



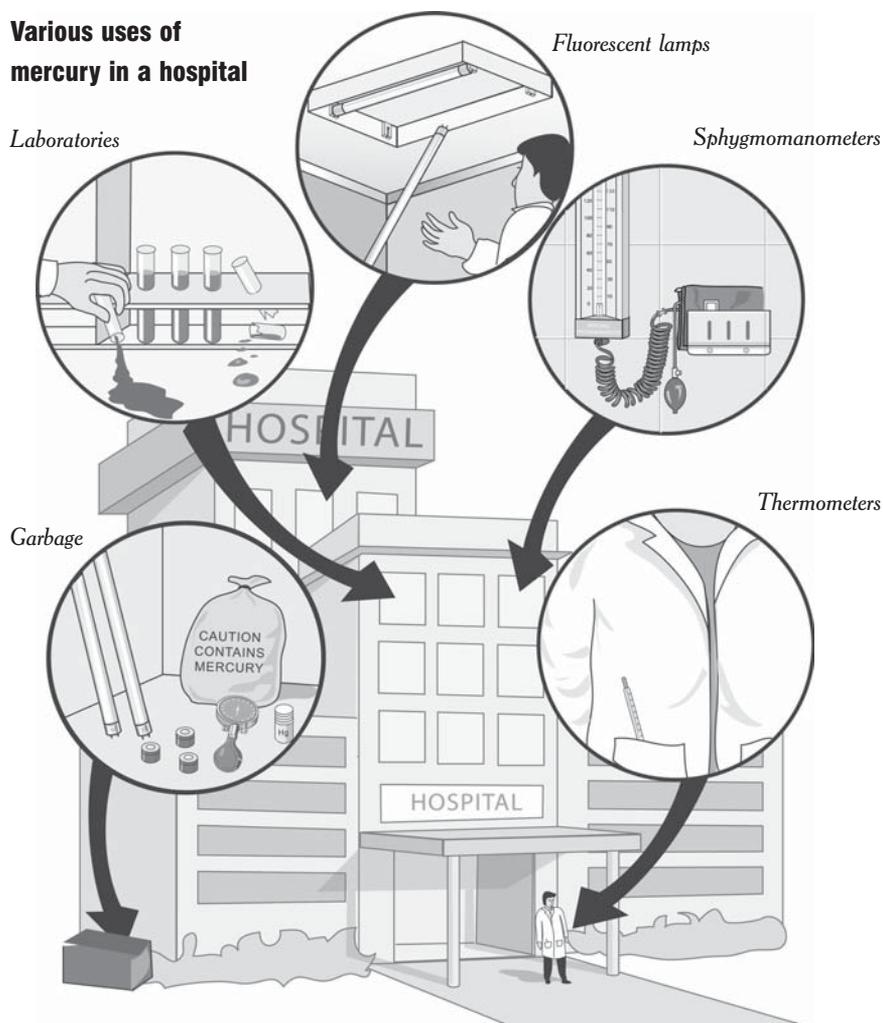
Delhi hospitals begin mercury phase out

Four leading hospitals in Delhi decide to replace mercury containing equipment, following a Toxics Link report

The Toxics Link report, titled *Lurking menace: Mercury in the healthcare sector*, seems to have touched an answering chord in hospital administrators.

St Stephen's Hospital, which had recognised the hazard of mercury over two years ago and replaced its mercury thermometers with digital ones, is now all set to phase out all mercury products by 2005.

Various uses of mercury in a hospital



The hospital regularly conducts various activities to raise its staff's awareness about mercury and its hazards. A mercury spill management programme has been in place at the hospital; through this, the nurses have collected approximately 1.6 kg of spilt mercury over a period of 18 months. This has been handed over to a thermometer-manufacturing unit.

Max Healthcare, one of the country's premier healthcare chains, has also decided to replace mercury-based thermometers and blood pressure monitors with alternate equipment. The Max Heart and Vascular Institute in Saket, New Delhi, will be its first mercury-free hospital.

Sir Ganga Ram Hospital, another leading healthcare institution in Delhi, has decided to become a mercury-free zone. According to its Medical Superintendent, Dr Nalini Kaul, "The hospital has decided to organise mercury awareness campaigns for its staff. It has also decided to replace mercury thermometers with digital ones in the first phase and would gradually aim at replacing other products as well."

A similar initiative is being planned by the Holy Family Hospital. The hospital is re-evaluating its purchase policy with respect to mercury-based equipment. It also plans to organise mercury awareness sessions for its staff.

However, the government also needs to take steps to reduce mercury usage. The import of mercury needs to be placed on the restricted list while the open sale of mercury should be banned. In addition, the manufacture of digital thermometers and blood pressure instruments should be encouraged through fiscal and non-fiscal measures. Norms regarding the containment of mercury in healthcare institutions should also be clearly spelt out and implemented.

INDIA FILE

CPCB prepares guidelines for immunisation programme

The Central Pollution Control Board (CPCB) has prepared guidelines for the proper disposal of the waste that is generated during the Universal Immunisation Programme (UIP).

