NHS
Dorset
Clinical Commissioning Group

MEDICINES STANDARD B4:
WASTE MEDICINES

The aim of this guidance is to ensure that all medicines waste is managed safely and effectively, and is disposed of correctly. It does **not** apply to Controlled Drug waste – for disposal of controlled drugs please refer to the "Destruction of Controlled Drugs" Policy.

Pharmaceutical waste (or "Medicinal Waste") includes expired, unused, spilt, and contaminated pharmaceutical products, drugs, vaccines and sera that are no longer required and need to be disposed of appropriately. See appendix 3 for further advice on the most appropriate way to dispose of different types of waste.

GENERAL GUIDANCE ON PHARMACEUTICAL WASTE

A risk assessment should be carried out in connection with the drug products and also the act of discarding medicines on site.

For personal protection whilst disposing of pharmaceuticals, wear latex gloves and an apron during the process of sorting and disposing of waste. Basic personal hygiene e.g. hand washing, is also important in reducing the risk from waste. Staff safety is paramount and where it is unsafe or not possible to segregate pharmaceutical waste it should all be consigned as hazardous waste.

Any outer inert packaging and patient information leaflets may be placed into ordinary paper /cardboard waste containers for recycling; however packaging that has any patient-sensitive Information must be disposed of in confidential waste. It should be noted that there is no obligation to remove the cardboard outer packaging for recycling, but that doing so will reduce the volume of pharmaceutical waste.

The activity of de-blistering i.e. the removal of individual tablets or capsules from blister packaging could fall within the definition of waste treatment, which is a licensable activity, therefore de-blistering should **not** occur.

The Environment Agency has confirmed that the removal of a blister strip from outer inert packaging, so that the blister strip can be placed in the waste container and the outer packaging can be recycled, would not be regulated as a licensable waste treatment.

All pharmaceutical waste is for incineration. Pharmaceuticals must be placed in a leak-proof container which has been United Nations (UN)-approved for liquids.

Pharmaceutical waste can be divided into three broad groups:

- Pharmaceutical Hazardous (cytotoxic and cytostatic)
- Pharmaceutical Non-Hazardous (non-cytotoxic and non-cytostatic)
- Not pharmaceutically active and possessing no hazardous properties (examples include saline and glucose)

Pharmaceutical waste should not be routinely stock piled awaiting segregation/disposal and should be dealt with as soon as it is identified. However, a designated separate area should be identified for storing waste medicines before disposal, allowing them to be segregated from medicines in use.

PHARMACEUTICAL HAZARDOUS (CYTOTOXIC AND CYTOSTATIC) WASTE

The only medicinal products that are automatically deemed to be hazardous are cytotoxic and cytostatic medicines. These medicines are defined as any medicinal product that has one or more of the following hazardous properties: toxic, carcinogenic, mutagenic or toxic for reproduction. (Note: toxic for reproduction should not be confused with contraindicated for use in pregnancy; the former is based on specific chemical risk phrases.) Note that the definition of cytotoxic and cytostatic in waste classification is much broader than the term "cytotoxic" used in the clinical setting as set out in Chapter 8.1 of the British National Formulary (BNF).

See appendix 2 for the current list of medicinal products falling into the hazardous category. This list is expected to be continually reviewed and updated as new products are introduced to the market or existing pharmaceuticals are "re-classified".

The correct waste container must be used for cytotoxic and cytostatic waste, and should be requested from waste contractors. Once the container is filled to the fill-line it should be securely sealed.

PHARMACEUTICAL NON-HAZARDOUS (NON-CYTOTOXIC AND NON-CYTOSTATIC) WASTE

This is the largest group of Pharmaceutical Waste and will include those medicines *not* included on the current list of hazardous waste (appendix 2).

A pharmaceutical waste container must be used. Once the container is filled to the fill-line it should be securely sealed and the label dated and signed.

Each practice should ensure that they have access to the appropriate disposal containers available at all times to enable the timely and safe disposal of unwanted medicines.

NOT PHARMACEUTICALLY ACTIVE AND POSSESSING NO HAZARDOUS PROPERTIES

There are a number of licensed medicinal products that are not pharmaceutically active and posses no hazardous properties.

