



How to dispose of hazardous WASTE

Do you know what constitutes hazardous waste and how to dispose of it correctly? **Mhari Coxon RDH** discusses waste segregation and management in dentistry.

The aim of this article is to give a practical approach to the subject of waste management and segregation in general practice. It is my intention that this could be used as a tool in practice to develop the waste management and segregation protocol and policy. It can equally be used for an individual's development as verifiable CPD in the core subject of infection control.

Waste produced as a result of any healthcare activity, like dentistry, is classified as clinical waste. Health Technical Memorandum 01-05 (HTM 01-05) states that:

'The Registered Manager is solely responsible for ensuring that waste is:

- Correctly segregated

- Stored safely and securely away from areas of public access within the premises
- Packaged appropriately for transport
- Described accurately and fully on the accompanying documentation when removed
- Transferred to an Authorised Person for transport to an authorised waste site
- Appropriately registered, with necessary records and returns at premises.

The Registered Manager should also ensure that all staff are trained and aware of the waste procedures.'

Most of the requirements can be found in HTM 07-01 (*Safe management of healthcare waste*) which is followed for England, Wales and Scotland but not Northern Ireland.

Clinical waste

Clinical waste is 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.

Also, 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.

It is vital that **ONLY** staff members

who have a certified Hep B immunisation should be handling clinical waste. Cleaners should NOT touch it unless they have been immunised and are aware of the protocols and polices and have had adequate training.

Correct segregation

Is the waste a healthcare waste? Table 1 shows us how we can define and categorise our waste in practice.

Hazardous waste must be disposed of without endangering human health or the environment and be capable of being traced from the point of production to the point of disposal (Table 2).

Colour description for bagging day to day waste

Orange bags – infectious or anatomical waste which requires incineration.

Yellow bags with black stripes – continence pads and other waste produced from human hygiene (urine, faeces, sputum, tears, nasal secretions, vomit). Disposed equipment that does not pose a risk of infection (inhalers, gowns, gloves, and plaster casts).

Purple cytotoxic and cytostatic waste (waste which requires treatment to be ‘rendered safe’. Unlikely to find this in a dental environment but you should recognise the danger of these waste bags or buckets).

Black Domestic waste for landfill – also most authorities have recycling bags you can buy as a business which vary in colour.

White Amalgam waste for recovery (includes extracted teeth with amalgam present and cages from suction if amalgam was removed).

Red Healthcare waste for special recovery eg X-ray processing chemicals.

Lead foil

Lead foil is now classified as non-hazardous waste and there is no longer any need for it to be collected by licensed contractors.

Sharps waste

Sharps are items that could cause cuts or puncture wounds – including needles, syringes with needles attached, broken glass ampoules, scalpels and other blades or infusion sets.

Orange lidded sharps bins are for hazardous sharps not contaminated by prescribed medicines. This bin would include extracted teeth with no amalgam in them and scalpels.

Yellow lidded bins are suitable for local anaesthetic cartridges and botox ampoules as they are for sharps, including infectious sharps, for incineration only. Marked with ‘Medicinal Sharps’. For use with sharps waste including those contaminated with

Table 1 Defining and categorising waste in the practice

Hazardous waste	Non-hazardous waste
Infectious waste (eg sharps, anatomical waste, implanted medical devices). Any waste which poses a known or potential risk of infection.	Offensive/hygiene waste (eg human incontinence and other human hygiene, sanitary waste, nappies, stoma bags). Waste which may cause offence to those coming into contact with it.
Cytotoxic and cytostatic medicines	Non-cytotoxic and cytostatic medicines (expired, unused, spilt and contaminated pharmaceuticals, bottles and boxes with residue, masks, connecting tubing, syringes, drug vials, vaccines, medicinal patches and sera).
Health care chemicals and hazardous properties	Domestic waste (uncontaminated paper towels, flowers, materials which are unsuitable for recycling).
Batteries (single-cell or Ni-cad batteries)	Packaging waste
X-ray photo chemicals	Recyclable materials (cardboard, non-confidential paper, drinks cans, bottles, plastic, toner/ink cartridges, cooking oil).
Mercury (from dental amalgam, spillage from thermometer/ sphygmomanometer, from electrical switch/battery or fluorescent discharge lamps).	Confidential paper waste
Other chemicals eg paint, solvents, some cleaning materials, laboratory chemicals	Grounds waste
Radioactive waste	Food waste
Contaminated furniture or equipment	Uncontaminated, unwanted or broken furniture or equipment
Asbestos and some construction/ demolition waste	Construction/demolition waste following risk assessment

medicines other than those which are cytotoxic/cytostatic.

