

Guideline for the use of personal protective equipment (PPE) when handling Cytotoxic Therapy, Cytotoxic Waste or managing spillage of cytotoxic waste

Used with permission of BCH

Version:	5
Author(s) and contact details:	Systemic Anti-Cancer Therapy Review Group
Purpose of the guideline:	To provide guidance on the use of personal protective equipment (PPE) when handling Cytotoxic Therapy, Cytotoxic Waste or managing spillage of cytotoxic waste
Who should use the guideline?	All Trust clinical staff
How was the guideline developed?	Updated by Systemic Anti-Cancer Therapy Review Group
How will the guideline be monitored?	Reviewed by Systemic Anti-Cancer Therapy Review Group
Approved by:	Systemic Anti-Cancer Therapy Review Group
Date Approved:	April 2024
Review Date:	April 2027

Introduction

For many years it has been well understood that certain systematic anti-cancer therapies (SACT) may be carcinogenic (cancer-producing), mutagenic (DNA-damaging) and/or teratogenic (producing malformation of the foetus). Some of these cytotoxic therapies are also used to treat non-malignant conditions. The toxicity of cytotoxic drugs means that they can present significant risks to those who handle them and therefore exposure should be kept to the minimum possible. (NHS Pharmaceutical Quality Assurance Committee, 2018) Occupational exposure can occur when control measures are inadequate. Exposure may be through skin contact, skin absorption, inhalation of aerosols and drug particles, ingestion and needle stick injuries resulting from the following activities; drug preparation, drug administration, handling patient waste, transport and waste disposal or cleaning spills (HSE, 2020). This guideline applies for use across the trust where any cytotoxic therapies are handled.

1. Exposure to Cytotoxic Therapy and waste

At all times staff must handle cytotoxic therapy in a manner which minimises the risk of contamination to themselves, other staff, patients and visitors, and the ward environment (Health & Safety Executive 2021).

Cytotoxic waste can be excreted in body fluids (saliva, vomit, urine and faeces) for up to seven days following administration of therapy. Parents and carers should be informed of the risk during this period and take additional precautions when handling their child's body fluids, changing nappies or soiled bedding or clothing. Optional additional precautions may be taken for staff handling cytotoxic therapy if Pregnant or breast feeding. Pregnant or breastfeeding parents and carers should take the same precautions as hospital staff and should try to avoid handling their child's body fluids or waste if at all possible (CCLG, 2023). **See section 5 below for details.**

Any member of staff who is pregnant or breastfeeding can 'opt out' of handling body waste and/or clinical samples from patients receiving SACT. No pressure will be brought if the member of staff does not wish to continue to handle body waste and/or clinical samples from patients receiving SACT.

A Risk Assessment for New & Expectant Mothers at Work risk assessment must be completed as per Trust Policy for all pregnant staff by their manager.

Safe handling of cytotoxic medication

Staff should be aware that the outside of vials or packaging of cytotoxic medications could be contaminated. Bottles of tablets commonly contain dust, this could contain cytotoxic drug and may also contaminate the outside of the container. Cytotoxic drug contamination is also often found around the neck of bottles of liquid formulation.

As a minimum, gloves should be worn by staff when handling any form of cytotoxic medication, including handling for storage or when in a sealed container.

-

2. Personal Protective Equipment

As a minimum gloves, aprons and armlets should be worn whenever administering cytotoxic therapy by any route. Eye protection is required for handling cytotoxic chemotherapy in an 'uncontrolled' environment such as a ward or clinic.

For oral administration the above PPE should be worn as a minimum. If opening or dispersing tablets a surgical face mask should be worn in addition.

Choose products which are CE marked in accordance with the Personal Protective Equipment (Enforcement) Regulations (2018).

Gloves should be of a suitable thickness and integrity to maximise protection. Industrial thickness gloves (> 0.45mm. thick) made from latex and neoprene, nitrile or synthetic rubber should be available to clean up large scale spills.

Latex gloves should be avoided because of the increasing awareness of sensitivity to latex. .

3. Parent/Carer Information

Parents and carers are advised to wear a pair of non-sterile disposable gloves when handling cytotoxic medications at home. They should be advised to wash their hands thoroughly before and after giving cytotoxic medications. Pregnant or breastfeeding parents/carers should avoid handling the oral chemotherapy if at all possible.