Intravenous Fluids

Where non-pharmaceutically active intravenous fluids occur in small quantities and present no other hazard (for example infectious due to contamination with body fluids or the addition of pharmaceutically active substances), these can:

- Either be placed in the medicinal waste container, or
- Be discharged to foul sewer and the empty containers placed in the offensive/hygiene waste stream.
- Examples include Sodium Chloride 0.9% and Dextrose solutions.

Where an intravenous fluid contains a pharmaceutically active ingredient e.g. potassium, they must be placed in a Pharmaceutical Non-Hazardous Waste container.

Dietary Supplements

Where liquid dietary supplements occur in small quantities and present no other hazard, these can be discharged to the foul sewer. This has been agreed with the water authorities (May 2007), but they reserve the right to change this advice.

Containers must be opened individually and emptied. The containers themselves must be placed in landfill waste. Under landfill regulations, liquid waste cannot be sent for disposal to a landfill site.

If larger quantities need to be disposed of, the manufacturer may be able to arrange for collection. In the case of individual patients, the “homecare” provider will usually be able to arrange collection.

Where disposal of powder dietary supplements (e.g. in a sachet or in a tin) is required these must be placed into a pharmaceutical non-hazardous waste container.

SHARPS CONTAMINATED WITH PHARMACEUTICAL WASTE

Sharps are items that could cause cuts or puncture wounds, including needles, syringes with needles attached, broken glass ampoules, scalpel and other blades, infusion sets (the sharps part thereof).

Pharmaceuticals packaged containing sharps are considered in this category even though they may not been prepared for administration to a patient (e.g. enoxaparin injection or some vaccines).

Syringes containing pharmaceuticals MUST NOT be discharged prior to placing them into a sharps bin. Syringes still containing pharmaceuticals should be disposed of in a receptacle that has been UN-approved for liquids.

Sharps waste bins must be available close to the point of production of the sharps waste. They should be secure and located away from public areas. They should not be placed on the floor. They must not be filled above the mark which indicates that they are full.

The storage of filled sharps bins, pending collection by a waste contractor, must be arranged on an individual site basis. They should not be allowed to accumulate in corridors, wards or other places accessible to members of the public.

It is recommended that sharps containers are exchanged at regular intervals. If the sharps box is seldom used, it should be collected after a maximum of three months, regardless of the filled capacity.

Where medicines prescribed by GP practices that required administration with a needle, an appropriate container for disposal of sharps (i.e. a sharps bin) must also be prescribed to the patient. When full, the sharps bin must be returned to the practice for disposal.

HTM 07-01 divides Sharps contaminated with Pharmaceutical Waste into two broad groups:

- Sharps contaminated with Pharmaceutical Hazardous (Cytotoxic and Cytostatic) Waste
- Sharps contaminated with Pharmaceutical Non-Hazardous (Non-cytotoxic and Non cytostatic) Waste.

SHARPS CONTAMINATED WITH PHARMACEUTICAL HAZARDOUS (CYTOTOXIC AND CYTOSTATIC) WASTE

Syringes, needles and broken glass contaminated with pharmaceuticals are considered to be sharps. If the sharps are contaminated with cytotoxic or cytostatic products they should be placed in a suitable Pharmaceutical Hazardous Waste container for disposal by incineration.

The only medicinal products that are automatically deemed to be hazardous are cytotoxic and cytostatic medicines. These medicines are defined as any medicinal product that has one or more of the following hazardous properties: Toxic, Carcinogenic, Mutagenic or Toxic for Reproduction. (Note: Toxic for Reproduction should not be confused with Contraindicated for Use in Pregnancy; the former is based on specific chemical risk phrases).

See Appendix 2 for the current approved list of medicinal products falling into the Hazardous category. This list is expected to be continually reviewed and updated as new products are introduced to the market or existing pharmaceuticals are “re-classified”.

A cytotoxic waste sharps bin must be used. Once the container is filled to the fill-line it should be securely sealed.

SHARPS CONTAMINATED WITH PHARMACEUTICAL NON-HAZARDOUS (NON-CYTOTOXIC AND NON-CYTOSTATIC) WASTE

Syringes, needles and broken glass contaminated with pharmaceuticals are considered to be sharps. If the sharps are contaminated with pharmaceuticals other than cytotoxic or

cytostatic products they should be placed in suitable Pharmaceutical Non-Hazardous Waste containers for disposal by incineration.

