

Final Report

Project UKW01

SNIFFER

BEST PRACTICE GUIDANCE FOR THE MANAGEMENT OF HYGIENE WASTE FOR KEY PRODUCERS IN NORTHERN IRELAND AND SCOTLAND

December 2007

© **SNIFFER 2007**

All rights reserved. No part of this document may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior permission of SNIFFER.

The views expressed in this document are not necessarily those of SNIFFER. Its members, servants or agents accept no liability whatsoever for any loss or damage arising from the interpretation or use of the information, or reliance upon views contained herein.

Dissemination status

Unrestricted

Project funders

Scotland and Northern Ireland Forum For Environmental Research (SNIFFER)
Scottish Environment Protection Agency (SEPA)
Environment and Heritage Service (EHS)

Whilst this document is considered to represent the best available scientific information and expert opinion available at the stage of completion of the report, it does not necessarily represent the final or policy positions of the project funders.

Research contractor

This document was produced by:

Enviros Consulting Ltd
61 The Shore
Leith
Edinburgh, EH6 6RA

SNIFFER's project manager

SNIFFER's project manager for this contract is:

Fiona MacTaggart, Research Manager. SNIFFER.

SNIFFER's project steering group members are:

Michaela Clelland, SNIFFER Project Manager, SEPA
Allison Townley, EHS
Bill Proctor, SEPA
Allan Dryer, SEPA
Mark Heggie, SEPA
Ken Walker, NHS Grampian
Fiona Mactaggart, SNIFFER

SNIFFER

First Floor, Greenside House
25 Greenside Place
EDINBURGH EH1 3AA
Scotland
UK

Company No: SC149513
Scottish Charity: SCO22375

www.sniffer.org.uk

TABLE OF CONTENTS

EXECUTIVE SUMMARY	III
1. INTRODUCTION	1
1.1 Purpose of this guidance	1
1.2 What is hygiene waste	1
1.3 Who should use this guide	2
1.4 Key drivers	2
1.4.1 Improved environmental performance	2
1.4.2 Regulatory compliance	3
1.4.3 Financial savings	3
1.5 Five step improvement plan	6
1.6 How to use this guidance	6
2. RISK ASSESSMENT, SEGREGATION AND CLASSIFICATION OF NON-HEALTHCARE HYGIENE WASTE	8
2.1 Risk assessment	8
2.2 Segregation	8
2.2.1 Nursery facilities	8
2.2.2 Offices, shops and restaurants	9
2.2.3 Care homes and day care facilities	9
2.2.4 Care facilities where clinical waste is produced.	9
2.3 Describing non-healthcare hygiene waste using the EWC	9
2.3.1 Source segregated hygiene waste (dedicated bins & containers)	9
2.3.2 Mixed hygiene and municipal waste (when dedicated bins and containers are not used)	10
2.4 Summary of key management stages for non-healthcare hygiene waste	10
3. RISK ASSESSMENT, SEGREGATION & CLASSIFICATION OF HEALTHCARE HYGIENE WASTE	12
3.1 Why segregate?	12
3.1.1 Financial savings	12
3.2 How do I segregate the waste?	12
3.3 Staff training	13
3.4 Risk assessment	14
3.5 Patient confidentiality	15
3.6 Describing healthcare hygiene waste using the EWC	16
3.7 Summary of key management stages for healthcare hygiene waste	16
4. TRANSPORT AND PACKAGING ADVICE	18
4.1 Transport Regulations	18
4.2 Packaging considerations	18
4.3 Do I need to have a separate container for hygiene waste?	18
1.6.1 Significant Volumes	18
4.3.1 What is considered to be a 'significant volume'?	19
4.3.2 Smaller Volumes	19
4.3.3 Advice from waste contractors	20
5. TREATMENT AND DISPOSAL CONSIDERATIONS	21
5.1 Waste prevention	21
5.2 Re-use	22
5.2.1 Real Nappy Schemes	22
5.2.2 Development of real nappy laundry standards	23
5.3 Hygiene waste recycling/recovery	23
5.4 Disposal of hygiene waste in the UK	23
6. ANNUAL REVIEW	24
7. FURTHER INFORMATION	25

List of Tables

Table 1	Examples of healthcare and non-healthcare hygiene waste producers
Table 2	Worked example of potential costs savings from improved waste segregation and waste minimisation
Table 3	EWC code applicable to segregated municipal hygiene waste
Table 4	EWC Code applicable to mixed municipal waste containing hygiene waste
Table 5	Containers for waste segregation in a healthcare environment
Table 6	EWC code applicable to hygiene waste produced from healthcare activities
Table 7	Commonly used terms for hygiene waste
Table 8	Example risk assessment record in table form

FIGURES

Figure 1	Key drivers for improved hygiene waste management
Figure 2	Proportion of hygiene waste misclassified as clinical waste
Figure 3	Average costs of transport and disposal for hygiene and clinical waste
Figure 4	Five step improvement plan
Figure 5	The key stages in hygiene waste management
Figure 6	Key stages in the management of non-healthcare hygiene waste
Figure 7	Example risk matrix
Figure 8	Key stages in the management of healthcare hygiene waste
Figure 9	Key stages in the management of healthcare hygiene waste
Figure 10	Waste Management Hierarchy
Figure 11	Case Study – Belfast Organisation for Real Nappies (BORN)
Figure 12	Definition of clinical waste
Figure 13	Decision tree to help make healthcare practitioners make assessments about whether waste is potentially infectious or not

APPENDICES

APPENDIX A	SUMMARY OF REGULATORY REQUIREMENTS
APPENDIX B	CLASSIFICATION OF HYGIENE WASTE
APPENDIX C	NHS POLICY
APPENDIX D	SIMPLIFIED RISK ASSESSMENT DECISION
APPENDIX E	GUIDANCE ON HYGIENE RISK ASSESSMENT

EXECUTIVE SUMMARY

Project details: UKW01 Best Practice Guidance for the Management of Hygiene Waste for Key Producers in Scotland and Northern Ireland. August 2007

Background to research

This document has been designed to provide assistance to those managing hygiene waste produced as a direct result of healthcare activities and non-healthcare activities, including waste from Care Homes, Shopping Centres, Service Stations and Public Toilets.

This document has been produced to assist waste producers, regulatory agencies and the waste industry. This guidance should help producers identify if they should segregate hygiene waste from other wastes produced on site, and when and who should undertake risk assessments. The importance of risk assessment in environments where both clinical and hygiene waste are produced is emphasised.

Within this document hygiene waste is defined as: waste produced from human or animal hygiene activities, and includes items used for feminine hygiene purposes and for human and animal incontinence. This guidance document advocates the use of the term 'hygiene waste' as a replacement to previously used terms such as 'Group E' and 'Sanpro' waste.

Hygiene waste should not pose a risk of infection and should not contain, or be contaminated with, medicinal products. Waste which poses a risk of infection and/or contains, or is contaminated with, medicinal products should be classified as clinical waste (as defined in the Controlled Waste Regulations) and requires specialist treatment and disposal as such. Guidance on the classification of the clinical waste should be sought from the joint agency hazardous (special) waste guidance titled: 'Technical Guidance WM2 – Hazardous Waste'.

Producers of hygiene waste from organisations that provide healthcare services (such as the NHS and those in the private health sector) should ensure that risk assessments, guidance and training are in place to assist healthcare workers in segregating clinical and hygiene waste. Risk assessment and segregation may be required by other organisations such as Care Homes and Nurseries in certain circumstances, such as diagnosis of a urinary tract infection, or infection of the gastrointestinal tract.

There are financial and environmental incentives to the segregation of hygiene waste from clinical waste. The cost of clinical waste disposal is, in general, approximately four times that of hygiene waste disposal. However, evidence from a small trials undertaken by NHS Grampian have shown that the cost differential can be much greater, with hygiene waste disposal costs being one tenth of clinical waste disposal costs. Correct identification and segregation of hygiene waste at the point of production allows the waste to be managed in the most appropriate way at a local level. This may reduce the distance waste is transported, reducing fuel consumption and minimising the environmental impact (carbon footprint).

Irrespective of the amount or type of hygiene waste produced, or the type of producer organisation, this guidance document advocates that best practice is to seek advice and enter into dialogue with waste contractors to find out the most appropriate way to manage hygiene waste on a site by site basis. Unless otherwise specified by the waste contractor (who may be the Local Authority), healthcare producers should consider the use of colour coded hygiene waste containers and separate collection for this waste stream.

This guidance advocates the use of the waste hierarchy principles when choosing a treatment and disposal method for hygiene waste. Information is provided about re-usable hygiene products and the forthcoming WRAP real nappy laundering standard (PAS 106).

It is acknowledged that at present, waste management options for this waste stream are limited with landfill being the predominant disposal route. It is suggested that waste producers periodically review segregation, packaging, treatment and disposal options for the hygiene waste stream. Practices may change over time as new and emerging technologies enter the UK market.

It is anticipated that in the future additional guidance will be issued by the Regulatory Agencies identifying how those who manage hygiene waste should comply with the pre-treatment requirement specified in the Landfill Regulations.

Objectives of research

The development of a strategic framework and best practice guidance for the management of hygiene waste, aims to:

- produce an improved understanding of the scale of hygiene arisings in Scotland and Northern Ireland, and
- provide guidance (this document) to significant producers on improved methodologies for classifying and managing this waste stream.

Key words: hygiene waste, Scotland, Northern Ireland, healthcare, non-healthcare, waste hierarchy.

1. INTRODUCTION

This hygiene waste guidance document has been produced as a part of a larger project funded by the Scottish and Northern Ireland Forum for Environmental Research (SNIFFER) looking at the management of clinical and hygiene waste in Scotland and Northern Ireland.

1.1 Purpose of this guidance

The purpose of this document is to provide guidance on the management of hygiene waste produced as a result of 'healthcare activities' (such as the NHS and those in the private health sector) and from other 'non-healthcare activities' (such as personal care). This guidance document provides guidance on the following aspects of hygiene waste management.

- Segregation;
- Packaging and labelling; and
- Treatment and disposal.

1.2 What is hygiene waste

This document provides the following definition for hygiene waste:

Waste produced from human or animal hygiene activities and includes items used for feminine hygiene purposes and for human and animal incontinence.

Hygiene waste includes:

- sanitary towels and tampons;
- panty liners;
- feminine wipes;
- incontinence products and nappies;
- catheter and stoma bags; and
- animal faeces and animal bedding etc.

The term hygiene waste has been used in this guidance to replace other terms such as 'Sanpro' and 'Group E' waste which have historically been used. A summary of the terms historically used to describe the hygiene waste stream is given in Appendix B, section B4.

Hygiene waste should not be classified as infectious waste and is not subject to the strict hazardous (special) waste controls.



Hygiene waste that poses a risk of infection, or that is contaminated with a medicinal product, should be classified as clinical waste (see Appendix B, section B1) and consigned as hazardous (special) waste.

1.3 Who should use this guide?

This guidance has been designed to provide assistance to those managing hygiene waste produced as a direct result of 'healthcare activities' (such as the NHS and those in the private health sector) and from other 'non-healthcare activities' (such as personal care).

This guidance may also be of use to Regulatory Agencies and the waste management industry.

Table 1 identifies the types of producer organisations that generate healthcare hygiene waste (produced, such as by the NHS and those in the private health sector) and non-healthcare hygiene waste (produced from personal care).

Table 1 Examples of healthcare and non-healthcare hygiene waste producers

Examples of healthcare hygiene waste	Examples of non-healthcare hygiene waste
Hygiene waste such as incontinence products (nappies, etc) produced as result of healthcare service delivery from sources such as: <ul style="list-style-type: none">• Acute, Community, Private or Speciality Hospitals• Health Centres• Health Clinics	Hygiene waste produced as a result of 'personal care' (not healthcare care) from sources such as: <ul style="list-style-type: none">• Schools• Nursery, Day Care Centres and Care Homes• Public toilets (including those within hospitals and other healthcare premises)• Shopping Centres and Service Stations

1.4 Key drivers

The key drivers for improved hygiene waste management are summarised in Figure 1

Figure 1 Key drivers for improved hygiene waste management

<ul style="list-style-type: none">• Improved environmental performance• Regulatory compliance• Financial savings
--

1.4.1 Improved environmental performance

Correct identification and segregation of hygiene waste at the point of production allows the waste to be managed in the most appropriate way at a local level. This may reduce the distance waste is transported, reducing fuel consumption and therefore reducing the environmental impact and carbon footprint.

