IN BRIEF

- This paper describes useful methodology for observing the decontamination of dental instruments in a general dental practice setting.
- The method provides robust information because the participants were directly observed by trained surveyors.
- Comprehensive information was recorded onto machine readable data input forms.
- This is the largest observational study of decontamination practice performed on UK general dental practices.

Surveying instrument decontamination procedures

A method for surveying instrument decontamination procedures in general dental practice

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ABSTRACT

Objective

This paper describes an objective method for assessing the decontamination procedures used for reprocessing dental instruments in primary dental care facilities.

Materials and methods

The study population comprised all general dental practitioners in Scotland with an NHS list number. A two-stage process was used to identify which surgeries were to be surveyed, using a proportional stratified random sampling method. First, practices were randomly selected in proportion to the distribution of practices within each of the health boards. Then, if there was more than one dentist within a selected practice, simple random sampling was used to identify a single dentist within the selected practice to be approached. The surgery that the dentist worked from and its associated decontamination facilities were the subject of the survey. A set of data collection forms provided questions designed to investigate compliance with extant guidance documents on decontamination. Specific training for the survey team members was provided during a three day course, to ensure consistency of approach. The data collection forms were piloted in 20 dental surgeries.

Results

A methodology was developed, which utilised both staff interviews and direct observation of decontamination processes. Data were collected on a set of 28 standard forms, which could be machine read. Three hundred and seventy-three dentists were selected at random from the dental practitioners list held by Practitioner Services, Scotland. One hundred and eighty-nine practitioners either declined to participate or could not be contacted at the address supplied. One hundred and eighty-four surgeries were surveyed, data were available for analysis from 179 sites. Data from five sites were rejected because of illegibility (three) and incomplete data (two). Each surgery survey was undertaken by a team of two surveyors, comprising one infection control/decontamination expert and one experienced dental practitioner. The survey team interviewed the dental practitioner and dental nurse, reviewed documentation relevant to the survey, directly observed decontamination practices and recorded the physical layout of the premises.

Conclusion

The use of machine readable data collection forms, trained survey staff and direct observation of decontamination protocols provides a workable method for accurate collection of decontamination practice in primary care facilities.

EDITOR'S SUMMARY

The emphasis we place on evidence-based information is huge and when that knowledge can be applied to affect our practice it is perhaps at its most valuable. This paper, the first of two, investigates the decontamination procedures used in general dental practice. The second paper reports the findings and is a must-read in the next issue. The fact that the research was actually undertaken in real practices observing the real life situation makes the results of particular significance and relevance.

There might easily be a tendency to ask why we don't just dispense with all the preamble and publish the results. Why keep the world waiting? The answer is that this research, as acknowledged also in the Commentary section opposite by Professor Martin, is painstaking in its detail and execution. Consequently the results and conclusions drawn from them are of greater value since the margin for error is substantially reduced. Conversely the value to the evidence-based literature and to subsequent decisions on evidence-based practice can be that much more secure.

I think it is also important for us to gain a better understanding of the methodology required in order to undertake such a large, complex and expensive research task as this and make the outcome meaningful. Anticipating the possible areas of inaccuracy, bias or ambiguity and building in protocols and safeguards to protect against them is a fascinating process and is a good illustration of how detailed research has to be.

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 8.

Stephen Hancocks OBE,
Editor-in-Chief

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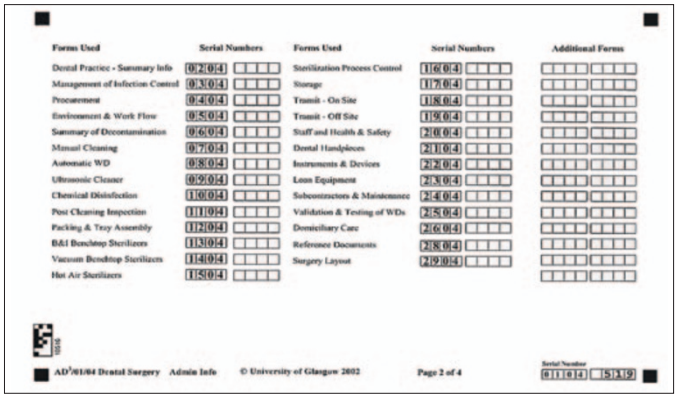

An example of the automatic data acquisition documentation for the assessment of decontamination (AD[3]) forms

FULL PAPER DETAILS

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AUTHOR QUESTIONS AND ANSWERS

1. Why did you undertake this research?
In order to inform both risk assessments for the potential of transmission of vCJD via dental instruments and provide a baseline assessment for future improvements in instrument decontamination, it was necessary to visit dental practices with trained surveyors and obtain accurate and detailed information on equipment, facilities and processes used. The methodology described provides more robust information than previous methodologies relying on questionnaire data.

2. What would you like to do next in this area to follow on from this work?
The survey identified major deficiencies in the education, training and technical support for general dental practitioners. We wish to use the results from this survey to lobby for improvements in these deficiencies.

COMMENT

If dental instruments are to be sterilised then they have to be clean, or more correctly decontaminated. The decontamination methods used in dentistry may be unsatisfactory as they can mostly rely on hand scrubbing, or immersion for indeterminate periods of time in ultrasonic baths. There is however, very little accurate data on how decontamination of instruments is achieved in dental practice. This is the first part of a series of papers where direct observation and structured interviews were used to investigate decontamination of dental instruments in dental practice. This paper details a clear and well-defined strategy for looking at decontamination methods in dental practices in Scotland. The survey was designed to use machine readable data and trained survey staff, so that the data from practices were comparable and the conclusions reliable.

Such reliable data are necessary if decontamination methods are to be assessed, altered or improved. These data are also necessary if the cost of improvements, eg the purchase of extra equipment, is required or deemed essential. This paper gives a method of how such data should be collected. The methods may at first seem long-winded and time consuming, but they are objective. The methods are a vast improvement on questionnaires in which there may be distortion, or false reporting into what is actually done in the practice.

Dr Smith and his colleagues are to be congratulated on such a thorough methodology. The persons who really need congratulation, however, are the dental practice teams that took part in this survey. Without pre-empting later papers based on this survey, the results using this systematic survey are disturbing and much improvement in dental practice is necessary. There is also an onus on the dental schools to provide clear and authoritative training in decontamination methods, something that is clearly not happening. Finally there is also a need for vocational trainers to teach new graduates good decontamination practice.

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