Syringes and cannula from syringe drivers removed from a patient are considered to be in this category.

A sharps bin must be used. Once the container is filled to the fill-line it should be securely sealed.

DISPOSAL OF CONTROLLED DRUGS

Stock and Doctors bag supplies of Controlled drugs in schedules 1, 2 and 3 must be destroyed with an "Authorised Witness" as authorised by the Controlled Drugs Accountable Officer in the NHS England area team. The police Controlled Drugs Liaison Officer may also be asked to witness destructions.

It should be noted that all CDs in schedule 2, 3 and 4 (part 1) must be rendered irretrievable (i.e. by denaturing) before they can be placed in the appropriate waste containers, please see Appendix 5 for details. The Environment Agency has guidance on this activity and clarifies if an exemption licence is required.

All licences can be checked at

http://epr.environment-agency.gov.uk/ePRInternet/searchregisters.aspx

These licences are referred to as a T28 exemption and can be applied for at https://www.gov.uk/guidance/waste-exemption-t28-sort-and-denature-controlled-drugs-for-disposal

DISPOSAL OF MEDICINE LIQUIDS AND EMPTY MEDICINE BOTTLES

Where liquid medicines are being discarded, they should be retained within their individual containers and placed in the appropriate waste container bin.

Empty medicine containers that have held liquids must be disposed of as waste medicines for incineration, as it is not possible to ensure that the contents have been completely removed (containers cannot be rinsed into the sewerage system).

SHARPS WASTE PRODUCED BY PATIENTS IN THEIR OWN HOMES

Where the patient is self-medicating with injectable (e.g. an insulin-controlled diabetic) with no healthcare worker involved in the administration, the GP or healthcare worker should prescribe the householder the appropriate container (i.e. a sharps box) and advise them of the local disposal options. In addition they should receive advice on how to use the container, when and how to seal it and how to ensure it is labelled correctly. GP practices are responsible for disposal of sharps waste generated by patients who are prescribed injectable medicines.

THE COLLECTION OF PHARMACEUTICAL WASTE FROM A PATIENT'S HOME

Patients, relatives or carers should be encouraged to dispose of unwanted pharmaceuticals by returning them to a Community Pharmacy or their dispensing Dr in their original packaging. The receipt of unwanted medicines is an essential service under the Community Pharmacy Contract.

Medicines must not be disposed of in general, domestic waste, nor be disposed of through the sewage system.

If the patient administers his or her own injections then a sharps bin should be prescribed by the GP or non-medical prescriber. The GP practice should accept the filled containers for disposal.

WASTE MEDICINES IN CARE HOMES (NURSING AND RESIDENTIAL)

Care homes with nursing

A care home (nursing) is required to safely dispose of clinical waste from the premises. The care home must make arrangements for the collection of waste medication as well as other clinical waste products with a licensed waste disposal company. This will incur a direct cost to the care home. Disposal of medicines on site through the sewage system is not appropriate**.**

Community pharmacies should ensure they follow the appropriate legislation if asked to accept waste medicines from care homes with nursing.

Care homes without nursing

Clinical waste from a care home without nursing is not subject to the special waste regulations that apply to care homes with nursing. Medicines waste from residential care homes is classed as 'household', and may be returned to a community pharmacy for destruction.

ACCIDENTS AND INCIDENTS

At each location where pharmaceutical waste containers are filled or stored, a spillage kit and spillage procedure must be available.

Professional judgement is important in the handling of an accident or incident with a pharmaceutical waste container. The procedure in Appendix 4 is recommended. It is of particular relevance to the spillage of a cytotoxic or cytostatic pharmaceutical.

