efficient, safe, and precise method for compounding admixtures

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

3PC-028 FOR A MORE ECONOMICAL AND ECOLOGICAL CENTRAL STERILE SERVICES DEPARTMENT (CSSD): BACK TO THE CONTAINER

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Background and Importance The central sterilisation department is conducting a campaign to reduce the costs and carbon footprint of sterilisation and operating theatres.
Aim and Objectives The aim of this work is to reduce the polypropylene sheets packaging.
Material and Methods In May 2023, a container maintenance operation was carried out at the hospital, recovering those not used in the operating theatres.

Surgical trays (ST) wrapped in polypropylene envelopes (PE) were identified using T-Doc traceability software (Getinge). An inventory was carried out in the operating theatre to validate the feasibility of replacing PE with containers.

The economic dimensions in euros (€) take into account staff work, maintenance, consumables, waste treatment, as well as water, steam and energy consumption.
Results The maintenance work carried out in May 2023 resulted in the recovery of 203 containers of various sizes. 245 PE wraps were identified, 78 of which could not be packaged in containers. The cost of consumables and time spent on washing and packaging amounted to € 1.74 for a container and € 2.15 for a PE. Other re-sterilisation costs are equivalent for both packaging systems. The PE wraps identified by T-Doc represent 5,186 re-sterilisations per year, and the economic gain from replacing packaging with containers corresponds to a profit of € 2,126/year. However, the complete replacement project requires the purchase of 48 additional containers at an initial cost of € 13,200. This purchase will pay for itself in 6 years.

The carbon footprint of a container is smaller than a PE because it generates less waste in operating theatres. The PE consists of a sterile barrier and protective packaging, both made of polypropylene. These are disposed of each time they are used in the operating theatre, compared with two filters and two clips for a container.
Conclusion and Relevance This operation offers economic and ecological advantages after a short return on investment, thus meeting the requirements of the ecological transition for our hospital.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

3PC-029 PH MEASUREMENT: NOT AS SIMPLE AS WE THINK? A CASE OF SODIUM PERCHLORATE INJECTIONS

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Background and Importance Ampoules with sodium perchlorate 100 mg/ml for injection are manufactured at the Hospital Pharmacy for use as a premedication before certain nuclear imaging procedures. The Quality Control department recently became aware that pH measurements during quality control were varying more than expected between batches, resulting in out of trend/specification results as well as greater variation between in-process and release values. No data explaining these variations could be found in the literature.
Aim and Objectives To determine factors which could cause unstable pH measurements of sodium perchlorate solutions, and if changing the pH electrode could solve the problem.

Material and Methods pH-meter: Mettler Toledo SevenExcellence S400-Bio, pH-electrodes: (A) InLab Routine Pro-ISM (Reference electrolyte: potassium chloride (KCl) 3M); (B) InLab Science Pro-ISM (Reference electrolyte: KCl 3M); (C) InLab Expert Pro-ISM (Reference electrolyte: XEROLYT®-polymer).

To establish the influence of external factors, pH was measured over time in different types of vials (glass/plastic) and with extended exposure of solution to air. Comparison of electrodes: pH was measured uninterrupted at regular intervals for 420 seconds (n=3). Raman spectra of the precipitates were acquired by using a WITec Alpha300 Apyron Confocal Raman Microscope.
Results Different types of vials as well as extended air exposure of solution did not result in significant change of pH values. Initial testing with electrode A resulted in a characteristic trend where the pH increased, stabilised, and then decreased, while electrode C remained stable. For electrode B the same trend was observed as for electrode A, but testing was aborted due to visible precipitation in the sample. The precipitates were identified as Potassium perchlorate by Raman spectroscopy. Results from subsequent comparison is shown in table 1 (mean±SD).

Abstract 3PC-029 Table 1

pH measurement	60 seconds	240 seconds	420 seconds
Electrode A	5.22±0.39	5.30±0.40	5.09±0.02
Electrode C	5.70±0.07	5.73±0.08	5.75±0.08

Conclusion and Relevance The unreliable results could be attributed to an interaction between sodium perchlorate and KCl reference electrolyte. This also created a precipitation, more clearly visible in electrode B due to higher flow of reference electrolyte to the sample than electrode A. Electrode C with polymer electrolyte was the most stable, without the characteristic decrease in pH after the initial stabilisation, and no precipitation.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of Interest No conflict of interest.

3PC-030 STABILITY STUDY OF AN EPIDURAL ANALGESIC CONCENTRATE FOR INFUSION USED DURING CHILDBIRTH

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