4. Body Waste/Clinical Samples

When handling body waste or clinical samples from patients receiving Cytotoxic medication or within seven days of the last dose of cytotoxic medication, it is advised for optimum safety that full PPE including gloves, armlets, safety glasses and a plastic apron should be worn.

5. Advice for Pregnant and Breastfeeding Staff

Any member of staff who is pregnant or breastfeeding can 'opt out' of handling body waste and/or clinical samples from patients receiving SACT. Pregnant and breastfeeding staff can opt out of handling cytotoxic waste and clearing up any spillage. No pressure will be brought if the member of staff does not wish to continue to handle body waste and/or clinical samples from patients receiving SACT.

A Risk Assessment for New & Expectant Mothers at Work risk assessment must be completed as per Trust Policy for all pregnant staff by their manager.

Pregnant or breastfeeding staff who have opted out of handling cytotoxic body waste should not:

- dispose of body waste or soiled linen from patients receiving SACT, or for seven days after SACT is completed

- dip stick or handle any samples of body fluids to be sent for laboratory analysis during SACT, and for seven days afterwards.

6. Advice for Parents/Carers

Parents and Carers should be informed of the risks and encouraged to take extra precautions by wearing as a minimum, gloves, when handling their child's body fluids (urine, faeces and vomit), changing nappies or handling soiled bedding or clothing for up to seven days following cytotoxic therapy. Toilet trained patients should be advised to close the toilet lid before flushing to avoid accidental splashing and flush the toilet twice.

7. Managing spillage

Clear procedures, which staff who handle cytotoxic or contaminated waste should be familiar with, must be in place for dealing with spillages or contamination of people or work surfaces. Any spillages that do occur should be dealt with promptly (Health and Safety Executive 2023).

PPE including gloves, armlets, safety glasses and a plastic apron should be worn when clearing up a spillage.

All spills must be 'cordoned off' in a way that prevents other staff, parents/carers, visitors and patients coming into contact with the spillage.

If any spill occurs around or onto the patient's bed, patient(s), parents/carers and visitors should be removed from the vicinity immediately. The notice included within the spillage kit should be displayed in such a way as to be clearly visible to both staff and visitors. No spill should be left unattended.

All spills of cytotoxic drugs must be reported as a clinical incident using the Datix system.

Advice should be given to parents and caregivers for how to manage spillages at home. See section 12 for details.

8. Spillage Kits

Spillage kits are located in the following clinical areas:

- Treatment room on Ward 18.
- Treatment room in Outpatients 3, WFH.

Replacement cytotoxic spillage kits are available from the store room on Ward 18 and Outpatients 3, Waterfall House.

9. Procedure for cleaning up a liquid spill in hospital

- Assess the volume of spill. For large spillages please use the ward spillage kit located in the treatment room. For smaller spillages, you will still be required to don full PPE but it may not require all items included in the spill kit e.g., SLIPPA pack
- Don full PPE provided. Respiratory protection should be used whenever there is a risk from inhalation of cytotoxic drug. This is defined as a spill estimated to be in excess of 10ml. of fluid or any preparation, handling or spillage of powder, such as a crushed tablet or capsule contents.
- Use the kneeling mat provided in the spillage kit if it will be necessary to kneel down to wipe up a significant spill at floor level.
- Isolate any continuing source of contamination such as a leaking infusion bag or 'Sharps' bin by enclosing it in the large blue plastic waste sack provided in the spillage kit.
- Assess the presence of 'sharps' e.g. broken glass, needles etc. Use the tweezers provided in the spillage kit to remove as many such items as possible and place them into the large blue plastic waste sack. Do not spend too much time on this in order to avoid delaying management of the spill.
- Use the SLIPPA pack laid on top of the spill to absorb the majority of the liquid. If the liquid covers a wide area the pack can be moved around so as to wipe up all of the spillage.
- Once as much of the spill as possible has been absorbed into the SLIPPA pack transfer this into the blue plastic waste sack. Use great care to avoid further contamination of the area and take particular care if 'sharps' are present.
- Once the SLIPPA pack has been removed, empty one or both of the ampoules of eye wash into the 20ml. spray bottle provided and use this to spray the contaminated area. Do not over-wet.
- Wipe up this wetting with the lint-free wipes provided and repeat until you are satisfied that the entire area of contamination has been cleaned. Use particular care if there are small particles of broken glass in the contaminated area. Place each wipe as used into the blue plastic waste sack.
- Ensure the area is left dry by using further lint-free wipes as necessary.
- Dispose of the blue plastic waste sack according to the Trust waste disposal policy for contaminated waste. NOTE: If the blue plastic sack contains 'Sharps' it MUST be disposed of in a 'Sharps' bin.
- Complete Trust Incident Reporting form (Datix) and inform pharmacy and patients medical team.