Source segregation of hygiene waste improves the options available for the management of this waste stream and encourages better overall waste management practices.

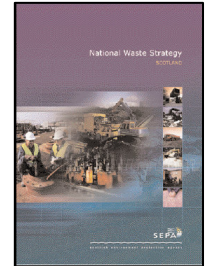
1.4.2 Regulatory compliance

Hazardous (special) waste

The segregation of hygiene waste from clinical and hazardous (special) wastes is one way for producers in the healthcare sector to meet the requirements of the Hazardous Waste Regulations (Northern Ireland) 2005 and the Special Waste Amendment (Scotland) Regulations 2004. These Regulations oblige producers and subsequent waste holders to keep hazardous (special) and non-hazardous wastes separate to facilitate treatment and disposal.

Biodegradable waste

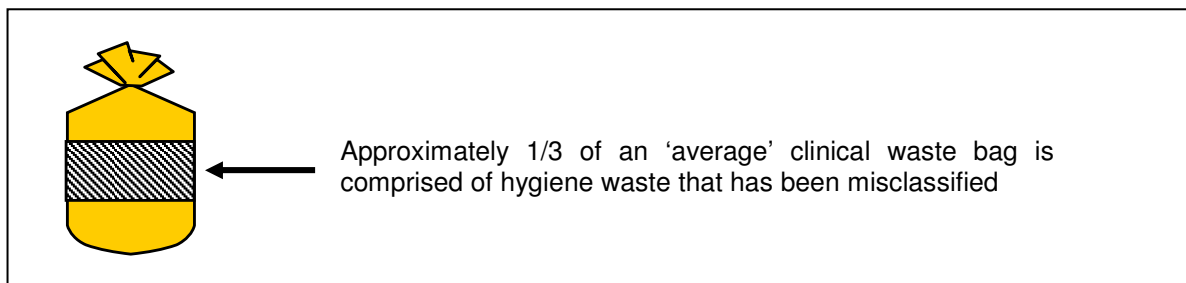
The Landfill Regulations and the National Waste Strategies of Scotland and Northern Ireland seek to reduce the amount of waste disposed of in landfill facilities. The need to reduce the amount of biodegradable waste is identified as being of particular importance. Hygiene waste contains a large percentage of biodegradable materials.



1.4.3 Financial savings

The identification and segregation of hygiene waste at source can result in significant financial savings. The savings are likely to be greatest in the healthcare sector where hygiene waste can be segregated from clinical wastes. Figure 2 shows an estimate of the amount of hygiene waste which is currently misclassified as clinical waste (shown as a striped band on the bag). The estimate is based on the finding of an Audit Scotland study and anecdotal evidence provided by the Environment Agency.

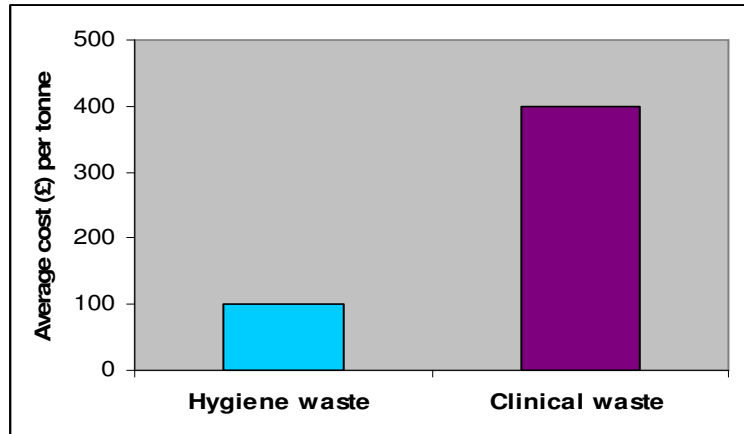
Figure 2 Proportion of hygiene waste misclassified as clinical waste



The misclassification of hygiene waste as clinical waste (which is hazardous (special) waste), has significant financial implications.

Figure 3 shows the average transport and disposal cost differences between hygiene and clinical waste.

Figure 3 Average costs of transport and disposal for hygiene and clinical waste



The cost of clinical waste disposal is, in general, approximately four times that of hygiene waste disposal. However, evidence from trials undertaken by NHS Grampian has shown that the cost differential can be much greater, with hygiene waste disposal costs being one tenth of clinical waste disposal costs.

Audit Scotland highlighted the potential cost savings that could be made by the NHS in Scotland in their report 'Waste Management in Scottish Hospitals' published in 2001. The report identified that in excess of £1million per year could be saved by improving segregation practices and introducing hygiene waste segregation at ward level.

Table 2 shows how hygiene waste segregation can form part of a series of waste management initiatives for hospital sites and the potential financial savings that can be made. The data in Table 2 assumes that 30% reduction in clinical waste can be achieved by improved segregation, including the introduction of a hygiene waste stream. The improved segregation of the clinical waste stream results in a reduction of overall waste management disposal costs of around 18% (approx £47k). Other initiatives, such as the segregation of cardboard and other recyclates, can result in financial savings but may be dependent of the location of recycling facilities. A waste reduction campaign will produce further savings.

Table 2 Worked example of potential costs savings from improved waste segregation and waste minimisation

	Quantity of domestic waste (tonnes)	Quantity of clinical waste (tonnes)	Quantity of segregated hygiene waste (tonnes)	Cost of disposal of household waste (£/t)	Cost of disposal of clinical waste (£/t)	Cost of disposal of hygiene waste (£/t)	Total cost of waste disposal (£/annum)	Cost savings compared to the baseline (£)	Percentage reduction in costs (%)
Baseline Scenario An organisation producing 1000 tonnes of household waste and 500 tonnes of clinical waste. It is assumed that at least 30% of the clinical waste stream is incorrectly consigned as clinical waste.	1,000	500	0	£70	£400	£100	£270,000	0	0
Scenario one – better segregation of clinical waste stream Improved segregation of clinical waste stream, resulting in a 30% reduction in clinical waste production. Of this waste, half is disposed of as household waste and the other half as hygiene waste.	1,075	350	75	£70	£400	£100	£222,750	£47,250	18%
Scenario two – waste reduction, in addition to better segregation of clinical waste stream In addition to improved segregation of waste as in Scenario 1 above, a waste reduction campaign resulting in a 10% reduction in domestic waste.	967.5	350	75	£70	£400	£100	£215,225	£54,775	20%

1.5 Five step improvement plan

This document provides guidance to assist those responsible for the management of hygiene waste to undertake a 5-step improvement plan, as shown in Figure 4

Figure 4 Five step improvement plan

1. Identification of hygiene waste
2. Segregation of hygiene waste at source, using risk assessment
3. Packaging of hygiene waste
4. Treatment and disposal
5. Annual review of practices and disposal options

1.6 How to use this guidance

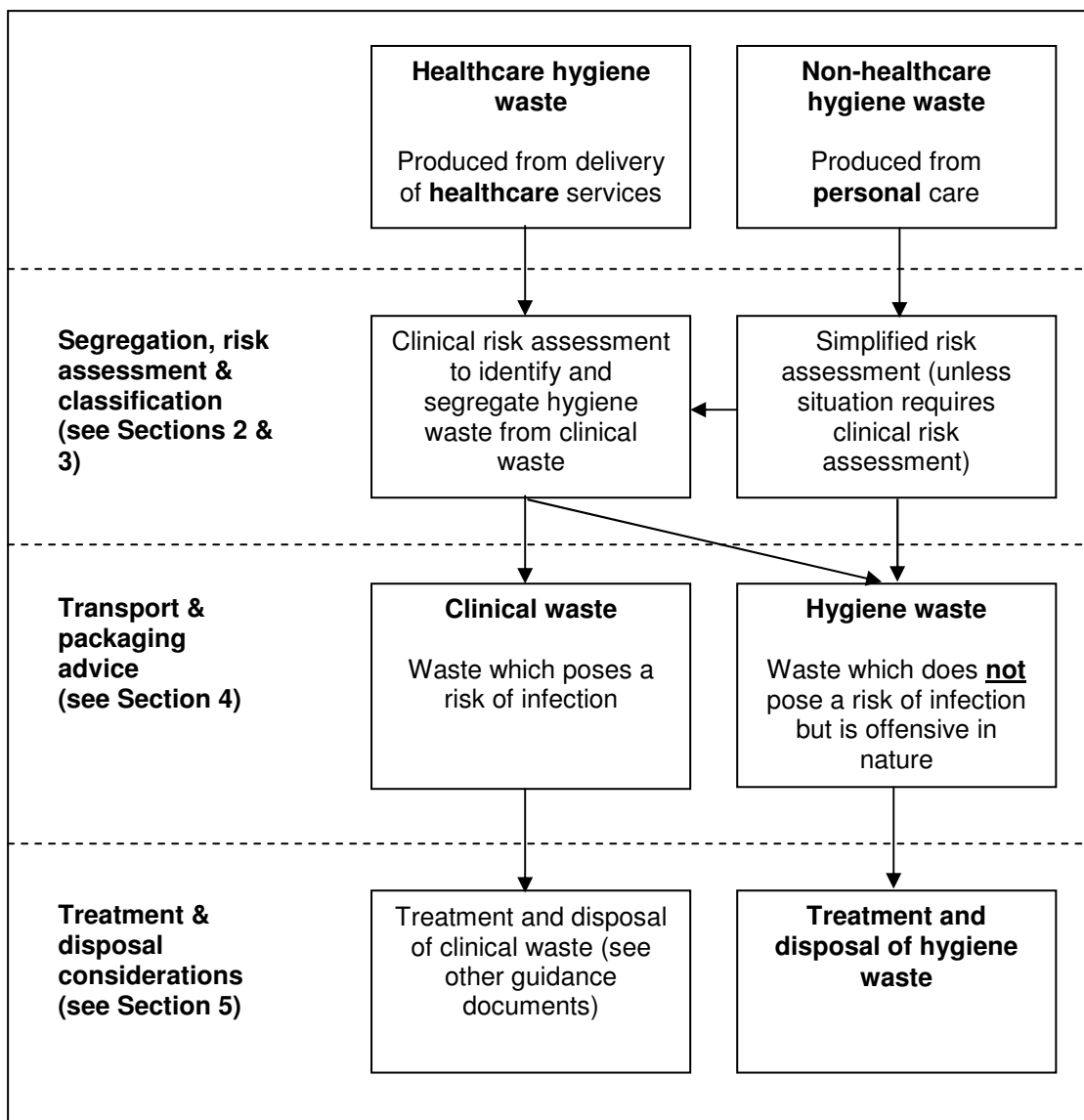
This guidance provides specific advice for those responsible for the management of hygiene waste produced:

- as a direct result of the delivery of healthcare services – **healthcare hygiene waste**; and
- as a result of personal care – **non-healthcare hygiene waste**.

Figure 5 (overleaf) shows the key stages in hygiene waste management process and the relevant sections of this document providing applicable guidance.

This document does not provide guidance on the management and disposal of clinical waste.

Figure 5 The key stages in hygiene waste management



2. RISK ASSESSMENT, SEGREGATION AND CLASSIFICATION OF NON-HEALTHCARE HYGIENE WASTE

This section of the guidance has been written to help those responsible for the management of hygiene waste produced as a result of **personal care** (non-healthcare hygiene waste).

The following types of organisations have been identified as key producers of non-healthcare hygiene waste:

- Nursery and care facilities, including Care Homes
- Sheltered Housing
- Public toilets (including those within hospitals and associated healthcare premises)
- Shops
- Restaurants

2.1 Risk assessment

The vast majority of hygiene waste produced as a result of personal care will NOT pose a risk of infection or other hazard and can therefore be safely disposed of as segregated hygiene waste, or within mixed municipal waste. However, there are some circumstances where the waste could pose a risk of infection and should be classified as clinical waste. This is more likely to occur when healthcare services and personal care services are conducted within the same premises, for example, if there is a suspected gastrointestinal infection (such as *E. coli*) in a care facility.