The guidelines stress upon the fact that all bio-medical waste generated during the UIP should be treated by autoclaving or microwaving.

However, treatment of immunisation waste at the site of its generation may not be possible since many of the vaccination sites are situated at remote locations. In such cases, the bio-medical waste generated will need to be carried to either the District Hospital or the Primary/Community Health Centre for autoclaving or microwaving.

India's UIP is one of the largest vaccination programmes in the world. It includes the administration of about 200 million injections each year.

Tamil Nadu prepares a state-wide action plan for managing bio-medical waste

The Tamil Nadu Health Systems Project has drawn up a Rs 32 crore scheme to implement bio-medical waste



Core team of hospitals near the final disposal area at Stanley Hospital, Chennai.

management in hospitals throughout the state.

According to the scheme, in two years, about 45,500 personnel would be trained in bio-medical waste management.

The Health Secretary, Dr N. Sundaradevan, revealed that this was part of a project worth Rs 600 crore which would be sanctioned by the World Bank.

The Chairperson of Tamil Nadu Pollution Control Board, Girija Vaidyanathan said, "Though we are late in implementing a plan covering the whole state, there is some

momentum now." She said that a training programme was being organised at Stanley Hospital, Chennai, since it has a bio-medical waste management system in place.

Source: *The New Indian Express*, Chennai, October 20, 2004

Pollution Control Boards toughen stance against defaulting hospitals

Delhi Pollution Control Committee (DPCC) has issued a show cause notice to five hospitals in New Delhi for non-compliance with bio-medical waste norms. The Environmental Pollution (Prevention and Control) Authority, as well as officials of the Central Pollution Control Board and DPCC visited Deen Dayal Upadhyay, ESI Basai Darapur, Lady Hardinge College, NDMC's Charak Palika and Hindu Rao Hospital. They found that there were many discrepancies in their waste practices. In fact, in several cases bio-medical waste was found dumped with the general municipal waste. Waste management practices were also not being followed in the wards of these hospitals.

Meanwhile, the Uttar Pradesh Pollution Control

WORLD NEWS

£111,500 POLLUTION FINE FOR HOSPITAL WASTE INCINERATOR IN BIRMINGHAM

Britcare, the operator of the Heartlands Hospital incinerator in Birmingham, has been fined a total of £111,500 for serious, multiple breaches of its authorisation spanning nine months. Emissions of dioxins were seven times the legal limit.

Problems at the incinerator came to light in June 2002, when a routine inspection revealed that the plant's controls had fallen into disrepair, with

the effect that clinical waste was not being incinerated properly.

In particular, the incinerator had no interlock system to prevent waste from being loaded into the incinerator until it achieved the correct temperature. Britcare was also failing to ensure effective chemical dosing of emissions to remove acid gases, VOCs and metals.

An inspection revealed that no action had been taken to remedy the situation. Britcare was fined £20,000 each for breaches of the limits for dioxins and particulates. Ironically, Heartlands Hospital is a centre of expertise on the health impacts of air pollution.

ANOTHER CITY IN ARGENTINA BANS INCINERATION

The city of Totoras, which has a population of 11,000 people, banned medical waste incineration from September 2, 2004.

Last year, there was a successful campaign held by members of the Citizen's Anti-Incineration Coalition (CAIC) and the local community to prevent a medical waste incinerator in the city of Granadero Baigorria (60 km from Totoras). As a result, Granadero Baigorria banned medical waste incineration.

A teacher from Totoras,

Alejandra Calderini, who had taken part in that campaign, decided to take the struggle to her own city. With advice from members of CAIC, Alejandra, with her fellow teachers and high school students, prepared a research and intervention project called 'Life vs medical waste', which was awarded the Communal Merit for Collaboration and Disinterested Participation in Solidarity with the Community.

A year of hard work by the students and teachers resulted in an ordinance that bans incineration of bio-medical waste in the city of Totoras.

By Cecilia Allen, September 23, 2004

Board (UPPCB) has ordered action against 50 Noida-based nursing homes for improper disposal of their bio-medical waste.

The law requires these hospitals to either send their waste to Medicare Incineration Pvt Ltd, Mussorie, or to National Synergy Waste Management, Delhi. Out of 150 hospitals in Noida, 50 are not meeting this requirement.

Source: *The Tribune; Times of India*

Get your Training Manual now!

Srishti, the Toxics Free Healthcare programme of Toxics Link, has produced a Training Manual on bio-medical waste management issues, targetted at healthcare workers. The Manual has been produced to provide a convenient, up-to-date training resource that will allow trainers to increase awareness on waste management and related issues at every level in their organisation.

The Manual has six sections, with an accompanying CD that carries slides for each section. Descriptive notes to the slides help provide trainers with a narrative structure.

Please write to anu@toxicslink.org to book your copies of the Training Manual now.

INTERACTIVE

Are electric needle destroyers incinerators?

Jorge Emmanuel of Health Care without Harm responds

Many needle destroyers are mechanical cutters or grinders, but some needle destroyers use electricity to melt the needle tip of the syringe. The main process in these table-top technologies is the rapid melting of the stainless steel needle, which happens in a few seconds.