REFERENCES

Electronic Medicines Compendium (for Summary of product characteristics for UK medicines) http://www.emc.medicines.org.uk/

Principles on the Disposal of Pharmaceuticals used within Community Health Services, East & South East England Specialist Pharmacy Services. January 2008

Health and Safety at Work Act 1974. SI 1974/1439 (The Stationery Office 1974 ISBN 011141439X)

Control of Substances Hazardous to Health Regulations (COSHH) 2002, ISBN 0 11 0429192

The Management of Health and Safety at Work Regulations 1992, ISBN 0110250516

The Carriage of Dangerous Goods (Amendment) Regulations (The Environment Agency, 1999)

A Guide to the Hazardous Waste Regulations: Consignment Notes Great Britain (1996)

Special Waste Regulations 1996 The Stationery Office, London

Interpretation of the definition and classification of hazardous waste technical guidance WM2: Appendix A.

Medicines Ethics and Practice (Royal Pharmaceutical Society of Great Britain) (Pharmacist registration required to access)

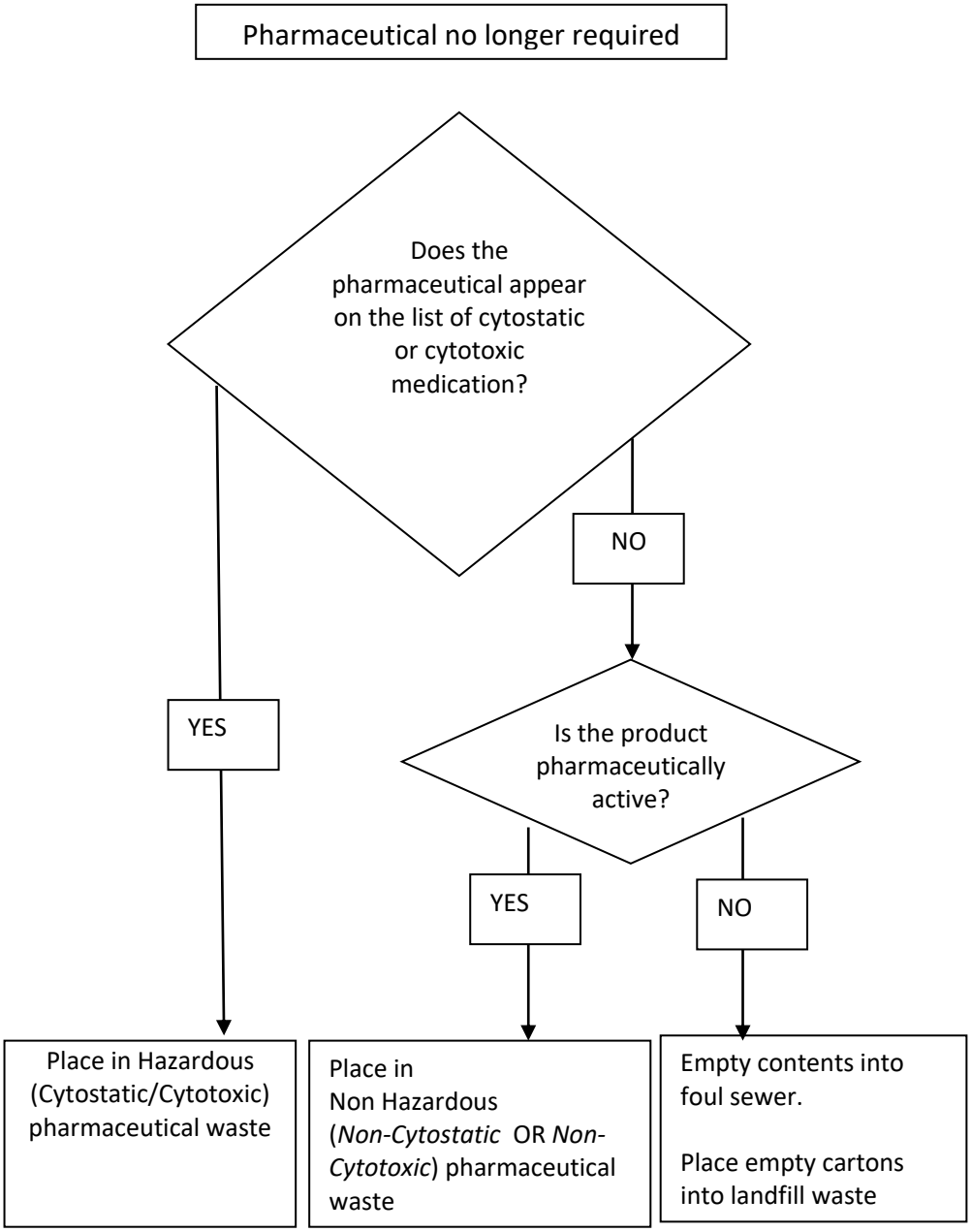
Royal Pharmaceutical Society of Great Britain. The Safe and Secure Handling of Medicines: A Team Approach. (A revision of the Duthie Report 1988). March 2005.