Appendix D contains a diagram demonstrating a simplified risk assessment decision tree for non-healthcare hygiene waste producers, which will help identify situations where a full risk assessment, based on advice from clinical staff, is necessary, or where insufficient information is available and the waste should therefore be classified as clinical waste as a precaution. Guidance on the classification of clinical waste can be found in Appendix B, and Appendix E gives guidance on conducting a full hygiene risk assessment.

2.2 Segregation

2.2.1 Nursery facilities

Nursery facilities in general produce significant quantities of hygiene waste, the vast majority of which is comprised of nappies. Due to the significant volumes produced, and the nature of the waste, it is recommended that this waste is segregated from other wastes at source and packaged separately.

The use of re-usable, washable nappies can help reduce the amount of hygiene waste produced. However, it is recognised that the type of nappy used is usually determined by a parent. Nursery facilities interested in washable nappies can gain information about the supply and laundering services in their area from the UK national real nappy campaign web site: www.realnappycampaign.com.

Section 5.2 of this guidance provides additional advice on the use of Real Nappies and the associated PAS 106 laundry standard. It is considered best practice for laundry facilities to adhere to the PAS 106 standard in order to prevent infection.

2.2.2 Offices, shops and restaurants

The amount and type of hygiene waste produced in offices, shops and restaurants will vary. It is common practice for facilities where significant amounts of waste are produced to use waste contractors to collect and dispose of the waste. Many of the specialist waste contractors can provide purpose built feminine hygiene and nappy bins suitable for use in public toilets.

Where small amounts of hygiene waste are generated, those responsible for the waste should assess the impact of managing this waste as part of the general (black-bag) waste and should contact their waste contractor for advice. Consideration should be given to cleaning and domestic staff on the site of production, as well as those who transport and dispose of the waste.

2.2.3 Care homes and day care facilities

Care Homes and Care Facilities include residential and day care facilities where support is provided in relation to 'personal care'. Care facilities can produce significant quantities of hygiene waste, which may include nappies, incontinence products and feminine hygiene waste.

Care Homes and other similar facilities should contact their waste contractor (which may be their Local Authority) to ascertain the most appropriate way to manage hygiene waste produced on the premises. Due to the significant volumes of waste produced, waste contractors may request that the waste is placed into dedicated containers and segregated from other wastes.

It is recommended that Care Homes request confirmation, preferably in writing (e-mail, fax, or letter) from their waste contractor (including if this is the Local Authority) that source segregation of hygiene waste is not required.

2.2.4 Care facilities where clinical waste is produced

In some care facilities, clinical waste may be generated from the care of people with a known, or suspected, disease, including incidences of infectious diseases, such as gastrointestinal infections, for example: *Escherichia coli* (*E. coli*). Where this is the case, the care facility should undertake a risk assessment in association with the person's healthcare practitioner (such as GP) to help them segregate clinical and hygiene waste. Guidance on the use of risk assessment can be found in Section 2.1 and Appendices D and E.

2.3 Describing non-healthcare hygiene waste using the EWC

Non-healthcare hygiene waste should be classified as a 'municipal waste' and the appropriate European Waste Catalogue (EWC) codes from Chapter 20 (Municipal Waste) should be used to describe the waste.

2.3.1 Source segregated hygiene waste (dedicated bins & containers)

Where hygiene waste is segregated from other wastes at source (placed in dedicated hygiene waste bins) the EWC code shown in Table 3 should be used.

Table 3 EWC code applicable to segregated municipal hygiene waste

EWC Code	Description of Waste
20 01 99	Other fractions not otherwise specified

When EWC codes end in '99', a written description of the waste should be given, for example:

20 01 99 Hygiene waste

2.3.2 Mixed hygiene and municipal waste (when dedicated bins and containers are not used)

Where segregation of this waste in dedicated bins is not practicable, (if, for example, the amount of waste collected is relatively low), the waste should be classified as mixed municipal waste and the EWC code shown in Table 4 should be used.

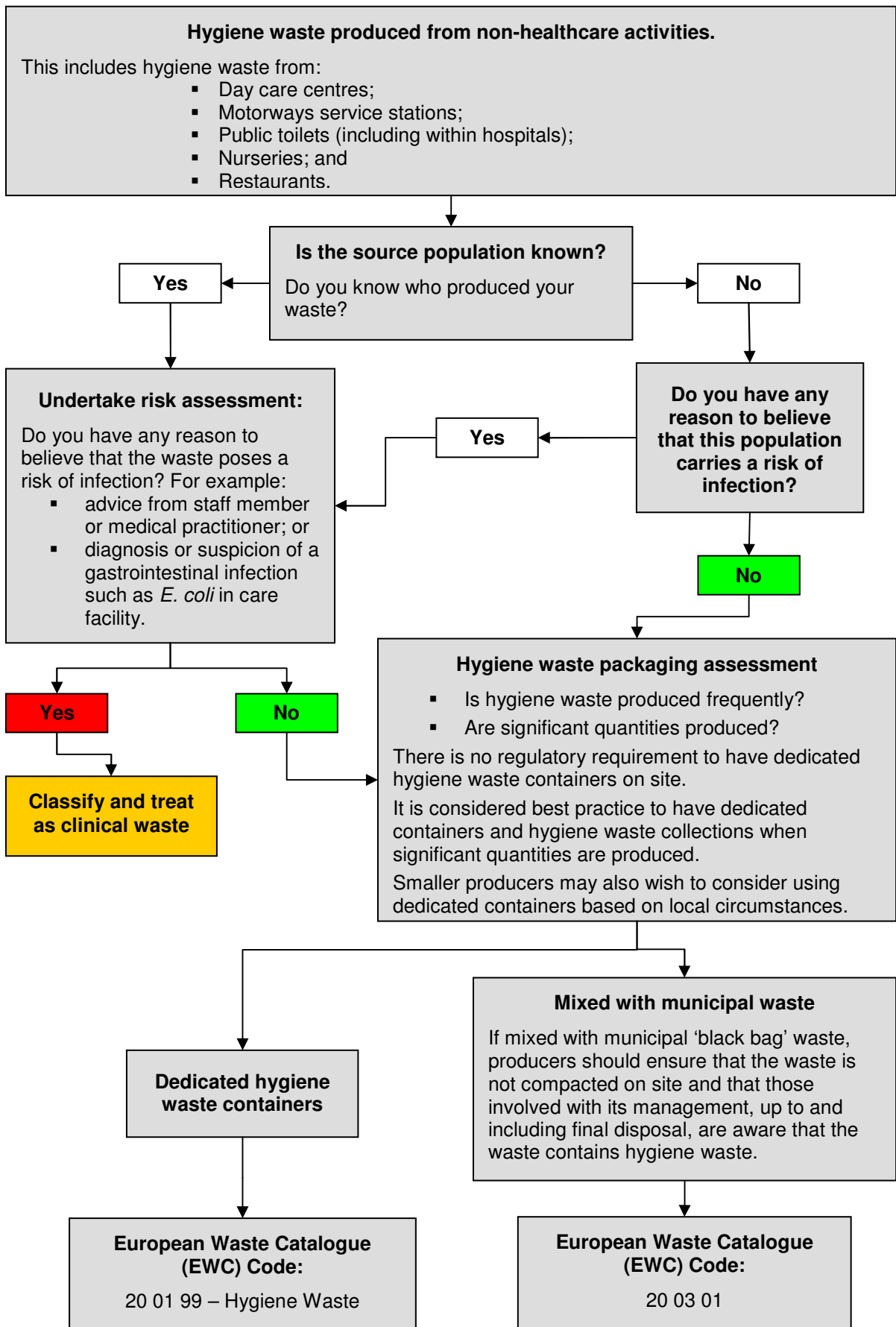
Table 4 EWC Code applicable to mixed municipal waste containing hygiene waste

EWC Code	Description of Waste
20 03 01	Mixed municipal waste

2.4 Summary of key management stages for non-healthcare hygiene waste

Figure 6 (shown overleaf) summarises the key stages in the segregation and management of hygiene waste produced as a result of personal care.

Figure 6 Key stages in the management of non-healthcare hygiene waste



3. RISK ASSESSMENT, SEGREGATION & CLASSIFICATION OF HEALTHCARE HYGIENE WASTE

This section of the guidance has been written to help producers of healthcare hygiene waste, which is hygiene waste produced by organisations (such as the NHS and those in the private health sector) that provide healthcare services.

The following types of organisations have been identified as key producers of healthcare hygiene waste:

- Acute, Community, Private or Speciality Hospitals
- Health Centres
- Health Clinics

3.1 Why segregate?

There are financial and environmental advantages to segregating hygiene waste from other wastes at source. Segregation of hygiene waste from clinical waste, following robust risk assessment, allows the two waste streams to be treated and disposed of separately.

3.1.1 Financial savings

The majority of clinical waste (including all infectious and potentially infectious waste) is classified as hazardous (special) waste and is subject to onerous consignment and disposal requirements. The cost of disposing of clinical waste is approximately four times higher than the cost of disposing of hygiene waste.



If hygiene waste is not segregated from clinical waste at source, the whole body of the waste (all the waste) should be considered clinical waste, and therefore also hazardous (special) waste.

Significant financial savings can be made by segregating and treating clinical and hygiene waste separately.

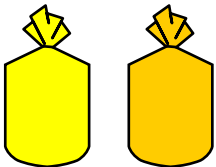
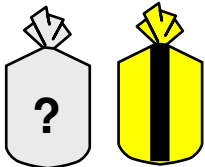
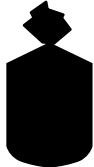
3.2 How do I segregate the waste?

In order to segregate clinical and hygiene waste in a healthcare environment separate and preferably colour coded containers are required.

There is no regulatory requirement to use dedicated hygiene waste containers. However, the use of dedicated colour coded containers helps staff to ensure that the waste is managed appropriately and is not compacted on site. It also alerts those throughout the management chain of the offensive nature of the waste, enabling them to take handling precautions.

Ideally, three types of containers should be available to healthcare staff as shown in Table 5.

Table 5 Containers for waste segregation in a healthcare environment

Container(s)	Waste type	Description
	Clinical Waste	<p>Waste which poses a potential or known risk of infection or other hazard due to the presence of a medicinal product. Including:</p> <p>Yellow containers (including sacks) used for clinical waste which requires disposal by incineration only</p> <p>Orange containers (including sacks) used for clinical waste which may be treated to render it safe.</p>
	Hygiene Waste	<p>Waste produced as a result of human or animal hygiene activities which does not pose a risk of infection or other hazard due to the presence of a medicinal product</p> <p>Hygiene waste containers (including sacks) can be any colour and producers should follow advice provided by waste contractors.</p> <p>In some parts of the UK yellow and black striped sacks (tiger sacks) are used for hygiene waste.</p>
	Municipal Waste	<p>Mixed municipal waste from ward and other areas that does not pose a risk of infection and is similar in composition to waste produced in the 'household' environment; this waste stream is often referred to as 'domestic' waste.</p>

Due to the offensive nature of hygiene waste and the hazardous nature of clinical waste, it is advised that, where practicable, these wastes are stored in areas not open to public access, and that waste is not allowed to accumulate.

Space for the containers can often be a problem, but as the financial savings associated with improved segregation can be high, it is worth considering the advantages of changing practices and waste storage areas to accommodate the extra containers required.

3.3 Staff training

All staff should receive waste management training so that they are familiar with the range of waste containers used and understand their role in ensuring that waste is segregated, packaged and disposed of appropriately (their duty of care).

All staff should receive a 'basic' introduction to waste management as part of their induction training. Ideally, this should be followed by role specific training to ensure that all those involved in the management of the waste from the point of production to when it is collected for disposal understand their role and what is required of them, for example:

- **Facilities and Estates staff** – training should include movement of the waste from the point of production and storage until collected for disposal. Staff should be able to recognise the different color coded containers and understand the need to keep each of the waste streams separate and ensure that hygiene waste is not compacted on site.
- **Clinical staff** – training should include the use of risk assessment techniques to identify and allow hygiene waste to be source segregated from clinical waste at ward level and disposed of in appropriate colour coded container/bag.

3.4 Risk assessment

Risk assessment should be used by clinical staff to identify and segregate clinical and hygiene wastes. Clinical waste is waste that poses a risk of infection or contains or is contaminated with medicinal products. Hygiene waste should not pose a risk of infection and should not be contaminated with medicinal products.

The vast majority of clinical waste (including all infectious waste) is classified as hazardous (special) waste and is subject to consignment. Hygiene waste should not be considered hazardous (special) waste and should not be consigned as such.

