Waste Management and Disposal in Dentistry
(Disinfection and Decontamination)

Aim: To provide information on the different types of waste produced in a dental practice. To discuss the types and segregation of waste; the documentation needed for waste disposal, and to provide information about disposing of the waste in line with current legislation and regulations. To highlight the importance of risk management and training for the dental team.

Objectives: On completion of this verifiable CPD article the participant will be able to demonstrate, through completion of a questionnaire, the ability to:

- Demonstrate knowledge of the changes to managing dental waste in the HTM 07-01 (2023)
- Be able to identify different types of waste
- Identify which waste receptacles should be used in waste segregation
- Have awareness of a move towards sustainable, green practices
- Explain the new UK 2025 regulations on workplace waste disposal, with particular emphasis on the separation and management of food waste
- Demonstrate knowledge of waste legislation
- Demonstrate knowledge of waste documentation
- Demonstrate knowledge of a waste audit
- Complete an on-line assessment, scoring over 70%.

Introduction

The management of healthcare waste is an essential part of ensuring that health and social care activities do not pose a risk of infection to employees and the public. To manage healthcare waste effectively, health and social care providers will need to consider infection control and health and safety legislation; environment and waste legislation; and transport legislation.[1] Dental practices produce a significant amount of clinical waste which can be hazardous and non-hazardous waste, and they have a legal responsibility to dispose of it safely and in accordance with current regulations. They must comply with the same key legislation as hospitals, GP practices and all other healthcare facilities.

Guidance HTM 07-01 Safe Management of Healthcare Waste

Guidance for managing heath care waste can be found in the 'Health Technical Memorandum 07-01 Safe Management of Healthcare Waste.' This is a document that provides comprehensive guidance for the safe and sustainable management of healthcare waste and details the environmental benefits of doing so. The main purpose of this technical guidance is to equip healthcare workers with the knowledge and understanding needed to play their part in contributing to a safer, more environmentally friendly healthcare system. It also highlights opportunities for cost savings, presents safer working practices, and outlines methods for reducing waste-related carbon emissions.[2]

The 'Health Technical Memorandum 07-01 Safe Management of Healthcare Waste.' was updated in March 2023 and there are key changes to the management of healthcare waste that need to be implemented in dental practice.[3]

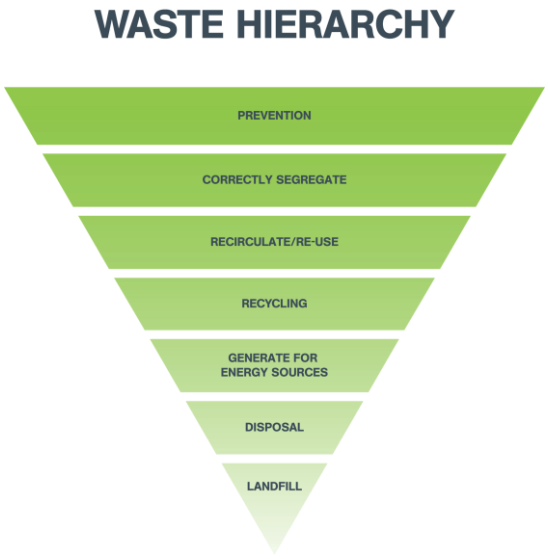
The British Dental Association state that 'the main changes are that waste should only be considered infectious if coming from a patient with known infection. Otherwise, waste from treatment such as PPE and swabs should be classed as offensive waste.'

This means most waste from treatments in dental practices will go into yellow and black tiger striped bags, not orange bags as before. The default was always that waste from patient treatment should be considered as infectious unless there is evidence that it is not, which is why it used the orange waste stream previously.

Extracted teeth both whole and any that contain no amalgam can also go into the offensive waste stream. If there are any concerns that extracted teeth may puncture a waste bag, you can ensure that it is wrapped prior to disposal.

These changes will result in substantial savings on the overall costs of waste disposal for dental practices and a reduction of the environmental impact.[4]

The guidance includes an improved waste hierarchy that is more specific to healthcare waste and serves as a framework for sustainable waste management that includes being more efficient with resources and eliminating avoidable waste where possible.[2]



Sustainability and Green Dentistry

HTM 07-01 (2023) focuses on sustainability and green dentistry and encourages dental practices to promote the use of biodegradable PPE and recyclable packaging where appropriate. It encourages the transition to reusable sterilisable instruments where safe and to aim for zero waste to landfill through recycling and recovery.

Patient engagement within the practice setting should be encouraged to educate patients on recycling oral hygiene products and packaging. Practices should promote their commitment to sustainability efforts to build public trust.

