Best Practice

Waste separation in the treatment rooms, clinic rooms and theatres

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NOG NEDERLANDS OOGHEELKUNDIG GEZELSCHAP

Table of contents

1. Summary

Waste separation can be applied in the clinic, treatment rooms, in theatres, and in the recovery area. In theatres, one needs to take care to separate domestic and clinical waste.

2. Suggestions

General advice

- Please discuss with sustainability officers and facilities managers
- Discuss with waste manager the specifics of waste types, and their disposal
- Discuss with domestic cleaning about disposal of extra waste bags
- Use appropriate waste containers
- Think about placement of the waste containers: you may have to re-locate them
- Communicate new ways of waste management in many ways, including posters, meetings with relevant staff.

Types of waste that can be recycled:

- Paper: this includes IOL packs. Paper can be torn. Sticker paper cannot be torn, and thus does not qualify: it contains silicone.
- Plastics: several types of plastic can be distinguished (PET, PVC, etcetera) and recycling should be discussed with your waste disposal company
- 'Bluewrap': the material that is used for wrapping instrument sets, phaco sets
- Steel: following cleaning this can go to the waste disposal company
- Aluminium
- Glass

Reduction of waste

- Procedure sets should be optimised: use as little instruments as possible
- Do not waste medication, do not prescribe unnecessary medication: minimise single use medication (Aprokam, minims).
- Do not use incontinence pads under the patient head: instead use washable towels or compostable products
- Use metal instrument trays
- Do not use disposable instruments
- Use machines that allow for multiple use of plastics (day cassette in phaco machines)

3. Why this waste disposal best practice?

If recycling is possible then it makes sense on grounds of less raw material use, less energy use, less incineration. All this results in less CO_2 emission.

We often hear that waste separation is useless because all waste ends in the same landfill in the end. This is only true if waste has not been separated. If one segregates waste at the start, much of it can be re-used.
To practice waste separation well, one needs to do this in cooperation with waste disposal companies that are contracted by the healthcare provider.
The ultimate aim would be to be practice healthcare completely circularly.

4. What do current guidelines say?

The relevant categories for waste separation include paper, plastic packaging (such as plastic, cans, and drink cartons from healthcare institutions), batteries, and glass. Additionally, organic waste (fruit/vegetable/garden), metal, electronics, wood, and polystyrene can be collected separately.

Materials that have come into contact with potentially infectious body fluids—such as blood, saliva, or tears—are classified as Specific Hospital Waste (SZA). This type of medical waste includes items like dressings, laboratory waste, human tissue, and operating theatre waste. According to Dutch law, SZA must be incinerated in its entirety, including its container, due to hygiene and contamination risks. This is processed via ZAVIN (Hospital Waste Processing Facility Netherlands). This type of waste is relatively expensive for hospitals to dispose of.

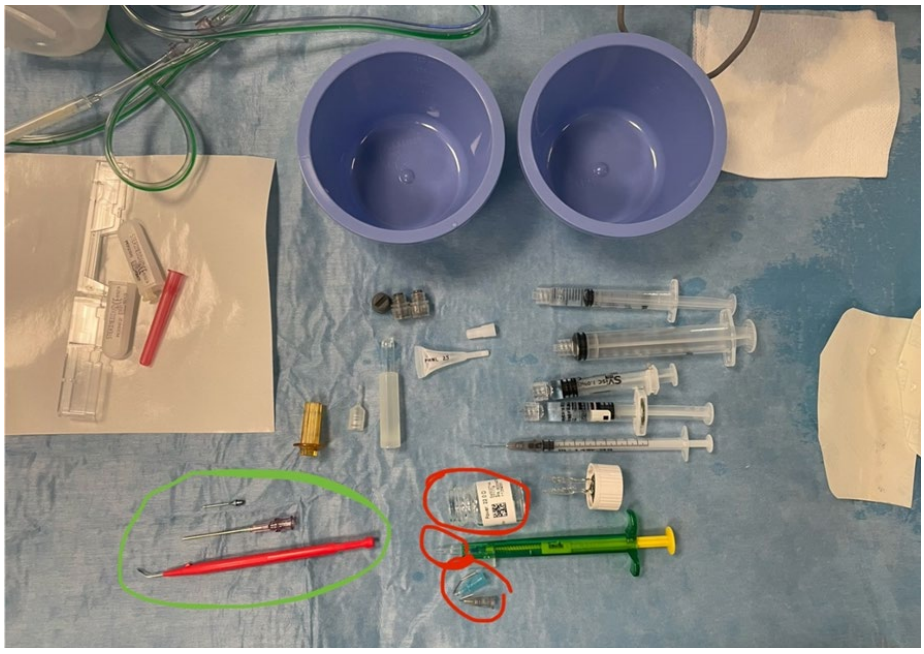
All other waste falls under Non-Specific Hospital Waste (NSZ). Waste processing companies assume that NSZ is potentially infectious and must therefore not be mixed with other waste streams. Ultimately, this waste is also incinerated.