If risk assessment and segregation has not taken place and hygiene waste and clinical waste (even in small quantities) are mixed, the whole body of the waste should be considered clinical waste and should be considered as hazardous (special) waste. Guidance on the classification of clinical waste can be found in Appendix B.

Generic risk assessments can be developed to help clinicians identify and segregate clinical waste and hygiene waste. Ideally, these should be developed with the assistance of infection control staff.

Hygiene waste risk assessments should be an integral part of an organisation's risk management policy. In the NHS, it is considered to be good practice to use a risk matrix; an example risk matrix is shown in Figure 7 The matrix should be used to compare the magnitude of hazards to the likelihood of occurrence. Further information about conducting risk assessments for the segregation of hygiene waste is given in Appendix E.

Figure 7 Example risk matrix

Risk Ranking Matrix				
(risk = hazard severity score x likelihood of occurrence score)				
	3	3 – Medium	6 – High	9 – High
Hazard severity	2	2 – Low	4 - Medium	6 - High
	1	1 – Low	2 - Low	3 – Medium
		1	2	3
Likelihood of occurrence score				

Guidance on undertaking risk assessments, developing a risk matrix and recording the risk assessment results is available from the Health and Safety Executive (HSE). The HSE web site (www.hse.gov.uk/www.hseni.gov.uk) provides comprehensive information and links to further guidance. The HSE guidance document HSG 65 titled '*Successful Health and Safety Management*' provides a guide to the use of a risk matrix.

Generic risk assessments used to identify clinical waste and hygiene waste should take into account the following:

- Is the patient being treated for a disease where the infectious agent or toxin could be present in hygiene waste?
- Has the patient received medication which may pose a hazard if excreted and contained within hygiene waste, for example does the waste contain chemotherapy drugs or low level radioactive materials (used for diagnostic purposes)?
- Is the patient showing any symptoms which may render their hygiene waste as infectious and therefore clinical waste e.g. urinary tract infection or infection of the gastrointestinal tract?

Many infectious diseases, especially gastrointestinal diseases such as *Escherichia coli* (*E. coli*) and *Clostridium difficile*, can be transmitted from contaminated hygiene waste. It is therefore important that staff are aware of the possible infection risks posed and are able to identify and segregate potentially infectious hygiene waste at source and treat it as clinical waste.

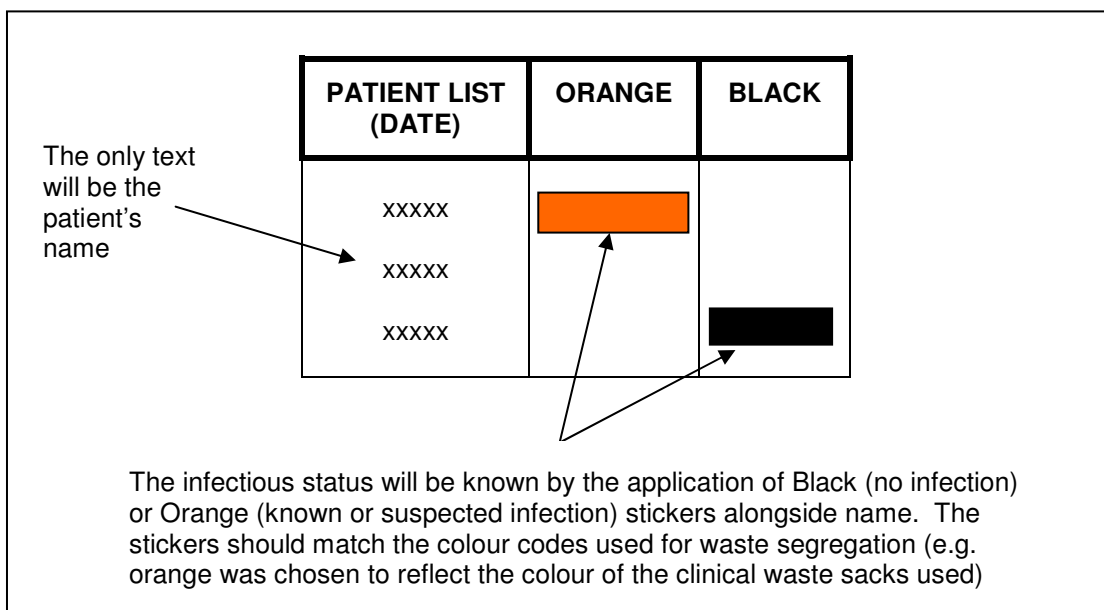
Risk assessment should be undertaken on a daily basis or more frequently if the patient's status changes. Risk assessment is already part of the clinical assessment procedure and the status of patients is routinely reviewed and documented between staff shift changes.

3.5 Patient confidentiality

It is important that information regarding the infectious status of a patient (and their waste) remains confidential and is only shared with staff involved with their care as required.

NHS Grampian, who have recently undertaken a hygiene waste segregation trial, used a simple colour coding system on patient lists, located at the nursing station (away from public access) to determine whether wastes produced by patients should be treated as clinical or hygiene waste. Orange stickers were placed next to the names of patients whose waste should be considered potentially infectious and should be treated as clinical waste, as shown in Figure 8.

Figure 8 Key stages in the management of healthcare hygiene waste



The patient list was updated on a daily basis, (or more frequently as required), proving accurate information about the infectious status on patients. The use of colour coded stickers by NHS Grampian was a simple yet effective way of assessing waste produced by patients and, in a primary care environment, resulted in approximately 70% of clinical waste being re-classified and segregated as hygiene waste.

3.6 Describing healthcare hygiene waste using the EWC

Hygiene waste produced as a result of direct healthcare activities should be classified in accordance with Chapter 18 (Healthcare Waste) of the European Waste Catalogue (EWC) as shown in Table 6.

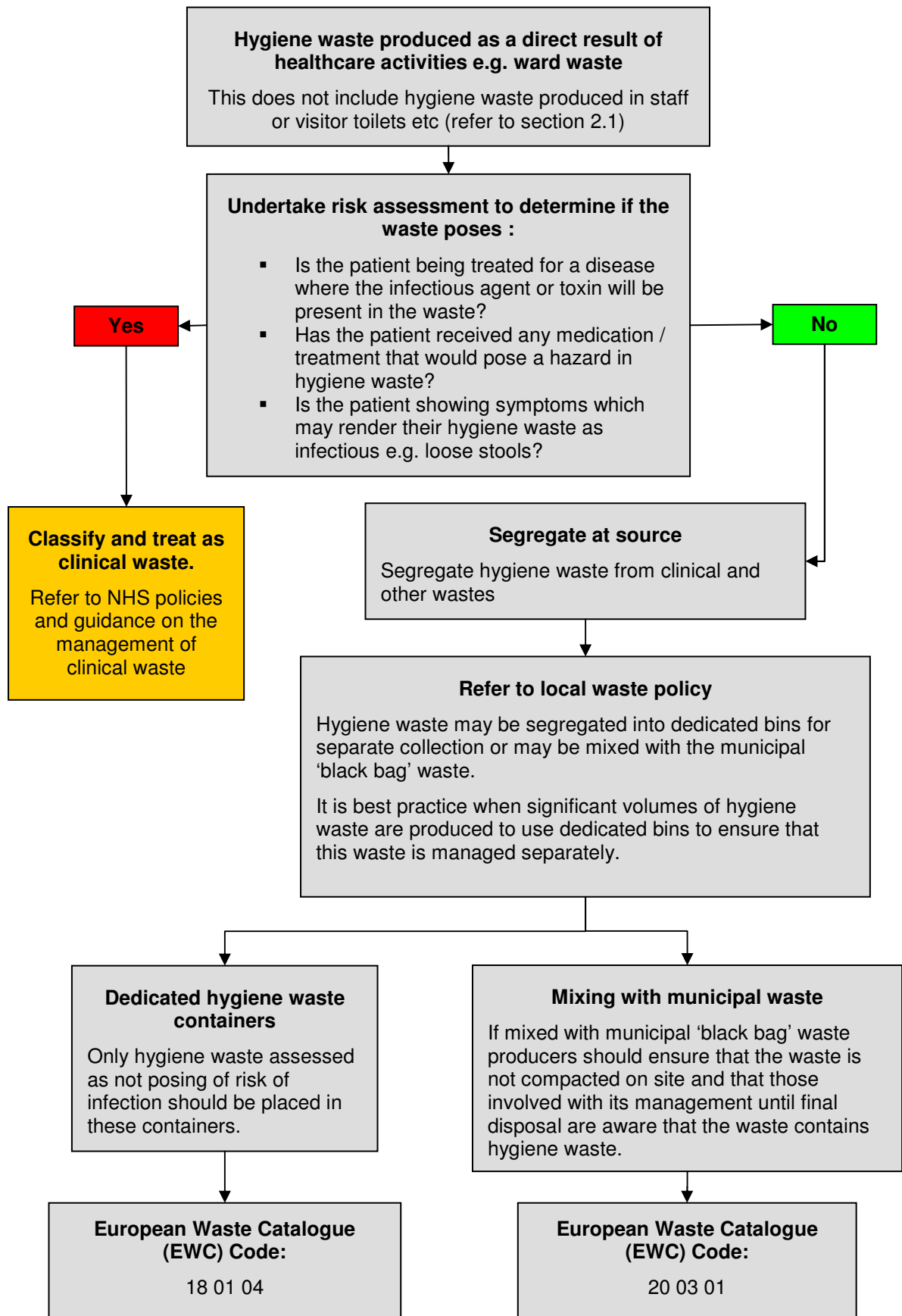
Table 6 EWC code applicable to hygiene waste produced from healthcare activities.

EWC Code	Description of Waste
18 01 04	Waste (from humans) whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 02 03	Waste (from animals) whose collection and disposal is not subject to special requirements in order to prevent infection

3.7 Summary of key management stages for healthcare hygiene waste

Figure 9 (shown overleaf) summarises the key stages in the segregation and management of hygiene waste produced as a result of healthcare for humans.

Figure 9 Key stages in the management of healthcare hygiene waste




4. TRANSPORT AND PACKAGING ADVICE

4.1 Transport Regulations

Appendix A (Section A.3.2) provides a brief summary of the regulations governing the transport (carriage) of dangerous goods by road.



If clinical waste is segregated from hygiene waste at source, hygiene waste is not considered to be a dangerous good, and the requirements of the Carriage of Dangerous Goods regulations do not apply.



CAUTION

If hygiene waste is not segregated from clinical waste at source, the whole body of the waste (all the waste) should be considered clinical waste.

Clinical waste is classified as a dangerous good and must be packaged and transported following the onerous requirements of the Carriage of Dangerous Goods Regulations.



4.2 Packaging considerations

Packaging for hygiene waste needs to consider the following:

- The type of hygiene waste;
- The amount that is likely to be produced between collections;
- The location and space available for a waste container; and
- The availability of staff, either locally or via a waste contract, to empty the waste container and manage the waste.

4.3 Do I need to have a separate container for hygiene waste?

There are no regulatory requirements in place that require the use of specialist bins or the service of waste contractors for hygiene waste. However, consideration should be given to the offensive nature of hygiene waste and, where possible, effort should be made to minimise contact with the waste.

4.3.1 Significant Volumes

Where significant volumes of hygiene waste are produced, the offensive nature of the waste can cause a handling problem and consideration should be given to those that are required to manage and handle the waste at the site of production and further down the waste management chain.

Hygiene waste may also present an odour problem if the waste is stored for prolonged periods. As part of their Duty of Care (see Appendix A, section A1) those responsible for the waste must store it in a way that does not cause harm and therefore should take steps to reduce the odour. The most practical step to reduce odour would be to store the waste for shorter periods of time by arranging more frequent collection.

The use of separate bins/containers for hygiene waste should be considered where significant volumes are generated. Waste contractors, including Local Authorities, should be contacted to agree the best way of managing significant amounts of hygiene waste.

4.3.2 What is considered to be a 'significant volume'?

There is no simple solution to making a decision as to whether or not the hygiene element of a waste stream is significant or not. In general, anything greater than the average absorbent hygiene product content of municipal solid waste, which is 2.3%¹, would be significant. However, this should be discussed with the relevant local authority; 2.3% is an average figure which can be used in the absence of any better local information. Where a waste analysis has been carried out locally the percentage figure from this should be used.

