

Advice Statement 003/17

April 2017

After dental instruments have been sterilised unwrapped and are dry, is enclosure in lidded trays, suitable bags or containers (compared with immediate use or loose storage) sufficient to protect them from microbial recontamination relevant to patient safety outcomes?



This advice has been produced following completion of evidence note 66 by Healthcare Improvement Scotland, in response to an enquiry from The Scottish Dental Clinical Effectiveness Programme (SDCEP)

Background

Sterilisation of reusable dental instruments is the final step in an overall decontamination process. The effectiveness of each step is reliant on the others. Steam sterilisation is the most efficient, cost effective and safe method of sterilising reusable dental instruments in primary care dental practices.

The majority of reusable dental instruments in Scottish primary care dental practices are sterilised using a non-vacuum benchtop steam steriliser. Sterilisation in these devices requires that instruments be processed unwrapped. The safest and most effective storage options for these sterilised instruments is unclear and practice varies across Scotland.

Clinical effectiveness and safety

- No research evidence was identified comparing the effectiveness of storage methods in relation to patient safety outcomes or time-dependent recontamination rates.

Cost effectiveness

- No relevant cost-effectiveness analyses were identified.

Context

- The Scottish Dental Clinical Effectiveness Programme (SDCEP) best practice guidelines indicate that it is currently acceptable for dental instruments which have been sterilised unwrapped to be kept for later use if they are dry, protected from contamination and stored correctly. The recommendations make clear that instruments should not be left exposed in the clinical environment or stored on open shelving or on work surfaces in clinical areas.
- Recommended storage options to prevent recontamination of sterilised dental instruments include; placing in covered trays, cassettes or clip-in trays in enclosed boxes or cupboards in a rack system, or sealing within clean, single-use, sterilisation grade wrapping material or self-seal sterilisation bags/pouches. Although no recommended time frame for storage is given the guidance notes that there should be a first-in, first-out stock rotation to minimise the duration of storage.

Conclusion

- No research evidence was identified which examined the effectiveness of storage options in protecting sterilised unwrapped dental instruments from microbial contamination that might have an impact on patient safety.
- Best practice guidelines provide consensus recommendations for storage of reusable dental instruments.

Advice context:

The status of SHTG Advice Statements is 'required to consider'.

No part of this advice may be used without the whole of the advice being quoted in full. This advice represents the view of the SHTG at the date noted.

It is provided to inform NHS boards in Scotland when determining the place of health technologies for local use. The content of this Advice Statement was based upon the evidence and factors available at the time of publication. An international evidence base is reviewed and thus its generalisability to NHSScotland should be considered by those using this advice to plan services. It is acknowledged that the evidence constitutes only one of the sources needed for decision making and planning in NHSScotland. Readers are asked to consider that new trials and technologies may have emerged since first publication and the evidence presented may no longer be current. SHTG Advice Statements are considered for review on a 2-yearly basis. The evidence will be updated if requested by the clinical community, dependent on new published reports. This advice does not override the individual responsibility of health professionals to make decisions in the exercise of their clinical judgment in the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

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**Chair
Scottish Health Technologies Group**



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