5. Conclusion

Waste separation is relatively easy to implement in an ophthalmology clinic.
Although recycling ranks low in the waste reduction hierarchy, it still makes an important contribution.
With the help of clear instruction posters, infographics, appropriate bins, and support from the waste disposal company, waste separation is becoming an increasingly essential part of clinical practice.
Moreover, it raises awareness among staff about the waste problem and encourages initiatives to tackle specific waste streams.

6. Example: Waste classification after cataract surgery

- In the green circle: materials that must be disposed of as infectious waste (SZA - Specific Hospital Waste), such as sharps and contaminated disposables.
- In the red circle: materials that do not belong in SZA and may be discarded as non-infectious waste (NSZ) or recycled separately (e.g., glass ampoules, plastic packaging, used cannulas).



7. Status of this Best Practice

It is important to state that this Best Practice is advisory, and not mandated: it is not a guideline.
A guideline is more or less binding, though one can diverge based on sound reasons. Best Practices are built on the foundation of guidelines, evidence based, and approved by the NOG.
Thus: one can diverge from Best Practice guidelines, though it is encouraged to implement these in your practice.

All guidelines will be incorporating, in the future, sustainability, and in so doing, converge with sustainable practice guidelines.

This Best Practice is written for eye specialists and theatre assistants.
Best Practices contain many examples that can easily be implemented in current practice, without much ado. The documents are living documents, and so will change with new evidence surfacing.

Disclaimer:

- *None of the authors have declared conflicts of interest*
- *This advice has been collated based on evidence available at the time of writing*
- *This Best Practice is meant to support current processes, but is not a guideline*
- *Even though care has been taken to put this document together, the NOG cannot be held liable for it's contents.*

Additional notes on infectious waste (SZA) and non-infectious waste (NSZ)
According to Dutch law, Specific Hospital Waste (SZA) includes materials contaminated by infectious agents and must be incinerated in sealed containers (e.g., sharps, cytostatics, wet materials).
In contrast, Non-Specific Hospital Waste (NSZ) includes dry, general waste that is still considered potentially contaminated and is also incinerated, but at lower environmental and financial cost.

8. References

[1] https://www.milieucentraal.nl/minder-afval/afval-scheiden/afval-scheiden-nut-en-fabels [June 2021]

[2] Eindrapport Duurzaamheidsproject UMC Utrecht. Afval recyclen in de steriele opdekruimte OK F4. Else de Ridder, MINT Zorgadvies, 2019

[3] Draaiboek afval voor intramurale zorginstellingen, April 2024 Milieu Platform Zorg

[4] https://degroeneic.nl/aan-de-slag/afval

[5] https://degroeneic.nl/wp-content/uploads/2023/01/2022-11-Medicatieglas-in-de-glasbak.pdf

9. Images

Figure 1 *Waste separation in the preparation room of the operating theater at UMC Utrecht [2]*

Figure 2 *Waste separation in the clinical treatment room at UMC Utrecht*

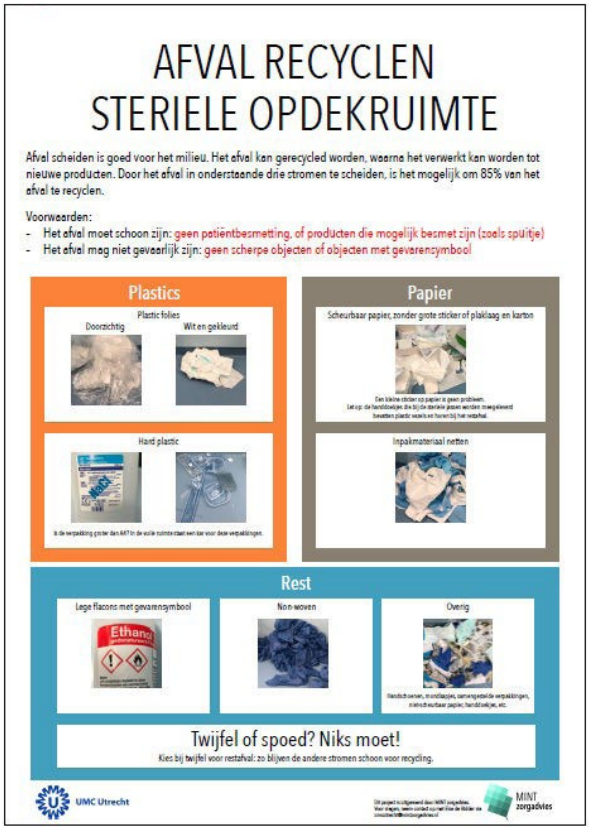


Figure 3 *Instruction poster for waste separation in the operating theater at UMC Utrecht, developed in collaboration with MINT Healthcare Consultancy*

Figure 4 *Specific Hospital Waste (SZA), PET and steel recycling*