There is one further factor that should be taken into account. Although the hygiene waste content would be considered significant, subject to a further assessment, if it was more than 2.3% of the total waste stream, if the overall waste stream was very small it would probably not warrant separate collection. Discussion with the waste contractor is essential at this stage to obtain informed advice on minimum levels of collection, costs etc.

Ultimately it is likely that the later point will be the deciding factor when deciding whether or not hygiene waste is subject to separate collection.

It should also be noted that this criteria does not apply to householders, carers or child minders, who have significant levels of hygiene waste in their domestic waste. Comparisons with household waste are normally made when assessing the amount of waste produced.

4.3.3 Smaller Volumes

Where smaller volumes of hygiene waste are regularly produced, for example from small offices a separate hygiene waste container may not be required. However, suitable provision must be made to collect hygiene waste within toilet facilities to prevent the waste being inappropriately disposed of to sewer. The UK national 'Bag it & Bin it' campaign web site provides further information about the types of waste that should be collected for disposal and not flushed away (www.bagandbin.org).



Consideration should also be given to who is going to empty and clean waste containers and how the waste will be managed. For reasons of convenience many small volume producers of hygiene waste may choose to use specialist contractors who provide dedicated containers and a collection and disposal service.

¹ Based on the waste analysis carried out for the Welsh Assembly in 2001

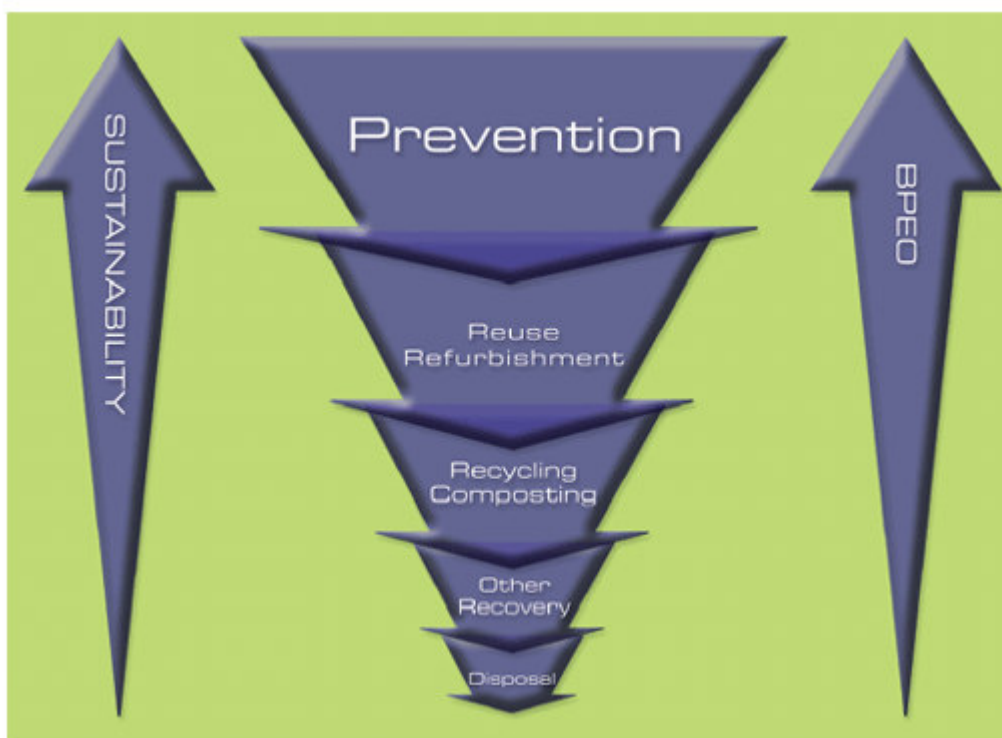
4.3.4 Advice from waste contractors

Advice should be sought from waste contractors regarding the most appropriate packaging and disposal requirements for hygiene waste. Unless otherwise specified by the waste contractor (which may be the Local Authority), healthcare producers should consider the use of colour coded hygiene waste containers and separate collection for this waste stream.

5. TREATMENT AND DISPOSAL CONSIDERATIONS

The waste hierarchy is central to waste management policy in the UK. The hierarchy, shown in Figure 10, lists waste management options in order of their environmental preference. Options shown at the top of hierarchy are considered to be the most preferable and options at the bottom are the least preferable.

Figure 10 Waste Management Hierarchy



The aim of the hierarchy is to influence waste management decisions to reduce the amount of waste produced and to ensure that waste is managed efficiently and effectively taking into account environmental and human health considerations.

It is recognised that, in addition to environmental considerations, producers of hygiene waste will also consider the financial costs and waste management options available in their area.

This section of the guidance highlights the current waste management options identified as available or likely to be available and accessible to the population of Scotland and Northern Ireland in the next couple of years.

5.1 Waste prevention

The production of many items of hygiene waste is unavoidable. However, the amount of waste produced may be minimised by using 'fit for purpose', appropriate products which need to be changed less frequently.

5.2 Re-use

There are a number of products available commercially which can be washed and re-used. Examples of products include nappies, incontinence products and feminine hygiene products

5.2.1 Real Nappy Schemes

The term 'real nappy' is often used to describe re-usable washable nappies. There are a number of local and national initiatives which provide information to help parents choose the most appropriate nappy options for their child. Healthcare setting can help promote choice by having a variety of nappy options for parents to try out during the ante and post natal time spent in hospitals. A Real Nappy Healthcare professional's pack is available from the Scottish Waste Awareness Group (www.wasteawareScotland) including a step-by-step guide for maternity hospitals, healthcare professionals and local authorities on using real nappies on maternity wards. Further information and guidance on using real nappies in nurseries and similar settings in Scotland is available from Community Recycling Scotland Network (CRNS) at www.crns.org.uk



Real nappy schemes which operate throughout Northern Ireland and Scotland aim to raise awareness about the environmental impact of disposable nappies and encourage the use of washable cotton nappies to reduce waste. Rezolve (www.rezolve.org.uk) runs the Real Nappy Campaign which provides details of retailers, laundry services, networks and incentives schemes in operation in Scotland and Northern Ireland (see www.realnappycampaign.com).

It should be noted that all nappies, whether disposable or re-useable, will have some impact on the environment. A life cycle analysis published by the Environment Agency found little or no difference between the different types of nappy. For disposable nappies, the main environmental impacts relate to manufacturing, including raw material production and waste management and for home use reusables and commercial laundering, the main source of environmental impact is from generating the electricity used in washing and drying.

The impact of reusable nappies can be reduced through washing in full loads, washing at the lowest temperature to achieve hygiene standards and air drying where possible.

For information about disposable nappies, see the Nappy Information Service which is operated by the Absorbent Hygiene Products Manufacturers Association (AHPMA) which represents key UK manufacturers of disposable nappies.

Figure 11 Case Study – Belfast Organisation for Real Nappies (BORN)

The Belfast Organisation for Real Nappies (BORN) was established in 2003 in order to set up the business 'Blooming Bottoms' whose aim was to establish a widespread real nappy education programme and nappy laundering service.

BORN aims to reduce the amount of nappy waste going to landfill, while saving money against the cost of single-use nappies. In addition BORN aims to raise awareness of the environmental and social implications of 'disposable' nappy use, and provide support and advice for families moving toward more sustainable parenting choices.

To date the company has developed an extensive customer base covering a wide

geographical base, including a key contract with the Royal Victoria Hospital maternity department.

To find out details on which schemes are operating in your area go to the nappy finder at www.realnappycampaign.com

5.2.2 Development of real nappy laundry standards

A Publicly Available Specification (PAS 106) has been developed by the British Standards Institution in consultation with WRAP and associated groups to provide a code of practice which describes the most appropriate actions to be taken in the process of cleaning nappies. The nappy washing specification should be used as a code of practice alongside the Department of Health Hygiene Specification Guidelines (95) 18 which are developed purely for the launder of hospital linen.

5.3 Hygiene waste recycling/recovery

Although not currently available in the UK, alternatives to landfill disposal exist for hygiene waste.

The most widely used recycling and recovery system is the 'Knowaste' system which is able to process source segregated and separately collected absorbent hygiene products including disposable nappies, incontinence products and bed-liners. The Knowaste recycling process sanitises the hygiene material and mechanically separates the individual components so the wood pulp and plastic can be recycled. Up to 84% of a used disposable nappy or incontinence product can be removed for recycling.

Knowaste has established recycling programmes and technology operating in the Netherlands, Australia, Canada and the US.

5.4 Disposal of hygiene waste in the UK

In the UK hygiene waste can be disposed of in landfill facilities or municipal waste incineration facilities. As the number of municipal waste incinerators is limited, landfill is the predominant disposal route for this waste stream.

Landfill sites operate to strict waste acceptance guidelines and operating procedures and controls are put in place to ensure that human contact with hygiene waste is minimised. Once waste enters landfill facilities, it is usually covered immediately to prevent pests and scavengers accessing it.

The segregation of hygiene waste at source helps landfill operators' deal with the waste effectively as the waste is easily identifiable and landfill operators can ensure that it is covered quickly, reducing odours, human exposure and the opportunity for scavengers to access the waste.

6. ANNUAL REVIEW

It is recommended that all those responsible for the management of hygiene waste undertake an annual review of their waste management procedures and contracts.

The review should consider the following:

- Are current measures for the identification and segregation of hygiene waste appropriate?
- Is the current method of packaging appropriate?
 - Is more appropriate packaging available?
 - Does the size of packaging match the waste arisings – are bigger or smaller containers required?
 - Is the colour of the container appropriate – do people use the containers correctly?
- Are waste collections made at suitable intervals?
 - Would a more frequent collection prevent odour problems?
- How is my waste being disposed of?
 - Are there closer, or more environmentally preferable, disposal options available? When considering the environmental impact, waste producers may find it useful to compare the 'carbon footprint' of the options available.

7. FURTHER INFORMATION

Audit Scotland

- Audit Scotland website: www.audit-scotland.gov.uk/

Environmental Regulatory Agencies

- Scottish Environment Protection Agency (SEPA) website www.sepa.org.uk
- Environment & Heritage Service (EHS) website www.ehsni.gov.uk

Real Nappies and Similar Initiatives

- Real nappy campaigns (UK wide) website: www.realnappycampaign.com
- Rezolve (www.rezolve.org.uk) will be running the real nappy campaign, though a not for profit company
- Community Recycling Network Scotland (CRNS) will co-ordinate the campaign in Scotland www.crns.org.uk
- Women's Environmental Network (www.wen.org.uk) promotes the use of real nappies and environmentally friendly alternatives to disposable sanitary products
- The Scottish Waste Awareness Group (SWAG) has real nappy webpages, including a resource pack for healthcare professionals in Scotland: www.wasteawareScotland.org.uk/html/realnappy_download.asp
- The Nappy Information Service (NiS) is operated by the Absorbent Hygiene Products Manufacturers Association (AHPMA) (represents manufacturers of disposable nappies): www.nappyinformationservice.co.uk/about.htm

Waste Contractor information

- Sanitary Medical Disposal Services Association (SMDSA) website: www.smdsa.com
- Chartered Institute of Waste Management website: www.ciwmm.co.uk
- Environmental Service Association: www.esauk.org/

Other

- National 'Bag it and Bin it' campaign web site: www.bagandbin.org
- NetRegs: www.netregs.gov.uk/
- WaMi (SEPA waste minimisation guidance): www.sepa.org.uk/wastemin/

Classification and consignment of clinical waste

- EHS Hazardous Waste Information:
http://www.ehsni.gov.uk/environment/wasteManage/regulations_specialtest1.shtml
- SEPA Special Waste Information:
http://www.sepa.org.uk/guidance/waste/amendment_faq.htm

GLOSSARY

AHPMA	The Absorbent Hygiene Products Manufacturers Association (AHPMA) represents key UK manufacturers of disposable nappies and operates the Nappy Information Service.
Audit Scotland	A public body tasked with reviewing the way in which organisations spend public money.
Bag it & Bin it	National education campaign to raise awareness of products which should not be disposed of to sewer.
BORN	Belfast Organisation for Real Nappies.
Clinical Waste	Defined in the Controlled Waste Regulations as: <i>any waste which consists of wholly or partly of human or animal tissue, blood or other bodily fluids, excretions, drugs or other pharmaceutical products, swabs or dressings, or syringes, needles and other sharp instruments, being waste which unless rendered safe may prove hazardous to any person coming into contact with it</i>
COSHH	Control of Substances Hazardous to Health Regulations
Carriage Regulation	Carriage of Dangerous Goods and use of Transportable Pressure Equipment Regulations
Cyto-toxic and Cyto-static Waste	Type of medicinal waste classified in the EWC which includes chemotherapy, hormonal, anti-viral and immunosuppressant drugs.
DHSSPS	Department of Health, Social Services and Public Safety (NI)
EHS	Environment & Heritage Service -
European Waste Catalogue (EWC)	A Europe wide list of waste. The EWC classifies waste materials and categorises them according to what they are and how they were produced. Chapter 18 details Healthcare Wastes (those wastes from

human and animal health care and/or related research)

Group E Waste

Term developed by Health Service Advisory Committee (HSAC) and published in the guidance 'Safe Disposal of Clinical Waste' to describe non infectious hygiene wastes. The HSAC guidance has now been revoked and the continued use of this term is considered inappropriate.