Guidance on Safe disposal of waste medicines from care homes (nursing) (CQC)

Department of Health/Finance and Investment Directorate/ Estates and Facilities Division. Health Technical Memorandum 07-01: Safe management of Healthcare Waste. November 2006

Department of Health Estates and Facilities Division. Health Technical Memorandum 07-06: Disposal of pharmaceutical waste in community pharmacies. September 2007

APPENDIX 1 SUMMARY FOR PRACTICE DISPOSAL OF PHARMACEUTICALS (EXCLUDING SHARPS CONTAMINATED WITH PHARMACEUTICALS)



APPENDIX 2 LIST OF "HAZARDOUS" MEDICINES ("CYTOTOXIC/CYTOSTATIC") ADAPTED FROM TABLE 2 HTM 07-06

*Commonly used items in **bold***

Aldesleukin
Alemtuzumab
Alitretinoin
Altretamine
Amsacrine
Anastrozole
Arsenic trioxide
Asparaginase
Azacitidine
Azathioprine
Bacillus Calmette-Guérin Vaccine (BCG)
Bexarotene
Bicalutamide
Bleomycin
Busulfan
Capecitabine
Carboplatin
Carmustine
Cetrorelix acetate
Chlorambucil
Chloramphenicol
Choriogonadotropin alfa
Chlormethine hydrochloride
Cidofovir
Cisplatin
Cladribine
Colchicine
Cyclophosphamide
Cytarabine
Ciclosporin
Dacarbazine
Dactinomycin
Daunorubicin HCl
Denileukin
Dienostrol
Diethylstilbestrol
Dinoprostone
Docetaxel
Doxorubicin
Dutasteride
Ergometrine/methylergometrine
Estradiol
Etramustine phosphate sodium
Estrogen-progestin combinations

Estrogens, conjugated
Estrogens, esterified
Estrone
Estropipate
Etoposide
Exemestane
Finasteride
Floxuridine
Fludarabine
Fluorouracil
Fluoxymesterone
Flutamide
Fulvestrant
Ganciclovir
Ganirelix acetate
Gemcitabine
Gemtuzumab ozogamicin
Choriogonadotropin alfa
Goserelin (Zoladex)
Hydroxycarbamide
Ibritumomab tiuxetan
Idarubicin
Ifosfamide
Imatinib mesilate
Interferon alfa-2a
Iinterferon alfa-2b
Interferon alfa-n1
Interferon alfa-n3
Irinotecan HCl
Leflunomide
Letrozole
Leuprorelin acetate
Megestrol
Melphalan
Menotropins
Mercaptopurine
Methotrexate
Methyltestosterone
Mifepristone
Mitomycin
Mitotane
Mitoxantrone HCl
Mycophenolate mofetil
Nafarelin
Nilutamide
Oxaliplatin
Oxytocin
Paclitaxel
Pegaspargase

Pentamidine isethionate
Pentostatin
Perphosphamide
Pipobroman
Piritrexim isethionate
Plicamycin
Podoflilox
Podophyllum resin
Prednimustine
Procarbazine
Progesterone
Progestins
Raloxifene
Raltitrexed
Ribavirin
Streptozocin
Tacrolimus
Tamoxifen
Temozolomide
Teniposide
Testolactone
Testosterone
Thalidomide
Thioguanine
Thiotepa
Topotecan
Toremifene citrate
Tositumomab
Tretinoin
Trifluridine
Trimetrexate glucuronate
Triptorelin
Uramustine
Valganciclovir
Valrubicin
Vidarabine
Vinblastine sulphate
Vincristine sulphate
Vindesine
Vinorelbine tartrate
Zidovudine

APPENDIX 2 DISPOSAL ADVICE

Any outer inert packaging and Patient Information Leaflets may be placed into ordinary paper/cardboard waste containers for recycling, however, **packaging that has patient sensitive information must be disposed of in the confidential waste bin.**