When we think of incineration/combustion/burning of waste, we refer to combustion of waste materials that typically contain CARBON and HYDROGEN (paper, plastics, cotton, body fluids, etc). Thus, the "idealised" combustion equation is often shown as: carbon + hydrogen + oxygen (in different proportions based on the type of waste) to form carbon dioxide + water + heat. Of course, we know that in actual practice combustion forms many toxic compounds in addition, because of the presence of chlorine, fluorine, sulphur, mercury and a host of other metals, organic solvents, etc. On the other hand, a stainless steel needle is mostly IRON with small amounts of chromium and trace amounts



of carbon (usually 0.1% but as low as 0.03%). The purpose of the electric needle destroyer is to melt the iron alloy in the stainless steel needle.

Because of the design of the electric needle destroyer, air is present during the melting. The temperature causes the needle tip to melt into a small sphere which then drops down. The small pellet cools to form the swarf. Although melting is the main process, some oxidation takes place, especially at the surface of the spherical pellets. That means the iron at the surface will form a layer of iron oxides. As you heat the stainless steel, a reaction also takes place between the chromium and trace amounts of carbon; they form chromium carbides, which precipitate and form part of the solid pellet. Some of the trace amounts of carbon on the surface will produce small amounts of carbon dioxide but I don't believe there will be any chlorinated dioxins (since there is no chlorine and very little carbon and hydrogen).

Unlike incinerators or open burning, which produce incomplete combustion by-products such as large amounts of particulates, dioxins and furans, hydrogen chloride, sulphur dioxide, etc, the needle destroyer forms iron oxides which coat the pellet surface as well as chromium carbide which becomes part of the pellet, carbon dioxide, and possibly very small amounts of carbon monoxide. Only a few of the needle destroyers have tested their ambient air releases. I would guess that the occupational exposures, if any, associated with an electric needle destroyer would be far less than that for an electric arc welder. In summary, the electric needle destroyer is not an incinerator or pyrolysis unit. A few manufacturers of electric needle destroyers refer to their technologies as 'needle incinerators' because they think that health workers prefer incineration as a way to dispose of medical waste. This gimmick has caused some confusion.

Jorge Emmanuel is a consultant to Health Care Without Harm, a coalition working to transform the healthcare industry so that it is no longer a source of harm.

RESOURCE UPDATE

Insisting that medical establishments clean up their act and become more health-conscious while disposing of their waste, the World Health Organization has come out with a policy paper on 'Health-Care waste management' which, though not binding on establishments, outlines good practices, besides laying stress on the revised stands of the WHO on disposal of hospital waste.

The policy paper discusses various issues, such as how unsafe healthcare waste management leads to death and disability, and balancing risks to make sound policy decisions regarding its management.

In view of the challenge represented by healthcare waste and its management, the WHO proposes to work in collaboration with countries through the following strategies:

Short Term

- ▲ Production of all syringe components made of the same plastic to facilitate recycling.
- ▲ Selection of PVC-free medical devices.
- ▲ Identification and development of recycling options wherever possible (for example, for plastic, glass, etc).
- ▲ Research and promotion of new technology or alternatives to small-scale incineration.

Medium Term

- ▲ Further efforts to reduce the number of unnecessary injections to reduce the amount of hazardous healthcare waste that needs to be treated.



- ▲ Research on the health effects of chronic exposure to low levels of dioxins and furans.
- ▲ Conduct risk assessment to compare the health risks associated with incineration and exposure to healthcare waste.

Long Term

- ▲ Effective, scaled-up promotion of non-incineration technologies for the final disposal of healthcare waste to prevent the disease burden from unsafe healthcare waste management and exposure to dioxins and furans.
- ▲ Provide support to countries in developing a national guideline for sound management of healthcare waste.
- ▲ Support to countries in the development and implementation of a national plan, policies and legislation on healthcare waste.
- ▲ Promotion of the principles of environmentally sound management of healthcare waste as set out in the Basel Convention.
- ▲ Support to allocate human and financial resources to safely manage healthcare waste in countries.

You or your organisation can be a part of the Health & Us – Medwaste Action Network (HuMAN) by becoming an Active Member (involved with HuMAN on a regular basis) or a Member in Principle (no active participation but endorsing HuMAN principles). Contact us at the Delhi address given alongside, and provide us with the following information:

1. Name
2. Occupation and designation
3. Address, phone, fax and e-mail
4. Past experience of/interest in medical waste

Once we have this information, we will send you more details on membership.

HUMAN AFFAIRS

BOOK ON WASTE MANAGEMENT BY ISHA

Indian Society of Health Administrators (ISHA), Bangalore, organised its ninth National Seminar on Clinical Waste, Hazards Management and Infection Control from November 16-18 in Bangalore. To mark the occasion, a book has been released in which Dr Ashok Sahni, Professor and Honorary Executive Director, ISHA, discusses various aspects of waste management.

ISHA was established in 1979 with the objective of professionalising health systems. It has organised over 1,000 training programmes covering more than 90,000 senior hospital administrators.

If you have suggestions or require information, please contact:

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