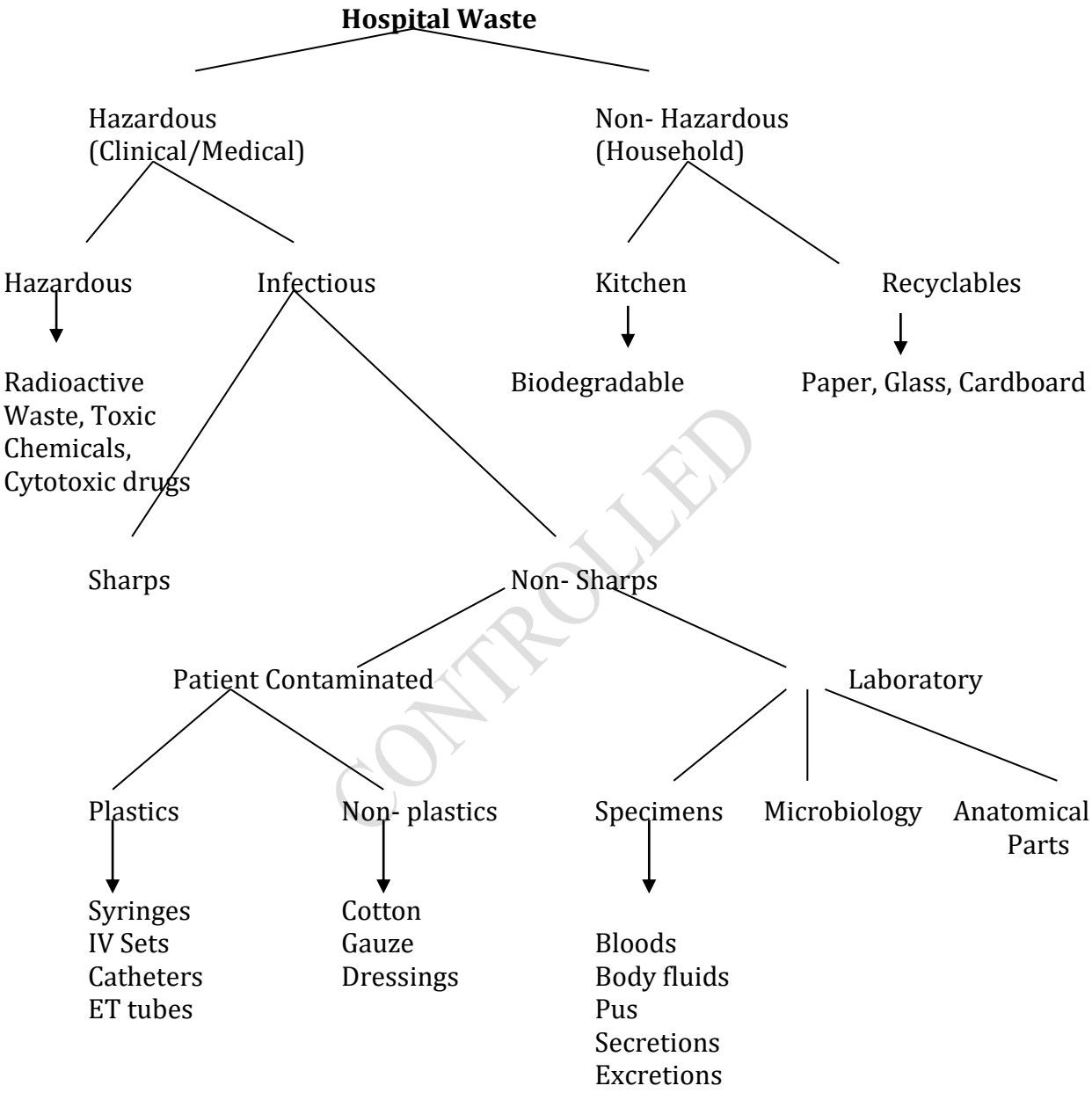
Classification of Hospital waste



Clinical waste or **Medical waste** is a sub set of hospital waste generated as a result of diagnosis and treatment of patients.

Infectious waste is a sub set of clinical waste capable of transmitting infectious disease and require special procedures for it's handling, transport and storage.

