

**POLICY FOR THE CONTROL
OF EXPOSURE TO MERCURY**

POLICY NO.	H&S/D/013
DATE RATIFIED	
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**ACCOUNTABLE DIRECTOR -
DIRECTOR OF HUMAN RESOURCES**

**POLICY AUTHOR -
ESTATES MANAGER**

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1 INTRODUCTION

1.1 Rationale

The aim of this Policy is to enable the Trust to minimise the risk to staff, patients, visitors and equipment from the hazards of mercury contamination, by complying with the Control Of Substance Hazardous To Health Regulations 1988 (C.O.S.H.H.)

Mercury compounds are easily absorbed by the body after ingestion, skin exposure and especially via the lungs. It is the efficient absorption of mercury by the lungs, while working in a contaminated environment which poses the greatest risk.

When equipment containing liquid mercury metal is used there is always the chance that a breakage might occur and mercury released into the environment. Following a spillage, mercury readily evaporates at room temperature releasing a toxic vapour.

1.2 Scope

This policy shall apply to all staff employed by Guild Community Healthcare NHS Trust and encompasses any incident that affects patients, clients, staff, contractors or visitors at any of the Trusts premises.

1.3 Principles

This Policy is based on the following principles:

- To define best practice when dealing with exposure to mercury and in dealing with mercury spillage's
- To ensure that the Trust fulfils its legal obligations in relation to the Control Of Substances Hazardous To Health Regulations and the disposal of mercury waste

- To ensure that spillage's are reported in accordance with The Policy On The Reporting Of Incidents (Policy No ORG/R/002)
- To ensure where possible that all instruments and equipment containing mercury be replaced by less hazardous alternatives

1.4 Compliance

Managers are responsible for ensuring that their staff are aware of this policy, and that this information is given to all new staff on induction.

In addition managers are responsible for keeping staff up to date about any changes in the policy.

Managers shall keep evidence of their compliance with the requirements of this section.

Staff shall adhere strictly to this policy and failure to do so may result in disciplinary action.

The Director of Human Resources is responsible for the effective implementation of this Policy.

2 THE POLICY

2.1 Hazards Of Mercury

Mercury Toxicity -

Mercury is a dense, silvery metal used in thermometers, pressure gauges such as sphygmometers and for some chemical processes. It is poisonous in all its forms, more so than arsenic and cadmium.

Usually, the harmful effects of mercury poisoning are seen after exposure to mercury vapour, which is readily given off by the liquid metal, for example after a spillage or breakage of equipment.

Mercury Exposure Levels -

The World Health Organisation has set a safe maximum working level of 0.05 mg per cubic meter - the Time Limited Value (TLV) to which workers may be exposed for 8 hours per day without risk.

But in a poorly ventilated, heavily contaminated room, mercury vapour levels of 400 times the Time Limited Value (TLV) can be reached.

Symptoms Of Mercury Exposure

Mercury is a non - specific toxin, attacking many of the body's systems. At low levels of exposure, symptoms are mainly related to nerve and brain function and include memory loss, mood instability, tremor and other stress like symptoms, poor co - ordination, headache, visual and learning problems. It has more recently been proven to cause problems with reproductive health, the immune system can also be damaged.

Monitoring Mercury Exposure

Mercury absorbed into the body is excreted slowly in the urine, with a half life of some 90 days. Urine levels are therefore relatively constant and will accurately reflect the overall level of mercury exposure, smoothing out day to day variations in intake. Monitoring of urine levels is therefore used to identify people who may have been exposed to mercury. If any person feels that they have been exposed to mercury, they shall immediately contact the Occupational Health Department.

Protection From Mercury Exposure

The main protection against mercury vapour is the prompt use of mercury spillage procedures.

2.2 Occupational Exposure Limits

Occupational Exposure Standard Time Weighted Average 8 hours 0.05^{-3} .

Short Term Exposure Limit 10 minutes 0.15 mgm^{-3} .

2.3 Examples Of Mercury By Volume

A sphygmomanometer contains approximately 80 gms of mercury with a thermometer containing approximately 1gm.

2.4 Mercury Spillage Kits

Mercury spillage kits shall be located in each of the Trust's premises and shall be kept by the Location Manager who shall be the person responsible for dealing with spillage's of mercury.

Mercury spillage kits shall be made up as follows:

ITEM	USE
a) Mercury Vapour Mask	To wear when exposed to mercury vapour.
b) Dust Mask	To wear for whole operation. While mixing powders (e & f)
c) Absorbent Alloy Wool	For residual mercury removal.
d) 2 pairs of gloves	To wear for whole operation.
e) 1 tub Microfine Sulphur	For residual mercury removal.

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|---------------------------------|---|
| f) 1 tub Calcium Hydroxide Fine | For residual mercury removal. |
| g) 1 tub for Mercury Waste | Mercury Waste Container, for collection of mercury. |
| h) 1 Spatula | For collection of Mercury Globules |
| i) 1. 25 mm brush | For collection of Mercury Globules. |
| j) 1 Syringe | For collection of Mercury Globules. |

2.5 Replacement of Spillage Kits / Kit Components

Mercury spillage kits have a shelf life of four years, and can be used for up to four or five spillage's. Each kit shall be replaced every four years regardless of previous uses.

During the four year life of each kit, replacement component parts are available from the Authorised Officer Waste.