***This does not apply to CDs of any schedule, please see Appendix 5 for details**

Pharmaceutical	**Disposal Advice**	**Notes**
Aerosol devices	Remove product from inert packaging and place in waste container.	Note that the canister itself can often be pulled from the plastic part of metered dose inhalers. Do not dismantle other devices e.g. Accuhalers, Turbohalers
Creams, Ointments and Shampoos	Remove product from outer packaging and place in waste container	May be either Hazardous or Non-Hazardous.
Eye, Ear and Nasal drops and ointments	Remove product from outer packaging and place in waste container	May be either Hazardous or Non-Hazardous. Note that Chloramphenicol preparations are on the "Hazardous List" of Pharmaceuticals
Flammable Liquids	Small quantities of flammable liquids remaining in a bottle e.g. hand alcohol rubs may be placed in the waste container. Large quantities of flammable liquids, however, must not be placed in the waste container. A separate consignment will be required, arranged on an ad-hoc basis with the waste contractor.	
Injections Vials or Ampoules Broken/Part-used	Place in waste container designated for sharps contaminated with Pharmaceutical Waste. The syringe must not be discharged.	May be either Hazardous or Non-Hazardous.

Pharmaceutical	Disposal Advice	Notes
Injections Vials or Ampoules Intact	Remove product from outer packaging and place in waste container	May be either Hazardous or Non-Hazardous. Note that vials or ampoules which are not broken are not considered sharps by HTM 07-01
Injections Prepared, but not administered	Place in waste container designated for sharps contaminated with Pharmaceutical Waste. The syringe must not be discharged.	May be either Hazardous or Non-Hazardous.
Injections Pre-filled syringes with needle	Place in waste container designated for sharps contaminated with Pharmaceutical Waste. The syringe must not be discharged.	
Liquids - External Include inhalations	The liquid should remain in the bottle and the bottle itself should be placed in the waste container. Under no circumstance should a liquid be poured directly into the waste container.	May be either Hazardous or Non-Hazardous. Check that the lid is secure.
Liquids - Oral Contained in bottle	The liquid should remain in the bottle and the bottle itself should be placed in the waste container. Under no circumstance should a liquid be poured directly into the waste container. Controlled drugs will require denaturing before disposal.	May be either Hazardous or Non-Hazardous. Check that the lid is secure.
Liquids - Oral Prepared but not administered	Small quantities may be disposed of by washing into the foul sewer	
Empty medicines bottles	Should be treated as pharmaceuticals as they may contain residues. Bottles should not be rinsed and must not be disposed of into glass recycling. Entire bottle should be placed in the waste container.	May be either Hazardous or Non-Hazardous.
Nebules	Treat as injection ampoules (intact)	

Pharmaceutical	Disposal Advice	Notes
Patches removed from a patient	Fold the patch over on itself so that the inactive ingredient is rendered irretrievable. Then place in the waste container.	
Patches remaining in sealed pouch	Place unopened patches in the waste container.	This advice is different to the disposal of unused patches containing a Controlled Drug.
Powders in tins/ sachets	Place in waste container. Sachets should not be opened. Tins which may be full or partially full, should be placed in the waste container unopened.	Includes prescribable dietary supplements and food thickeners.
Rectal preparations e.g. suppositories	Remove product from outer packaging and place in waste container	
Sprays e.g. Nasal sprays	Remove product from outer packaging and place in waste container	
Tablets/Capsules in Blister strips*	Remove the blister strip(s) from outer packaging and place in the waste container	**DO NOT** pop the tablets or capsules out of the blister packaging.
Tablets/Capsules loose in a bottle	The tablets/capsules must remain in the tablet bottle and the bottle itself should be placed in the waste container.	
Tablets / Capsules in a Monitored Dosage System	Disposable packaging containing the unwanted medicines must be removed from any reusable equipment and placed in the waste container intact.	Reusable equipment can be returned to the pharmacy that dispensed the system. Such systems provided by Community Pharmacies list the medication included. If any of these is assessed to be Hazardous, the whole assortment must be consigned as hazardous waste. If none are assessed to be Hazardous, the whole assortment must be consigned as Non-Hazardous waste.