Infectious waste certain types are more hazardous.

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Used needles-Sharps
Untreated microbiological waste

Categorization of waste

Infection risk is related to the

- Number and type of organisms present in the waste
- Ability of the organism to survive in the environment
- Ability to reach susceptible site in sufficient number or virulence.
- Ability to bring the pathogens in contact with the portal of entry
- Susceptibility of the host to the pathogens.

All factors should be fulfilled for infection to occur

Categories of clinical waste

Group A - all human tissues including blood irrespective of whether being infected or not.
Group B - all sharps
Group C - microbiological cultures, potentially infected waste from laboratory or pathology department.
Group D - certain pharmaceutical products and chemicals
Group E - all items used to dispose urine, feces and other bodily products.

Management of waste in Hospitals

Should be done at every step:

1. Generation
2. Segregation
3. Collection
4. Transportation
5. Storage
6. Treatment to final disposal

Segregation in to prescribed categories should be done at point of generation. Sharps bin-puncture proof containers to collect metallic waste. Colour coded plastic bags for different kind non-sharps. All infectious waste should be labeled properly. Collection system for the transport of segregate waste Carts

Storage area for waste prior to treatment.
Rat proof, Bird proof and easily hosed to clean

Treatment of the waste to reduce the hazard associated.

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- Most inexpensive and efficient methods are steam sterilization and incineration.
- Infectious waste containing cytotoxic drugs and radioactive materials should not be steam sterilized.
- Incineration is ideal for pathologic waste and sharps because it renders them unrecognizable and unusable.
- All pathological waste and sharps requires temperature up to 1000-1200 ^{o}C in a double chamber incinerator.
- Liquid waste can be drained to the sewer after chemical treatment. (All machine wastes are directly connected to the waste plants for treatment purposes)

A clinical waste control officer should be appointed
He or She should be accountable to the Chief Executive or Senior Manager in the hospital.

The officer should liaise with
The clinical services
The training officer
The occupational health department
The supplies and service manager
And the pharmacist

A waste management committee consisting of representatives from the above departments and the risk manager would be useful.
The clinical waste control officer should be member of the infection control committee.

The officer should be advised by the infection control team, particularly on assessment of infection risks, and in some cases the duties of officer will be carried out by the infection control nurse or Doctor.

<u>The following are important requirements.</u>

A written policy should be produced and regularly updated and audited.

Staff handling waste should be trained (particularly in the handling of spillage), provided with appropriate protected clothing and immunized against hepatitis B.
Clinical waste should be sealed in a strong impermeable bag or container.