Again, not likely to be in general practice, **purple** lids are for those medicines and sharps which are cytotoxic/cytostatic.

Waste handling

NEVER:

- Throw bags
- Carry close to body
- Empty one bin into another
- Attempt to retrieve items from waste
- Leave waste areas unsecured
- Overfill bags or containers
- Allow waste to build up – contact Environmental Manager if additional collection is required.

ALWAYS:

- Apply Standard Infection Control Precautions
- Wear Personal Protective Equipment (PPE)
- Carry out hand hygiene
- Provide patients with a waste receptacle
- Dispose of waste immediately at point of use
- Label and secure correctly
- Give information to patients/carers on appropriate waste disposal.

Storage of waste

Within the clinical area:

- Solid sided, foot operated bin
- Bags not more than three-quarters full
- Segregation of waste streams

Table 2 Instructions for disposal of waste

Type of waste	Instructions for disposal
Anatomical waste	Must be placed in appropriate UN approved container, labelled and sealed for incineration. Container must not be placed inside a bag.
Equipment and furniture	If contaminated, contact waste contractor. If decontaminated must have a certificate before disposal.
Radioactive waste	Contact Radiation Protection Supervisor or Environmental Manager for advice.
Dental waste	Teeth are non-anatomical infectious waste – orange stream Teeth with amalgam must be segregated into white rigid container with mercury suppressant Dental practices must have an amalgam separator
Mercury	Areas where mercury is in use must have a spillage kit. Staff within the area must know how to use the kit. Instructions should be looked at at intervals as a team.
Medicinal waste	Expired prescription drugs should be handed in to a local pharmacy for disposal
Chemical waste	Any chemicals in use within healthcare must have a COSHH risk assessment. Staff in areas where chemicals are used/disposed must know how to handle and dispose of them appropriately.
Surgical instruments	Must be transported in designated, correctly labelled rigid, locked container to/from decontamination area.

Table 3 EWC codes

18 01 01	Sharps (except 18 01 03) LA cartridges for example
18 01 02	Body parts and organs including blood bags and blood preserves (except 18 01 03)
18 01 03	Infectious waste
18 01 04	Offensive waste
18 01 08	Cytotoxic and cytostatic medicines
18 01 09	Medicines other than those mentioned in 18 01 08
18 01 10	Dental amalgam waste

why it must be written on by the clinician and initialled again for audit purposes.

Personal Protective Equipment

ALL staff handling waste must have access to appropriate PPE. In most instances disposable gloves and an apron will suffice. Heavy duty gloves must be available for use if required.

If uniform/clothing becomes contaminated they must be changed immediately.

Training

It is essential that every team member handling clinical waste be aware of how to segregate, label and dispose of waste safely. Training should be reviewed annually and audited at intervals. The staff members should accept responsibility for how to manage themselves in this regard once adequate training has taken place.

Paper trail of safe disposal

It is essential that all documentation to and from your registered waste collection company is kept on file. Your waste collection company will also be able to give you a copy of their licence and policies for your file.

This article was originally published in Vital in 2011 as The whys and wherefores of waste. To take part in the verifiable CPD questions associated with this BDJ Team article, visit www.nature.com/bdjteamcpd (free subscription required).

bdjteam201537

‘All staff handling waste must have access to appropriate PPE.’

- Not left in corridors or public spaces
- Disposed of as soon as possible
- Tied securely
- Bins kept clean inside and out.

After removal from clinical area:

- Securely away from public access
- Safe from pests and animals
- In locked wheeled bins (available from your contractor)
- Away from other items

- In an area where hand hygiene facilities are close by (could be wall mounted hand disinfectant).

Sealing and tagging

Bags must be:

- No more than three-quarters full
- Release air to avoid bursting bag
- Secure the bag using tags or double tie method
- Label with department/surgery in which the waste was generated (for audit purposes) and with correct European Waste Code.

European Waste Catalogue (EWC) codes are mandatory for all waste documentation – ie it is necessary for the documentation which accompanies the consignment of waste containers to state what the waste is, including its classification per the EWC (Table 3). Contaminated sharps could fit into any one of approximately ten EWC codes dependent on particular circumstances. If the container label includes the EWC code, then there is a likelihood either that the code will be wrong or that a substantially greater number of containers will be required. This is