Pharmaceutical	Disposal Advice	Notes
Tablets/Capsules in a personal compliance box	For compliance boxes without inner disposable packaging there is no alternative but to empty the contents directly into a waste container. There is a duty of care to try to determine whether the compartments contain hazardous or non-hazardous waste. It could be argued that the risk to an individual in segregating medicines in this way is too great, and in such a case, segregation would not be required. However, if cytotoxic or cytostatic medicines are not separated, then the whole assortment must be consigned as hazardous waste.	
Tablets/Capsules Prepared but not Administered*	Place in Pharmaceutical Waste Container, however, if "contaminated" e.g. as a consequence of a patient spitting out, then place in the container for sharps contaminated with Pharmaceuticals, which is consigned as potentially infectious.	
Unidentifiable medication – any form	The whole assortment must be placed in a Hazardous waste container.	
Vaginal preparations e.g. pessaries	Remove product from outer packaging and place in waste container	May be either Hazardous or Non-Hazardous.

APPENDIX 4 SPILLAGES

Spillage kits

Spillage kits should contain as a minimum:

Instructions on dealing with spillages

Rigid waste container and lid

Absorbent paper towels or plastic backed absorbent towels (large)

Gloves >45 mm thickness or 2 pairs of latex gloves

Plastic apron.

Spillage procedures

Restrict the area immediately

Immediate first-aid measures must be implemented. If any injury or spillage directly onto the skin or into the eyes has occurred it must be dealt with promptly

The spillage kit should be opened and protective gloves and apron worn

Any fluid spillage should be circled by the absorbent towel to contain the spillage, using additional towels if required. Once the fluid has been absorbed the towels must be disposed of in the rigid waste container.

All contaminated surfaces should be washed with copious amounts of water and wiped clean discarding paper towels into the rigid waste container. Repeat five times working from just outside the spillage to the central area. All protective clothing should be discarded in the rigid waste container.

The area should be cleaned with hot soapy water

Guidance on the use of disinfectants for potentially infectious waste should be sought from the infection control team

Remove protective gloves and wash hands

Replace spillage kit

Spillage onto clothing

Protective clothing should be removed, disposed of appropriately and replaced if a liquid is spilled on it. Ordinary clothing should be rinsed under running tap water and squeezed well before being washed separately in the hottest wash cycle twice. If any clothing is to be disposed of it must be incinerated as per drugs at high temperature.

Liquid spillage directly onto skin

The contaminated area of skin must be washed with copious amounts of water followed by washing with liquid soap. Advice should be sought immediately from a suitable source e.g. Occupational Health Department.

Liquid spillage directly into the eye

The eye must be flushed for about five minutes with large amounts of Sodium Chloride 0.9% or cold tap water. Advice should be sought immediately from a suitable source e.g. Occupational Health Department.

Any spillage or other adverse event or near miss must be reported through the significant event reporting process to enable reviews of risk management strategies.

APPENDIX 5 CONTROLLED DRUGS

Controlled drugs must only be destroyed by a person authorised by the Controlled Drug Accountable Officer (CDAO).

The following is a list of commonly encountered controlled drugs:

Alfentanil	Dipipanone	Methylphenidate	Sufentanil
Alprazolam	Fentanyl	Midazolam	Tapentadol
Buprenorphine	Flunitrazepam	Morphine	Temazepam
Butobarbital	Flurazepam	Nitrazepam	Tramadol
Chlordiazepoxide	Ketamine	Oxazepam	Zaleplon
Clobazam	Lisdexamphetamine	Oxycodone	Zolpidem
Clonazepam	Loprazolam	Pentazocine	Zopiclone
Codeine	Lorazepam	Pethidine	
Diamorphine	Lormetazepam	Pholcodine	
Diazepam	Meprobamate	Remifentanil	
Dihydrocodeine	Methadone	Sativex® (cannabis)	

This list is not exhaustive. A full list of controlled drugs can be found on the Home Office website. If there is any doubt over whether a medicine is a controlled drug, please check this list.

Please contact the NHS Dorset Clinical Commissioning Group Medicines Team for advice on medicine.question@dorsetcg.nhs.uk if you require a destruction of stock controlled drugs.