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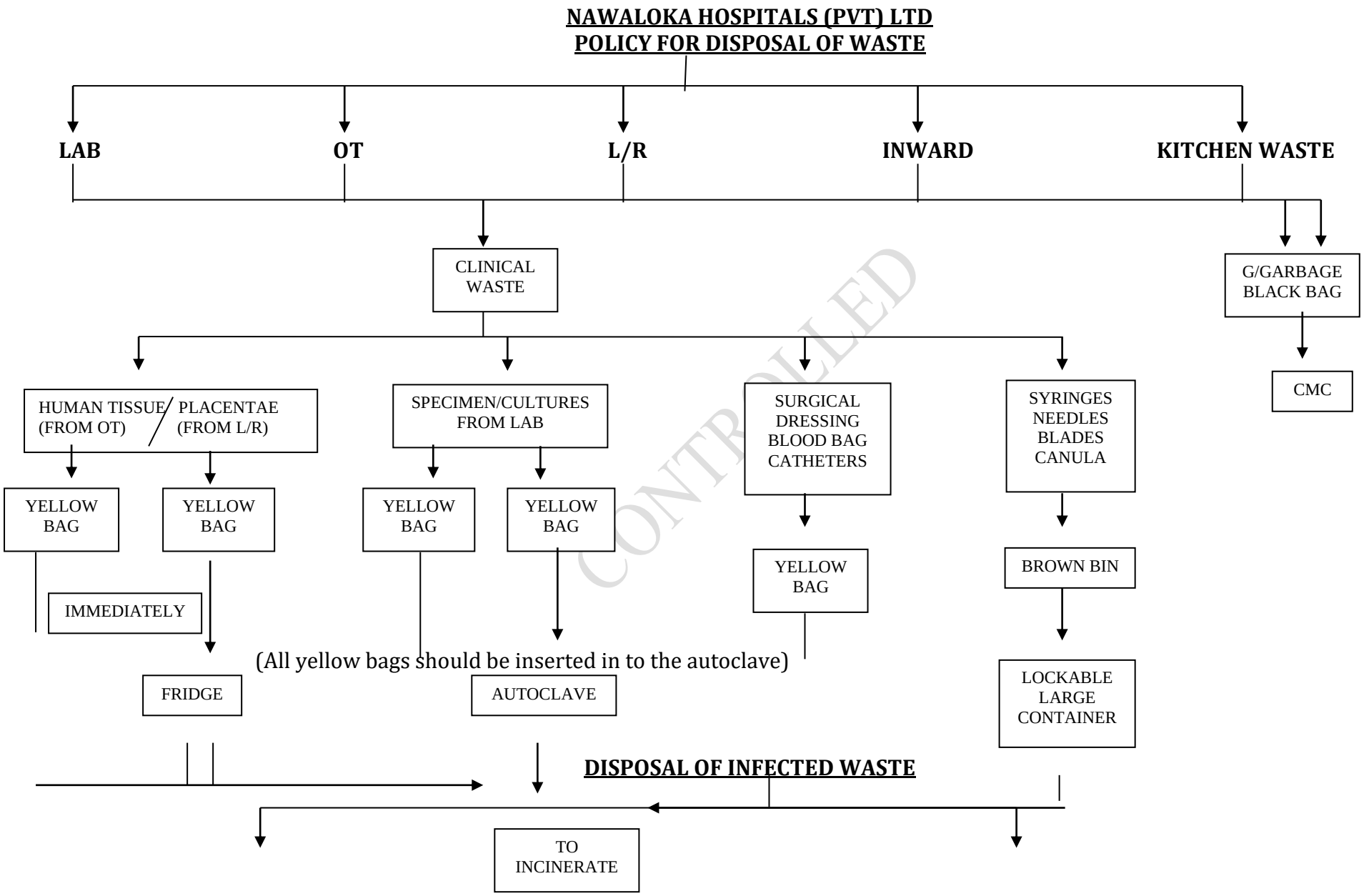

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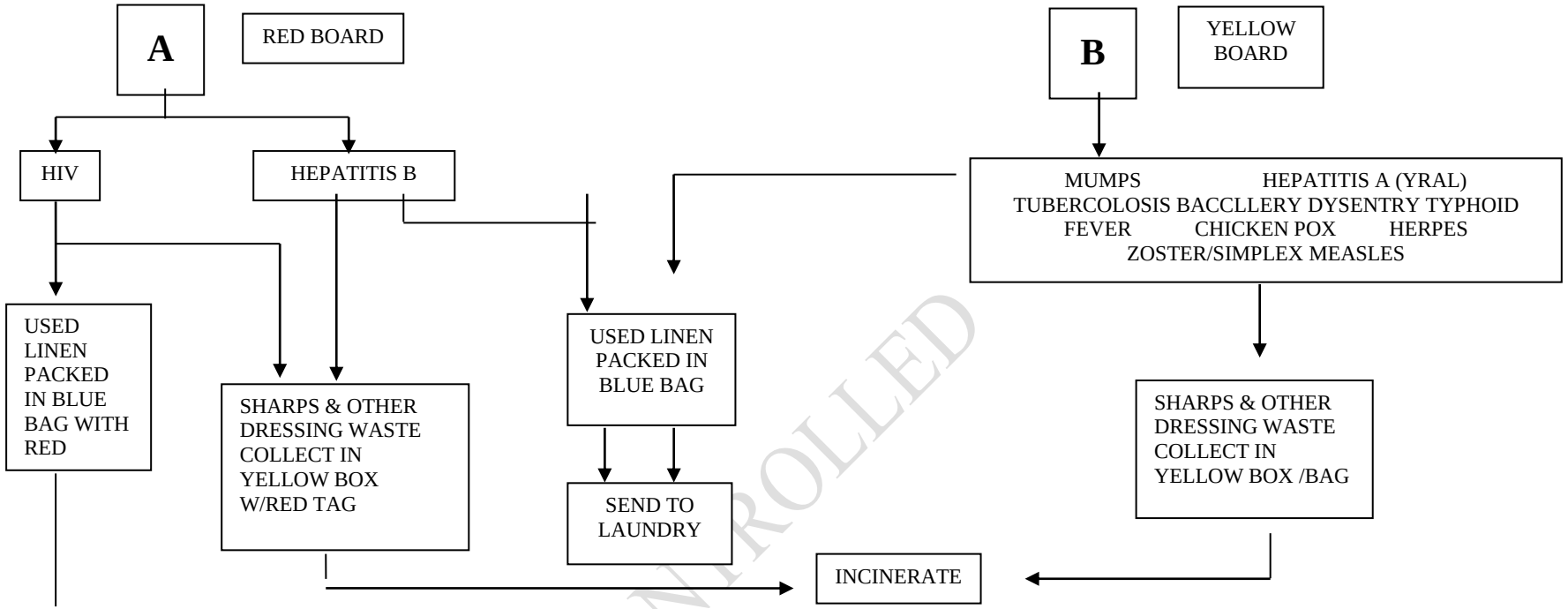