10. Contamination of clothing or bed linen for inpatients

Any clothing which becomes contaminated should be removed from the patient, parent/carers, visitors or member of staff as quickly as possible and treated as soiled linen.

Any person whose clothing becomes contaminated should be bathed or showered immediately paying particular attention to the area below where the contamination occurred, unless it is CERTAIN that the contamination did not penetrate the clothing and contact the patient's skin.

Any clothing, bed-linen or other fabric material belonging to the Trust that becomes contaminated should be removed as soon as possible and treated as soiled linen.

If any clothing, bed-linen or other fabric material belonging to the patient or their family becomes contaminated the material should be treated as soiled linen, double bagged in a plastic bag and washed at the patient's own home at the earliest opportunity.

11. Procedure for contamination of other materials

If a cytotoxic spillage occur in the patient's bed area it is possible that other materials will be contaminated. If these are of a non-porous nature e.g. a plastic toy, gross spillage should be dealt with as above. The item should then be placed in a plastic bag and washed at the earliest opportunity. This should be done away from other staff, parents/carers and visitors ensuring that the appropriate protective clothing is used.

If the contaminated items are porous, for example a soft toy, gross spillage should be dealt with as above. Parents/carers should then be informed that it is impossible to ensure that all contamination has been removed and that the safest thing to do would be to destroy the item.

If parents/carers are agreeable to the destruction of the contaminated item it should be dealt with as contaminated waste according to BWC Waste Management Policy (2019).

If parents/carers are unwilling to allow the item to be destroyed it should be placed in a plastic bag and returned to them. They should be asked to remove the item from the ward at the earliest opportunity and also to sign a statement that they have been advised to destroy the item.

12. Procedure for spills occurring in the home

Parents and carers should be advised whenever possible cytotoxic drugs should be prepared and handled on non-porous surfaces and administered in areas such as the kitchen where any spill can be easily cleaned should a spill occur.

Should a spill occur contaminated items should be machine washed twice on an appropriate cycle. Washing machine should NOT be run on a 'half-load' setting since this reduces the amount of water used. The hottest cycle tolerated should be used, a minimum of 60 °C (CCLG, 2023).

In the event that any soft furnishings such as fabric covered chairs and carpets become contaminated parents/carers should don a pair of household rubber gloves and soak up as much of the spill using a paper towel or other absorbent material. This should be done immediately to minimise exposure and penetration of the spill into the fabric.

All materials used to clean up after a spill should be disposed of as soon as possible by placing in a double layer of plastic bags (for example, a kitchen bin liner within a dustbin liner) which should then be put in the dustbin or other receptacle kept outside the home. Contaminated items should be disposed of away from main living areas such as the kitchen.

Once removed the contaminated area should then be sponged with as much water as possible on two or three occasions. As far as possible, avoid allowing the area to dry out between applications.

References

Personal Protective Equipment (Enforcement) Regulations 2018 [The Personal Protective Equipment \(Enforcement\) Regulations 2018 \(legislation.gov.uk\)](#) accessed 25/04/24 –

Health and Safety Executive (2023)

<https://www.hse.gov.uk/healthservices/safe-use-cytotoxic-drugs.htm> accessed 25/04/24

Children's Cancer and Leukemia Group (2023) Safe handling of chemotherapy medicines

<https://www.cclg.org.uk/write/MediaUploads/Publications/PDFs/drug-factsheet-safe-handling-of-chemotherapy-drugs-2023-web.pdf> accessed 25/04/2024

BWC Waste Management Policy (2019)

NHS Pharmaceutical Quality Assurance Committee (2018) Guidance on Handling of Injectable Cytotoxic Drugs in Clinical Areas in NHS Hospitals in the UK.