Legislation Applicable to Waste Management

Legislation	Summary
The Misuse of Drugs (Safe Custody) Regulations	Requires controlled drugs other than those specified in Schedule one generally to be kept either in a locked safe or room or in a locked receptacle.
The Environmental Protection Act	Defines that everyone who handles waste has a responsibility for its management and is required to fully comply with their own "duty of care", including those who import, produce, hold, or carry waste.
The Misuse of Drugs Regulations	The regulations set out the regime of control that governs the various legitimate clinical activities associated with controlled drugs, for example: • Which professionals are allowed to prescribe, order, supply or administer the drugs. • Destruction and/or disposal procedures. • Associated record-keeping requirements. • Correct waste management.

Clean Neighbourhoods and Environment Act	The operator must take reasonable steps to prevent nuisances from litter, noise, pests, and artificial lighting outside of the site boundary. This needs to be considered if the site is to operate during antisocial hours.
The Waste (England and Wales) Regulations	Producers must confirm that the waste management hierarchy has been applied when transferring waste and include a declaration to this effect on the waste transfer note or consignment note.
The Hazardous Waste (England and Wales) Regulations	Defines and regulates the segregation and movement of hazardous waste in England and Wales from the point of production to the final point of disposal or recovery. The regulations cover any waste with properties that pose a threat to human health or the environment.
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations	Intended to reduce, to reasonable levels, the risk of harm or damage to people, property and the environment posed by the carriage of dangerous goods throughout the UK.
The Controlled Waste (England and Wales) Regulations	Gives legal definitions of “clinical waste” and “offensive waste”. Such wastes are regulated due to their toxicity, hazardous nature, and capacity to do harm to human health or the environment. This regulation gives a statutory obligation to ensure the waste is managed correctly to prevent harm.
Waste legislation applicable to Scotland	https://www.gov.scot/publications/waste-legislation/

Waste legislation applicable to Wales	https://phw.nhs.wales/about-us/policies-and-procedures/policies-and-procedures-documents/risk-management-health-and-safety-and-estates-supporting-documents/phw-63-tp01-waste-management-procedures-v1/

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Waste Segregation

The HTM 07-01 has been updated to reinforce the importance of accurate health care waste segregation so that the targets set out in the NHS Clinical Waste Strategy can be achieved to help deliver a sustainable healthcare waste system that is more resilient in the long term.

The NHS clinical waste strategy, published on 7 March 2023, sets out NHS England's ambition to transform the management of clinical waste by eliminating unnecessary waste, finding innovative ways to reuse, and ensure waste is processed in the most cost effective, efficient, and sustainable way. The aim is to reduce future waste volumes and reduce carbon emissions to meet the NHS's ambition to be net zero by 2040 for direct emissions and indirect by 2045.[5]

Although the legislation is provided for NHS providers it is also relevant to private dental care providers.

Types of Waste

Offensive waste – recognisable, non-hazardous, non-infectious waste that may contain body fluids (secretions or excretions) and may have an unpleasant odour and appearance. Offensive waste includes items such as PPE, nappies, and incontinence pads. When deciding if a saliva contaminated item is an infectious or offensive waste a risk assessment should be performed based on the patient and the circumstances. If it does not come from a patient with a known infection it is disposed of in the yellow tiger stripped bags.

Infectious waste – waste such as PPE and dressings, swabs that have come into contact with infectious bodily fluids and isn't medicinally or chemically contaminated. This includes waste generated from a patient diagnosed with any type of communicable disease. This is disposed of in the orange bags.

Infectious waste for incineration – waste classified as being highly infectious due to a secondary contamination such as medicinal or chemical. This is disposed of in the yellow bags.

Sharps waste – any sharp item that could potentially cut or puncture skin including syringes and single-use metal items. The presence of infectious organisms, chemical contamination, or a cytotoxic or cytostatic drug determines whether a sharp is hazardous. Sharps may also contain pharmaceutical residues. Sharps containers can be:

- Yellow-lidded: medicinally contaminated sharps.
- Orange-lidded: non-medicinally contaminated sharps.
- Purple-lidded: cytotoxic and cytostatic medicinally contaminated sharps.

Pharmaceutical waste – Any non-hazardous medicines such as tablets, capsules, liquid suspensions, and powders. This should be disposed of in a blue lidded bin.[2,3]

Dental amalgam waste – Dental amalgam bins must be sealable and made from puncture-resistant rigid material and must contain a mercury suppressant. Bins must be clearly marked as dental amalgam and should feature the hazard symbols relevant to mercury (toxic, long-term health hazard and environmental hazard). Extracted teeth containing amalgam should be placed in the amalgam waste bin.