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Decontamination process in Microbiology Department

In Microbiology laboratory decontamination and disposal are closely interrelated. All material will ultimately be disposed of but in terms of daily use only some of them will require actual removal from the laboratory or destruction.

DISPOSAL

Contaminated materials can be categorized in following manner,
a) Non-contaminated waste that can be disposed of with general waste;
b)"sharps" –needles, scalpels, knives, broken glass;
c) Contaminated material for autoclaving and recycling
d) Contaminated material for disposal
e) Anatomical waste

SHARPS

- Needles should not be recapped, clipped or removed from disposable syringes.
- Should be placed in 'Sharp bin' (leak proof ,impenetrable container)
- When they are 2/3 full they should be closed and incinerated.

CONTAMINATED MATERIALS FOR AUTOCLAVING AND RECYCLING

- No precleaning should be attempted
- Any necessary cleaning should be done after autoclaving
- Eg: Glass wares

CONTAMINATED MATERIALS FOR DISPOSAL

- All disposable culture plates and tested infectious materials should be autoclaved in Red color coded - Autoclavable bags before disposal.
- After autoclaving, the material should be placed in Yellow color coded -plastic bags /containers*.
- Discard pipette tips ,micro titer plates and tested cards should be placed into bowl containing 1% hypochlorite freshly prepared each day and should be discarded to Yellow color coded -plastic bags /container*.
- Decontaminated materials in Yell color bags/containers should be transport to Incinerator by end of the day.
- Transport containers –plastic containers* should be disinfected with 1% hypochlorite and washed with soap and water before they are returned to the laboratory for further use.

*Plastic containers and Transport containers should be leak- proof and must have tight-fitting covers.

NOTE: APPROVED INCINERATOR IS AVAILABLE IN HOSPITAL OR WHICH POLICIES AND PROCEDURES ARE WELL ESTABLISHED AS PER THE GUIDELINES.