2.6 Dealing With A Spillage

- Spillage's must be cleared immediately
- The person discovering the spillage shall secure the area from people and notify the Clinic Supervisor/senior ward staff responsible
- Ventilate the area by opening all windows and doors (unless this compromises security of the area)

- The Clinic Supervisor/senior ward staff responsible shall obtain the Spillage Kit
- The Clinic Supervisor/senior ward staff responsible shall put on the Personal Protective Equipment contained within the spillage kit
- Vacate the area of non essential personnel

2.7 Responsibility For Dealing With A Spillage In The Absence Of The Clinic Supervisor/ Senior Ward Staff Responsible

- In Trust premises, which have ward based twenty four (24) hour facilities, or where the Clinic Supervisor/senior ward staff responsible may not always be available, the senior person on duty shall assume that role for the purpose of this Policy, and shall carry out the procedures laid down in this Policy.

2.8 Dealing With Spillage's On a Hard Surface

- Using the scoop, move the globules of mercury together to form one large pool
- Pick up as much of this as possible using the syringe and place in the mercury waste container
- Return the syringe to the spillage kit
- Make a paste of equal amounts of *Sulphur & Calcium Hydroxide* with a little water and spread onto the spillage area
- Keep mixing the paste on the spillage area using the *Brush & Scoop* for two or three minutes, it can be used wet and does not need to dry out

- Brush the paste onto the scoop and transfer it to the mercury waste container, wiping any residue paste from the brush and scoop on the lip of the mercury waste container
- When the mercury waste has been placed in the container, it should be capped tightly and replaced in the spillage kit, along with all the other spillage kit items
- Should any of the personal protective equipment become contaminated with mercury, these should be placed in a double yellow tiger bag and disposed of (see Disposal of Mercury Waste 2.12).

2.9 Dealing With Spillage's On A Fabric Surface

- Skin contact with mercury should be avoided. If bedding is affected, move patient away if possible
- Recover as much loose mercury as possible with the syringe and place in the mercury waste container
- Return the syringe to the spillage kit
- Break off a piece of alloy wool to form a sphere of 25 mm diameter. Holding the piece of alloy wool between finger and thumb, press it firmly against a hard surface, to flatten one side
- Place this flattened area gently on top of the loose mercury and leave it for 20 seconds or so
- The mercury will adhere to the alloy wool and will be picked up
- This should be completed until all visible droplets of mercury have been removed, using more buds of alloy wool if necessary

- Place the contaminated alloy wool in the mercury waste container
- When the mercury waste has been placed in the container, it should be capped tightly and replaced in the spillage kits, along with all the other spillage kit items
- Should any of the personal protective equipment become contaminated with mercury these should be placed in a double yellow tiger bag and disposed of (see Disposal of Mercury Waste 2.12).

2.10 Decontamination Of Hard Surfaces

- Mix, in a third of a bucket of warm water, a drop of washing up liquid and two heaped teaspoonful of *Sulphur & Calcium Hydroxide*, stirring to make a suspension
- Use a mop to apply this to hard floors, doing this every month for two months
- After most of the suspension has been mopped off, clean the floor with a preparatory cleaner

2.11 Decontamination Of Fabric Surfaces

- Carpets heavily contaminated with mercury, e.g. through the fracture of a sphygmometer are virtually impossible to decontaminate
- It is essential therefore that the carpet or piece of carpet be carefully removed, placed in double yellow tiger bags for disposal (see Disposal of Mercury Waste 2.12)
- Fully adhered carpets can be removed with care and persistence, and disposed of as previously stated

Where mercury contaminates other fabric surfaces i.e. bedding, curtains, cloths etc. these should be disposed of, once all the mercury has been collected as in 2.9. *Under no circumstances must a vacuum cleaner be used.*

2.12 Disposal Of Mercury Waste & Mercury Contaminated Materials / Items

- Should the mercury waste container become full or any part of the spillage kit become contaminated or any fabric become contaminated and require to be disposed of, it shall be placed in a double yellow tiger bag and labelled (*Danger - Mercury Contamination*) and Name of Premises
- The Authorised Officer Waste shall then be contacted who will arrange for its correct disposal via an authorised waste disposal contractor
- The department / premises requesting the disposal of mercury waste items, shall complete any internal waste transfer note
- The external waste transfer note shall be completed by the Authorised Officer Waste

2.13 Location Of Spillage Kits

- Mercury spillage kits shall be located away from any source of heat, including that of sunlight
- Mercury spillage kits shall also be kept locked away and not assessable to patients or the general public

- Exact locations of the spillage kits shall be agreed between the Clinic Supervisor/senior ward staff responsible and Authorised Officer Waste / Estates Manager

3 REPORTING OF INCIDENTS

It shall be the responsibility of the Clinic Supervisor/senior ward staff to report any incident involving mercury spillage in accordance with the Policy On The Reporting Of Incidents (Policy No ORG/R/002)

4 TRAINING

The Estates and Services Department in conjunction with the Authorised Officer Waste and the training department shall provide the necessary training throughout the Trust to assist in the implementation of this policy.

The effectiveness of the training programme shall be monitored by the Authorised Officer Waste and the training programme shall be reviewed annually, by the training department.

5 POLICY REVIEW & AUDIT

5.1 Review

This policy shall be reviewed at least annually by the Authorised Officer Waste and the Estates Manager and whenever required so by legislation.

5.2 Audit

A Trust waste audit shall be undertaken by the Authorised Officer Waste and the Estates Manager at least every twelve months.

6 REFERENCE DOCUMENTS

Mercury Safety Products Limited.

7 DISTRIBUTION

Distribution of this policy shall be to all the Trusts designated locations.