Gypsum – is often used in dentistry to make moulds and study models. Gypsum should not come into direct contact with patients. Instead, alginate is used to mould the patient's mouth, and the gypsum mould is made using this alginate mould. It is therefore very unlikely that gypsum waste will be infectious. Gypsum may be sent to a hazardous waste landfill, provided the landfill has a dedicated area for its management, or sent to a permitted facility for recovery, which is the preferred option.

Single use plastic wrapping – dental practices can reduce their waste by treating single-use plastic wrapping as recyclable waste instead of clinical waste and reduce their carbon emissions.

X-ray fixer and developer wastes – are chemically hazardous but have their own separate, specific containers (typically white, clearly marked, resealable jugs). These wastes should not be mixed with each other or any other waste. These wastes should be returned to the supplier or sent to a specialised, licensed treatment facility.

Dental lead foil – can be disposed of in a sealed white container and is considered hazardous waste.

Confidential Waste – containing patient data or sensitive information should be shredded and recycled.

Waste Electronic and electrical equipment – waste prevention should be considered, using digital x-ray systems to eliminate the use of hazardous fixer and developer. Renting equipment, when possible, to reduce waste. Recycling equipment where possible.[2,3]

Food Waste

Key changes on the disposal of waste have taken place in the UK. The new default requirement for most workplaces will be 4 containers for:

- Residual (non-recyclable) waste.
- Food waste (mixed with garden waste if appropriate).
- Paper and card.
- All other dry recyclable materials (plastic, metal and glass).

From the 31st March 2025 businesses that employ 10 or more full time staff must separate food waste from other waste streams. They must provide food waste containers in areas such as staff rooms or kitchens. This waste must be collected and disposed of by an approved waste collection company. Staff training in managing food waste should be provided. These new rules demonstrate a growing emphasis on sustainability and environmental responsibility in healthcare. Further details can be found at https://www.gov.uk/government/publications/simpler-recycling-in-england-policy-update/simpler-recycling-in-england-policy-update

Risk Management and Training

Risk management is an essential component in safe and sustainable waste management. Given the complexities associated with managing different types of healthcare waste, there is a wide range of risks that could materialise if effective control measures are not in place.[3]

Regular training of all waste handling/ producing staff, and the use of written and visual reminders, are fundamental to correct classification, segregation, and treatment. The practice should ensure all staff understand the requirements for safe and sustainable management of healthcare waste.[3]

The healthcare waste management policy must be implemented by a trained and competent individual.[3]

While not mandatory, appointing a waste compliance lead or assigning the responsibility to a trained staff member helps ensure:

- Consistent adherence to regulations.
- Smooth audits and inspections.
- Reduced risk of contamination or fines.
- A staff training log for HTM 07-01 can be maintained.
- Waste segregation can be included in staff training.

So, while the title "waste compliance lead" isn't a legal requirement, the functions associated with that role absolutely are. Many practices find it beneficial to formalise the role to maintain high standards and avoid regulatory pitfalls.

Handling Clinical Waste

The practice waste control should be aligned with the procedures in place for their infection control policy.

When handling clinical waste always ensure the following:

- Never overfill bags (no more than two-thirds full).
- Segregate waste correctly – sharps always go in a sharps bin.
- Never open a clinical waste bag to examine the contents.
- Never handle spillages from clinical waste bags without ensuring health and safety procedures are followed – see the NHS's Standard Infection Prevention and Control Precautions.
    - A spill response check list could be used for chemical/infectious waste.
    - Spill kits should be accessible and all staff should be trained in using them.
- Do not use force to compress waste bags – this may result in bags splitting.
- Damaged or leaking bags must not be moved until the complete bag is placed inside a new bag.
- Appropriate PPE clothing must be worn.[3]

Receptacles and Disposal Methods

Colour	Waste Stream	Example Items	Disposal Methods	Container Requirements
Yellow/Black	Offensive/hygiene waste	Non-infectious items of PPE contaminated with blood and other body fluids not from a patient with an infectious disease Used sanitary waste/nappies	EfW (can be incinerated at lower temperatures than infectious/known infectious streams) Landfill (legal, but not recommended under the hierarchy of waste)	