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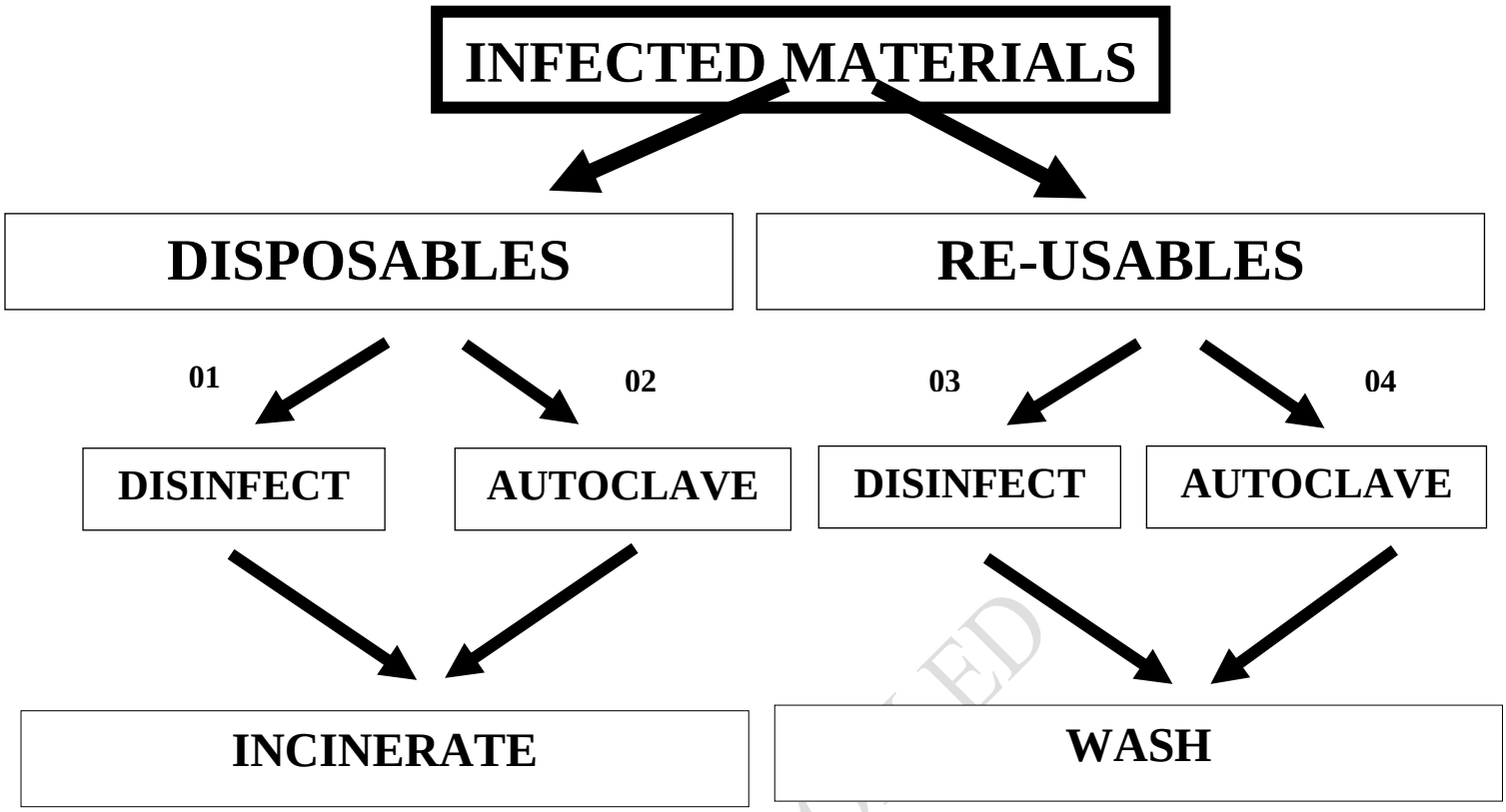

01. Used tips, micro titer plates and cards used for agglutinations
02. All culture plates, tested samples (once retention period over) etc…
03. Graduated pipettes…
04. Glass wares coagulase tubes, urea, bile, KIA tubes etc…

7.0 SAFETY PREAUTIONS

A. Anybody handling Biohazard Waste should always put on laboratory protective clothing and gloves and keep to the laboratory safety practices to avoid viral and other infectious disease transmissions.

B. Any spills or splashes of infectious material should be immediately cleaned up with absorbent material using an approved disinfectant such as hypochlorite solution (1 %).

8.0 RELATED DOCUMENTS

No.	Document Name	Document Number
1	Safety and infection control manual	QM/ 5.2.2/1
2	Procedure for cleaning of technical departments/OPD/office areas	APP/ 5.2.6/1

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3	Procedure for immunization and post exposure prophylaxis	APP/ 5.2.6/2
4	Daily/weekly cleaning & maintenance – office areas	QAF/ 5.2.6/3
5	Daily/weekly cleaning & maintenance – OPD labs	QAF/ 5.2.6/2
6	Daily/weekly cleaning & maintenance – technical departments	QAF/ 5.2.6/1