IN BRIEF

- Effective cleaning is an essential pre-requisite for reliable sterilisation of dental instruments.
- This study reports on the observation of techniques used for cleaning instruments prior to sterilisation in dental practice.
- Direct observation of the cleaning processes provides reliable information on how this is undertaken in general dental practice.
- There are a number of working practices that can improve the cleaning of dental instruments and reduce the risks of cross-infection.

Cleaning re-usable instruments in general practice

Pre-sterilisation cleaning of re-usable instruments in general dental practice

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ABSTRACT

Objective
This study examined the policies, procedures, environment and equipment used for the cleaning of dental instruments in general dental practice.

Materials and methods
A total of 179 surgeries were surveyed. This was an observational based study in which the cleaning processes were viewed directly by a trained surveyor. Information relating to surgery policies and equipment was also collected by interview and viewing of records. Data were recorded onto a standardised data collection form prepared for automated reading.

Results
The BDA advice sheet A12 was available in 79% of surgeries visited. The most common method for cleaning dental instruments was manual washing, with or without the use of an ultrasonic bath. Automated washer disinfectors were not used by any surgery visited. The manual wash process was poorly controlled, with 41% of practices using no cleaning agent other than water. Only 2% of surgeries used a detergent formulated for manual washing of instruments. When using ultrasonic baths, the interval that elapsed between changes of the ultrasonic bath cleaning solution ranged from two to 504 hours (median nine hours). Fifty-eight percent of surgeries claimed to have a dedicated area for instrument cleaning, of which 80% were within the patient treatment area. However, in 69% of surgeries the clean and dirty areas were not clearly defined. Virtually all cleaning of dental instruments was undertaken by dental nurses. Training for this was provided mainly by demonstration and observed practice of a colleague. There was little documentation associated with training. Whilst most staff wore gloves when undertaking manual cleaning, 51% of staff did not use eye protection, 57% did not use a mask and 7% used waterproof overalls.

Conclusions
In many dental practices, the cleaning of re-usable dental instruments is undertaken using poorly controlled processes and procedures, which increase the risk of cross infection. Clear and unambiguous advice must be provided to the dental team, especially dental nurses, on appropriate equipment, chemicals and environment for cleaning dental instruments. This should be facilitated by appropriate training programmes and the implementation of quality assurance procedures at each stage of the cleaning process.

EDITOR'S SUMMARY

With the recently issued Department of Health guidance on the single use of endodontic instruments this paper is both timely and topical. The second part of a very comprehensive study that was carried out in Scotland, the findings give some cause for concern in that the authors conclude that in many dental practices the cleaning of re-usable dental instruments is undertaken in ways which increase the risk of cross infection.

Whether or not the increased risk translates into actual incidents is not reported and indeed is not the stated purpose of this paper. Anecdotally one has to say that if the practices used in this study are representative and the risk is increased as a result of their relative lack of adherence to the guidelines then it is 'lucky' that more incidents of cross contamination resulting in infection are not, or have not, been reported.

But there is no margin here at all for complacency. The need for clear guidance based on available science and equally weighted by balanced risk assessment and the reality of everyday life is paramount if we are to protect our patients, team members and ourselves. Equally clear is the need for such guidelines to be acted upon with complete diligence and without excuse by way of time, resources, cost, busyness or other inconvenient intrusions that may be used to employ shortcuts for short term expediency.

One of the advantages of having the dental team comprised of members each of whom is recognised as a professional and therefore responsible for his or her own actions is that training, understanding and competency are no longer either optional or 'someone else's responsibility'. If guidelines are not being met it falls within the duty of us all to rectify the situation.

The full paper can be accessed from the *BDJ* website (www.bdj.co.uk), under 'Research' in the table of contents for Volume 202 issue 9.

Stephen Hancocks OBE,
Editor-in-Chief

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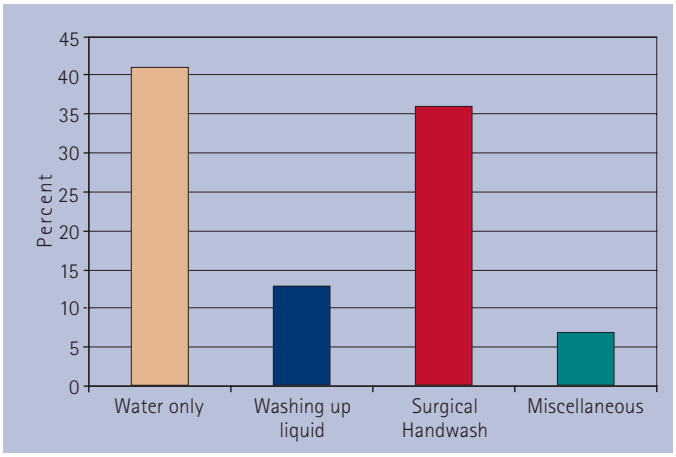

Agents used to manually clean instruments

FULL PAPER DETAILS

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AUTHOR QUESTIONS AND ANSWERS

Why did you undertake this research?
Efficient cleaning of dental instruments is key to reducing risks for onward transmission of infectious agents. Instruments with residues remaining cannot be effectively sterilized and their functionality is also compromised. This research was undertaken to provide an accurate evidence base for current instrument cleaning processes used in general dental practice.

What would you like to do next in this area to follow on from this work?
This survey identified that instrument cleaning was often inadequately performed and controlled using manual techniques. The use of bench top automated washer disinfectors represents a technological advance that could be used by general practitioners both to improve the cleaning process, productivity and staff safety. However, we wish to perform additional work on the commissioning, ergonomics and economics of introducing washer disinfectors prior to the widescale adoption of this technology into general dental practice.

COMMENT

The decontamination of re-usable medical devices is a key element of infection control in clinical settings and the emergence of transmissible spongiform encephalopathies (TSEs), such as variant CJD, has re-emphasised the importance of thorough cleaning of used devices prior to steam sterilisation.

The acute hospital sector and general medical practices in the UK have centralised re-processing in well-equipped sterile services departments but the high volume of instruments and the dispersed nature of dental practices make it likely that instrument decontamination in general dental practice will continue to be undertaken at a local level.

This paper presents the results of a large observational study of decontamination knowledge and practices based in 179 surgeries throughout Scotland. This is an important and timely investigation as little is known of the standards and application of quality controls to the process of decontamination in dental practices and it is essential that we have this information if we are to continue to have locally based instrument decontamination in dental practices and to implement improvements in such practices. Using trained observers the investigators recorded actual practice measured against recommendations of best practice, and found much room for improvement in both practice and infrastructure in dental practices visited. All surgeries used poorly controlled manual cleaning of instruments, many with inadequate facilities. There were gaps in knowledge of the correct use of ultrasonic baths, which may be a reflection of the absence of verifiable staff training.

If local reprocessing of dental instruments is to continue in general dental practice, clearly much work is needed to help the dental team improve the cleaning process for dental instruments. There is a need for education and training programmes and the development of a clearer management process using quality assurance principles.

Local decontamination of instruments has profound financial implications for dental practices. This must be addressed in weighing the decision on local *versus* central decontamination as adequate resources and training will be required to improve on the base line practices reported in this important survey and ensure the delivery of adequately decontaminated instruments to the chair side.

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