H9

Infectious (Hazardous) Property of a waste, defined as 'infectious substance containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms' in the Hazardous (Special) Waste Regulations.

Hazardous Waste

Defined by the Hazardous Waste Regulations (Northern Ireland) 2005. The term hazardous waste is also used in England and Wales with respective Hazardous Waste Regulations in each devolved region. The term special waste is used in Scotland.

HFS

Health Facilities Scotland

HPSS

Health and Personal Social Service (NI)

Household waste

Waste from a domestic property, caravan, residential home, educational establishment, hospital or nursing home

Hygiene Waste

Waste produced from human or animal hygiene activities

Infectious Waste

Waste which is known or is believed to pose a risk of infection. Infectious waste should be classified as a hazardous (special) waste with hazardous property H9.

Medicinal Waste

Waste containing or contaminated with a pharmaceutical product.

Municipal Waste	Waste from households, as well as other waste which, because of its nature or composition, is similar to waste from households
Nappy Information Service	Facts and information about disposable nappies for parents with babies, health professionals and the media. The Nappy Information Service is operated by AHPMA (see glossary listing). The Absorbent Hygiene Products Manufacturers Association (AHPMA) which represents key UK manufacturers of disposable nappies.
OJEU	Official Journal of the European Union
Personal Care	Provision of assistance to help those with day to day living activities such as bathing, preparing meals, etc.
Real Nappy	Term used to describe re-usable washable nappy products.
Registered Waste Carrier	Carriers, other than the producers of the waste, (usually contractors), registered with EHS or SEPA to carry (transport) waste.
Sanpro Waste	Term used to describe waste sanitary products.
SEPA	Scottish Environment Protection Agency
Special Waste	Defined by the Special Waste Amendment (Scotland) Regulations 2004
SNIFFER	Scotland and Northern Ireland Forum for Environmental Research
WM2	Guidance on the Interpretation and Classification of Hazardous (Special) Waste

APPENDIX A SUMMARY OF REGULATORY REQUIREMENTS

In order to effectively manage hygiene waste, it is essential to understand and comply with the requirements of relevant health and safety and waste legislation. This section of the guidance is intended to provide a summary of the key regulatory requirements, additional information can be obtained from the following web sites:

- NetRegs (Environmental Regulation) for Scotland and Northern Ireland: www.netregs.gov.uk
- Health and Safety Executive (GB): www.hse.gov.uk
- Health and Safety Executive (Northern Ireland): www.hseni.gov.uk

A.1 Waste Management

Those who produce hygiene waste or have responsibility for its management have a 'duty of care' to ensure that it is classified, packaged, stored and disposed of appropriately. The first stage of the duty of care process is classification and it is one of the most important. Producers of hygiene waste should have a clear understanding of the definition of hygiene waste and its relationship with other waste management definitions such as clinical waste.

A.1.1 Duty of care

The Environmental Protection Duty of Care Regulations 1991 and the Controlled Waste (Duty of Care) Regulations (Northern Ireland) 2002 place a responsibility on all involved in the management of waste, including waste producers, to ensure that waste is managed appropriately.

The duty of care requires all waste producers to take reasonable steps in their capacity to comply. The main responsibilities of the waste producer, in line with the duty of care are summarised below.

1. Prevent the escape of waste from his control or that of any other person, such as a carrier

This means that the waste must be stored in a suitable container, designed to safeguard against corrosion, spillage, adverse weather and scavenging.

2. Transfer waste to correct person

Producers of waste may transport their own waste without the need to be a registered waste carrier. However contracted parties must be registered as a waste carrier in accordance with the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991 and Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations (Northern Ireland) 1999.

Producers should check to ensure that carriers of their waste are registered.

3. Prevent deposit of controlled waste on land except under the terms of a waste management licence

Waste can only be transferred to a licensed or suitably authorised waste management facility. Before transferring waste, the producer must check that the facility accepting the waste has an appropriate licence (or other authorisation) to accept the waste.

4. Describe the waste fully and accurately

The waste must be accompanied by an adequate description to help any subsequent holder manage the waste appropriately.

A transfer note must be completed, signed and kept by all parties involved in the management of the waste and should include details of:

- what the waste is, referencing the appropriate European Waste Catalogue (EWC) code;
- the quantity of waste to be transferred;
- how it is packed (sacks, wheelie bins, etc);
- the name and address of the people or companies involved in the transfer and details of their status e.g. producer, carrier, disposal facility;
- the certificate number of the registered waste carrier (if applicable); and
- the waste management licence (or authorisation) number, of the receiving waste management facility

The transfer note should be signed by all parties and copies of the note should be kept for a minimum of two years.

A.1.2 Clinical waste

Section B1 of Appendix B provides further information on the definition and classification of clinical waste. Clinical waste requires specialist treatment and disposal due to its potentially infectious or hazardous nature. The majority of clinical waste is classified as hazardous (special) waste and is subject to consignment.



Hygiene waste which is considered infectious (including potentially infectious waste) or is contaminated with medicinal products should be segregated at source from other hygiene waste and classified and treated as clinical waste to ensure that it is sent for appropriate treatment and disposal. This waste should be considered as hazardous (special) waste.

A.2 Health & Safety

There are a number of health and safety regulatory requirements that apply to the management of hygiene waste including:

- The Management of Health at Work Regulations;
- The Control of Substances Hazardous to Health Regulations; and
- The Health and Safety at Work and the Workplace (Health, Safety and Welfare) Regulations.

These Regulations are summarised overleaf.

A.2.1 The Management of Health at Work Regulations

The Management of Health at Work Regulations 1999 and the Management of Health and Safety at Work Regulations (NI) 2000 provide a framework for managing risks at work, including risks from waste.

A.2.2 Control of Substances Hazardous to Health

The Control of Substances Hazardous to Health Regulations 2002 (COSHH) and the Control of Substances Hazardous to Health (Northern Ireland) Regulations 2003 require employers to assess the risk posed to employees by activities at work.

COSHH assessments will apply to hygiene waste and specifically require those dealing with waste to assess the risk posed to both their staff and the public who come in contact with it. In practice this involves the development of risk assessment policies and procedures

A.2.3 Health and Safety at Work and the Workplace (Health, Safety and Welfare) Regulations

The Health and Safety at Work Act 1974 and the Health and Safety at Work (NI) Order 1978 states that employers have a general duty to ensure, so far as reasonably practicable, the health, safety and welfare of their employees at work and the general public who use their facilities (if appropriate).

The Workplace (Health, Safety and Welfare) Regulations 1992 and the Workplace (Health, Safety and Welfare) Regulations (NI) 1993 expand on these duties and are intended to protect the health and safety of everyone in the workplace and to ensure that adequate welfare facilities are provided for people at work. They apply to a wide range of workplaces, including hospitals and healthcare facilities, hotels and places of entertainment. The term workplace also includes the common parts of shared buildings, private roads and paths on industrial estates and business parks, and temporary work sites (but not construction sites).

These regulations place a legal requirement on employers to provide appropriate facilities for their employees at the place of work. In relation to hygiene waste the regulations advise: "*in the case of water closets used by women, suitable means should be provided for the disposal of sanitary dressings*"

A.3 Other Regulation

A.3.1 Water Industry Act and the Water Order

The Water Industry (Scotland) Act 2002 and the Water (NI) Order 1999 state that no items should be flushed that could cause a blockage within the sewer or drain.

The water industry (UK wide) sponsors the 'Bag it and Bin it' campaign encouraging people to dispose of hygiene waste in a responsible manner and to avoid disposal to sewer (www.bagandbin.org).

A.3.2 Carriage Regulation

The Carriage of Dangerous Goods Regulations and use of Transportable Pressure Equipment Regulations 2004 specify the way in which dangerous should be classified, packaged and transported (including driver training requirements).

Hygiene waste is not classified as a dangerous good and the requirements of the Carriage Regulations do not apply.

However, producers of clinical waste, including infectious wastes and medicinal waste, should comply with the Carriage Regulations as these waste items are classified as dangerous goods. Guidance on the classification of clinical waste in line with the Carriage Regulations can be obtained from DfT web site: www.dft.gov.uk.

APPENDIX B CLASSIFICATION OF HYGIENE WASTE

The definitions used to describe hygiene waste can often seem confusing as different guidance documents and waste contractors use different terms to describe the same or broadly similar waste streams. The problem is often greatest in healthcare environments where clinical waste is also being produced, as many clinicians find it difficult to differentiate between clinical and hygiene waste.

It is very important that staff are aware of the differences between clinical and hygiene waste, as the vast majority of clinical waste is considered hazardous (special) waste and is subject to strict controls on its movement (consignment).

B.1 Defining clinical waste

Clinical waste is defined in the Controlled Waste Regulations 1992 and the Controlled Waste Regulations (Northern Ireland) 2002. The definition is shown in Figure 12

Figure 12 Definition of clinical waste

‘Any waste which consists wholly or partly of human or animal tissue, blood or other bodily fluids, excretions, drugs or other pharmaceutical products, swabs or dressings, syringes, needles or other sharp instruments, being waste which unless rendered safe may prove hazardous to any person coming into contact with it; and any other waste arising from medical, nursing, dental, veterinary, pharmaceutical or similar practice, investigation, treatment, care, teaching or research, or the collection of blood for transfusion, being waste which may cause infection to any person coming into contact with it.’

In practice clinical waste is waste which is:

- infectious (either known or potentially infectious); and/or
- a medicinal waste (or is contaminated with a medicinal waste).

The majority of clinical waste is classified as a hazardous (special) waste and is subject to consignment. Infectious and potentially infectious wastes and certain medicinal wastes (cyto-toxic and cyto-static products) are classified as hazardous (special) waste.



Hygiene waste which is considered infectious (potentially or known) or is contaminated with medicinal products should be segregated at source from other hygiene waste and classified and treated as clinical waste to ensure that is sent for appropriate treatment and disposal.

Risk assessment should be undertaken in healthcare environments to segregate clinical and hygiene waste.

Guidance on the classification of clinical waste as hazardous (special) waste is available from the joint agency guidance document titled WM2 which provides guidance on the interpretation and classification of hazardous waste. The joint agency guidance was produced by the Environment Agency (England and Wales), the Scottish Environment Protection Agency (SEPA) and the Environment and Heritage Service (EHS) of Northern Ireland.

Copies of the WM2 guidance can be downloaded from any of the agency web sites.



B.2 Defining hygiene waste

This document defines hygiene waste as:

Waste produced from human or animal hygiene activities and includes items used for feminine hygiene purposes and for human and animal incontinence.

Hygiene waste should be segregated from clinical wastes at source. Following source segregation hygiene waste should not be classified as hazardous (special) waste.

B.3 Classification of hygiene waste using the European Waste Catalogue

The European Waste Catalogue (EWC) is a comprehensive list of all wastes produced at European level. The use of EWC codes on waste documentation is mandatory in the UK and therefore EWC codes should be used on waste transfer notes which accompany the movement of waste.

The EWC classifies waste materials into 20 chapters according to what they are and what type of activity produced them. Each waste in the EWC is classified by reference to a six digit code constructed as below:

- The first 2 digits correspond to chapter number and source/industry that produced the waste;
- The second 2 digits correspond to a sub-heading e.g. waste from humans; and
- The third 2 digits correspond to the specific waste.

