

My No: PA/E&OH/HCW/1/2006
Ministry of Healthcare and Nutrition,
"Suwasiripaya",
Colombo 10.
21 March, 2006

All,
Provincial Secretaries of Health,
Provincial Directors of Health Services, Deputy Provincial Directors of Health Services,
Directors of Teaching Hospitals,
Heads of Decentralized Units/ Specialized Campaigns,
Heads of Institutions,

National Colour Code for the Segregation of Hospital Waste

Health Care Waste Management has been identified as one of the important aspects in infectious disease control. However, it has been observed that sufficient attention has not been paid for the management of healthcare waste by the healthcare facilities in Sri Lanka.

Between 75%-90% of the waste generated in healthcare facilities are 'non-risk' or 'general' waste. These wastes come from administrative and housekeeping functions of the health care facility. The remaining 10-25% of health care waste is considered as Hazardous because of their infectious nature, and may create a variety of health hazards.

Segregation

The key to minimization and effective management of infectious waste is segregation of waste at the point of generation. Appropriate handling, treatment and disposal of segregated waste reduce costs and help to protect public health. Segregation is the sole responsibility of the generator of waste, and should take place as close as possible to the place where the waste is generated.

National Colour Code

Since a uniform system of segregation should be in force throughout the country, the Ministry of Healthcare and Nutrition has developed a National Colour Code for Healthcare Waste.

The National Colour Code identifies 7 specific categories – Yellow, Yellow with a red stripe, Black, Green, Red, Blue and Orange. The Ministry intends to promote segregation of waste generated by healthcare facilities according to the following color code. All health care facilities should use bags and bins of colors specified below for segregation of respective types of waste.

1. Infectious waste – Colour to be used for bins and bags - Yellow

Infectious waste could be defined as waste that is suspected to contain pathogens such as bacteria, viruses, parasites or fungi in sufficient concentration or quantities to cause disease in susceptible hosts.

Eg; Cultures or stocks of infectious agents from laboratory work, waste from surgery and autopsies on patients with infectious diseases - such as tissues, material or equipment that have been in contact with blood or other body fluids, clothes heavily soiled with human blood or other body fluids from infected patients - including dialysis equipment such as tubing and filters, disposable towels, gowns, aprons gloves and laboratory coats.

4 Health Care Waste Management

Introduction

Health care waste (HW) generated by medical institutions could transmit infectious diseases to people who are exposed to them. Improper disposal can have harmful effects on the environment as well. Every health care facility (HCF) is responsible for the proper management of waste it generates until its final disposal.

Why a Clinical Practice Guideline?

Health care waste generated by the institutions is on the increase. As sources of infections this waste has to be properly managed. Therefore a guideline on this aspect is very essential. It would help all concerned to develop plans and implement them to manage this problem effectively.

For whom is this guideline intended?

It is intended to guide all the health care providers. Although it is targeted for the institutions under the Ministry of Health, these guidelines are encouraged to be used in any private health facility.

Objectives

Provide evidence based recommendation to clinicians and other categories of staff to manage hospital generated waste with minimum harm to the environment.

Health Care Waste Management

4.1 Categorization of waste

HW can be broadly categorized into hazardous and non-hazardous (General) waste.

4.1.1 Non-hazardous (General) waste

Non-hazardous waste includes all waste that has not been contaminated with infectious or hazardous substances such as blood, body fluids and chemicals eg. paper, left over food, fabric. General waste can be managed by the local authority.

4.1.2 Hazardous waste

There are several categories of hazardous waste:

A. Infectious waste

Blood

- Body fluids or items contaminated with them
- Microbiological waste
- Waste from isolation wards

B. Pathological waste

- Human body parts, fetuses
- Similar waste from surgery and autopsies
- Animal carcasses, organs and tissues infected with human pathogens.

C. Sharps

- Syringes with needles
- Scalpel blades, razors, infusion sets
- Contaminated broken glass
- Blood tubing and other similar materials

A. Waste Minimization and Segregation

iii. Waste minimization:

Recycling procedures should be implemented to minimize the quantity of HW generated.

- All non contaminated plastic items should be collected separately to be picked up by local contractors capable of recycling them. Y
- All non-contaminated and unbroken glassware which are not reused should be segregated and sent for recycling. Y
- Broken glassware should follow the stream of sharp waste. X

iv. Segregation:

Segregation consists of separating different types of waste based on the type of treatment and disposal practices.

- It should take place at the point of generation of waste. X
- Different colour coded containers should be used. X (Refer Figure 1)

Infectious waste – Yellow	
Sharp waste – Yellow with a red stripe	
General waste – Black	
Biodegradable waste – Green	
Glass waste – Red	
Paper waste – Blue	
Plastic waste – Orange	

Figure-1. Colour code used in health waste management

aprons, boots and heavy duty gloves.
Y

- All yellow bags should be sealed with appropriate adhesive tape, and removed from the bins. X
- The sharps boxes should be closed when $\frac{3}{4}$ full. X
- Waste should be collected in a trolley or cart which is easy to load and clean. Grade X
- The trolley should not be used for any other purpose. X
- The collection route should be direct from the point of collection to the central waste storage facility. X

C. Waste storage

- A separate central storage facility should be provided for storage. X
- Non hazardous waste which is to be taken away by local government authorities should be stored separately from hazardous waste. X
- The central storage facility should be totally enclosed and sealed from unauthorized access. X
- It should be inaccessible to animals, insects and birds. X
- It should be easy to clean and disinfect. X
- It should have a good water supply, drainage and ventilation systems. Y

septic tank only after it has decayed to adequate background level in retention tanks.

X

iv. Placentas and Anatomical waste

- All anatomical waste should be identified as infectious waste and packed in yellow bags and transported to a crematorium for incineration. Y
- Alternatively it can be put into a designated pit of a sufficient depth (>1m) in a location at least 100m away from any source of underground water. X
- Anatomical waste should be stored at a temperature between 1°C to 5°C in the mortuary until transported. X

v. Blood

- Samples of blood should be autoclaved before being discarded. Y
- Alternatively, samples of blood can be kept overnight in a container of concentrated hypochlorite before discarding. X
- Blood bags should be incinerated. X

vi. Infectious waste

- Infectious solid HW should preferably be incinerated in a double chamber incinerator. Y
- In densely populated areas it can be treated by autoclaving. X
- In minor HCF solid infectious waste can be buried at sufficient depth (>1m). X

- They should be stored in a specific area preferably in a lead shielded storage room or in a room with concrete walls 25cm thick. X
- When radioactive waste has decayed to background level they can be discarded as Infectious HW. X
- Liquid radioactive waste can be discarded into the sewerage system once certified as free of radioactivity. Y
- Non-infectious radioactive waste which has decayed to the background level can be discarded with general waste. X

ii: International symbols to be used for hazardous and radioactive HCW

Biohazard symbol



Radioactive symbol

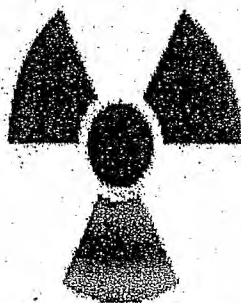


Figure- 2. International symbols used in Health Waste Management