Orange	Known infectious	Known infectious, from a patient with an infectious disease	Alternative treatment at a suitably permitted facility or incineration (legal, but not recommended under the waste hierarchy)	
Yellow	Infectious/medical/ anatomical waste requiring incineration or alternative treatment	Pharmaceutically contaminated sharps	Incineration or alternative treatment at a suitably permitted facility	
Blue	Medicinal waste	Expired medicines (Excluding cytotoxic and cytostatic drugs) Testing kits Medicines returned to healthcare facilities by the public	Expired medicines (Excluding cytotoxic and cytostatic drugs) Testing kits Medicines returned to healthcare facilities by the public	
Dental Amalgam (Clearly Labelled) **White**	Dental Amalgam	Dental Amalgam	Recovery (non-infectious)	
Gypsum (Clearly labelled) **White**	Gypsum	Gypsum	Recovery (non-infectious) Incineration (infectious)	

Black	Domestic/municipal waste	Food packaging	Recycling or landfill	

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Maintaining Records

As the producer of waste, the dental practice has a legal responsibility to ensure that documentation for waste is completed accurately and stored for inspection should it be required.

Producers of hazardous waste in England are no longer required to register their premises with the Environment Agency.

However, in Wales practices should register with Natural Resources Wales if they produce or store over 500 kg of hazardous waste per year.

Practices in Northern Ireland and Scotland continue to be exempt from the need to register as a producer of hazardous waste regardless of the quantity of waste they produce.

There are two main documents when dealing with waste:

1) **Consignment Note**

A waste consignment note is a legal document used to track and manage the transportation of hazardous and non-hazardous waste from the point of generation to its final disposal or treatment destination. It serves as a record of the waste being moved, providing essential information to regulatory authorities, waste producers, waste carriers, and waste disposal facilities.

The waste consignment note typically includes information such as:

1. **Waste Producer Information:** This section contains details about the company that generated the waste, including their name, address, and contact information.
2. **Waste Carrier Information:** This part includes the information about the company or individual responsible for transporting the waste, including their name, address, and contact details.
3. **Waste Receiver Information:** If the waste is being sent to a specific disposal or treatment facility, this section will contain details about the receiving facility, including its name, address, and contact information.

4. **Description of Waste:** A comprehensive description of the waste being transported, including its type, quantity, and any associated hazards. This is crucial for ensuring proper handling and disposal.
5. **Consignment Note Number:** A unique identification number assigned to each waste consignment note. This helps in tracking and cross-referencing the movement of waste.
6. **Waste Codes:** These are standardised codes that categorise the type of waste being transported, aiding in proper classification and handling.
7. **Transport Details:** Information about the transportation itself, including the mode of transport (e.g., road, rail, sea), the vehicle registration number, and the route the waste will take.
8. **Declaration of Consignor:** This is a declaration made by the waste producer or consignor, confirming that the information provided is accurate and that the waste is properly classified and packaged for transportation.
9. **Declaration of Carrier:** A statement from the waste carrier verifying that they have received the waste and will transport it according to regulations and guidelines.
10. **Declaration of Waste Receiver:** If applicable, this is a statement from the waste receiver confirming that they have received the waste and will handle it in compliance with regulations.
11. **Signatures and Dates:** Signatures of authorised personnel from the waste producer, carrier, and receiver, along with the dates of various stages in the waste movement process.[6]

Waste consignment notes are a critical component of waste management and environmental protection regulations. They help ensure that waste is properly documented, handled, transported, and disposed of, reducing the risks associated with improper waste management practices.

There are three copies to a consignment note. The dental practice completes part A of the note giving all the details of the practice and the destination of the waste. Part B is also completed by the dental practice providing information about the waste and its packaging. Part C contains details of the driver, the vehicle and verification from the carrier that they agree with the information the dental practice has provided. The dental practice then completes part D to verify that all the information about the waste and the carrier is correct, and they keep a copy. When the waste arrives at its destination part E is signed to say it has been received.

2) Waste transfer notes

A waste transfer note (WTN) is a legal document used to track the movement of waste from one location to another. It is an essential part of waste management and helps to ensure that waste is properly handled, transported, and disposed of in accordance with relevant environmental regulations.

Key information included in a waste transfer note typically includes:

1. **Description of Waste:** This section outlines the type and nature of the waste being transferred. It will include details like whether the waste is hazardous or

non-hazardous, its physical properties, and any relevant codes or classifications.