The EWC differentiates between hygiene waste produced as a result of healthcare activities and hygiene waste produced from other sources.

B.3.1 Healthcare hygiene waste

Hygiene waste produced directly as a result of the delivery of healthcare services should be classified in accordance with chapter 18 of the EWC as shown in Table 6.

Table 6 EWC code applicable to hygiene waste produced from healthcare activities.

EWC Code	Description of Waste
18 01 04	Waste (from humans) whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 02 03	Waste (from animals) whose collection and disposal is not subject to special requirements in order to prevent infection

B.3.2 Hygiene waste produced from other (non-healthcare) sources

Hygiene waste produced from personal care (non-healthcare) is defined as ‘municipal waste’ and should be classified in accordance with chapter 20 of the EWC.

Where hygiene waste is segregated from other wastes at source (placed in dedicated hygiene waste bins) the EWC code shown in Table 3 should be used

Table 3 EWC code applicable to segregated municipal hygiene waste

EWC Code	Description of Waste
20 01 99	Other fractions not otherwise specified

Where EWC codes are used which end in “99” a written description of the waste should be given, for example:

20 01 99 Hygiene waste;

Where segregation (the use of dedicated bins to collect this waste) is not practicable, for example the amount of waste collected is relatively low, the waste is considered to be mixed municipal waste and the EWC code shown in Table 4 should be used.

Table 4 EWC Code applicable to mixed municipal waste containing hygiene waste

EWC Code	Description of Waste
20 03 01	Mixed municipal waste

B.3.3 Clinical waste



If hygiene waste poses a risk of infection and/or is contaminated with a medicinal product the waste should be classified as clinical waste and not as hygiene waste. Guidance on the most appropriate EWC code to use should be sought from the joint agency hazardous waste guidance WM2.

B.4 Commonly used terms for hygiene waste

In producing this guide the authors encountered a number of terms used to describe components of the hygiene waste stream. Table 7 provides a summary of the terms encountered with a brief description of the types of waste each term refers to.



Table 7 Commonly used terms for hygiene waste

Term	Description	Example wastes
Sanitary Waste	<p>Sanitary waste is often used to describe waste generated from feminine hygiene activities. The term may also be used in the broader sense and may include incontinence products and nappies.</p> <p>It is recommended that the term hygiene waste is used for this waste stream.</p>	<ul style="list-style-type: none"> • sanitary towels and tampons; • incontinence products and nappies. • catheter and stoma bags
Feminine Hygiene Waste	<p>Feminine hygiene waste refers to discarded materials worn by women during menstruation. Feminine hygiene waste may also be described as sanitary or human hygiene waste.</p> <p>It is recommended that the term hygiene waste is used for this waste stream.</p>	<ul style="list-style-type: none"> • sanitary towels and tampons; • panty liners; • feminine wipes.
Incontinence Waste	<p>Incontinence waste refers to discarded materials worn by persons suffering from incontinence to collect or contain faecal and/or urinary discharges.</p> <p>It is recommended that the term hygiene waste is used for this waste stream.</p>	<ul style="list-style-type: none"> • incontinence products and nappies • catheter and stoma bags
Offensive Waste	<p>The term offensive waste has recently been used by the Department of Health to describe hygiene wastes and other wastes that may cause offence to those who may come into contact with it but is not considered to be clinical waste.</p> <p>It is recommended that the term hygiene waste is used for this waste stream.</p>	<ul style="list-style-type: none"> • sanitary towels and tampons; • incontinence products and nappies; • catheter and stoma bags • non-infectious aprons, gloves, plaster casts; • animal faeces and animal bedding etc.

Group E Clinical Waste

The term 'Group E' clinical waste was introduced by the Health Services Advisory Committee (HSAC) in the now revoked guidance 'Safe Disposal of Clinical Waste'. The HSAC guidance identified five groups of clinical waste, of which Group E was considered to pose the least risk.

The guidance clearly stated that Group E included "items used to dispose of urine, faeces and other bodily secretions or excretions" but where risk assessment shows there is no infection risk these wastes should not be clinical waste as defined.

The classification of Group E waste has caused much confusion in the past.

The use of the term 'Group E' is no longer considered appropriate. Waste posing a risk of infection should be classified as clinical waste. Waste which does not pose a risk of infection resulting from personal care should be described as hygiene waste.

- sanitary towels and tampons;
- incontinence products and nappies;
- catheter and stoma bags

Sanpro Waste

The term sanpro waste is used to describe waste sanitary products and therefore refers to the same waste materials as sanitary and human hygiene waste.

It is recommended that the term hygiene waste is used for this waste stream.

- sanitary towels and tampons;
 - incontinence products and nappies
 - catheter and stoma bags
-

APPENDIX C NHS POLICY

C.1 NHS Scotland

The NHS Scotland Environmental Management Policy (HDL2006(21)) and the NHS Scotland Waste Management Action Plan are available on the NHS Scotland Health Facilities Scotland web site: www.hfs.scot.nhs.uk. The Policy and Action Plan seek to address the adoption of best practice to reduce the amount of waste produced. They encourage increased monitoring and the use of key performance indicators to compare and improve waste management practices. The Action Plan reflects on the finding published by Audit Scotland in relation to sanpro (hygiene) waste and the success of the initial hygiene waste segregation trial undertaken by NHS Grampian.

Scottish Health Technical Note 3 (SHTN3) is available from Health Facilities Scotland and provides comprehensive information about the classification and management of waste from healthcare premises.

C.2 NHS Northern Ireland

The Department of Health, Social Services and Public Safety (DHSSPS) administers the Health and Personal Social Services (HPSS), which includes policy and legislation for hospitals, family practitioner services, community health and personal social services;

The Department has set out nineteen (19) controls assurance standards which have been developed to support the embedding of organisation-wide risk management in HPSS bodies. One of these controls assurance standards relates specifically to waste management and identifies sixteen (16) essential criteria which must be met. These include:

- The development of indicators, which demonstrate that the waste management process is being properly managed and risks are minimised;
- The development of a policy on waste. The policy should include all aspects of managing waste such as waste minimisation, recycling, waste handling, transfer, segregation, storage and disposal;
- The Risk Management Committee (or similar Board subcommittee) should take the lead in setting the overall framework for effective waste management through a waste management strategy. To be effective, the strategy should have arrangements on waste reduction, re-use of equipment and recycling, waste handling and transfer, and on segregation; and
- The strategy needs to be fully costed, setting out savings from better segregation of healthcare waste and increased recycling, and identifying investments needed in appropriate equipment.

This control standard has been formally issued to HPSS bodies and sets out guidance on the level of compliance and rates of progress expected. Bodies are expected to conduct an initial self assessment against key criteria and draw up an action plan to secure compliance.

Privately operated Care Homes in Northern Ireland are regulated by the Regulations and Quality Improvement Authority.

C.3 Public sector procurement policy.

All publicly funded organisations must ensure that all contracts established to collect and treat waste conform to the European Union (EU) Public Procurement Regulations. Waste disposal and collection is categorised by the EU as a service and hence is controlled by the Public Contracts (Works, Services and Supply) (Amendment) Regulations 2000. In accordance with these regulations public sector organisations are required to publicly advertise all contracts over a certain threshold value in the Official Journal of the European Union (OJEU).

Product substitution

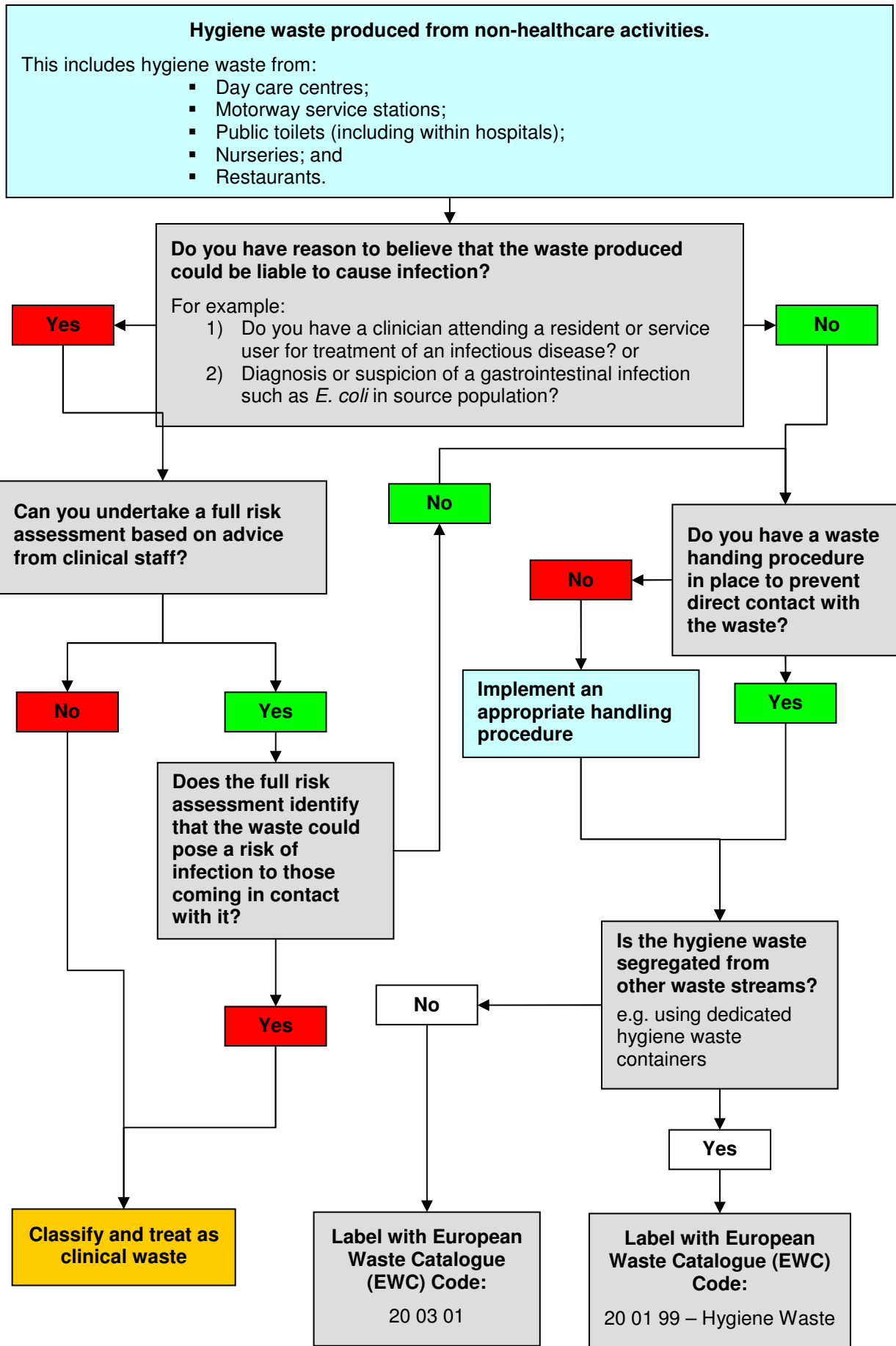
By reviewing all options available the amount of hygiene waste produced may be minimised by replacing disposal products with re-usable products. This replacement is often described as 'product substitution'. When considering product substitution options consideration should be given to the environmental and financial impact associated with the whole life of the product.

Waste disposal contracts

In order to take into consideration current and future hygiene waste management options waste contracts should ideally be written in such a way to encourage flexibility and include:

- The ability to change the treatment and disposal route used during the contract period;
- No minimum tonnage – to encourage waste minimisation; and
- The ability to re-tender the service if new technologies and/or new options for the management of the waste emerge and become economically viable during the life of the contract.

APPENDIX D SIMPLIFIED RISK ASSESSMENT DECISION



APPENDIX E GUIDANCE ON HYGIENE RISK ASSESSMENT

E1 What is 'risk assessment'?

A risk assessment is simply a careful examination of what, at work, could cause harm to people, so that staff can weigh up whether they have taken enough precautions or should do more to prevent harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures.

