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Correspondence

Re: Decontamination of transvaginal ultrasound probes: Review of national practice and need for national guidelines

Sir — We read the article by Gray et al.[1] with interest; however, we were surprised to note that an article on ultrasound probe decontamination by ourselves[2] has not been included in the literature review. This article, which assessed all ultrasound probes, including transvaginal probes, across a single trust for bacterial contamination, is relevant for several reasons. The authors describe that some centres only dry wipe probes with a paper towel and then speculate that this method of cleaning is inadequate. We were able to demonstrate in the *in vitro* arm of our study that this method does not remove all bacterial contamination off the transducer head. Our initial clinical sampling run — where this was the baseline cleaning technique — confirmed this. The clinical significance was discussed and we suggested that additional air drying of the resting transducer head between patients may contribute to asepsis.

The authors rightly emphasize that the transducer must be wiped to remove all solid matter before decontamination. This was again specifically demonstrated in our study during the second clinical run, where a macroscopically soiled transducer was the only transducer found to be contaminated with a significant microorganism species.

The questionnaire reveals that both Tristel and Trigene are commonly used in departments to decontaminate ultrasound transducers. These were the two commercially available products tested in our study. Both products represented an improvement in transducer disinfection compared to dry wiping alone, and these improvements were confirmed clinically in our second sampling run. We also specifically acknowledged the compatibility of Trigene with the materials used in transducer housing in order to avoid significant damage to the equipment. In addition to the article by Backhouse et al.[3]—which only describes the use of Tristel, not Trigene—it is reasonable to assume that our article has been influential in the formulation of some departments' transducer cleaning protocols. We describe our use of Tristel wipes to achieve complete transducer asepsis and not the immersion solution, which we agree is impractical for use in a busy clinic.

The authors comment that most available information on product efficacy is only available from the companies themselves. Our study was performed without marketing bias, financial incentive, or commercial conflict of interest, and we declared this before publication. We suggest our *in vitro* technique as a template for assessing other products, cleaning methods, or microorganism species in order to avoid the potential for confusion they describe when comparing different products.

They emphasize the need for robust evidence in order to formulate transducer disinfection guidelines: our study provided both laboratory evidence obtained through reproducible, quantitative means, and a complete audit loop directly linking our findings to a statistically significant improvement in clinical practice. This evidence must surely fulfil requirements. The level of disinfection we demonstrated, along with the manufacturer's data, is appropriate for the semi-critical nature of all ultrasound probes,[4,5] and we, therefore, disagree with your comment that, in relation to the cleaning protocols returned from your questionnaire, "none meet the standards required to achieve high-level disinfection". Although your review concentrates on transvaginal probes, all transducers can be exposed to body fluid during routine practice and can, therefore, act as vectors of infection.

Whilst we applaud the review of the state of current transvaginal transducer cleaning practice, we emphasize the relevance of our article with respect to many of the issues you raise. In the current financial climate any change in practice must be shown to be cost effective as well as practical. Many of the cleaning methods you describe require a large initial financial outlay, as well the cost of recurring consumables. We specifically quantified the anticipated financial cost of our change in practice which was less per year than 10 additional inpatient days (5 pence per patient). Further work similar to our own could increase the evidence base you describe as vital for the formulation of effective national guidelines.

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