2. **Quantity of Waste:** The document should specify the quantity of waste being transferred. This can be in terms of weight, volume, or other relevant measurements.
3. **Origin and Destination:** The WTN should clearly state where the waste is coming from (the dental practice details) and where it is being sent (the recipient or disposal site).
4. **Date and Time:** The date and time of the waste transfer are important for tracking purposes and to establish a record of the transfer.
5. **Waste Carrier Details:** If a waste carrier is involved in transporting the waste, their details should be included. This includes their name, address, and registration or license number.
6. **Consignee Details:** If the waste is being sent to a facility for treatment, recycling, or disposal, the details of the receiving facility (consignee) should be provided.
7. **Signatures and Declarations:** Both the waste producer and the waste carrier should sign the waste transfer note to confirm the accuracy of the information and their respective roles in the waste transfer process.
8. **Other Relevant Information:** Depending on local regulations, additional information may be required on the waste transfer note, such as information about the method of transportation, packaging, and any special handling instructions.

The waste transfer note serves as a record of responsibility and accountability in the waste management process. It helps authorities track the movement of waste, ensure that it is properly managed to minimise environmental and health risks, and hold parties accountable if there are any violations or incidents related to the waste.

The responsibility for completing a waste transfer note is solely the dental practices. It is used for the collection of non-hazardous waste.[7]

Practice Register

Each dental practice should maintain a register. This contains details of their waste records and should contain:

- Consignment notes.
- Waste transfer notes.
- Consignee returns (this is a record that the waste company send back to the dental practice every quarter detailing what has happened to their waste)
- The register should be kept for at least three years.

It is best practice to vet your waste contractor to confirm the waste contractor's licence with the Environment Agency and request quarterly consignee returns and audit documentation for your records.

Waste Audit

Audits play a vital role in demonstrating compliance with regulatory standards. To comply with regulations and maintain standards when dealing with waste practices should carry out regular waste audits.

Audits should only be undertaken by those members of staff who are trained in the audit procedure and who are fully aware of the risk and hazards posed by the audit protocol. The audit protocol should be referenced in the waste management policy. A detailed method statement should be produced for each audit tool clearly stating the following:

- Who should undertake the audit
- What is included in the audit
- How the audit should be undertaken
- The method of recording and reporting the findings of the audit
- The management responsibility and mechanism to act on the findings
- Any inherent risks and the control measures required (for example PPE required).

Audits should be completed every two years in dental practice.[3]

Implementing digital systems for consignment notes and audits and the use of automated alerts for compliance deadlines and audit schedules can help simplify a complex task of ensuring accurate records are maintained.

Personal Development Plan and Reflective Learning

This CPD is linked to the following GDC Enhanced CPD Development Outcome:

C. Maintenance and development of knowledge and skill within your field of practice.
D. Maintenance of skills, behaviours and attitudes which maintain patient confidence in you and the dental profession and put patients' interests first.

Reflective learning is now a requirement of the GDC Enhanced Professional Development Scheme. As such, you will now have the opportunity to answer some reflective learning questions. Examples will be provided.
Please remember that you need to fill this in on completion of the exam, but you can also update this at any time from your CPD log. If you take a few moments to write your reflection on completion, you will have fulfilled the Enhanced CPD requirements.

Further Reading
Scotland
Clinical waste | Scottish Environment Protection Agency (SEPA)

Northern Ireland
Waste | Department of Agriculture, Environment and Rural Affairs (daera-ni.gov.uk)

Wales
phw.nhs.wales/about-us/policies-and-procedures/policies-and-procedures-documents/risk-management-health-and-safety-and-estates-policies/waste-management-policy/

HTM 07-01
NHS England » (HTM 07-01) Management and disposal of healthcare waste

References

1. Health and Safety Executive (2023) available from: https://www.hse.gov.uk/healthservices/healthcare-waste.htm (accessed 06/08/2025).
2. Sharpsmart (2023) available from: https://www.sharpsmart.co.uk/knowledge-center/htm-07-01-summary-key-changes#1 (accessed 06/08/2025).
3. NHS (2023) available from: https://www.england.nhs.uk/wp-content/uploads/2021/05/B2159iii-health-technical-memorandum-07-01.pdf (accessed 06/08/2025).
4. BDA (2023) available from: https://www.bda.org/news-and-opinion/news/updates-to-the-safe-management-and-disposal-of-healthcare-waste/ (accessed 06/08/2025).
5. NHS (2023) available from: https://www.england.nhs.uk/estates/nhs-clinical-waste-strategy/ (accessed 06/08/2025).
6. GOV.UK (2023) available from: https://www.gov.uk/guidance/hazardous-waste-consignment-note-supplementary-guidance#when-consignment-notes-are-needed (accessed 06/08/2025).
7. GOV.UK (2023) available from: https://www.gov.uk/dispose-business-commercial-waste/waste-transfer-notes (accessed 06/08/2025).