The basis of British health and safety law is the Health and Safety at Work etc Act 1974. This is accompanied by a series of regulations, for example, 'the Management of Health and Safety at Work Regulations 1999' which explain what employers are required to do to manage health and safety under the Health and Safety at Work Act. In Northern Ireland, the relevant legislation is the Health and Safety at Work (Northern Ireland) Order, 1978, accompanied, for example, by the Management of Health and Safety at Work Regulations (Northern Ireland) 2000, as amended.

E2 Who is responsible for risk assessment?

Employers are required by the Management of Health and Safety at Work Regulations to make, record, review and, where necessary, revise risk assessments as regards all hazards.

Employees must follow health and safety procedures as trained and instructed, and inform employees of potential serious or imminent danger to health and safety. More information about general health and safety at work, and in the healthcare sector in particular, can be found at www.hse.gov.uk for Scotland and www.hseni.gov.uk for Northern Ireland.

E3 What does risk assessment involve?

The Health and Safety Executive (HSE) recommends the following 5 steps to risk assessment:

1. Look for and identify the hazards;
2. Decide who might be harmed;
3. Evaluate the level of risk(s) arising from the hazards and decide whether existing precautions are adequate or more should be done;
4. Record your findings;
5. Review your assessment from time to time and revise it if necessary.

E4 How to evaluate risk

When evaluating the level of risk from the hazards and the current precautions, a risk matrix can be used (see example below). In this table, if the product of the hazard severity and likelihood of occurrence is 1 or 2, then the item being assessed is categorised as LOW risk. Similarly if the score is 3 or 4 then the risk category is MEDIUM while scores of 6 or 9 signify a HIGH risk category.

Figure 7 Risk matrix

Risk Ranking Matrix				
(risk = hazard severity score x likelihood of occurrence score)				
Hazard severity	3	3 – Medium	6 – High	9 – High
	2	2 – Low	4 - Medium	6 - High
	1	1 – Low	2 - Low	3 – Medium
		1	2	3
Likelihood of occurrence score				

This requires the person writing the risk assessment to consider how likely it is that the hazard would occur and how much damage could be caused if it did. For example, the chances of other children in a nursery coming into contact with potentially infectious waste could be low because all waste is bagged and kept in a locked room; however, the severity of the damage if they did come into contact could be high, as they could become seriously ill as a result. This resulting risk score would be low likelihood x high hazard severity or 1 x 3. This gives an overall risk of medium and further precautions would be required. These could include contingency waste management plans to be put in place if a child falls ill, and staff training on good waste handling procedures.

E5 Responses to levels of risk

- LOW risk (1 – 2) – record findings, regularly review assessment and revise if necessary;
- MEDIUM risk (3 – 4) – identify and implement further precautions in order to bring risk rating to Low, record findings, regularly review assessment and revise if necessary; and
- HIGH risk (6 – 9) – stop activity, identify and implement further precautions in order to bring risk rating to Low, record findings, regularly review assessment and revise if necessary

E6 Hygiene waste and risk assessment

Where hygiene waste is produced on the premises, a risk assessment should be completed to ensure that the waste is being correctly identified (ensuring that it is not potential clinical waste).

Hygiene waste, such as nappies, sanitary products and plasters, from a healthy population is assumed to be non-infectious unless a healthcare practitioner indicates otherwise. The starting point of a risk assessment is the assumption that the hygiene waste is from a healthy population and of low risk and NOT subjected to the requirements for clinical waste. However, there may be some

situations where what is normally considered to be hygiene waste is potentially infectious and should be treated appropriately, as clinical waste.

The types of situation where this could occur, include:

1. A Care Home that experiences an outbreak of food poisoning
2. A patient in a nursing home receiving chemotherapy
3. A nursery where multiple children show symptoms of gastrointestinal infection e.g. diarrhoea.

Any of the above circumstances change the resultant risk assessment, as the severity is potentially high and therefore mitigation measures will need to be put in place to manage the risk.

E7 Identification of infectious (clinical) waste

This has been described in the Safe Management of Healthcare Waste (Department of Health, 2006).

Infectious waste is essentially a waste that poses a known or potential risk of infection, regardless of the level of infection posed. Even minor infections are included within the definition of infectious.

Healthcare waste generated from healthcare practices, or produced by healthcare workers in the community, is considered to be infectious waste unless assessment has taken place. This assessment is based on item- and patient-specific clinical assessment by a healthcare practitioner.

Municipal waste from domestic minor first-aid and self-care – of a type that does not involve recourse to a healthcare practitioner – is assumed to be non-infectious unless a healthcare practitioner indicates otherwise. Therefore, soiled waste such as nappies, sanitary products and plasters are not considered to be infectious unless a healthcare practitioner gives the producer advice to the contrary.

Similarly, municipal-type waste from industrial and commercial premises is assumed to be non-infectious providing that a risk assessment has been conducted. Therefore, soiled waste such as sanitary products and plasters are not considered to be infectious unless a healthcare practitioner gives specific advice to the contrary.

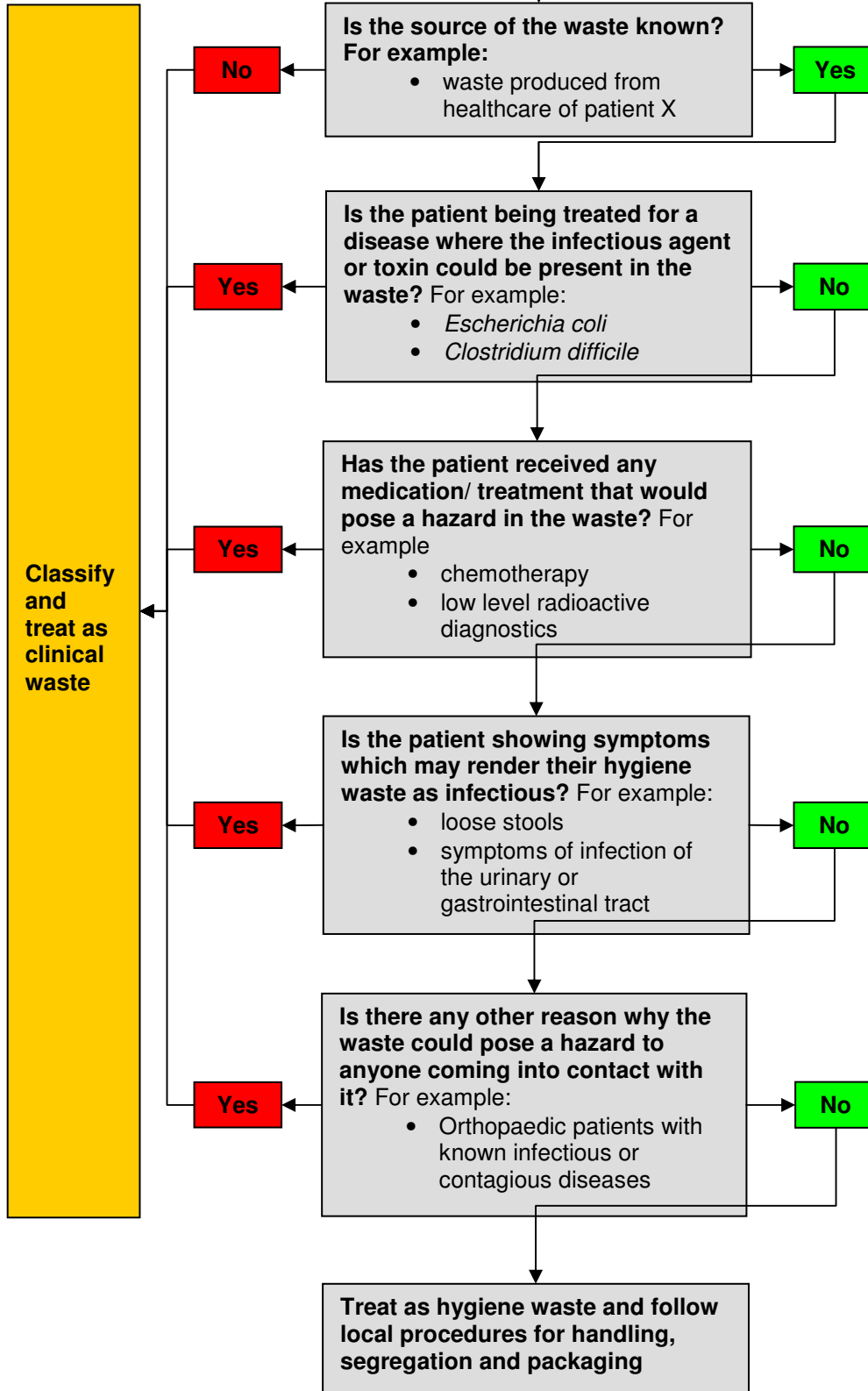
Waste contaminated with non-infectious bodily fluids is capable of causing offence and therefore requires appropriate packaging to alert those in the waste management chain of the contents. This document identifies such waste as offensive/hygiene waste.

The following decision tree can be used by healthcare practitioners to make assessments about whether waste should be disposed of as clinical or hygiene waste.

Figure 13 Decision tree to help make healthcare practitioners make assessments about whether waste is potentially infectious or not (overleaf).

Hygiene waste produced as a direct result of healthcare activities

This does not include hygiene waste produced in staff or visitor toilets etc (refer to section 2.1).



Segregated hygiene waste can be bagged separately or mixed with the black bag waste stream. If hygiene waste is included in black bag waste, it is accepted that the inclusion of hygiene waste within the black bag stream might require additional precautions and arrangements with waste contractors.

E8 Conducting a risk assessment

Where hygiene waste is produced on the premises, a risk assessment should be completed to ensure that the waste is being correctly identified (ensuring that it is not potential clinical waste).

1. What are the hazards?

Hazards related to hygiene waste could include:

- Incorrectly putting clinical waste into a hygiene waste bag
- Waste bags splitting
- Odour issues associated with waste storage

2. Who might be at risk?

This could be anyone who could come into contact with the waste. For example:

- Staff
- Patients/children
- Visitors
- Waste contractors
- Members of the public

3. What precautions do you already have in place?

These might include:

- Waste handling procedures
- Locked waste areas
- Staff training on waste management

E9 Recording risk assessments

A risk assessment can be recorded in a simple table (see example below) or form. Risk assessments should clearly identify the date of the assessment, the names and contact details of the people carrying out the assessment, the purpose of the assessment and the additional relevant documents e.g. handling procedures. Blank templates can be downloaded from the H&S Executives website www.hse.gov.uk/risk/guidance.htm

Table 8 Example risk assessment record in table form

What are the hazards?	Risk Ranking Hazard severity x likelihood	Who might be harmed and how?	What are you already doing?	What further action is necessary?	Action by who?	Action by when?	Action Complete	Residual Risk New hazard severity x likelihood
Waste produced from the care of a resident, with an infection, is incorrectly classified as hygiene waste		<p>Staff providing care through handling waste</p> <p>Waste contractors through incorrect labelling of waste</p> <p>Other residents or visitors if they accidentally came into contact with the waste.</p>	<p>Waste handling procedures in place, including hand washing.</p> <p>All waste is immediately bagged and moved to a locked waste area.</p> <p>However, risk of incorrect waste classification is still MEDIUM as no procedures identified to properly separate waste.</p>	<p>Implement new procedure that if a resident is being attended by a healthcare professional for medical care, they are asked to make an assessment if the waste produced from that patient should be treated as clinical waste.</p> <p>Diagram X can be used to help with making this decision.</p> <p>The results of this assessment will be communicated to staff attending the resident.</p>	<p>Procedure to be put into place by Manager in discussion with healthcare professionals.</p> <p>All staff to ensure that, when applicable, waste from infectious residents is treated as clinical waste and disposed of correctly.</p>	Put in date by which further actions will be carried out.		

What are the hazards?	Risk Ranking Hazard severity x likelihood	Who might be harmed and how?	What are you already doing?	What further action is necessary?	Action by who?	Action by when?	Action Complete	Residual Risk New hazard severity x likelihood
Hygiene waste bag splits in a nursery		Children coming into contact with the waste. There should be no hazard to adults following normal waste handling procedures from hygiene waste.	Heavy gauge bags are used for hygiene waste. Staff are trained to follow proper hygiene waste procedures, including not overfilling bags. No hygiene waste bags should be in an accessible area.	Consider moving children to a safe and clean place and then carry out clean up of the area. This procedure should be reviewed on a bi-annual basis or if any incident does occur.	Nursery Manager		Put in next date of review.	
Risk = Low								